NOTICE TO THE PUBLIC
WILLIAMSON COUNTY COMMISSIONER'S COURT
MARCH 7TH, 2017
9:30 A.M.

The Commissioner's Court of Williamson County, Texas will meet in regular session in the Commissioner's Courtroom, 710 Main Street, in Georgetown, Texas to consider the following items:

1. Review and approval of minutes.

2. Consider noting in minutes any off right-of-way work on any County road done by Road & Bridge Division.

3. Hear County Auditor concerning invoices, bills, Quick Check Report, wire transfers and electronic payments submitted for payment and take appropriate action including, but not limited to approval for payment provided said items are found by the County Auditor to be legal obligations of the county.

4. Citizen comments. Except when public hearings are scheduled for later in the meeting, this will be the only opportunity for citizen input. The Court invites comments on any matter affecting the county, whether on the Agenda or not. Speakers should limit their comments to three minutes. Note that the members of the Court may not comment at the meeting about matters that are not on the agenda.

CONSENT AGENDA
The Consent Agenda includes non-controversial and routine items that the Court may act on with one single vote. The Judge or a Commissioner may pull any item from the consent agenda in order that the court discuss and act upon it individually as part of the Regular Agenda.
(Items 5 – 15)

5. Discuss, consider, and take appropriate action on a line item transfer for Facilities.

Fiscal Impact

From/To	Acct No.	Description	Amount
From	0100-0509-004510	Facility Maintenance & Repair	$41,481
To	0100-0509-003001	Small Tools & Equipment	$41,481

6. Discuss, Consider, and take appropriate action on a line item transfer from Juvenile Services Department.

Fiscal Impact

From/To	Acct No.	Description	Amount
From	100.0576.004102	Residential Services	200,000
To	100.0576.004100	Professional Services	200,000

7. Discuss, consider and take appropriate action on authorizing the disposal of various county assets through auction including (39) Phones, (108) Hanging folders, (275) Manila Folders, (5) File Cabinets, (5) Computer, (5) Keyboards, (3) Servers, (1) White Board, (6) Desk Chairs, (1) Desk, (3) Office Chairs, (2) Printers (see attached list) pursuant to Tx. Local Gov't code 263.152.

8. Discuss, consider and take appropriate action on authorizing the disposal of various county assets through interdepartmental transfer including (1) Wood Desk, (1) Surface Pro with mouse, (1) Docking station and (1) Chair (see attached lists) pursuant to Tx. Local Gov't Code 263.152.

9. Discuss, consider and take appropriate action on authorizing the disposal of (1) 2014 Black Chevy Tahoe through insurance claim (see attached list) pursuant to Tx. Local Gov't code 263.152.

10. Discuss, consider and take appropriate action on authorizing the retirement from the county inventory of Assets Not Found including (1) Monitor, (7) Computers, (1) Projector, (5) Printers, (1) Shredder, (see attached lists) per the recommendation of the County Auditor's Office.

11. Discuss, consider and take appropriate action regarding request of Constable Precinct One for approval of
Byron Totty to the open deputy constable position in precinct one pursuant to Tex. Loc. Gov'tCode86.011.

12. Discuss, consider and take appropriate action on approving compensation changes, position titles changes, position grade changes and any corresponding line item transfers.

13. Discuss, consider, and take appropriate action on approving a bond for Williamson County Treasurer D. Scott Heselmeyer.

14. Discuss, consider and take appropriate action on approval of the final plat for the Rancho Sienna Section 7 Block F Lot subdivision - Pct 3.

15. Discuss, consider and take appropriate action on accepting and approving a report on the Williamson County Expo Project; Change Order # 20 in the amount of $ 8,473.45 for additional work due to design document omissions and necessary damage repairs, which was executed by Dale Butler pursuant to the previous grant of authority under Section 262.031 of the Local Government Code.

REGULAR AGENDA

16. Consideration and action with respect to "Order Authorizing the Issuance of Williamson County, Texas Limited Tax Refunding Bonds in One or More Series; Levying an Ad Valorem Tax in Support of the Bonds; Approving the Forms of Paying Agent/Registrar Agreements, the Forms of Purchase Agreements and Escrow Agreements; Establishing the Procedures for Selling and Delivering One or More Series of the Bonds; and Authorizing Other Matters Relating to the Bonds".

17. Consideration and action with respect to "Order Authorizing the Issuance of Williamson County, Texas Unlimited Tax Road Bonds in One or More Series; Levying an Ad Valorem Tax in Support of the Bonds; Approving Paying Agent/Registrar Agreements, Official Statements and Purchase Agreements; Establishing the Procedures for Selling and Delivering One or More Series of the Bonds; and Authorizing Other Matters Relating to the Bonds."

18. Presentation to reveal the updated www.wilco.org website.

19. Discuss, consider and take appropriate action on adoption of the Governance for Posting on and Editing Williamson County Websites document.

20. Discuss, consider and take appropriate action on the Department of Infrastructure projects and issues update.

21. Discuss, consider and take appropriate action on a contract for Corridor E1 between Williamson County and Brown & Gay, Engineers, Inc. relating to the LTP Corridor Study.

22. Discuss, consider and take appropriate action on a contract for Corridor F between Williamson County and CP&Y, Inc. relating to the LTP Corridor Study.

23. Discuss, consider and take appropriate action on a contract for Corridor A1 between Williamson County and Kennedy Consulting, Inc. relating to the LTP Corridor Study.

24. Discuss, consider and take appropriate action on a contract for Corridor C between Williamson County and Atkins North America, Inc. relating to the LTP Corridor Study.

25. Discuss, consider and take appropriate action on a contract for Corridor H between Williamson County and K Friese & Associates, Inc. relating to the LTP Corridor Study.

26. Discuss, consider and take appropriate action on an Amendment to Development Agreement regarding Detention Pond with Gardens at Mayfield, LLC.

27. Discuss, consider and take appropriate action on a Letter Agreement with Austin White Lime for a Pearson Ranch Rd. Drainage Easement.

28. Discuss, consider and take appropriate action on an Interlocal Agreement between Williamson County and the City of Jarrell, Texas regarding the Sharing of Costs to Design and Construct Certain Sections of Ronald Reagan Blvd and CR 305.

29. 10:00 Conduct public hearing relating to a request from the District Attorney's Office to increase the budgeted salary amount for the position of Intake Division Chief, Position #1789 , in the District Attorney's Office and discuss (1) the reason for the payment in excess of the budgeted amount is being offered to the employee, including the public purpose that will be served by making the excess payment; and (2) the exact amount of the excess payment, the sources of the payment, and the terms for distribution of the payment that effect and maintain the public purpose to be served by making the excess payment.

30. Discuss, consider and take appropriate action on a request by the District Attorney's Office to increase the budgeted salary amount for the position of Intake Division Chief, position # 1789, in the District Attorney's Office from the budgeted annual salary amount of $93,505.10 to the increased salary amount of $100,831.12.

31. Discuss, consider and take appropriate action on a new position request (Discovery Clerk) for the District Attorney's Office.

32. Discuss, consider and take appropriate action on a request to move District Attorney Law Enforcement Unallocated to the Overtime Line to facilitate overtime for the investigators to work a backlog of cases/files.

33. Discuss, consider and take appropriate action on a request from the District Attorney to increase the annual salary on three new positions.

34. Discuss, consider, and take appropriate action on appointing a member of the Commissioners Court to serve as a representative on the Capital Areal Rural Transportation System Board.

35. Discuss, consider and take appropriate action on appointing Barbara G. Keese to Place 5 of the Emergency Services District (ESD) #11 Board of Directors to complete a two year term that began on January 1, 2015 and ending on December 31, 2018.

36. Discuss, consider and take appropriate action on approving two new grant funded part-time Court Coordinators to service the Veterans Court and DWI Court.

37. Discuss, consider and take appropriate action on a Second Amendment to Interlocal Agreement Between Williamson County, Texas and Bluebonnet Trails Community MHMR Center Regarding the Healthcarelink Project, which extends the term of the agreement until December 31, 2017.

38. Discuss, consider, and take appropriate action on approving a process for citizen appointments made by the Williamson County Commissioners Court.

39. Discuss, consider, and take appropriate action on the acceptance of a grant provided through the Texas Commission on Environmental Quality for the Williamson County Local Emergency Planning Committee (LEPC), administered by the Office of Emergency Management, in the amount of $84,388.23. The grant funds a 12 month position to analyze and plan for chemical emergencies and software to analyze threats and risk.

40. Discuss, consider and approve the Motorola, no-cost change order, as it relates to the open project for the Williamson County IP Simulcast Conversion and Granger simulcast completion.

41. Discuss, consider and approve the adoption of Georgetown Independent School District as an RCS Associate customer under the County radio system.

42. Discuss, consider and take appropriate action on authorizing Supplemental Agreement No 6 with BLGY, North Campus Project, for additional necessary services to renovate the existing vehicle impound building in the amount of $33,012.34, under 15RFQ102.

43. Discuss, consider and take appropriate action on authorizing the renewal of Asphalt Emulsions, Contract #15IFB111, for the same pricing, terms and conditions as the existing Contract for the term of April 4, 2014 – October 13, 2017, with Ergon Asphalt & Emulsions, Inc.

44. Discuss, consider and take appropriate action to authorize the Purchasing Agent to advertise and receive proposals on RFP 1701-139, for renovations to 355 Texas Avenue facility.

45. Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive bids for FY17 Cul-De-Sac Fog Seal under IFB1702-147 for Road and Bridge Department.

46. Discuss, consider and take appropriate action on awarding the contract with Halff Associates for professional services for the design and development of Phase II, RV Park at the Expo Center in Taylor, Texas. RFQ 1611-128

47. Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive proposals for RFP 1702-144, Third-Party-Administrator for Self-Funded or Fully Insured Benefits for Medical, Dental & Vision Programs to include PPO, POS, and ACO Network options; Biometric/Wellness Program Management; Prescription Drug Card Services - retail card and mail order; Pre-certification/Large Case Management; Disease Management/Diabetic Plan Management; Section 125 Claims Administration.

48. Discuss, consider and take appropriate action to authorize the Purchasing Agent to advertise and receive qualifications from firms to provide architectural, engineering, design and construction administration services for the proposed Williamson County Juvenile Justice Center Expansion. RFQ 1702-146.

49. Discuss, consider and take appropriate action on rejecting proposals received from RFP 1701-135 for roof improvements to the Jail and Justice Center. Approval to advertise was granted by the Court on January 24, 2017, Item No. 38.

50. Discuss, consider and take appropriate action on approving the Services Contract between Ti Training LE, LLC and Williamson County Sheriff's Office for the Training and Equipment Regarding the Use of Force Simulator, not to exceed the amount of $30,750.00.

51. Discuss, consider and take appropriate action on approving Safenet KeySecure Statement of Work for Williamson County for installation consulting services of 12 ProtectFile licenses for a fixed price.

52. Discuss, consider and take appropriate action on an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge additional revenues for the County Sheriff:

Fiscal Impact

From/To	Acct No.	Description	Amount
	0100.0000.364100	Insurance Reimbursements	$18,150.00

53. Discuss, consider and take appropriate action on an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge the additional expenditures for the County Sheriff:

Fiscal Impact

From/To	Acct No.	Description	Amount
	0100.0560.005700	Vehicles > $5,000	$18,150.00

EXECUTIVE SESSION

"The Commissioners Court for Williamson County reserves the right to adjourn into executive session at any time during the course of this meeting to discuss any of the matters listed above, as authorized by Texas Government Code Sections 551.071 (Consultations with Attorney), 551.072 (Deliberations regarding Real Property), 551.073 (Deliberations regarding Gifts and Donations), 551.074 (Personnel Matters), 551.076 (Deliberations regarding Security Devices) and 551.087 (Deliberations regarding Economic Development Negotiations)."

54. Discussion regarding economic development negotiations pursuant to Texas Government Code, Section 551.087:
a) Business prospect(s) that may locate or expand within Williamson County.
b) Discuss Pearson Road District.
c) Discuss North Woods Road District.
d) Project Columbus Balbo

55. Discuss real estate matters (EXECUTIVE SESSION as per VTCA Govt. Code sec. 551.072 Deliberation Regarding Real Estate Property if deliberation in an open meeting would have a detrimental effect on the position of the governmental body in negotiations with third person.)
A. Real Estate Owned by Third Parties
1. Preliminary discussions relating to proposed or potential purchase or lease of property owned by third parties
a) Discuss the acquisition of real property for right-of-way for Mays St. Extension
b) Discuss the acquisition of real property for SW 183 and SH 29 Loop.
c) Discuss the acquisition of real property for CR 176 at RM 2243
d) Discuss the acquisition of real property with endangered species for mitigation purposes.
e) Discuss the acquisition of real property: CR 101
f) Discuss the acquisition of real property: CR 111
g) Discuss the acquisition of real property for CR 278 at Bagdad Rd.
h) Discuss the acquisition of real property for proposed CR 110 project. (All sections)
i) Discuss the acquisition of real property for County Facilities.
j) Discuss the acquisition of real property on CR 305.
k) Discuss the acquisition of Easement interests for the Brushy Creek Trail Project.
l) Discuss acquisition of property located at NEC of Toll 130 and Gattis School Rd.
m) Discuss the acquisition of a drainage easement for CR 108.
n) Discuss easement acquisitions from San Gabriel River Ranch Subdivision.
o) Discuss the acquisition of real property for CR 258.
p) Discuss the acquisition of real property for Lakeline Blvd.
q) Discuss the acquisition of a drainage easement for Pearson Ranch Rd.
r) Discuss the acquisition of real property for Hairy Man Rd.
s) Discuss the acquisition of real property for SW Bypass.

B. Property or Real Estate owned by Williamson County
1). Preliminary discussions relating to proposed or potential sale or lease of property owned by the County
a) Discuss County owned real estate containing underground water rights and interests.
b) Discuss possible sale of 183 A excess right of way
c) Discuss proposed sale of real estate of Blue Springs Blvd
d) Discuss transfer of right of way for Westinghouse Rd. to the City of Georgetown.
e) Discuss wastewater easements in Berry Springs Park
f) Discuss Development Agreement with Ashby Capital Investments, LLC
g) Discuss sale of County property on Ronald Reagan Blvd.
h) Discuss abandonment of County property on CR 123.

C. Consider intervention in lawsuit regarding de-listing of Bone Cave harvestman.

56. Discuss pending or contemplated litigation, settlement matters and other confidential attorney-client legal matters (EXECUTIVE SESSION as per VTCA Govt. Code sec. 551.071 consultation with attorney.), including the following:

a) Litigation or claims or potential litigation or claims against the County or by the County
b) Status Update-Pending Cases or Claims;
c) Civil Action No.1:13- CV- 505, Robert Lloyd v. Lisa Birkman, et al, In The United States District Court for the Western District of Texas, Austin Division
d) Employee/personnel related matters
e) Other confidential attorney-client matters, including contracts and certain matters related to county defense issues in which the duty of the attorney to the governmental body within the attorney/client

relationship clearly conflicts with Chapter 551 of the Texas Government Code.
f) Cause No. 15-0064-C277, Gordon v. Dollahite et al, In The District Court of Williamson County, Texas, 277th District
g) County Road 241 utility and Right-of-Way Issues and matters;
h) Civil Action No. 1:15-cv-431; *Herman Crisp v. Williamson County, et al*; In the USDC-WD-Austin Division
i) Carolyn Barnes, et al v. Texas Attorney General, et al; Cause # D-1-GN-15-000877, in the 419th Judicial District Court of Travis County
j) Appeal of IRS Proposed Worker Classification Changes and Proposed Tax Adjustments 2011 -2013; and Payment of Disputed Employment Taxes Pending Appeal
k) Potential claims and litigation against Volkswagen and Audi related to Volkswagen and Audi emission control systems on diesel engine vehicles in the period 2009 – 2015
l) Discuss proposed acquisition of property for SW 183 and SH 29 Loop
m) Claims of Texas Association for Children and Families
n) Civil Action; American Stewards of Liberty, *et al.* v. Sally Jewell, *et al.*, In the Western District Court, Western District of Texas, Austin Division
o) Legislative changes to firearms laws and possession of firearms on county property
p) LCRA's proposed Leander to Round Rock 138k-V Transmission Line Project including but not limited to filing as an intervenor.
q) Notice of claim and demand of Morgan Lee Roach.
r) Labor and employment law review of Employee Policy Manual provisions and amendments.
s) Berry Springs Park and Preserve pipeline
t) Discuss subrogation claims related to medical claims incurred during the County's contract with Allegiance Benefit Plan Management (TPA).
u) Discuss requirements related to health benefit plan.
v) Case No. 1:16-cv-00505-LY, Saturn v. Barnett et al, In The United States District Court For The Western District of Texas-Austin Division
w) Civil Action No. 1:16-cv-1023 LY, Brian Carrier v. Lt. McKnight, et al, In The United States District Court For The Western District Of Texas, Austin Division
x) Cause No. 1JC-16-1540; *Roy Earl Briggs v. Lt. Doug Wheless,* In The Justice Court Precinct 1, Williamson County, Texas
y) Civil Action No. 1:16-cv-01185-SS-ML, *Jose Refugio Fernandez-Madrid v. Keefe Commissary and the Williamson County Sheriff,* In the United States District Court for the Western District of Texas – Austin Division
z) Law relating requests for the closure, abandonment or vacation of roadway(s) in the Woodland Park Subdivision.
aa) Civil Action No. Case 1:17-cv-00068; Dennis Farmer & Linda Schlueter v. Williamson County and Deputy Damon Grant; In The United States District Court for the Western District of Texas, Austin Division

57. Deliberate the appointment, employment, evaluation, reassignment, duties, discipline and/or dismissal of Williamson County officers, directors, employees and/or positions, including but not limited to conducting deliberation and discussion pertaining to annual reviews of department heads and appointed officials (Executive Session as per Tex. Gov. Code Section 551.074 – Personnel Matters).

58. Discuss the deployment or specific occasions for implementation of security personnel or devices in relation to the Williamson County Justice Center (Executive Session as per Texas Gov't. Code § 551.076).

REGULAR AGENDA (continued)

59. Discuss and take appropriate action concerning economic development.

60. Discuss and take appropriate action concerning real estate.

61. Discuss and take appropriate action on pending or contemplated litigation, settlement matters and other confidential attorney-client legal matters, including the following:

a) Litigation or claims or potential litigation or claims against the County or by the County
b) Status Update-Pending Cases or Claims;
c) Civil Action No.1:13- CV- 505, Robert Lloyd v. Lisa Birkman, et al, In The United States District Court for the Western District of Texas, Austin Division
d) Employee/personnel related matters
e) Other confidential attorney-client matters, including contracts and certain matters related to county defense issues in which the duty of the attorney to the governmental body within the attorney/client relationship clearly conflicts with Chapter 551 of the Texas Government Code.
f) Cause No. 15-0064-C277, Gordon v. Dollahite et al, In The District Court of Williamson County, Texas, 277th District
g) County Road 241 utility and Right-of-Way Issues and matters;
h) Civil Action No. 1:15-cv-431; *Herman Crisp v. Williamson County, et al*; In the USDC-WD-Austin Division
i) Carolyn Barnes, et al v. Texas Attorney General, et al; Cause # D-1-GN-15-000877, in the 419th Judicial District Court of Travis County
j) Discuss, consider and take appropriate action regarding possible appeal of IRS Proposed Worker Classification Changes and Proposed Tax Adjustments 2011 -2013; and approval of payment of disputed employment taxes pending appeal
k) Potential claims and litigation against Volkswagen and Audi related to Volkswagen and Audi emission control systems on diesel engine vehicles in the period 2009 – 2015
l) Discuss proposed acquisition of property for SW 183 and SH 29 Loop
m) Claims of Texas Association for Children and Families
n) Civil Action; American Stewards of Liberty, *et al.* v. Sally Jewell, *et al.*, In the Western District Court, Western District of Texas, Austin Division
o) Action regarding legislative changes to firearms laws, to include but not be limited to the adoption and implementation of regulations and policies relating to the possession of firearms on and within Williamson County property and facilities.
p) LCRA's proposed Leander to Round Rock 138k-V Transmission Line Project including but not limited to filing as an intervenor.
q) Notice of claim and demand of Morgan Lee Roach.
r) Berry Springs Park and Preserve pipeline
s) Discuss, consider, and take appropriate action regarding the handling, including but not limited to, the negotiating and approval of settlement offers, of subrogation claims related to medical claims incurred during the County's contract with Allegiance Benefit Plan Management (TPA).
t) Discuss requirements related to health benefit plan.
u) Case No. 1:16-cv-00505-LY, Saturn v. Barnett et al, In The United States District Court For The Western District of Texas-Austin Division
v) Civil Action No. 1:16-cv-1023 LY, Brian Carrier v. Lt. McKnight, et al, In The United States District Court For The Western District Of Texas, Austin Division
w) Cause No. 1JC-16-1540; *Roy Earl Briggs v. Lt. Doug Wheless,* In The Justice Court Precinct 1, Williamson County, Texas
x) Civil Action No. 1:16-cv-01185-SS-ML, *Jose Refugio Fernandez-Madrid v. Keefe Commissary and the Williamson County Sheriff,* In the United States District Court for the Western District of Texas – Austin Division
y) Law relating requests for the closure, abandonment or vacation of roadway(s) in the Woodland Park Subdivision.
z) Civil Action No. Case 1:17-cv-00068; Dennis Farmer & Linda Schlueter v. Williamson County and Deputy Damon Grant; In The United States District Court for the Western District of Texas, Austin Division

62. Discuss, consider and take appropriate action regarding the appointment, employment, evaluation, reassignment, duties, discipline and/or dismissal of Williamson County officers, directors or employees, including but not limited to any necessary action pertaining to conducting annual reviews of department heads and appointed officials.

63. Comments from Commissioners.

_____
Dan A. Gattis, County Judge

This notice of meeting was posted in the locked box located on the south side of the Williamson County Courthouse, a place readily accessible to the general public at all times, on the _____ day of _____, 2017 at _____ and remained posted for at least 72 continuous hours preceding the scheduled time of said meeting.

Commissioners Court - Regular Session **5.**

Meeting Date: 03/07/2017

Line Item Transfer

Submitted By: Shirley Taylor, Facilities Maintenance

Department: Facilities Maintenance

Agenda Category: Consent

Information

Agenda Item

Discuss, consider, and take appropriate action on a line item transfer for Facilities.

Background

Transferring funds for purchase of AED units to equipment line per request of the Auditor's Office. The purpose of AED coding to the equipment line is more appropriate as these items are tracked as a separate asset rather than a building maintenance line due to the life of the product.

Fiscal Impact

From/To	Acct No.	Description	Amount
From	0100-0509-004510	Facility Maintenance & Repair	$41,481
To	0100-0509-003001	Small Tools & Equipment	$41,481

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 10:02 AM
Budget Office	Ashlie Koenig	02/27/2017 11:04 AM
Form Started By: Shirley Taylor		Started On: 02/24/2017 02:40 PM
Final Approval Date: 02/27/2017		

Commissioners Court - Regular Session **6.**

Meeting Date: 03/07/2017

Juvenile Services Line Item Transfer

Submitted By: John Pelczar, Juvenile Services

Department: Juvenile Services

Agenda Category: Consent

Information

Agenda Item

Discuss, Consider, and take appropriate action on a line item transfer from Juvenile Services Department.

Background

Juvenile Services is requesting a line item transfer from line item 4102 Residential Services to 4100 Professional Services. Funds transferred will be used for architectural design for potential facility expansion. The department, in alignment with State guidance is working to keep youth closer to home and housed within our own facilities which we believe will allow us to transfer funds out of Residential Services. Last year the department was able to return approximately $300,000.00 from this budget line. Chief Matthew has been in consultation with both Bob Daigh and the Juvenile Board regarding facility expansion. All parties agree that potential raise the age legislation pending that obtaining these architectural renderings is a proactive step at this time.

Fiscal Impact

From/To	Acct No.	Description	Amount
From	100.0576.004102	Residential Services	200,000
To	100.0576.004100	Professional Services	200,000

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 09:34 AM
Budget Office	Ashlie Koenig	03/02/2017 10:52 AM
Form Started By: John Pelczar		Started On: 03/02/2017 09:09 AM
Final Approval Date: 03/02/2017		

Commissioners Court - Regular Session **7.**

Meeting Date: 03/07/2017

Asset Auction for 030717

Submitted By: Jayme Jasso, Purchasing

Department: Purchasing

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action on authorizing the disposal of various county assets through auction including (39) Phones, (108) Hanging folders, (275) Manila Folders, (5) File Cabinets, (5) Computer, (5) Keyboards, (3) Servers, (1) White Board, (6) Desk Chairs, (1) Desk, (3) Office Chairs, (2) Printers (see attached list) pursuant to Tx. Local Gov't code 263.152.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Asset Transfer

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Jayme Jasso		Started On: 02/27/2017 10:45 AM
Final Approval Date: 02/27/2017		

FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

Print Form

The following asset(s) is(are) considered for: (select one)

- ○ TRANSFER bet ween county departments
- ◉ SALE at the earliest auction *
- ○ TRADE-IN for new assets of similar type for the county
- ○ DONATION to a non-county entity
- ○ DESTRUCTION due to Public Health / Safety
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
38	Samsung PTT Phones			Working

Parties involved:

FROM (Transferor Department): Facilities

Transferor - Elected Official/Department Head/ Authorized Staff:

Gary Wilson
Print Name

Gary Wilson
Signature

February 17, 2017
Date

Contact Person:

Gary Wilson
Print Name

+1 (512) 943-1636
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): Auction

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Print Name

Signature

Date

Contact Person:

RECEIVED
FEB 22 2017
AUDITOR'S OFFICE
WILLIAMSON COUNTY, TEXAS

Print Name

Phone Number

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

Print Form

The following asset(s) is(are) considered for: (select one)

- ○ TRANSFER bet ween county departments
- ◉ SALE at the earliest auction *
- ○ TRADE-IN for new assets of similar type for the county
- ○ DONATION to a non-county entity
- ○ DESTRUCTION due to Public Health / Safety
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
108	Legal Hanging Files			Working
275	Legal Manila Folders			Working
1	FireKing File Cabinet (Lateral, Legal, 4 drawer, Steel) HEAVY, w	FDIC #02179, EP-701	A105039	Working
1	HON File Cabinet (Lateral, legal/letter, 4 drawer, Steel)	#104	A104169	Working
1	OLD Nokia Cingular cell phone/ no charger			Non-Working

Parties involved:

FROM (Transferor Department): Commissioner's Office Pct. 4

Transferor - Elected Official/Department Head/ Authorized Staff:

Julia Cooper
Print Name

Julia Cooper 2-17-17
Signature Date

Contact Person:

Julia Cooper
Print Name

+1 (512) 846-1190
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): AUCTION

RECEIVED
FEB 22 2017
AUDITOR'S OFFICE
WILLIAMSON COUNTY, TEXAS

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Tony Hill
Print Name

Signature Date

Contact Person:

Tony Hill
Print Name

+1 (512) 943-3314
Phone Number

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

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FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

Print Form

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- ○ TRANSFER bet ween county departments
- ◉ SALE at the earliest auction *
- ○ TRADE-IN for new assets of similar type for the county
- ○ DONATION to a non-county entity
- ○ DESTRUCTION due to Public Health / Safety
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	DELL OPTIPLEX 740 COMPUTER	CDGD1L1	N/A	Working
1	DELL OPTIPLEX 740 COMPUTER	5FGD1L1	C02566	Working
1	DELL OPTIPLEX 740 COMPUTER	4DGD1L1	C02568	Working
1	DELL OPTIPLEX 740 COMPUTER	1DGD1L1	C02565	Working
1	DELL OPTIPLEX 780 COMPUTER	CRH5BP1	C02973	Working

Parties involved:

FROM (Transferor Department): Tax Assessor/Collector

Transferor - Elected Official/Department Head/ Authorized Staff:

Larry Gaddes
Print Name

Signature — February 21, 2017 Date

Contact Person:

Judy Kocian
Print Name

+1 (512) 943-1954
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): Auction

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Tony Hill
Print Name

Signature — Date

Contact Person:

Print Name

Phone Number

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FEB 22 2017
AUDITOR'S OFFICE
WILLIAMSON COUNTY, TEXAS

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

Print Form

The following asset(s) is(are) considered for: (select one)

- ○ TRANSFER bet ween county departments
- ◉ SALE at the earliest auction *
- ○ TRADE-IN for new assets of similar type for the county
- ○ DONATION to a non-county entity
- ○ DESTRUCTION due to Public Health / Safety
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
4	DELL KEYBOARD	N/A	N/A	Working
1	DELL KEYBOARD	N/A	N/A	Non-Working

Parties involved:

FROM (Transferor Department): Tax Assessor/Collector

Transferor - Elected Official/Department Head/ Authorized Staff:

Larry Gaddes
Print Name

Signature

February 21, 2017
Date

Contact Person:

Judy Kocian
Print Name

+1 (512) 943-1954
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): Auction

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Tony Hill
Print Name

Signature

Date

Contact Person:

Print Name

Phone Number

RECEIVED
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AUDITOR'S OFFICE
WILLIAMSON COUNTY, TEXAS

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FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

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Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
3	DELL POWEREDGE SERVER	3CT61D1, 9BT61D1, 9J6F3D1		

Parties involved:

FROM (Transferor Department): ELECTIONS

Transferor - Elected Official/Department Head/ Authorized Staff:

CHRISTOPHER DAVIS
Print Name

Signature 2/21/17 Date

Contact Person:

Print Name

Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): AUCTION

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Print Name

Signature Date

Contact Person:

TONY HILL
Print Name

Phone Number

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WILLIAMSON COUNTY, TEXAS

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FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

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- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
	See Attached List			

Parties involved:

FROM (Transferor Department): _____

Transferor - Elected Official/Department Head/ Authorized Staff:

_____ Print Name

_____ Signature _____ Date

Contact Person:

_____ Print Name

_____ Phone Number

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AUDITOR'S OFFICE
WILLIAMSON COUNTY, TEXAS

TO (Transferee Department/Auction/Trade-in/Donee): Auction

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Terron Everetson Print Name

Terron E Signature _____ Date

Contact Person:

Lydia Linden Print Name

512-943-3330 Phone Number

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Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

Qty	Description	Manufacturer ID	County Tag #	Condition
1	Large White Board			working
6	Misc Office/Desk chairs			working
1	Old Desk/wood flormica			working
1	Legal Size file cabinet tan color			working
1	Letter Size file cabinet black color			working
1	Legal Size file cabinet tan color		A11364	working
1	Office Chair		A103670	working
1	Office Chair		A106327	working
1	Office Chair		A106337	working

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WILLIAMSON COUNTY, TEXAS

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Williamson County
Asset Status Change Form

Print Form

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- ○ DESTRUCTION due to Public Health / Safety
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Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	HP LaserJet Printer 4250n		100338	Non-Working
1	HP LaserJet Printer 4250n		100339	Non-Working

Parties involved:

FROM (Transferor Department): County Court at Law No. 4

Transferor - Elected Official/Department Head/ Authorized Staff:

John B. McMaster
Print Name

Signature Date

Contact Person:

Sharrion Threadgill
Print Name

9431681
Phone Number

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WILLIAMSON COUNTY, TEXAS

TO (Transferee Department/Auction/Trade-in/Donee): Auction

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Print Name

Signature Date

Contact Person:

Tony Hill
Print Name

Phone Number

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Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

Commissioners Court - Regular Session **8.**

Meeting Date: 03/07/2017

Asset Transfer 030717

Submitted By: Jayme Jasso, Purchasing

Department: Purchasing

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action on authorizing the disposal of various county assets through interdepartmental transfer including (1) Wood Desk, (1) Surface Pro with mouse, (1) Docking station and (1) Chair (see attached lists) pursuant to Tx. Local Gov't Code 263.152.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Asset Transfer

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Jayme Jasso		Started On: 02/27/2017 10:57 AM
Final Approval Date: 02/27/2017		

FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

Print Form

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- (X) TRANSFER bet ween county departments
- ( ) SALE at the earliest auction *
- ( ) TRADE-IN for new assets of similar type for the county
- ( ) DONATION to a non-county entity
- ( ) DESTRUCTION due to Public Health / Safety
- ( ) SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Dark wood desk			

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WILLIAMSON COUNTY, TEXAS

Parties involved:

FROM (Transferor Department): Auction

Transferor - Elected Official/Department Head/ Authorized Staff:

Tony Hill
Print Name

Signature

2-14-17
Date

Contact Person:

Tony Hill
Print Name

943-3314
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): Const. 1

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

VINCENT D. CHERRONE
Print Name

X Vincent D. Cherrone
Signature

2-14-2017
Date

Contact Person:

Print Name

512-244-8650
Phone Number

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

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Williamson County
Asset Status Change Form

Print Form

The following asset(s) is(are) considered for: (select one)

- (•) TRANSFER bet ween county departments
- ( ) SALE at the earliest auction *
- ( ) TRADE-IN for new assets of similar type for the county
- ( ) DONATION to a non-county entity
- ( ) DESTRUCTION due to Public Health / Safety
- ( ) SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Windows 8 Surface Pro with mouse	010709452453,	WC00209	Working
1	Docking Station, Model: 1664	0267785523486		Working

Parties involved:

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WILLIAMSON COUNTY, TEXAS

FROM (Transferor Department): Bill Gravell Jr., Justice of the Peace, Pct. #3

Transferor - Elected Official/Department Head/ Authorized Staff:

Bill Gravell Jr.
Print Name

Bill Gravell
Signature

2-17-2017
Date

Contact Person:

Melissa Goins
Print Name

+1 (512) 943-1508
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): Shawn Dick, District Attorney

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Shawn Dick
Print Name

Shawn Dick
Signature

Date

Contact Person:

Bridget Chapman
Print Name

+1 (512) 943-3513
Phone Number

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

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Williamson County
Asset Status Change Form

Print Form

The following asset(s) is(are) considered for: (select one)

- (•) TRANSFER bet ween county departments
- ( ) SALE at the earliest auction *
- ( ) TRADE-IN for new assets of similar type for the county
- ( ) DONATION to a non-county entity
- ( ) DESTRUCTION due to Public Health / Safety
- ( ) SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Executive High-Back Chair	Realspace EC620		Working

Parties involved:

FROM (Transferor Department): 26th District Court

Transferor - Elected Official/Department Head/ Authorized Staff:

Judge Donna King
Print Name

Signature

February 15, 2017
Date

Contact Person:

Debbie Lewis
Print Name

+1 (512) 943-1226
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee): Magistrate Office

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WILLIAMSON COUNTY, TEXAS

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Tom Eastes
Print Name

Signature

February 15, 2017
Date

Contact Person:

Teri Miller
Print Name

+1 (512) 943-1496
Phone Number

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

Commissioners Court - Regular Session **9.**

Meeting Date: 03/07/2017

Asset Vehicle 03-07-17

Submitted By: Jayme Jasso, Purchasing

Department: Purchasing

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action on authorizing the disposal of (1) 2014 Black Chevy Tahoe through insurance claim (see attached list) pursuant to Tx. Local Gov't code 263.152.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Asset Transfer

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Jayme Jasso		Started On: 02/27/2017 11:04 AM
Final Approval Date: 02/27/2017		

Williamson County
Vehicle Status Change Form

To be completed by **department** releasing vehicle:

1) Identify Vehicle:

1GNLC2E08ER214124	560	SB1416
Vehicle Identification Number	Department	Door Number

1175615	2014	CHEVROLET	TAHOE	BLACK
License Plate Number	Year	Make	Model	Color

2) Reason for Status Change:

☒ Accident

Received: 1. Williamson County Fleet Incident/Crash/Vandalism Report
2. The Official Accident Report
3. A Vehicle Insurance / Litigation Form

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WILLIAMSON COUNTY, TEXAS

☐ High Mileage: List actual mileage 56,560

☐ Not mechanically sound

☒ Other: Explain Vehicle Totaled: Sale to Insurance Company

3) Elected Official/Department Head/Authorized Staff

Print Name Commander James David Signature [signature] Date 1-24-2017

To be completed by **Fleet Services Manager:**

1) Method of Status Change: This vehicle is to be considered for: (Select one)

- ○ SALE at the earliest auction
- ○ TRANSFER between county departments
- ○ SALVAGE for parts
- ○ TRADE-IN for new assets of same general type for the county
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value
- ☒ Other Sale to insurance

Print Name Kevin Teller Signature [signature] Date 1-31-17

To be completed by **Human Resources Analyst:**

All applicable accident paperwork has been received and there is no litigation pending on this unit. It has been cleared for retirement.

HR Release Authorization: [signature]

To be completed by **Budget Office** (only for transfers):

Transfer has been reviewed and approved:

Signature:

All forms must be routed to the County Auditor's Office once the final authorization and approval have been received.

Commissioners Court - Regular Session **10.**

Meeting Date: 03/07/2017

Assets not Found 030717

Submitted By: Jayme Jasso, Purchasing

Department: Purchasing

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action on authorizing the retirement from the county inventory of Assets Not Found including (1) Monitor, (7) Computers, (1) Projector, (5) Printers, (1) Shredder, (see attached lists) per the recommendation of the County Auditor's Office.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Asset Transfer

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Jayme Jasso		Started On: 02/27/2017 11:13 AM
Final Approval Date: 02/27/2017		

FrmAudASCF01 revision 07/2014

Williamson County
Asset Status Change Form

Print Form

The following asset(s) is(are) considered for: (select one)

- (X) TRANSFER bet ween county departments
- ( ) SALE at the earliest auction *
- ( ) TRADE-IN for new assets of similar type for the county
- (•) NOT FOUND DURING AUDIT, REMOVE FROM INVENTORY
- ( ) DONATION to a non-county entity
- ( ) DESTRUCTION due to Public Health / Safety
- ( ) SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Dell Monitor (purchased in 04 - no longer in Purchasing)	CN-05Y232	n/a	Non-Working
1	Dell Optiplex GX280 (purchased in 05 - no longer in Purchasing)	7B84P71/C877	n/a	Non-Working
1	Dell Optiplex 740 (purchased in 07 - no longer in Purchasing)	3QTN2F1	n/a	Non-Working
1	3M Projector MP8625 (purchased in 99 - no longer in Purchasing)	G9F106975	n/a	Non-Working

Parties involved: These assets will be removed from the books as they cannot be located

FROM (Transferor Department): Purchasing

Transferor - Elected Official/Department Head/ Authorized Staff:

Kerstin Hancock
Print Name

Signature Date

Contact Person:

Kerstin Hancock
Print Name

+1 (512) 943-1546
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee):

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Print Name

Signature Date

Contact Person:

Print Name

Phone Number

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WILLIAMSON COUNTY, TEXAS

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

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Williamson County
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- ○ SALE at the earliest auction *
- ○ TRADE-IN for new assets of similar type for the county
- ● ITEMS UNAVAILABLE PRIOR TO JANUARY 2017.
- ○ DONATION to a non-county entity
- ○ DESTRUCTION due to Public Health / Safety
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	APPLE COMPUTER	W8922ORB8QS	49890	
1	APPLE COMPUTER	W8922/2T8QS	49891	
1	APPLE COMPUTER	W89221538QS	49892	
1	CANNON IMAGE FORMULA DR-6010C	FB301311	54102	
1	MAC BOOK PRO 13" LAPTOP (2009)	W80274WLATP	54411	

Parties involved:

FROM (Transferor Department): DISTRICT ATTORNEY'S OFFICE

Transferor - Elected Official/Department Head/ Authorized Staff:

Ronnie Sinek
Print Name

Ronnie Sinek 2/17/17
Signature Date

Contact Person:

GRACE FRIAS
Print Name

512-943-1234
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee):

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Print Name

Signature Date

Contact Person:

Print Name

Phone Number

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WILLIAMSON COUNTY, TEXAS

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FrmAudASCF01 revision 07/2014

Williamson County
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- ○ DONATION to a non-county entity
- ○ DESTRUCTION due to Public Health / Safety
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	HP LASERJET PRINTER 1300N	CNCB201650 /1408	39193	
1	HP LASERJET PRINTER 4200N	USGNS60403 /1409	40500	
1	CANNON IMAGE FORMULA DR-6010C SCANNER		65727	
1	HP LASERJET PRINTER 2430N	CNGVF56444 /1447	43471	
1	ATIVA SHREDDER	NOT AVAILABLE	48509	

Parties involved:

FROM (Transferor Department): DISTRICT ATTORNEY'S OFFICE

Transferor - Elected Official/Department Head/ Authorized Staff:

Connie Simek
Print Name

Connie Simek
Signature

Date

Contact Person:

GRACE FRIAS
Print Name

512-943-1234
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee):

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Print Name

Signature

Date

Contact Person:

Print Name

Phone Number

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FEB 21 2017
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WILLIAMSON COUNTY, TEXAS

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Forward to County Auditor's Office

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FrmAudASCF01 revision 07/2014

Williamson County
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- ○ SALE at the earliest auction *
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- ○ DESTRUCTION due to Public Health / Safety
- ○ SALE to a government entity / civil or charitable organization in the county at fair market value

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	DELL OPTIPLEX 780 COMPUTER	4KXVNM1	54789	

Parties involved:

FROM (Transferor Department): DISTRICT ATTORNEY'S OFFICE

Transferor - Elected Official/Department Head/ Authorized Staff:

Ronnie Sinek
Print Name

Ronnie Sinek
Signature

Date

Contact Person:

GRACE FRIAS
Print Name

512-943-1234
Phone Number

TO (Transferee Department/Auction/Trade-in/Donee):

Transferee - Elected Official/Department Head/ Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Print Name

Signature

Date

Contact Person:

Print Name

Phone Number

RECEIVED
FEB 21 2017
AUDITOR'S OFFICE
WILLIAMSON COUNTY, TEXAS

* If the above asset(s) is (are) listed for sale at auction and no bids are made, the Purchasing Director may dispose of or donate this (these) asset(s). A list of the (these) asset(s) to be donated or disposed of will be sent to the Auditor's Office with a date of donation or disposal.

Forward to County Auditor's Office

This Change Status was approved as agenda item # _____ in Commissioner's Court on _____

If for Sale, the asset(s) was(were) delivered to warehouse on _____ by _____

Commissioners Court - Regular Session **11.**

Meeting Date: 03/07/2017

Byron Totty

Submitted By: Michael Pendley, Constable Pct. #1

Department: Constable Pct. #1

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action regarding request of Constable Precinct One for approval of Byron Totty to the open deputy constable position in precinct one pursuant to Tex. Loc. Gov'tCode86.011.

Background

Byron Totty is a deputy from the Williamson County Pct 3 Constable's Office. Mr. Byron has accepted the position of
deputy constable currently open in the Williamson County Constable Precinct One office. Mr. Totty is currently a licensed peace officer in the State of Texas with more than 8 years of experience and meets all qualifications required for the position of deputy.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 10:02 AM
Form Started By: Michael Pendley		Started On: 02/27/2017 09:39 AM
Final Approval Date: 02/27/2017		

Commissioners Court - Regular Session **12.**

Meeting Date: 03/07/2017

Compensation Items

Submitted By: Tara Raymore, Human Resources

Department: Human Resources

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action on approving compensation changes, position titles changes, position grade changes and any corresponding line item transfers.

Background

See attached document for details.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Comp Items

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:31 AM
Form Started By: Tara Raymore		Started On: 03/02/2017 10:28 AM
Final Approval Date: 03/02/2017		

Department	PCN	EE ID	Budget Amount	*Requested Amount	Change Amount	% Change	Reason for Change	Available Funds From	Earliest Oracle Effective Date
Constable Pct. 1	0269	Vacant	$57,715.82	$60,047.54	$2,331.72	4.04%	Grade, Salary change; from L1.6 to L1.8	Unallocated	2/24/2017
County Auditor	0627	14035	$34,791.27	$35,835.01	$1,043.74	3.00%	Merit	Unallocated	2/24/2017
Information Systems	0089	11560	$54,654.86	$55,338.14	$683.28	1.25%	Merit	Unallocated	2/24/2017
Information Systems	1757	12067	$70,725.72	$71,432.92	$707.20	1.00%	Merit	Unallocated	2/24/2017
Information Systems	0946	11265	$55,561.25	$56,116.84	$555.59	1.00%	Merit	Unallocated	2/24/2017
Justice of the Peace 1	0977	04098	$41,918.36	$42,966.33	$1,047.97	2.50%	Merit	Unallocated	2/24/2017
Juvenile Services	1112	13758	$34,112.00	$35,476.48	$1,364.48	4.00%	Merit	Unallocated	3/10/2017
Purchasing	1220	13966	$57,000.06	$59,850.18	$2,850.12	5.00%	Merit	Unallocated	2/24/2017
Road and Bridge	1603	02877	$66,551.16	$67,881.06	$1,329.90	2.00%	Merit	Unallocated	2/24/2017
Road and Bridge	1502	11496	$69,579.38	$70,970.90	$1,391.52	2.00%	Merit	Unallocated	2/24/2017
Magistrate's Office	0188	Vacant	$76,789.44	$82,365.16	$5,575.72	7.26%	Grade change; from B.36 to B.37	Unallocated	3/10/2017
Magistrate's Office	1792	Vacant	$75,283.78	$80,665.16	$5,381.38	7.15%	Grade change; from B.36 to B.37	Unallocated	3/2/2017
Magistrate's Office	1668	Vacant	$77,677.60	$80,665.16	$2,987.56	3.85%	Grade change; from B.36 to B.37	Unallocated	3/24/2017
Magistrate's Office	0185	04424	$96,504.46	N/A	N/A	N/A	Grade change; from B.38 to B.39	N/A	3/10/2017
County Attorney	0031	03640	$44,159.30	N/A	N/A	N/A	Title, Grade change; from CA Family Court Legal Asst B.18 to Legal Assistant B.20	N/A	3/10/2017
County Attorney	0026	12733	$41,454.40	N/A	N/A	N/A	Title, Grade change; from CA Victim Asst Coord I B.19 to Victim Advocate B.20	N/A	3/10/2017
County Attorney	0018	13689	$40,583.61	N/A	N/A	N/A	Title, Grade change; from CA Family Court Legal Asst, B.18 to Legal Assistant B.20	N/A	3/10/2017
County Attorney	0013	13241	$36,694.84	N/A	N/A	N/A	Title, Grade change; from Restitution Specialist B.17 to Victim Advocate B.20	N/A	3/10/2017
County Attorney	0012	12975	$36,419.07	N/A	N/A	N/A	Title, Grade change; from CA Receptionist B.17 to Victim Advocate B.20	N/A	3/10/2017
County Attorney	0027	10099	$50,694.02	N/A	N/A	N/A	Title, Grade change; from CA Chief Victim Asst Coord III, B.21 to Chief Victim Advocate Coord, B.23	N/A	3/10/2017

*Amount may vary slightly due to Oracle rounding

Commissioners Court - Regular Session **13.**

Meeting Date: 03/07/2017

bond-SH

Submitted By: Rebecca Clemons, County Judge

Department: County Judge

Agenda Category: Consent

Information

Agenda Item

Discuss, consider, and take appropriate action on approving a bond for Williamson County Treasurer D. Scott Heselmeyer.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

SH.bond

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst. (Originator)	Wendy Coco	03/01/2017 11:24 AM
Form Started By: Rebecca Clemons		Started On: 03/01/2017 10:07 AM
Final Approval Date: 03/01/2017		

MERCHANTS BONDING COMPANY
MERCHANTS BONDING COMPANY (MUTUAL) P.O. BOX 14498, DES MOINES, IA 50306-3498
PHONE: (800) 678-8171 FAX: (515) 243-3854

TEXAS OFFICIAL BOND AND OATH FOR COUNTY TREASURER

THE STATE OF TEXAS

County of Williamson Bond No. TX 834923

KNOW ALL PERSONS BY THESE PRESENTS:

That we, David Scott Heselmeyer, as Principal, and the MERCHANTS BONDING COMPANY (Mutual), a corporation duly licensed to do business in the State of Texas, as Surety, are held and firmly bound unto the County Judge of Williamson County, State of Texas, his/her successors in office, in the sum of Five Thousand ($5,000.00).

THE CONDITION OF THE ABOVE OBLIGATION is such, that, whereas, the above bounden Principal was on the 1st day of March, 2017, duly Appointed to the office of County Treasurer in and for Williamson County in the State of Texas, for a term commencing on the 1st day of March, 2017, and expiring on the 31st day of December, 2018.

Now, therefore, if the said Principal shall well and faithfully perform and discharge all the duties required of him/her by law as the aforesaid officer, and shall faithfully execute the duties of office; remit according to law all funds received as county treasurer; and render an account of all funds received to the commissioners court at each regular term of the court, then this obligation to be void, otherwise to remain in full force and effect.

PROVIDED, HOWEVER, that regardless of the number of years this bond may remain in force and the number of claims which may be made against this bond, the liability of the Surety shall not be cumulative and the aggregate liability of the Surety for any and all claims, suits, or actions under this bond shall not exceed the amount stated above. Any revision of the bond amount shall not be cumulative.

PROVIDED, FURTHER, that this bond may be canceled by the Surety by sending written notice to the party to whom this bond is payable stating that, not less than thirty (30) days thereafter, the Surety's liability hereunder shall terminate as to subsequent acts of the Principal.

Dated this 28th day of February, 2017.

David Scott Heselmeyer
Principal
By: D Scott Heselmeyer

Merchants Bonding Company (Mutual)
By:
Janet Turbett Attorney-in-Fact

ACKNOWLEDGEMENT OF PRINCIPAL

THE STATE OF TEXAS
County of Williamson

Before me, Rebecca Clemons, a notary public, on this day personally appeared D Scott Heselmeyer known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office, at 8:00am
this 1st day of March, 2017.

Rebecca Clemons

REBECCA CLEMONS
NOTARY PUBLIC
COMMISSION EXPIRES:
08-02-2017

Williamson County, Texas.

PO 0147 TX (2/15)

OATH OF OFFICE
(General)

I, _____, do solemnly swear (or affirm) that I will faithfully execute the duties of the office of _____, of the State of Texas, and will to the best of my ability preserve, protect, and defend the Constitution and laws of the United States and of this State; and I furthermore solemnly swear (or affirm) that I have not directly nor indirectly paid, offered, or promised to pay, contributed, nor promised to contribute any money, or valuable thing, or promised any public office or employment, as a reward for the giving or withholding a vote at the election at which I was elected. So help me God.

Signed _____

Sworn to and subscribed before me at _____, Texas, this _____ day of _____, _____.

_____

SEAL

_____ County, Texas

THE STATE OF TEXAS
County of _____ } ss

The foregoing bond of _____ as _____ in and for _____ County and State of Texas, this day approved in open Commissioner's Court.

ATTEST: Date _____

_____ Clerk _____ County Judge,

County Court _____ County _____ County, Texas

THE STATE OF TEXAS
County of _____ } ss

I, _____, County Clerk, in and for said County, do hereby certify that the foregoing Bond dated the _____ day of _____, _____, with its certificates of authentication, was filed for record in my office the _____ day of _____, _____, at _____ o'clock ____ M., and duly recorded the _____ day of _____, _____, at _____ o'clock ____ M., in the Records of Official Bonds of said County in Volume _____, on page _____.

WITNESS my hand and the seal of the County Court of said County, at office in _____, Texas, the day and year last above written.

_____ Clerk

By _____ Deputy County Court _____ County

MERCHANTS BONDING COMPANY™

TX 834923

POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Janet Turbett

their true and lawful Attorney(s)-in-Fact, to make, execute, seal and deliver on behalf of the Companies, as Surety, bonds, undertakings and other written obligations in the nature thereof, subject to the limitation that any such instrument shall not exceed the amount of:

$5,000.00

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the following By-Laws adopted by the Board of Directors of Merchants Bonding Company (Mutual) on April 23, 2011 and adopted by the Board of Directors of Merchants National Bonding, Inc., on October 24, 2011.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner-Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 24th day of June , 2016 .

MERCHANTS NATIONAL BONDING, INC. -o- 2003

MERCHANTS BONDING COMPANY (MUTUAL) INCORPORATED -o- 1933

MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.

By Larry Taylor

President

STATE OF IOWA
COUNTY OF Dallas ss.

On this 24th day of June , 2016 , before me appeared Larry Taylor, to me personally known, who being by me sworn did say that he is President of the MERCHANTS BONDING COMPANY (MUTUAL and MERCHANTS NATIONAL BONDING, INC.; and that the seals affixed to the foregoing instrument are the Corporate seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.

NOTARIAL SEAL IOWA
WENDY WOODY
Commission Number 784654
My Commission Expires
June 20, 2017

Notary Public, Polk County, Iowa

(Expiration of notary's commission does not invalidate this instrument)

I, William Warner, Jr., Secretary of the MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 28th day of February , 2017 .

MERCHANTS NATIONAL BONDING, INC. -o- 2003

MERCHANTS BONDING COMPANY (MUTUAL) INCORPORATED -o- 1933

William Warner Jr.

Secretary

POA 0014 (6/15)

Commissioners Court - Regular Session **14.**

Meeting Date: 03/07/2017

Discuss consider and take appropriate action on approval of the final plat for the Rancho Sienna Sec 7 Block F Lot subdivision - Pct 3

Submitted For: Terron Evertson **Submitted By:** Patrick Hughes, Unified Road System

Department: Unified Road System

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action on approval of the final plat for the Rancho Sienna Section 7 Block F Lot subdivision - Pct 3.

Background

This is a single lot subdivision, not a part of the Rancho Sienna Section 7 plat. It will be a commercial lot for a private school. This plat is 'grandfathered' under the 2000 Subdivision Regulations; no review fees are due.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Final Plat - Rancho Sienna Sec 7 Blk F Lot 42

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 09:34 AM
Form Started By: Patrick Hughes		Started On: 02/28/2017 09:19 AM
Final Approval Date: 03/02/2017		

RANCHO SIENNA SECTION 7, BLOCK F, LOT 42

BEING 1.726 ACRES OUT OF THE GREENLEAF FISK SURVEY, ABSTRACT NO. 5 WILLIAMSON COUNTY, TEXAS.

FIELDNOTE DESCRIPTION:

OF **1.726 ACRES** OF LAND OUT OF THE GREENLEAF FISK SURVEY, ABSTRACT NO. 5, SITUATED IN WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF THAT CERTAIN TRACT 3B–1 – 1.374 ACRE TRACT OF LAND AND ALL OF THAT CERTAIN TRACT 3B–2 – 1.407 ACRE TRACT OF LAND DESCRIBED IN DEEDS RECORDED IN DOCUMENT NO. 2014001964, OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS; SAID **1.726 ACRES** OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, AT A 1/2 INCH IRON ROD WITH "BURY" CAP SET IN THE EASTERLY RIGHT–OF–WAY LINE OF COUNTY ROAD 268 (R.O.W. VARIES), BEING THE NORTHWESTERLY CORNER OF LOT 44 OPEN SPACE, BLOCK "F" FINAL PLAT OF RANCHO SIENNA SECTION 7, A SUBDIVISION OF RECORD DOCUMENT NO. 2014077627 OF SAID OFFICIAL PUBLIC RECORDS, BEING THE SOUTHERLY LINE OF SAID TRACT 3B–1, FOR THE SOUTHWESTERLY CORNER HEREOF;

THENCE, N25°24'01"E, LEAVING THE NORTHWESTERLY CORNER OF SAID LOT 44 OPEN SPACE, ALONG THE EASTERLY RIGHT–OF–WAY LINE OF COUNTY ROAD 268, BEING THE SOUTHERLY LINE OF SAID TRACT 3B–1, FOR A PORTION OF THE WESTERLY LINE HEREOF, A DISTANCE OF 236.68 FEET TO A 1/2 INCH IRON ROD WITH "BURY" CAP SET FOR AN ANGLE POINT HEREOF;

THENCE, N43°19'58"E, LEAVING THE EASTERLY RIGHT–OF–WAY LINE OF COUNTY ROAD 268, OVER AND ACROSS SAID TRACT 3B–1, FOR A PORTION OF THE WESTERLY LINE HEREOF, A DISTANCE OF 47.68 FEET TO A 1/2 INCH IRON ROD WITH "BURY" CAP SET IN SOUTHERLY LINE OF THE REMAINING PORTION OF THAT CERTAIN TRACT 1 – 102.074 ACRE TRACT OF LAND CONVEYED TO NASH RANCHO HILLS, LLC, BY DEED OF RECORD IN DOCUMENT NO. 2013060667 OF SAID OFFICIAL PUBLIC RECORDS, BEING THE NORTHERLY LINE OF SAID TRACT 3B–1, FOR THE NORTHWESTERLY CORNER HEREOF;

THENCE, S46°40'02"E, ALONG THE SOUTHERLY LINE OF THE REMAINING PORTION OF SAID TRACT 1, BEING THE NORTHERLY LINE OF SAID TRACT 3B–1 AND SAID TRACT 3B–2, AT 59.85 FEET PASSING THE SOUTHERLY CORNER OF THE WESTERLY TERMINUS OF VIA DE SIENNA BOULEVARD (90' R.O.W.), AND CONTINUING ALONG THE SOUTHERLY RIGHT–OF–WAY LINE OF VIA DE SIENNA BOULEVARD AND THE NORTHERLY LINE OF SAID TRACT 3B–2, FOR THE NORTHERLY LINE HEREOF, IN ALL A TOTAL DISTANCE OF 288.87 FEET TO A 1/2 INCH IRON ROD WITH "BURY" CAP SET AT THE NORTHERLY END OF A RIGHT–OF–WAY RETURN AT THE INTERSECTION OF THE SOUTHERLY RIGHT–OF–WAY LINE OF VIA DE SIENNA BOULEVARD AND THE WESTERLY RIGHT–OF–WAY LINE OF MAGONA TRAIL (50' R.O.W.), FOR THE NORTHEASTERLY CORNER OF SAID TRACT 3B–2 AND HEREOF;

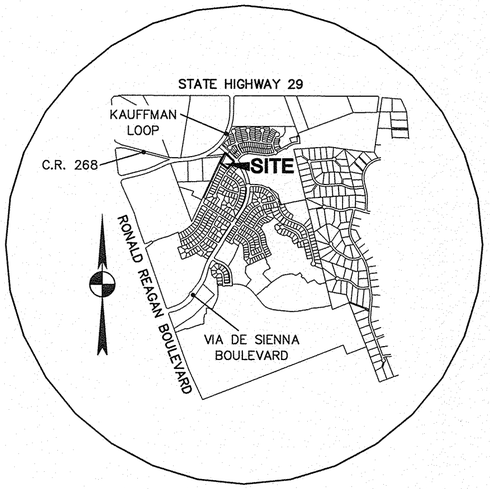
THENCE, LEAVING THE SOUTHERLY RIGHT–OF–WAY LINE OF VIA DE SIENNA BOULEVARD, BEING THE EASTERLY LINE OF SAID TRACT 3B–2, ALONG SAID RIGHT–OF–WAY RETURN, FOR A PORTION OF THE EASTERLY LINE HEREOF, ALONG A CURVE TO THE RIGHT, HAVING A RADIUS OF 25.00 FEET, A CENTRAL ANGLE OF 90°00'00", AN ARC LENGTH OF 39.27 FEET, AND A CHORD WHICH BEARS S01°40'02"E, A DISTANCE OF 35.36 FEET TO A 1/2 INCH IRON ROD WITH "BURY" CAP SET AT THE END OF SAID CURVE, BEING THE WESTERLY RIGHT–OF–WAY LINE OF MAGONA TRAIL;

THENCE, ALONG THE WESTERLY RIGHT–OF–WAY LINE OF MAGONA TRAIL, BEING THE EASTERLY LINE OF SAID TRACT 3B–2, FOR A PORTION OF THE EASTERLY LINE HEREOF, THE FOLLOWING TWO (2) COURSES AND DISTANCES:

1) S43°19'58"W, A DISTANCE OF 93.54 FEET TO A 1/2 INCH IRON ROD WITH "BURY" CAP SET AT THE POINT OF CURVATURE OF A CURVE TO THE LEFT;

2) ALONG SAID CURVE, HAVING A RADIUS OF 1525.00 FEET, A CENTRAL ANGLE OF 05°02'04", AN ARC LENGTH OF 134.00 FEET, AND A CHORD WHICH BEARS S40°48'56"W, A DISTANCE OF 133.96 FEET TO A 1/2 INCH IRON ROD WITH "BURY" CAP SET AT THE NORTHEASTERLY CORNER OF LOT 41 OF SAID FINAL PLAT OF RANCHO SIENNA SECTION 7, FOR THE SOUTHEASTERLY CORNER OF SAID TRACT 3B–2 AND HEREOF;

THENCE, N51°27'14"W, LEAVING THE WESTERLY RIGHT–OF–WAY LINE OF MAGONA TRAIL, ALONG THE NORTHERLY LINE OF SAID LOT 41 AND SAID LOT 44 OPEN SPACE, BEING THE SOUTHERLY LINE OF SAID TRACT 3B–1 AND SAID TRACT 3B–2, FOR THE SOUTHERLY LINE HEREOF, A DISTANCE OF 247.68 FEET TO THE POINT OF BEGINNING, AND CONTAINING AN AREA OF **1.726 ACRES** (75,178 SQUARE FEET) OF LAND, MORE OR LESS, WITHIN THESE METES AND BOUNDS.



VICINITY MAP
N.T.S.

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET, FIELD NOTE DESCRIPTION AND NOTES
2	FINAL PLAT LAYOUT, LINE AND CURVE TABLE
3	CERTIFICATIONS AND SIGNATURES

GENERAL INFORMATION:

OWNER.....NASH RANCHO HILLS, LLC
TOTAL ACREAGE.....1.726 ACRES
SURVEY OF.....GREENLEAF FISK SURVEY(A–5)
.....OCTOBER, 2016
OF SINGLE FAMILY LOTS.....0
OF OPEN SPACE LOTS.....0
TOTAL # OF LOTS.....1
TOTAL # OF BLOCKS.....1

PLAT NOTES:

1. THIS PLAT LIES WITHIN THE BOUNDARY OF THE WILLIAMSON COUNTY MUNICIPAL UTILITY DISTRICT NO. 12 (WCMUD 12). WATER AND WASTEWATER SERVICE FOR THIS SUBDIVISION WILL BE PROVIDED THROUGH SERVICE AGREEMENTS ENTERED INTO BETWEEN WCMUD 12 AND THE CHISHOLM TRAIL SPECIAL UTILITY DISTRICT AND THE LCRA. WATER SERVICE FOR THIS SUBDIVISION WILL BE PROVIDED BY THE CITY OF GEORGETOWN. SEWER SERVICE WILL BE PROVIDED BY THE CITY OF LIBERTY HILL.
2. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL CONNECTION IS MADE TO AN APPROVED PUBLIC SEWER SYSTEM.
3. NO LOT IN THIS SUBDIVISION SHALL BE OCCUPIED UNTIL WATER SATISFACTORY FOR HUMAN CONSUMPTION IS AVAILABLE FROM A SOURCE IN ADEQUATE AND SUFFICIENT SUPPLY.
4. NO STRUCTURE OR LAND IN THIS PLAT SHALL HEREAFTER BE LOCATED OR ALTERED WITHOUT FIRST SUBMITTING A CERTIFICATE OF COMPLIANCE APPLICATION FORM TO THE WILLIAMSON COUNTY FLOOD PLAIN ADMINISTRATOR.
5. THE OPEN SPACE LOTS WILL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
6. NO CONSTRUCTION IN THIS SUBDIVISION MAY BEGIN UNTIL THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) HAS APPROVED, IN WRITING, THE WATER POLLUTION ABATEMENT PLAN (WPAP).
7. SIDEWALKS LOCATED ADJACENT TO OPEN SPACE AND HOMEOWNER ASSOCIATION LOTS WILL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION. SIDEWALKS LOCATED ADJACENT TO SINGLE FAMILY RESIDENTIAL LOTS (WITHIN PUBLIC RIGHT OF WAY) SHALL BE MAINTAINED BY THE RESPECTIVE ADJACENT PROPERTY OWNER.
8. FENCE/WALL EASEMENTS WITHIN THE BOUNDARIES OF THIS PLAT AND MAINTENANCE OF FENCES/WALLS LOCATED WITHIN THESE EASEMENTS SHALL BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
9. PEC EASEMENTS SHALL BE LOCATED AS FOLLOWS: FRONT EASEMENT SHALL BE A STRIP OF LAND TEN (10') FEET IN WITH LOCATED ALONG ALL RIGHT–OF–WAYS (ROADS) AND SIDE–LOT EASEMENT SHALL BE TWO AND ONE HALF (2.5') FEET IN WIDTH LOCATED ALONG ALL SIDE LOT LINES AS NEEDED FOR THE CONSTRUCTION OF SAID DISTRIBUTION POWER LINE IN THE SUBDIVISION, THE CENTERLINE OF SUCH EASEMENT TO BE LOCATED ALONG THE COMMON BOUNDARY LINE OF EACH RESIDENTIAL SINGLE–FAMILY LOT. THE PURPOSE OF AN UNDERGROUND ELECTRIC DISTRIBUTION SYSTEM CONSISTING OF VARIABLE NUMBER OF UNDERGROUND CABLES AND ALL NECESSARY OR DESIRABLE APPURTENANCES (INCLUDING CONDUITS, PRIMARY CABLES, SECONDARY CONDUCTORS, ENCLOSURES, CONCRETE PADS, GROUND RODS, GROUND CLAMPS, TRANSFORMERS, CABLE TERMINATORS, CABLE RISER SHIELDS, CUTOUTS, AND LIGHTING ARRESTORS OVERGROUND) AT OR NEAR THE GENERAL COURSE WHICH SHALL BECOME FIXED AT THE LOCATION OF BURIED BY GRANTEE, THROUGH, ACROSS, AND UNDER THE DESCRIBED LOCATIONS WITHIN THIS FINAL PLAT. TOGETHER WITH THE RIGHT OF INGRESS AND EGRESS OVER THE SAID EASEMENTS FOR THE PURPOSE OF CONSTRUCTING, RECONSTRUCTING, INSPECTING, PATROLLING, PULLING NEW WIRE ON, MAINTAINING AND REMOVING SAID LINES AND APPURTENANCES; THE RIGHT TO RELOCATE WITHIN THE LIMITS OF SAID RIGHT–OF–WAY; THE RIGHT TO RELOCATE SAID FACILITIES IN THE SAME RELATIVE POSITION TO ANY ADJACENT ROAD IF AND SUCH ROAD IS WIDENED IN THE FUTURE; THE RIGHT TO REMOVE FROM SAID LANDS ALL TREES AND PARTS THEREOF, OR OTHER OBSTRUCTIONS WHICH ENDANGER OR MAY INTERFERE WITH THE EFFICIENCY OF SAID LINES OR THEIR APPURTENANCES.
10. DRIVEWAYS SHALL CONNECT ONLY TO AN INTERNAL PLATTED ROAD AND NOT TO COUNTY ROAD 268.

OWNER/DEVELOPER

NASH RANCHO HILLS, LLC
13809 RESEARCH BOULEVARD, SUITE 475
AUSTIN, TEXAS 78750
(512) 244-6667 FAX (512) 244-6875

ENGINEER

STANTEC CONSULTING SERVICE, INC.
221 WEST SIXTH STREET, SUITE 600
AUSTIN, TEXAS 78701
(512) 328-0011 FAX (512) 328-0325

SURVEYOR

STANTEC CONSULTING SERVICE, INC.
221 WEST SIXTH STREET, SUITE 600
AUSTIN, TEXAS 78701
(512) 328-0011 FAX (512) 328-0325

RANCHO SIENNA SECTION 7, BLOCK F, LOT 42

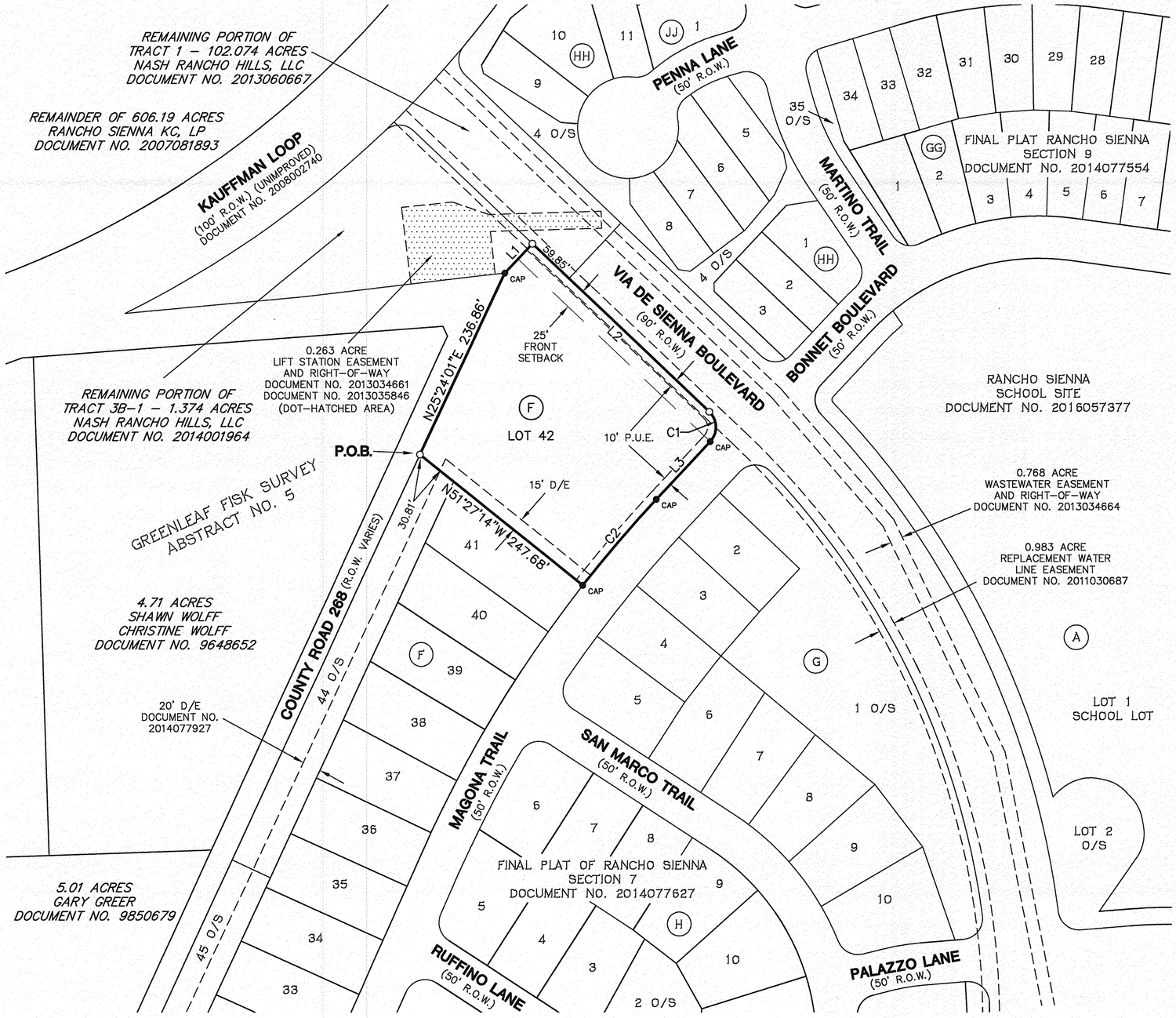
DATE: OCTOBER, 2016

Stantec
221 West Sixth Street, Suite 600
Austin, Texas 78701
Tel. (512) 328-0011 Fax (512) 328-0325
TBPE # F-6324 TBPLS # F-10194230
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Drawn by: KWA Approved by: JTB Project No.: 222010700 File: V:\2220\ACTIVE\SURVEY\222010700\222010700PL1.DWG

RANCHO SIENNA SECTION 7, BLOCK F, LOT 42

BEING 1.726 ACRES OUT OF THE GREENLEAF FISK SURVEY, ABSTRACT NO. 5 WILLIAMSON COUNTY, TEXAS.



LINE TABLE		
NO.	BEARING	DISTANCE
L1	N43°19'58"E	47.68'
L2	S46°40'02"E	288.87'
L3	S43°19'58"W	93.54'

CURVE TABLE					
NO.	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	39.27'	25.00'	90°00'00"	S01°40'02"E	35.36'
C2	134.00'	1525.00'	5°02'04"	S40°48'56"W	133.96'

LEGEND

O	1/2" IRON ROD WITH "STANTEC" CAP SET
●CAP	1/2" IRON ROD WITH "BURY" CAP FOUND
(3)	BLOCK
P.U.E.	PUBLIC UTILITY EASEMENT
D/E	DRAINAGE EASEMENT
R.O.W.	RIGHT–OF–WAY
P.O.B.	POINT OF BEGINNING

RANCHO SIENNA SECTION 7, BLOCK F, LOT 42

DATE: OCTOBER, 2016

Stantec
221 West Sixth Street, Suite 600
Austin, Texas 78701
Tel. (512) 328-0011 Fax (512) 328-0325
TBPE # F-6324 TBPLS # F-10194230

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Field Note No. 16–363(KWA)
Drawn by: KWA Approved by: JTB Project No.: 222010700 File: V:\2220\ACTIVE\SURVEY\222010700\222010700PL1.DWG

RANCHO SIENNA SECTION 7, BLOCK F, LOT 42

BEING 1.726 ACRES OUT OF THE GREENLEAF FISK SURVEY, ABSTRACT NO. 5 WILLIAMSON COUNTY, TEXAS.

STATE OF TEXAS §
COUNTY OF WILLIAMSON § KNOW ALL MEN BY THESE PRESENTS

THAT NASH RANCHO HILLS, LLC, OWNER OF THAT CERTAIN TRACT 3B-1 – 1.374 ACRE TRACT OF LAND AND AND ALL OF THAT CERTAIN TRACT 3B-2 – 1.407 ACRE TRACT OF LAND DESCRIBED IN DEED OF RECORD IN DOCUMENT NO. 2014001964, OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS; DO HEREBY SUBDIVIDE THE **1.726 ACRES** AS SHOWN HEREON AND DEDICATE TO THE PUBLIC USE FOREVER THE STREETS, ALLEYS, EASEMENTS AND ALL OTHER LANDS INTENDED FOR PUBLIC DEDICATION AS SHOWN HEREON. THIS SUBDIVISION IS TO BE KNOWN AS **"RANCHO SIENNA SECTION 7, BLOCK F, LOT 42"**. THE OWNERS ACKNOWLEDGE THAT IT IS THE RESPONSIBILITY OF THE OWNERS, NOT THE COUNTY, TO ASSURE COMPLIANCE WITH THE PROVISIONS OF ALL APPLICABLE STATE, FEDERAL, AND LOCAL LAWS AND REGULATIONS RELATING TO THE ENVIRONMENT, INCLUDING BUT NOT LIMITED TO THE ENDANGERED SPECIES ACT, STATE AQUIFER REGULATIONS, AND MUNICIPAL WATERSHED ORDINANCES.

NASH RANCHO HILLS, L.L.C., A DELAWARE LIMITED LIABILITY COMPANY

BY: E William Meyer 1/3/17
DATE

NAME: E. William Meyer

TITLE: Authorized Signatory

STATE OF TEXAS §
COUNTY OF WILLIAMSON § KNOW ALL MEN BY THESE PRESENTS

BEFORE ME, THE UNDERSIGNED AUTHORITY, ON THIS DAY PERSONALLY APPEARED E. WILLIAM MEYER, OF NASH RANCHO HILLS, LLC,, A DELAWARE LIMITED LIABILITY COMPANY, KNOWN TO ME TO BE THE PERSON WHOSE NAME IS SUBSCRIBED TO THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED, IN THE CAPACITY THEREIN STATED.

GIVEN UNDER MY HAND AND SEAL OF OFFICE THIS 3rd DAY OF January, ~~2016~~ 2017.

R Hinojosa
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

PRINTED NAME: R-Hinojosa

MY COMMISSION EXPIRES ON: 3-1-2020

R. HINOJOSA
Notary Public, State of Texas
Comm. Expires 03-01-2020
Notary ID 3279918

ENGINEER'S CERTIFICATION:

I, JOHN A. PICKENS, REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, DO HEREBY CERTIFY THAT THIS SUBDIVISION IS IN THE EDWARDS AQUIFER RECHARGE ZONE AND IS NOT ENCROACHED BY A ZONE A FLOOD AREA, AS DENOTED HEREIN, AND IS DEFINED BY FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION FLOOD HAZARD BOUNDARY MAP, COMMUNITY PANEL NUMBER 48491C0275F, EFFECTIVE DATE SEPTEMBER 26, 2008, WILLIAMSON COUNTY, TEXAS, AND COMPLY WITH THE WILLIAMSON COUNTY SUBDIVISION ORDINANCE.

THE FULLY DEVELOPED, CONCENTRATED STORMWATER RUNOFF RESULTING FROM THE ONE HUNDRED (100) YEAR FREQUENCY STORM IS CONTAINED WITHIN THE DRAINAGE EASEMENTS SHOWN AND/ OR PUBLIC RIGHTS-OF-WAY DEDICATED BY THIS PLAT.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT AUSTIN, TRAVIS COUNTY, TEXAS,

THIS 20 DAY OF DECEMBER 2016.

JOHN A. PICKENS, P.E.
NO. 110631 STATE OF TEXAS
STANTEC CONSULTING SERVICES, INC.
221 WEST SIXTH STREET, SUITE 600
AUSTIN, TEXAS 78701

STATE OF TEXAS
JOHN A. PICKENS
110631
LICENSED
PROFESSIONAL ENGINEER

SURVEYOR'S CERTIFICATION:

THAT I, MATTHEW J. RAABE, A REGISTERED PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I PREPARED THIS PLAT FROM AN ACTUAL AND ACCURATE ON-THE-GROUND SURVEY OF THE LAND AND THAT THE CORNER MONUMENTS SHOWN THEREON WERE PROPERLY PLACED UNDER MY PERSONAL SUPERVISION, IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS OF WILLIAMSON COUNTY, TEXAS, AND THE FIELD NOTES SHOWN HEREON MATHEMATICALLY CLOSE.

Matthew Raabe 12-20-16
DATE

MATTHEW J. RAABE, R.P.L.S.
TEXAS REGISTRATION NO. 6402
STANTEC CONSULTING SERVICES, INC.
221 WEST SIXTH STREET, SUITE 600
AUSTIN, TEXAS 78701

STATE OF TEXAS
REGISTERED
MATTHEW RAABE
6402
PROFESSIONAL
LAND SURVEYOR

SHEET 3 OF 3

STATE OF TEXAS §
COUNTY OF WILLIAMSON § KNOW ALL MEN BY THESE PRESENTS

WE, NASH FINANCING, LLC, A DELAWARE LIMITED LIABILITY COMPANY, LIEN HOLDER OF CERTAIN TRACT OF LAND SHOWN HEREON AND DESCRIBED IN A DEED RECORDED IN DOCUMENT NO. 2013109919 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CONSENT TO THE SUBDIVISION OF SAID TRACT AS SHOWN HEREON, AND DO FURTHER HEREBY JOIN, APPROVE AND CONSENT TO ALL PLAT NOTE REQUIREMENTS SHOWN HEREON, AND DO HEREBY DEDICATE TO WILLIAMSON COUNTY, TEXAS THE STREETS, ALLEYS, RIGHTS-OF-WAY, EASEMENTS AND PUBLIC PLACES SHOWN HEREON FOR SUCH PUBLIC PURPOSES AS WILLIAMSON COUNTY, TEXAS MAY DEEM APPROPRIATE. THIS SUBDIVISION IS TO BE KNOWN AS **"RANCHO SIENNA SECTION 7, BLOCK F, LOT 42"**.

TO CERTIFY WHICH, WITNESS BY MY HAND THIS 5 DAY OF January, 2016~~6~~

NASH FINANCING, LLC,
A DELAWARE LIMITED LIABILITY COMPANY

BY: NORTH AMERICA SEKISUI HOUSE, LLC,
A DELAWARE LIMITED LIABILITY COMPANY
ITS SOLE MEMBER

BY: 1-5-17
DATE

Koji Yamada
President & COO

STATE OF CALIFORNIA)(
COUNTY OF San Diego)(

ON January 5, 2017, BEFORE
ME, K. Paxton PERSONALLY
APPEARED, Koji Yamada, WHO PROVED
TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON(S) WHOSE NAME(S) IS/ARE SUBSCRIBED TO THE WITHIN INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE/SHE/THEY EXECUTED THE SAME IN HIS/HER/THEIR AUTHORIZED CAPACITY(IES), AND THAT BY HIS/HER/THEIR SIGNATURE(S) ON THE INSTRUMENT THE PERSON(S), OR THE ENTITY UPON BEHALF OF WHICH THE PERSON(S) ACTED, EXECUTED THE INSTRUMENT.

I CERTIFY UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA THAT THE FOREGOING PARAGRAPH IS TRUE AND CORRECT.

WITNESS MY HAND AND OFFICIAL SEAL.

SIGNATURE K Paxton SEAL

K. PAXTON
COMM.# 2053146
NOTARY PUBLIC-CALIFORNIA
SAN DIEGO COUNTY
MY COMM. EXP. MAR. 29, 2018

THE CITY OF LIBERTY HILL, TEXAS ACKNOWLEDGES RECEIPT OF THIS PLAT FOR REVIEW AND/OR APPROVAL IN CONJUNCTION WITH PLANNING PURPOSES AND PAYMENT OF APPLICABLE FEES FOR THE PROVISION OF WASTEWATER SERVICES.

CITY OF LIBERTY HILL, TEXAS DATE

Cady Bridges 1/17/17
WILLIAMSON COUNTY ADDRESSING COORDINATOR DATE

IN APPROVING THIS PLAT BY THE COMMISSIONERS' COURT OF WILLIAMSON COUNTY, TEXAS, IT IS UNDERSTOOD THAT THE BUILDING OF ALL STREETS, ROADS, AND OTHER PUBLIC THOROUGHFARES AND ANY BRIDGES OR CULVERTS NECESSARY TO BE CONSTRUCTED OR PLACED IS THE RESPONSIBILITY OF THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS PRESCRIBED BY THE COMMISSIONERS' COURT OF WILLIAMSON COUNTY, TEXAS. SAID COMMISSIONERS' COURT ASSUMES NO OBLIGATION TO BUILD ANY STREETS, ROADS, AND OTHER PUBLIC THOROUGHFARES SHOWN ON THIS PLAT OR OF CONSTRUCTING ANY OF THE BRIDGES OR DRAINAGE IMPROVEMENTS IN CONNECTION THEREWITH. THE COURT WILL ASSUME NO RESPONSIBILITY FOR DRAINAGE WAYS OR EASEMENTS IN THE SUBDIVISION, OTHER THAN THOSE DRAINING OR PROTECTING THE ROAD SYSTEM AND STREETS.

THE COUNTY ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR REPRESENTATIONS BY OTHER PARTIES IN THIS PLAT. FLOOD PLAIN DATA, IN PARTICULAR, MAY CHANGE DEPENDING ON SUBSEQUENT DEVELOPMENT. IT IS FURTHER UNDERSTOOD THAT THE OWNERS OF THE TRACT OF LAND COVERED BY THIS PLAT MUST INSTALL AT THEIR OWN EXPENSE ALL TRAFFIC CONTROL DEVICES AND SIGNAGE THAT MAY BE REQUIRED BEFORE THE STREETS IN THE SUBDIVISION HAVE FINALLY BEEN ACCEPTED FOR MAINTENANCE BY THE COUNTY.

STATE OF TEXAS §
COUNTY OF WILLIAMSON § KNOW ALL MEN BY THESE PRESENTS

I, _____, COUNTY JUDGE OF WILLIAMSON COUNTY, TEXAS, DO HEREBY CERTIFY THAT THIS MAP OR PLAT, WITH FIELD NOTES HEREON, THAT A SUBDIVISION HAVING BEEN FULLY PRESENTED TO THE COMMISSIONERS' COURT OF WILLIAMSON COUNTY, TEXAS, AND BY THE SAID COURT DULY CONSIDERED, WERE ON THIS DAY APPROVED AND PLAT IS AUTHORIZED TO BE REGISTERED AND RECORDED IN THE PROPER RECORDS OF THE COUNTY CLERK OF WILLIAMSON COUNTY, TEXAS.

_____ _____
DATE

_____, COUNTY JUDGE
WILLIAMSON COUNTY, TEXAS

STATE OF TEXAS §
COUNTY OF WILLIAMSON § KNOW ALL MEN BY THESE PRESENTS

I, NANCY RISTER, CLERK OF THE COUNTY COURT OF SAID COUNTY, DO HEREBY CERTIFY THAT THE FOREGOING INSTRUMENT IN WRITING, WITH ITS CERTIFICATE WAS FILED FOR RECORD IN MY OFFICE ON THE DAY____ OF _____, 2016 A.D., AT _____ O'CLOCK, __.M.,

AND DULY RECORDED THIS THE DAY____ OF _____, 2016 A.D., AT _____ O'CLOCK __ M.,

IN THE PLAT RECORDS OF SAID COUNTY, IN DOCUMENT NUMBER _____.

TO CERTIFY WHICH, WITNESS MY HAND AND SEAL AT THE COUNTY COURT OF SAID COUNTY, AT MY OFFICE IN GEORGETOWN, TEXAS, THE DATE LAST SHOWN ABOVE WRITTEN.

_____
NANCY RISTER, CLERK, COUNTY COURT
OF WILLIAMSON COUNTY, TEXAS

BY: _____ DEPUTY

RANCHO SIENNA SECTION 7, BLOCK F, LOT 42

DATE: OCTOBER, 2016

Stantec
221 West Sixth Street, Suite 600
Austin, Texas 78701
Tel. (512) 328-0011 Fax (512) 328-0325
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Commissioners Court - Regular Session **15.**

Meeting Date: 03/07/2017

Williamson County Expo Center P418 - Change Order 20

Submitted By: Gina Wrehsnig, Facilities Maintenance

Department: Facilities Maintenance

Agenda Category: Consent

Information

Agenda Item

Discuss, consider and take appropriate action on accepting and approving a report on the Williamson County Expo Project; Change Order # 20 in the amount of $ 8,473.45 for additional work due to design document omissions and necessary damage repairs, which was executed by Dale Butler pursuant to the previous grant of authority under Section 262.031 of the Local Government Code.

Background

On February 17, 2015, the Williamson County Commissioners Court granted Williamson County Facilities Project Manager Dale Butler with general authority to approve change orders for the Agreement for Construction Services with Flintco, LLC in relation to the Williamson County Expo Project for any increase in costs up to a total maximum amount of $30,000.00 in accordance with Section 262.031 of the Local Government Code – Changes in Plans and Specifications. This report is being provided for purposes of notifying the court of such change order and to place it in the minutes of the Commissioners Court.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Expo Center Change Order 20

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:41 AM
Form Started By: Gina Wrehsnig		Started On: 03/02/2017 11:33 AM
Final Approval Date: 03/02/2017		

Change Order Request

Williamson County Expo Center
210 Carlos G. Parker Blvd, NW

Taylor, TX 76574

Flintco, LLC
Project # 15035

Change Order Request: 020 **Date:**

To:	Dale Butler Williamson County Texas 3101 SE Inner Loop Georgetownn, TX 78626	**From:**	Ricky Galloway Flintco, LLC 8100 Cross Park Drive Austin, TX 78754

Description	Category	Status
Wilco Closeout Pricings		In Progress

Reference	Required By	Days Req	Amt Req
		0	$0.00

Notes

PCO No	Date	Reference	Amt Prop	Days Req	Category	Reason
054	2/24/2017		$0.00	0	Change Order	Contingency

Wilco Closeout Pricings

Item No	Item Description	Amt Prop	Reference
001	Caulk joints in Prefunction and West Concessions	$1,950.00	
002	Material and labor for gas piping not shown on plans. Sink hole caps for 3 hole sinks with 1 fixture in plans.	$2,095.00	
003	Remove and replace damageed storm drain, Storm C, C6-01	$4,428.45	
004	Construction Manager Contingency	$(8,473.45)	

Flintco, LLC		Williamson County Texas
CONTRACTOR	ARCHITECT	OWNER
8100 Cross Park Drive Austin, TX 78754		3101 SE Inner Loop Georgetownn, TX 78626
Address	Address	Address
By David Murphey	By	By Dale Butler
SIGNATURE	SIGNATURE	SIGNATURE
DATE 2/24/17	DATE	DATE 2/27/17

FLINTCO
Constructive Solutions

Potential Change Orders

Detailed, Grouped by Each Number

Williamson County Expo Center
210 Carlos G. Parker Blvd, NW

Taylor, TX 76574

Project # 15035

Flintco, LLC
Tel: Fax: 15035

PCO #: 054 **2/24/2017** **Wilco Closeout Pricings** **Pending**

Category	Reason	Reference	COR Number	PCCO Number
Change Order	Contingency			

Notes **Revenue Code**

			Estimate	Proposed	Approved	Applied
Requested Days:	0	**Budget:**	$0	$0	$0	$0
Approved Days:	0	**Cost:**	$0	$0	$0	$0

General Description	Quote Due	Quote Rec'd	Allocation		Estimated	Proposed	Approved	Applied
001 - ALPIN - 000.071000.S	3/3/2017		**Budget:**	Pend Rev	$1,950	$1,950	$1,950	$1,950
Caulk joints in Prefunction and West Concessions			**Cost:**	Pend Commt	$1,950	$1,950	$1,950	$1,950
002 - CAPME - 000.220000.S	3/3/2017		**Budget:**	Pend Rev	$2,095	$2,095	$2,095	$2,095
Material and labor for gas piping not shown on plans. Sink hole caps for 3 hole sinks with 1 fixture in plans.			**Cost:**	Pend Commt	$2,095	$2,095	$2,095	$2,095
003 - AUSUND - 000.330000.S	3/3/2017		**Budget:**	Pend Rev	$4,428	$4,428	$4,428	$4,428
Remove and replace damageed storm drain, Storm C, C6-01			**Cost:**	Pend Commt	$4,428	$4,428	$4,428	$4,428
004 - FLINTCO - 000.975500.M	3/3/2017		**Budget:**	Pend Rev	-$8,473	-$8,473	-$8,473	-$8,473
Construction Manager Contingency			**Cost:**	Pend Commt	-$8,473	-$8,473	-$8,473	-$8,473

Alpha Insulation - Caulk Joints

Mike,

We are unable to install the product that was sent over because to install the 10 gallon kits we would need a special pump that we do not own, not to mention that it is extremely expensive. The pricing breakouts below are for a rigid epoxy (Euco 700) that is cheaper than the specified product and typical site sealants.

Let me know if you have any questions.

Euco 700

Prefunction - $1,200
Enclosed Expo - $10,100
Covered Expo - $13,800
West Concession - $2,700

Site Sealant

Prefunction - $550
Enclosed Expo - $5,180
Covered Expo - $7,315
West Concession - $1,400

ALPHA

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www.alphaiwp.com

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From: Mike Smith [mailto:MSmith@flintco.com]
Sent: Friday, September 09, 2016 3:57 PM
To: Spencer Schneider <SSchneider@alphaiwp.com>
Cc: David Freisner <DFreisner@flintco.com>; Ricky Galloway <RGalloway@flintco.com>
Subject: FW: WilCO Expo Concrete Joint Filler and Sealer

Spencer
Can you please price up caulking at all the interior sawcut joints? Please break out your price per building to include the Prefunction, Enclosed Expo, Covered Expo, and the West concession. Let me know what each mobilization will cost as well. Inside the Prefunction, there are only a handful of rooms that do not have a floor covering. Call me and we can talk thru those. I need a price as soon as possible. The architect wants to use the attached spec. Call me with questions

Thank you

Mike Smith
Superintendent // Flintco, LLC
512 567 2308 (c)
www.flintco.com

From: Bill Bourne [mailto:Bill.Bourne@populous.com]
Sent: Friday, September 09, 2016 2:53 PM
To: Mike Smith <MSmith@flintco.com>; David Freisner <DFreisner@flintco.com>; Ricky Galloway <RGalloway@flintco.com>; Randy Bell (randybell@wilco.org) <randybell@wilco.org>; Clint Chitsey (clint.chitsey@wilco.org) <clint.chitsey@wilco.org>; Dale Butler (dbutler@wilco.org) <dbutler@wilco.org>
Cc: ryan@modedc.us; Lucas Bergstrom <Lucas.Bergstrom@populous.com>
Subject: WilCO Expo Concrete Joint Filler and Sealer

Mike-

Please see attached for the product specifications for the caulk/joint filler product and sealer for the concrete floors.

If they are using a different product, then the caulk/joint filler is to be the recommended product by that manufacturer.

Thank you

Bill Bourne
SENIOR ASSOCIATE

POPULOUS
4800 Main Street | Suite 300
Kansas City, Missouri 64112 | USA
Direct: +1 816 329 4504 | Fax: +1 816 221 1578
Mobile: +1 816 588 1256
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CHANGE ORDER PROPOSAL

SUBMIT TO:	David Freisner - Flintco, LLC	**PROPOSED BY:**	Capstone Mechanical
PROJECT:	Williamson County Expo Center	**DATE:**	9/8/2016
C.O. PROPOSAL #:	CO for Extra Gas Line	**JOB NUMBER:**	06-16-01-27-0700
REVISION #:		**GC JOB NUMBER:**	

DESCRIPTION

Gas line extension, connect to main branch and add 18 lavatory faucet hole caps

MATERIAL

Cost Code	DESCRIPTION	Qty	Price	COST
0325	Pipe and hangers	1	$759.20	$759.20
0328	Lavatory Hole Caps	18	$6.83	$122.85
	Total Material Cost			**$882.05**

Field Cost

Cost Code	DESCRIPTION	Qty	Price	COST
0341	Plumbing Install	20	$47.00	$940.00
	Total Field Cost			**$940.00**
	Tax(Equip/Material)	Rate	0.00%	$0.00
Overhead Percentage @		15.00%		$273.31
Total Cost				**$2,095**

Signed: _____ Date: _____

AUSTIN UNDERGROUND INC.

Project: Williamson County Expo Center
Date: 8/11/2016
Remove & Replace Damaged Storm Drain

Item Number	Item Description	Amount
1	Remove & Replace Damaged Storm Drain Storm "C" on Pg. C6-01	$ 4,428.45
	Total	**$4,428.45**

PROJECT: WilCo Expo Center
ITEM NUMBER/DESC.: Damaged Storm Drain
Date Prepared: 8/8/2016

ITEM DESCRIPTION		QTY	UNIT	UNIT COSTS LABOR	EQUIP	MATERIAL	SUBCT.	O.T. Factor	TOTAL COSTS LABOR	EQUIP	MATERIALS	SUBCT.	MISC.
LABOR													
Foreman		8	HR	$ 43.51				1.0	$ 348.08				
Foreman	OT		HR	$ 58.74				1.0	$ -				
Operator		8	HR	$ 28.24				1.0	$ 225.92				
Operator	OT		HR	$ 38.12				1.0	$ -				
Pipe Layer		16	HR	$ 26.25				1.0	$ 420.00				
Pipe Layer	OT		HR	$ 35.44				1.0	$ -				
Common Labor		24	HR	$ 24.00				1.0	$ 576.00				
EQUIPMENT													
Mini-Excavator			HR		$ 42.00					$ -			
Backhoe		8	HR		$ 46.16					$ 369.28			
Skidsteer			HR		$ 37.62					$ -			
Rock Saw			DAY		$ 3,000.00					$ -			
MATERIAL													
Ferguson		1	EA			$ 651.58					$ 651.58		
Bedding		10	TN			$ 20.00					$ 200.00		
SUBCONTRACTOR													
Haul		1	EA				$ 450.00					$ 450.00	
TOTALS									$ 1,570.00	$ 369.28	$851.58	$450.00	$ -

Total Labor				$1,570.00
Total Material				$851.58
Total Subcontract				$450.00
Total Equipment				$369.28
Markups				
Labor Burdens	$1,570.00	@	55%	$ 863.50
Labor Mark-Up	$1,570.00	@	10%	$ 157.00
Material Mark-Up	$851.58	@	10%	$ 85.16
Equipment Mark-Up	$369.28	@	10%	$ 36.93
Subcontract Mark-Up	$450.00	@	10%	$ 45.00
			Subtotal	$ 4,428.45
			Total	**$ 4,428.45**

FERGUSON Waterworks

FERGUSON WATERWORKS #1105
6825 WALLISVILLE ROAD
HOUSTON, TX 77020-3258

Please contact with Questions: 713-675-2211

INVOICE NUMBER	CUSTOMER	PAGE
0803145	30326	1 of 1

PLEASE REFER TO INVOICE NUMBER WHEN MAKING PAYMENT AND REMIT TO:

FERGUSON WATERWORKS #1105
PO BOX 847411
DALLAS, TX 75284-7411

6409 1 AB 0.399 E0041X I0079 01797895143 S2 P3373610 0001:0001

AUSTIN UNDERGROUND INC
1521-WILCO EXPO CENTER
PO BOX 5650
LAGO VISTA TX 78645-0025

SHIP TO:

COUNTER PICK UP
FERGUSON WATERWORKS #1254
200 PARK CENTRAL BLVD
GEORGETOWN, TX 78626

SHIP WHSE.	SELL WHSE.	TAX CODE	CUSTOMER ORDER NUMBER	SALESMAN	JOB NAME	INVOICE DATE	BATCH
1254	1254	TXE	1521	TB	1521-WILCO EXPO CENTER	07/11/16	IO 49184

ORDERED	SHIPPED	ITEM NUMBER	DESCRIPTION	UNIT PRICE	UM	AMOUNT
			THANK YOU FOR YOUR BUSINESS!! VISIT US @ WWW.FERGUSONONLINE.COM			
1	1	P40S9U	6 PVC S40 SXS 90 ELL	16.372	EA	16.37
2	2	P40S4U	6 PVC S40 SXS 45 ELL	26.948	EA	53.90
1	1	PLAT3086	8X6 PVC DWV WYE GXGXG	212.501	EA	212.50
20	20	P40BEPX20	8X20 FT PVC S40 BE PIPE	803.987	C	160.80
40	40	P40BEPU20	6X20 FT PVC S40 BE PIPE	334.475	C	133.79
20	20	P40BEPP20	4X20 FT PVC S40 BE PIPE	294.951	C	58.99
1	1	O30894	32 OZ PVC BLUE RAIN R SHINE CMNT	15.227	EA	15.23
			INVOICE SUB-TOTAL			**651.58**

LEAD LAW WARNING: IT IS ILLEGAL TO INSTALL PRODUCTS THAT ARE NOT "LEAD FREE" IN ACCORDANCE WITH US FEDERAL OR OTHER APPLICABLE LAW IN POTABLE WATER SYSTEMS ANTICIPATED FOR HUMAN CONSUMPTION. PRODUCTS WITH *NP IN THE DESCRIPTION ARE NOT LEAD FREE AND CAN ONLY BE INSTALLED IN NON-POTABLE APPLICATIONS. BUYER IS SOLELY RESPONSIBLE FOR PRODUCT SELECTION.

Thank you for your business



TERMS: NET 10TH PROX **ORIGINAL INVOICE** **TOTAL DUE** **$651.58**

All past due amounts are subject to a service charge of 1.5% per month, or the maximum allowed by law, if lower. If Buyer fails to pay within terms, then in addition to other remedies, Buyer agrees to pay Seller all costs of collection, including reasonable attorney fees. Complete terms and conditions are available upon request or at http://wolseleyna.com/terms_conditionsSale.html and are incorporated by reference. Seller may convert checks to ACH.

0001:0001

Commissioners Court - Regular Session **16.**

Meeting Date: 03/07/2017

Order Authorizing Limited Tax Refunding Bonds

Submitted For: Julie Kiley **Submitted By:** Julie Kiley, County Auditor

Department: County Auditor

Agenda Category: Regular Agenda Items

Information

Agenda Item

Consideration and action with respect to "Order Authorizing the Issuance of Williamson County, Texas Limited Tax Refunding Bonds in One or More Series; Levying an Ad Valorem Tax in Support of the Bonds; Approving the Forms of Paying Agent/Registrar Agreements, the Forms of Purchase Agreements and Escrow Agreements; Establishing the Procedures for Selling and Delivering One or More Series of the Bonds; and Authorizing Other Matters Relating to the Bonds".

Background

Dan Wegmiller of Specialized Public Finance, Financial Advisor, will answer questions. This is delegation authorizing the ability to enter the market with Refunding Bonds over the next 12 months as opportunities present themselves. Jana Edwards of McCall, Parkhurst & Horton, Bond Counsel, will also be available to answer questions regarding legal documents.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Order Limited Tax Refunding Bonds

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/01/2017 11:24 AM
Form Started By: Julie Kiley		Started On: 03/01/2017 08:56 AM
Final Approval Date: 03/01/2017		

ORDER AUTHORIZING THE ISSUANCE OF WILLIAMSON COUNTY, TEXAS LIMITED TAX REFUNDING BONDS IN ONE OR MORE SERIES; LEVYING AN AD VALOREM TAX IN SUPPORT OF THE BONDS; APPROVING THE FORMS OF PAYING AGENT/REGISTRAR AGREEMENTS, THE FORMS OF PURCHASE AGREEMENTS AND ESCROW AGREEMENTS; ESTABLISHING THE PROCEDURES FOR SELLING AND DELIVERING ONE OR MORE SERIES OF THE BONDS; AND AUTHORIZING OTHER MATTERS RELATING TO THE BONDS

Adopted March 7, 2017

ORDER AUTHORIZING THE ISSUANCE OF WILLIAMSON COUNTY, TEXAS LIMITED TAX REFUNDING BONDS IN ONE OR MORE SERIES; LEVYING AN AD VALOREM TAX IN SUPPORT OF THE BONDS; APPROVING THE FORMS OF PAYING AGENT/REGISTRAR AGREEMENTS, THE FORMS OF PURCHASE AGREEMENTS AND ESCROW AGREEMENTS; ESTABLISHING THE PROCEDURES FOR SELLING AND DELIVERING ONE OR MORE SERIES OF THE BONDS; AND AUTHORIZING OTHER MATTERS RELATING TO THE BONDS

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EXHIBIT A – Description of Annual Financial Information

ORDER AUTHORIZING THE ISSUANCE OF WILLIAMSON COUNTY, TEXAS LIMITED TAX REFUNDING BONDS IN ONE OR MORE SERIES; LEVYING AN AD VALOREM TAX IN SUPPORT OF THE BONDS; APPROVING THE FORMS OF PAYING AGENT/REGISTRAR AGREEMENTS, THE FORMS OF PURCHASE AGREEMENTS AND ESCROW AGREEMENTS; ESTABLISHING THE PROCEDURES FOR SELLING AND DELIVERING ONE OR MORE SERIES OF THE BONDS; AND AUTHORIZING OTHER MATTERS RELATING TO THE BONDS

THE STATE OF TEXAS '
'
COUNTY OF WILLIAMSON '

WHEREAS, the County has duly issued and there is now outstanding various series of limited and unlimited ad valorem tax obligations; and.

WHEREAS, the County now desires to issue refunding bonds to refund all or a portion of such outstanding ad valorem tax obligations (collectively, the "Refundable Obligations," and those Refundable Obligations designated by the Pricing Officer in each Pricing Certificate, each as defined herein, to be refunded are herein referred to as the "Refunded Obligations"); and

WHEREAS, the Commissioners Court of the County deems it advisable and in the best interest of the County to refund the Refunded Obligations in order to achieve a net present value debt service savings of not less than 3.00% of the principal amount of the Refunded Obligations net of any County contribution with such savings, among other information and terms to be included in each pricing certificate to be executed by the County Auditor, acting as the designated pricing officer of the County, or, in the absence of the County Auditor, the County Judge, all in accordance with the provisions of Chapters 1207 and 1371, Texas Government Code, as amended; and

WHEREAS, Chapter 1207, Texas Government Code, as amended ("Chapter 1207") authorizes the County to issue refunding bonds and to deposit the proceeds from the sale thereof together with any other available funds or resources, directly with a place of payment (paying agent) for the Refunded Obligations or a commercial bank or trust company, and such deposit, if made before such payment dates, shall constitute the making of firm banking and financial arrangements for the discharge and final payment of the Refunded Obligations; and

WHEREAS, Chapter 1207 further authorizes the County to enter into an escrow agreement with a paying agent for the Refunded Obligations or a commercial bank or trust company with respect to the safekeeping, investment, reinvestment, administration and disposition of any such deposit, upon such terms and conditions as the County and such paying agent may agree, provided that such deposits may be invested and reinvested in Defeasance Securities, as defined herein; and

WHEREAS, the Escrow Agreement hereinafter authorized, constitutes an agreement of the kind authorized and permitted by said Chapter 1207; and

WHEREAS, all the Refundable Obligations mature or are subject to redemption prior to maturity within 20 years of the date of the bonds hereinafter authorized: and

NOW, THEREFORE, BE IT ORDERED BY THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS:

Section 1. RECITALS, AMOUNT AND PURPOSE OF EACH SERIES OF THE BONDS. The recitals set forth in the preamble hereof are incorporated herein and shall have the same force and effect as if set forth in this section. The bond or bonds of the County are hereby authorized pursuant to Chapters 1371 and 1207, Texas Government Code to be issued and delivered in the maximum aggregate principal amount not to exceed $125,000,000 for the purpose of: (i) refunding the Refunded Obligations and (ii) paying costs of issuance of the Bonds.

Section 2. DEFINITIONS. When used in this Order, except in Section 5, and in any resolution or order amendatory or supplemental hereto, the terms listed below shall have the meanings specified below, unless it is otherwise expressly provided or unless the context otherwise requires:

"Accreted Value" means, with respect to a Premium Compound Interest Bond, as of any particular date of calculation, the original principal amount thereof, plus all interest accrued and compounded to the particular date of calculation, as determined in accordance with the Pricing Certificate and the Accretion Table attached as an exhibit to each Pricing Certificate relating to the Bonds that shows the Accreted Value per $5,000 maturity amount on the calculation date of maturity to its maturity.

"Accretion Table" means the exhibit attached to each Pricing Certificate, if necessary, that sets forth the rounded original principal amounts at the Issuance Date for the Premium Compound Interest Bonds and the Accreted Values and maturity amounts thereof as of each Compounding Date until final maturity.

"Authorized Denominations" means the denomination of $5,000 or any integral multiple thereof with respect to the Current Interest Bonds and in the denomination of $5,000 in maturity amount or any integral multiple thereof with respect to the Premium Compound Interest Bonds.

"Bonds" means one or more Series of the Bonds and includes collectively the Premium Compound Interest Bonds and Current Interest Bonds initially issued and delivered pursuant to this Bond Order and the Pricing Certificate and all substitute Bonds exchanged therefor, as well as all other substitute bonds and replacement bonds issued pursuant hereto, and the term "Bond" shall mean any of the Bonds.

"Bond Insurer" means the insurer, if any, of any Series of the Bonds.

"Bond Order" or "Order" means this Order of the Commissioners Court authorizing the issuance of one or more Series of the Bonds.

"Business Day" means any day which is not a Saturday, Sunday or a day on which the Paying Agent/Registrar is authorized by law or executive order to remain closed.

"Commissioners Court" means the governing body of the County.

"Compounded Amount" means, with respect to a Premium Compound Interest Bond, as of any particular date of calculation, the original principal amount thereof plus all interest accrued and compounded to the particular date of calculation.

"Compounding Dates" means the dates on which interest is compounded on the Premium Compound Interest Bonds as set forth in the Accretion Table attached to each Pricing Certificate.

"County" means Williamson County, Texas and any other public agency succeeding to the powers, rights, privileges, and functions of the County and, when appropriate, the Commissioners Court of the County.

"Current Interest Bonds" means the Bonds paying current interest and maturing in each of the years and in the aggregate principal amounts set forth in each Pricing Certificate.

"Defeasance Securities" means (i) Federal Securities, (ii) noncallable obligations of an agency or instrumentality of the United States of America, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date the Commissioners Court adopts or approves proceedings authorizing the issuance of refunding bonds or otherwise provide for the funding of an escrow to effect the defeasance of the Bonds are rated as to investment quality by a nationally recognized investment rating firm not less than "AAA" or its equivalent, (iii) noncallable obligations of a state or an agency or a county, municipality, or other political subdivision of a state that have been refunded and that, on the date the Commissioners Court adopts or approves proceedings authorizing the issuance of refunding bonds or otherwise provide for the funding of an escrow to effect the defeasance of the Bonds, are rated as to investment quality by a nationally recognized investment rating firm no less than "AAA" or its equivalent, and (iv) any other then authorized securities or obligations under applicable State law that may be used to defease obligations such as the Bonds.

"Escrow Agent" means the escrow agent designated by the Pricing Officer or any successor escrow agent under the Escrow Agreement.

"Escrow Agreement" means the agreement by and between the County and the Escrow Agent relating to the defeasance of the Refunded Bonds.

"Federal Securities" means direct, noncallable obligations of the United States of America, including obligations that are unconditionally guaranteed by the United States of America.

"Fiscal Year" means the twelve-month accounting period for the County, which presently is the twelve-month period beginning on October 1 of each year and ending on September 30 of the following year, but which may be changed from time to time by the Commissioners Court.

"Initial Bond(s)" means the Bond(s) authorized, issued, and initially delivered as provided in Section 3 of this Bond Order.

"Interest Payment Date" means a date on which interest on the Current Interest Bonds is due and payable as set forth in each Pricing Certificate.

"Issuance Date" means the date of delivery of a Series of the Bonds.

"MSRB" means the Municipal Securities Rulemaking Board.

"Outstanding" when used with reference to Bonds, means, as of a particular date, all Bonds theretofore and thereupon delivered except; (a) any Bond canceled by or on behalf of the County at or before said date, (b) any Bond defeased or no longer considered Outstanding pursuant to the provisions of this Order or otherwise defeased as permitted by applicable law and (c) any such Bond in lieu of or in substitution for which another Bond shall have been delivered pursuant to this Order.

"Premium Compound Interest Bonds" means the Bonds on which no interest is paid prior to maturity, maturing in various amounts and in the aggregate principal amount as set forth in each Pricing Certificate.

"Pricing Certificate" means each Pricing Certificate of the County's Pricing Officer to be executed and delivered pursuant to Section 3 hereof in connection with the issuance of one or more series of Bonds.

"Pricing Officer" means the County Auditor, acting as the designated pricing officer of the County to execute each Pricing Certificate. In the absence of the County Auditor, the County Judge may act as the designated pricing officer of the County to execute each Pricing Certificate.

"Record Date" means, with respect to an Interest Payment Date, the dates are set forth in each Pricing Certificate.

"Redemption Date" means a date fixed for redemption of any Bond pursuant to the terms of this Bond Order and each Pricing Certificate.

"Refundable Obligations" means all or a portion of the outstanding unlimited and limited ad valorem tax obligations of the County.

"Refunded Obligations" means those Refundable Obligations designated by the Pricing Officer in each Pricing Certificate to be refunded.

"Register" means the registry system maintained on behalf of the County by the Registrar in which are listed the names and addresses of the Registered Owners and the principal amount of Bonds registered in the name of each Registered Owner.

"Registered Owner" means any person or entity in whose name a Bond is registered.

"Registrar" or "Paying Agent/Registrar" means the paying agent/registrar designated by the Pricing Officer or such other bank, trust company, financial institution, or other entity as may hereafter be designated by the County to act as paying agent and registrar for the Bonds in accordance with the terms of this Bond Order.

"Replacement Bonds" means the Bonds authorized by the County to be issued in substitution for lost, apparently destroyed, or wrongfully taken Bonds as provided in Section 9 of this Bond Order.

"Rule" means SEC Rule 15c2-12, as amended from time to time.

"SEC" means the United States Securities and Exchange Commission.

"Series" means any designated series of Bonds issued pursuant to this Order.

"Tax Exempt Bonds" means each Series of Bonds bearing interest which is excludable from gross income for federal taxation purposes pursuant to Section 103 of the IRS Code.

"Taxable Series" means each Series of Bonds bearing interest at a taxable rate.

"Tax Exempt Series" means each Series of Tax Exempt Bonds.

"Underwriter" means the senior managing underwriter as selected by the Pricing Officer for each series of the Bonds issued pursuant to this Bond Order and the other co-managers for each series of Bonds as the Pricing Officer deems appropriate.

Section 3. DESIGNATION, DATE, DENOMINATIONS, NUMBERS AND DELEGATION OF EACH SERIES OF THE BONDS TO PRICING OFFICER. (a) Each bond issued pursuant to this Order shall be designated: **"WILLIAMSON COUNTY, TEXAS LIMITED TAX REFUNDING BOND"** and initially there shall be issued, sold, and delivered hereunder one or more Series of fully registered bonds without interest coupons, which may be in the form of Current Interest Bonds or Premium Compound Interest Bonds, numbered consecutively from R-1 upward, in the case of Current Interest Bonds, and from PC-1 upward, in the case of Premium Compound Interest Bonds (except the Initial Bond delivered to the Attorney General of the State of Texas which shall be numbered T-1 and TPC-1, respectively) payable to the respective initial Registered Owners thereof, or to the registered assignee or assignees of said Bonds or any portion or portions thereof, in Authorized Denominations, with each Series of Bonds maturing not later than February 15, 2040 serially or otherwise on the dates, in the years and in the principal amounts, respectively, and dated, all as set forth in each Pricing Certificate to be executed and delivered by the Pricing Officer pursuant to subsection (b) of this section. The Pricing Certificate is hereby incorporated in and made a part of this Order. The title of each Series of the Bonds shall be designated by the year in which it is awarded pursuant to Section 3(b) below. The authority for the Pricing Officer to execute and deliver each Pricing Certificate for a Series of the Bonds shall expire at 5:00 p.m. C.D.T. on March 7, 2018. Bonds priced on or before March 7, 2018 may be delivered to the Underwriters or initial purchaser, as applicable, after such date.

(b) As authorized by Chapter 1371 and Section 1207.007, Texas Government Code, as amended, the Pricing Officer is hereby authorized to act on behalf of the County in selling and delivering one or more Series of the Bonds, determining if a Series of Bonds is a Taxable Series or a Tax Exempt Series and determining which of the Refundable Bonds shall be refunded and constitute Refunded Bonds under this Order and carrying out the other procedures specified in this Order, including determining the date of the Bonds, any additional or different designation or title by which the Bonds shall be known, the price at which the Bonds will be sold, the years in which the Bonds will mature, the principal amount to mature in each of such years, the aggregate principal amount of Current Interest Bonds and Premium Compound Interest Bonds, the rate or rates of interest to be borne by each such maturity, the interest payment periods, the dates, price and terms upon and at which the Bonds shall be subject to redemption prior to maturity at the option of the County, as well as any mandatory sinking fund redemption provisions and all other matters relating to the issuance, sale, and delivery of the Bonds and the refunding of the Refunded Bonds, all of which shall be specified in each Pricing Certificate; provided that (i) the price to be paid for a Series of the Bonds shall not be less than 90% of the aggregate original principal amount thereof plus accrued interest thereon from its date to its delivery, (ii) none of the Bonds shall bear interest at a rate, or yield in the case of Premium Compound Interest Bonds, greater than the maximum authorized by law, and (iii) the refunding must produce a net present value debt service savings of at least 3.00% of the principal amount of the Refunded Bonds, net of any County contribution. In establishing the aggregate principal amount of the Bonds, the Pricing Officer shall establish an amount not to exceed the amount authorized in Section 1, which shall be sufficient to provide for the purposes for which the Bonds are authorized and to pay the costs of issuing the Bonds.

(c) To achieve advantageous borrowing costs for the County, the Bonds shall be sold on a negotiated, placement or competitive basis as determined by the Pricing Officer in each Pricing Certificate. In determining whether to sell the Bonds by negotiated, placement or competitive sale, the Pricing Officer shall take into account any material disclosure issues which might affect the net borrowing costs on a Series of the Bonds.

If the Pricing Officer determines that the Bonds should be sold at a competitive sale, the Pricing Officer shall cause to be prepared a notice of sale and official statement in such manner as the Pricing Officer deems appropriate, to make the notice of sale and official statement available to those institutions and firms wishing to submit a bid for the Bonds, to receive such bids, and to award the sale of the Bonds to the bidder submitting the best bid in accordance with the provisions of the notice of sale.

If the Pricing Officer determines that the Bonds should be sold by a negotiated sale or placement, the Pricing Officer shall designate the placement purchaser or the Underwriters for the Bonds and such additional investment banking firms as the Pricing Officer deems appropriate to assure that the Bonds are sold on the most advantageous terms to the County. The Pricing Officer, acting for and on behalf of the County, is authorized to enter into and carry out a purchase agreement for a Series of the Bonds to be sold by negotiated sale or placement, with the Underwriters or placement purchasers respectively, at such price, with and subject to such terms as determined by the Pricing Officer pursuant to Section 3(b) above. Each purchase agreement shall be substantially in the form and substance previously approved by the County in connection

with the previously issued ad valorem tax debt with such changes as are acceptable to the Pricing Officer.

In satisfaction of Section 1201.022(a)(3), Texas Government Code, the County hereby determines that the delegation of the authority to the Pricing Officer to approve the final terms and conditions of each Series of the Bonds as set forth in this Order is, and the decisions made by the Pricing Officer pursuant to such delegated authority and incorporated in the Pricing Certificate will be, in the best interests and shall have the same force and effect as if such determination were made by the County and the Pricing Officer is hereby authorized to make and include in a Pricing Certificate an appropriate finding to that effect.

(d) The Current Interest Bonds shall bear interest calculated on the basis of a 360-day year composed of twelve 30-day months from the dates specified in the FORM OF BONDS set forth in this Order to their respective dates of maturity or redemption, if applicable, at the rates per annum set forth in each Pricing Certificate.

The Premium Compound Interest Bonds shall bear interest from the Issuance Date, calculated on the basis of a 360-day year composed of twelve 30-day months (subject to rounding to the Compounded Amounts thereof), compounded on the Compounding Dates as set forth in each Pricing Certificate, and payable, together with the principal amount thereof, in the manner provided in the Form of Bonds at the rates set forth in the Pricing Certificate. Attached to each Pricing Certificate, if Premium Compound Interest Bonds are to be issued, shall be the Accretion Table. The Accreted Value with respect to any date other than a Compounding Date is the amount set forth on the Accretion Table with respect to the last preceding Compounding Date, plus the portion of the difference between such amount and the amount set forth on the Accretion Table with respect to the next succeeding Compounding Date that the number of days (based on 30-day months) from such last preceding Compounding Date to the date for which such determination is being calculated bears to the total number of days (based on 30-day months) from such last preceding Compounding Date to the next succeeding Compounding Date.

Section 4. CHARACTERISTICS OF THE BONDS. (a) Registration, Transfer, Conversion and Exchange; Authentication. The County shall keep or cause to be kept at the Paying Agent/Registrar books or records for the registration of the transfer, conversion and exchange of the Bonds (the "Register"), and the County hereby appoints the Paying Agent/Registrar as its registrar and transfer agent to keep such books or records and make such registrations of transfers and exchanges under such reasonable regulations as the County and Paying Agent/Registrar may prescribe; and the Paying Agent/Registrar shall make such registrations, transfers and exchanges as herein provided. The Paying Agent/Registrar shall obtain and record in the Register the address of the Registered Owner of each Bond to which payments with respect to the Bonds shall be mailed, as herein provided; but it shall be the duty of each Registered Owner to notify the Paying Agent/Registrar in writing of the address to which payments shall be mailed, and such interest payments shall not be mailed unless such notice has been given. The County shall have the right to inspect the Register during regular business hours of the Paying Agent/Registrar, but otherwise the Paying Agent/Registrar shall keep the Register confidential and, unless otherwise required by law, shall not permit their inspection by any other entity. The County shall pay the Paying Agent/Registrar's standard or customary fees and charges for making such registration, transfer,

exchange and delivery of a substitute Bond or Bonds. Registration of assignments, transfers and exchanges of Bonds shall be made in the manner provided and with the effect stated in the FORM OF BOND set forth in this Order. Each substitute Bond shall bear a letter and/or number to distinguish it from each other Bond.

Except as provided in Section 4(c) of this Order, an authorized representative of the Paying Agent/Registrar shall, before the delivery of any such Bond, date and manually sign said Bond, and no such Bond shall be deemed to be issued or outstanding unless such Bond is so executed. The Paying Agent/Registrar promptly shall cancel all paid Bonds and Bonds surrendered for exchange. No additional orders or resolutions need be passed or adopted by the Commissioners Court of the County or any other body or person so as to accomplish the foregoing exchange of any Bond or portion thereof, and the Paying Agent/Registrar shall provide for the printing, execution, and delivery of the substitute Bonds in the manner prescribed herein. Pursuant to Chapter 1201, Texas Government Code, as amended, and particularly Subchapter D thereof, the duty of exchange of Bonds as aforesaid is hereby imposed upon the Paying Agent/Registrar, and, upon the execution of said Bond, the exchanged Bond shall be valid, incontestable, and enforceable in the same manner and with the same effect as the Bonds which initially were issued and delivered pursuant to this Order, approved by the Attorney General, and registered by the Comptroller of Public Accounts.

(b) Payment of Bonds and Interest. The County hereby further appoints the Paying Agent/Registrar to act as the paying agent for paying the principal of and interest on the Bonds, all as provided in this Order and the Pricing Certificate. The Paying Agent/Registrar shall keep proper records of all payments made by the County and the Paying Agent/Registrar with respect to the Bonds, and of all conversions and exchanges of Bonds, and all replacements of Bonds, as provided in this Order. However, in the event of a nonpayment of interest on a scheduled payment date, and for thirty (30) days thereafter, a new Record Date for such interest payment (a "Special Record Date") will be established by the Paying Agent/Registrar, if and when funds for the payment of such interest have been received from the County. Notice of the past due interest shall be sent at least five (5) Business Days prior to the Special Record Date by United States mail, first-class postage prepaid, to the address of each Registered Owner appearing on the Register at the close of business on the last Business Day next preceding the date of mailing of such notice.

(c) In General. The Bonds (i) shall be issued in fully registered form, without interest coupons, with the principal of and interest on such Bonds to be payable only to the Registered Owners thereof, (ii) may be transferred and assigned, (iii) may be exchanged for other Bonds, (iv) shall have the characteristics, (v) shall be signed, sealed, executed and authenticated, (vi) the principal of and interest on the Bonds shall be payable, and (vii) shall be administered and the Paying Agent/Registrar and the County shall have certain duties and responsibilities with respect to the Bonds, all as provided, and in the manner and to the effect as required or indicated, in the Pricing Certificate and the FORM OF BOND set forth in this Order. The Initial Bond(s) are not required to be, and shall not be, authenticated by the Paying Agent/Registrar, but on each substitute Bond issued in exchange for any Initial Bond or Bonds issued under this Order the Paying Agent/Registrar shall execute the PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE, in the form set forth in the FORM OF BOND.

(d) Substitute Paying Agent/Registrar. The County covenants with the Registered Owners of the Bonds that at all times while the Bonds are outstanding the County will provide a competent and legally qualified bank, trust company, financial institution, or other agency to act as and perform the services of Paying Agent/Registrar for the Bonds under this Order, and that the Paying Agent/Registrar will be one entity. The County reserves the right to, and may, at its option, change the Paying Agent/Registrar upon not less than 30 days written notice to the Paying Agent/Registrar, to be effective at such time which will not disrupt or delay payment on the next principal or interest payment date after such notice. In the event that the entity at any time acting as Paying Agent/Registrar (or its successor by merger, acquisition, or other method) should resign or otherwise cease to act as such, the County covenants that promptly it will appoint a competent and legally qualified bank, trust company, financial institution, or other agency to act as Paying Agent/Registrar under this Order. Upon any change in the Paying Agent/Registrar, the previous Paying Agent/Registrar promptly shall transfer and deliver the Register (or a copy thereof), along with all other pertinent books and records relating to the Bonds, to the new Paying Agent/Registrar designated and appointed by the County. Upon any change in the Paying Agent/Registrar, the County promptly will cause a written notice thereof to be sent by the new Paying Agent/Registrar to each Registered Owner of the Bonds, by United States mail, first-class postage prepaid, which notice also shall give the address of the new Paying Agent/Registrar. By accepting the position and performing as such, each Paying Agent/Registrar shall be deemed to have agreed to the provisions of this Order, and a certified copy of this Order shall be delivered to each Paying Agent/Registrar.

(e) Book-Entry-Only System. The Bonds issued in exchange for the Initial Bond initially issued as provided in Section 4(h) shall be issued in the form of a separate single fully registered Bond for each of the maturities thereof registered in the name of Cede & Co., as nominee of The Depository Trust Company of New York ("DTC") and except as provided in subsection (f) hereof, all of the Outstanding Bonds shall be registered in the name of Cede & Co., as nominee of DTC.

With respect to Bonds registered in the name of Cede & Co., as nominee of DTC, the County and the Paying Agent/Registrar shall have no responsibility or obligation to any securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations on whose behalf DTC was created to hold securities to facilitate the clearance and settlement of securities transactions among DTC participants (the "DTC Participant") or to any person on behalf of whom such a DTC Participant holds an interest in the Bonds. Without limiting the immediately preceding sentence, the County and the Paying Agent/Registrar shall have no responsibility or obligation with respect to (i) the accuracy of the records of DTC, Cede & Co. or any DTC Participant with respect to any ownership interest in the Bonds, (ii) the delivery to any DTC Participant or any other person, other than a Registered Owner, as shown on the Register, of any notice with respect to the Bonds, or (iii) the payment to any DTC Participant or any person, other than a Registered Owner, as shown on the Register of any amount with respect to principal of or interest on the Bonds. Notwithstanding any other provision of this Order to the contrary, but to the extent permitted by law, the County and the Paying Agent/Registrar shall be entitled to treat and consider the person in whose name each Bond is registered in the Register as the absolute owner of such Bond for the purpose of payment of principal of and interest, with respect to such Bond, for the purposes of registering transfers with respect to such Bond, and for all other purposes of registering transfers with respect to such Bonds, and for all other purposes whatsoever. The

Paying Agent/Registrar shall pay all principal of and interest on the Bonds only to or upon the order of the respective Registered Owners, as shown in the Register as provided in this Order, or their respective attorneys duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and discharge the County's obligations with respect to payment of principal of and interest on the Bonds to the extent of the sum or sums so paid. No person other than a Registered Owner, as shown in the Register, shall receive a Bond evidencing the obligation of the County to make payments of principal, and interest pursuant to this Order. Upon delivery by DTC to the Paying Agent/Registrar of written notice to the effect that DTC has determined to substitute a new nominee in place of Cede & Co., and subject to the provisions in this Order with respect to interest checks being mailed to the registered owner at the close of business on the Record Date the word "Cede & Co." in this Order shall refer to such new nominee of DTC.

(f) Successor Securities Depository; Transfer Outside Book-Entry-Only System. In the event that the County determines to discontinue the book-entry system through DTC or a successor or DTC determines to discontinue providing its services with respect to the Bond, the County shall either (i) appoint a successor securities depository, qualified to act as such under Section 17(a) of the Securities and Exchange Act of 1934, as amended, notify DTC and DTC Participants of the appointment of such successor securities depository and transfer one or more separate Bonds to such successor securities depository or (ii) notify DTC and DTC Participants of the availability through DTC of Bonds and transfer one or more separate Bonds to DTC Participants having Bonds credited to their DTC accounts. In such event, the Bonds shall no longer be restricted to being registered in the Register in the name of Cede & Co., as nominee of DTC, but may be registered in the name of the successor securities depository, or its nominee, or in whatever name or names the Registered Owner transferring or exchanging Bond shall designate, in accordance with the provisions of this Order.

(g) Payments to Cede & Co. Notwithstanding any other provision of this Order to the contrary, so long as any Bond is registered in the name of Cede & Co., as nominee of DTC, all payments with respect to principal of, and interest on such Bond and all notices with respect to such Bond shall be made and given, respectively, in the manner provided in the Blanket Letter of Representations of the County to DTC.

(h) Initial Bond(s). The Bonds herein authorized shall be initially issued as fully registered Bonds, being one Bond in the denomination of the applicable principal amount and the Initial Bond shall be registered in the name of the Underwriter. The Initial Bond(s) shall be the Bond(s) submitted to the Office of the Attorney General of the State of Texas for approval, certified and registered by the Office of the Comptroller of Public Accounts of the State of Texas and delivered to the Underwriters or initial purchaser, as applicable. Immediately after the delivery of the Initial Bond(s), the Paying Agent/Registrar shall cancel the Initial Bond(s) delivered hereunder and exchange therefor Bonds in the form of a separate single fully registered Bond for each of the maturities thereof registered in the name of Cede & Co., as nominee of DTC and except as provided in Section 4(f) herein, all of the Outstanding Bonds shall be registered in the name of Cede & Co., as nominee of DTC.

(i) DTC Blanket Letter of Representations. The County confirms execution of a Blanket Issuer Letter of Representations with DTC establishing the Book-Entry-Only System which will be utilized with respect to the Bonds.

Section 5. FORM OF BOND. The form of the Bond, including the form of Paying Agent/Registrar's Authentication Certificate, the form of Assignment and the form of Registration Certificate of the Comptroller of Public Accounts of the State of Texas to be attached to the Bonds initially issued and delivered pursuant to this Order, shall be, respectively, substantially as follows, with such appropriate variations, omissions, or insertions as are permitted or required by this Order and the Pricing Certificate.

FORM OF FIRST PARAGRAPHS OF CURRENT INTEREST BONDS

NO. R-	**UNITED STATES OF AMERICA** **STATE OF TEXAS** **WILLIAMSON COUNTY**	**PRINCIPAL AMOUNT** **$_____**

WILLIAMSON COUNTY, TEXAS
LIMITED TAX REFUNDING BOND
SERIES _____*

INTEREST RATE	DATE OF BOND	MATURITY DATE	CUSIP NO.
	_____*		

REGISTERED OWNER:

PRINCIPAL AMOUNT: **DOLLARS**

ON THE MATURITY DATE specified above, **WILLIAMSON COUNTY, TEXAS** (the "County"), being a political subdivision of the State of Texas, hereby promises to pay to the Registered Owner set forth above, or registered assigns (hereinafter called the "Registered Owner") the principal amount set forth above, and to pay interest thereon from _____*, on _____* and semiannually thereafter on each _____* and _____* to the maturity date specified above, or the date of redemption prior to maturity, at the interest rate per annum specified above; except that if this Bond is required to be authenticated and the date of its authentication is later than the first Record Date (hereinafter defined), such principal amount shall bear interest from the interest payment date next preceding the date of authentication, unless such date of authentication is after any Record Date but on or before the next following interest payment date, in which case such principal amount shall bear interest from such next following interest

*As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete the missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

payment date; provided, however, that if on the date of authentication hereof the interest on the Bond or Bonds, if any, for which this Bond is being exchanged is due but has not been paid, then this Bond shall bear interest from the date to which such interest has been paid in full. Notwithstanding the foregoing, during any period in which ownership of the Bonds is determined only by a book entry at a securities depository for the Bonds, any payment to the securities depository, or its nominee or registered assigns, shall be made in accordance with existing arrangements between the County and the securities depository.

THE PRINCIPAL OF AND INTEREST ON this Bond are payable in lawful money of the United States of America, without exchange or collection charges. The principal of this Bond shall be paid to the Registered Owner hereof upon presentation and surrender of this Bond at maturity or upon the date fixed for its redemption prior to maturity, at _____*(the "Paying Agent/Registrar") at their office in Austin, Texas (the "Designated Payment/Transfer Office"). The payment of interest on this Bond shall be made by the Paying Agent/Registrar to the Registered Owner hereof on each interest payment date by check or draft, dated as of such interest payment date, drawn by the Paying Agent/Registrar on, and payable solely from, funds of the County required by the order authorizing the issuance of this Bond (the "Bond Order") to be on deposit with the Paying Agent/Registrar for such purpose as hereinafter provided; and such check or draft shall be sent by the Paying Agent/Registrar by United States mail, first-class postage prepaid, on each such interest payment date, to the Registered Owner hereof, at its address as it appeared on the close of business as of the last day of the month preceding each such date (the "Record Date") on the Register kept by the Paying Agent/Registrar (the "Register"). In addition, interest may be paid by such other method, acceptable to the Paying Agent/Registrar, requested by, and at the risk and expense of, the Registered Owner. In the event of a non-payment of interest on a scheduled payment date, and for 30 days thereafter, a new record date for such interest payment (a "Special Record Date") will be established by the Paying Agent/Registrar, if and when funds for the payment of such interest have been received from the County. Notice of the Special Record Date and of the scheduled payment date of the past due interest (which shall be 15 days after the Special Record Date) shall be sent at least five Business Days prior to the Special Record Date by United States mail, first-class postage prepaid, to the address of each owner of a Bond appearing on the Register at the close of business on the last Business Day next preceding the date of mailing of such notice.

DURING ANY PERIOD in which ownership of the Bonds is determined only by a book entry at a securities depository for the Bonds, if fewer than all of the Bonds of the same maturity and bearing the same interest rate are to be redeemed, the particular Bonds of such maturity and bearing such interest rate shall be selected in accordance with the arrangements between the County and the securities depository.

ANY ACCRUED INTEREST due at maturity as provided herein or upon the redemption of this Bond prior to maturity shall be paid to the Registered Owner upon presentation and surrender of this Bond for payment at the Designated Payment/Transfer Office of the Paying Agent/Registrar. The County covenants with the Registered Owner of this Bond that on or before each principal payment date, interest payment date and accrued interest payment date for this Bond it will make available to the Paying Agent/Registrar, from the "Interest and Sinking Fund" created

by the Bond Order, the amounts required to provide for the payment, in immediately available funds, of all principal of and interest on the Bonds, when due.

FORM OF FIRST PARAGRAPHS OF PREMIUM COMPOUND INTEREST BONDS*

NO. PC-	**UNITED STATES OF AMERICA** **STATE OF TEXAS** **WILLIAMSON COUNTY**	**MATURITY AMOUNT** **$_____**

WILLIAMSON COUNTY, TEXAS
LIMITED TAX REFUNDING BOND
SERIES _____*

INTEREST RATE	**ISSUANCE DATE**	**DATE OF BONDS**	**MATURITY DATE**
		_____*	

REGISTERED OWNER:

MATURITY AMOUNT: **DOLLARS**

ON THE MATURITY DATE specified above, **WILLIAMSON COUNTY, TEXAS** (the "County"), being a political subdivision of the State of Texas, hereby promises to pay to the Registered Owner set forth above, or registered assigns (hereinafter called the "Registered Owner") the principal amount set forth above representing the principal amount hereof and accrued and compounded interest hereon. Interest shall accrue on the principal amount hereof from the Issuance Date at the interest rate per annum specified above, calculated on the basis of a 360 day year comprised of twelve 30 day months, compounded semiannually on _____* and _____* of each year commencing _____, 20___*. For convenience of reference a table of the "Accreted Value" per $5,000 Maturity Amount is printed on the reverse side of this Bond. The term "Accreted Value" as set forth in the table on the reverse side hereof shall mean the original principal amount plus initial premium per $5,000 Maturity Amount compounded semiannually on _____* and _____* at the yield shown on such table.

THE MATURITY AMOUNT of this Bond is payable in lawful money of the United States of America, without exchange or collection charges. The Maturity Amount of this Bond shall be paid to the Registered Owner hereof upon presentation and surrender of this Bond at maturity, at the designated office for payment of _____, _____, Texas which is the "Paying Agent/Registrar" for this Bond, and shall be drawn by the Paying Agent/Registrar on, and solely from, funds of the County required by the order authorizing the issuance of the Bonds (the "Bond Order") to be on deposit with the Paying Agent/Registrar for such purpose as hereinafter

*As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete the missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

provided, payable to the Registered Owner hereof, as it appears on the Register kept by the Paying Agent/Registrar, as hereinafter described. The County covenants with the Registered Owner of this Bond that on or before the Maturity Date for this Bond it will make available to the Paying Agent/Registrar, from the "Interest and Sinking Fund" created by the Bond Order, the amounts required to provide for the payment, in immediately available funds of the Maturity Amount, when due. Notwithstanding the foregoing, during any period in which ownership of the Bonds is determined only by a book entry at a securities depository for the Bonds, any payment to the securities depository, or its nominee or registered assigns, shall be made in accordance with existing arrangements between the County and the securities depository.

[FORM OF REMAINDER OF EACH BOND]*

IF THE DATE for the payment of the principal of or interest on this Bond shall be a Saturday, Sunday, a legal holiday, or a day on which banking institutions in the county where the principal corporate trust office of the Paying Agent/Registrar is located are authorized by law or executive order to close, then the date for such payment shall be the next succeeding day which is not such a Saturday, Sunday, legal holiday, or day on which banking institutions are authorized to close; and payment on such date shall have the same force and effect as if made on the original date payment was due.

THIS BOND is one of a series of Bonds dated _____*, authorized in accordance with the Constitution and laws of the State of Texas in the principal amount of **$_____*** **[CONSTITUTING $_____ CURRENT INTEREST BONDS AND $_____ PREMIUM COMPOUND INTEREST BONDS]**** **FOR THE PURPOSE OF (i) REFUNDING THE REFUNDED OBLIGATIONS AND (ii) PAYING CERTAIN COSTS OF ISSUANCE OF THE BONDS.**

(INSERT REDEMPTION PROVISIONS AS PROVIDED IN THE PRICING CERTIFICATE)

ON _____ 15, _____*, or on any date thereafter, the Bonds maturing on and after _____ 15, _____* may be redeemed prior to their scheduled maturities, at the option of the County, with funds derived from any available and lawful source, at a redemption price equal to the principal amount to be redeemed plus accrued interest to the date fixed for redemption as a whole, or from time to time in part, and, if in part, the particular Bonds, or portions thereof, to be redeemed shall be selected and designated by the County and if less than all of a maturity is to be redeemed, the Paying Agent/Registrar shall determine by lot the Bonds, or portions thereof, within such maturity to be redeemed (provided that a portion of a Bond may be redeemed only in integral multiples of $5,000).

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* As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete the missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

** To be included only if Current Interest Bonds and Premium Compound Interest Bonds are both issued and completed as determined in the Pricing Certificate

[**THE BONDS MATURING ON _____ 15, _____*** are subject to mandatory sinking fund redemption by lot prior to maturity in the following amounts, on the following dates and at a price of par plus accrued interest to the redemption date.

Bonds Maturing on _____ 15, _____*

Mandatory Redemption Date*	Principal Amount*
_____H	$_____H

_____

HFinal Maturity

THE PRINCIPAL AMOUNT of the Bonds required to be redeemed pursuant to the operation of the mandatory sinking fund redemption provisions shall be reduced, at the option of the County by the principal amount of any Bonds of the stated maturity which, at least 50 days prior to a mandatory redemption date, (1) shall have been acquired by the County at a price not exceeding the principal amount of such Bonds plus accrued interest to the date of purchase thereof, and delivered to the Paying Agent/Registrar for cancellation, (2) shall have been purchased and cancelled by the Paying Agent/Registrar at the request of the County with monies in the Interest and Sinking Fund at a price not exceeding the principal amount of the Bonds plus accrued interest to the date of purchase thereof, or (3) shall have been redeemed pursuant to the optional redemption provisions and not theretofore credited against a mandatory sinking fund redemption requirement.]**

NO LESS THAN 30 calendar days prior to the date fixed for any optional redemption, the County shall cause the Paying Agent/Registrar to send notice by United States mail, first-class postage prepaid to the Registered Owner of each Bond to be redeemed at its address as it appeared on the Register of the Paying Agent/Registrar at the close of business on the 45th day prior to the redemption date and to major securities depositories, national bond rating agencies and bond information services; provided, however, that the failure to send, mail or receive such notice, or any defect therein or in the sending or mailing thereof, shall not affect the validity or effectiveness of the proceedings for the redemption of any Bonds. By the date fixed for any such redemption due provision shall be made with the Paying Agent/Registrar for the payment of the required redemption price for the Bonds or portions thereof which are to be so redeemed. If due provision for such payment is made, all as provided above, the Bonds or portions thereof which are to be so redeemed thereby automatically shall be treated as redeemed prior to their scheduled maturities, and they shall not bear interest after the date fixed for redemption, and they shall not be regarded as being outstanding except for the right of the Registered Owner to receive the redemption price from the Paying Agent/Registrar out of the funds provided for such payment. If a portion of any Bonds shall be redeemed a substitute Bonds or Bonds having the same maturity date, bearing interest at the same rate, in any denomination or denominations in any integral multiple of $5,000, at the written request of the Registered Owner, and in aggregate principal amount equal to the

**To be included only if certain maturities of Bonds are subject to mandatory sinking fund redemption as determined by the Pricing Officer in the Pricing Certificate.

unredeemed portion thereof, will be issued to the Registered Owner upon the surrender thereof for cancellation, at the expense of the County, all as provided in the Bond Order.

WITH RESPECT TO any optional redemption of the Bonds, unless certain prerequisites to such redemption required by the Order have been met and moneys sufficient to pay the principal of and premium, if any, and interest on the Bonds to be redeemed shall have been received by the Paying Agent/Registrar prior to the giving of such notice of redemption, such notice shall state that said redemption may, at the option of the County, be conditional upon the satisfaction of such prerequisites and receipt of such moneys by the Paying Agent/Registrar on or prior to the date fixed for such redemption, or upon any prerequisite set forth in such notice of redemption. If a conditional notice of redemption is given and such prerequisites to the redemption and sufficient moneys are not received, such notice shall be of no force and effect, the County shall not redeem such Bonds and the Paying Agent/Registrar shall give notice, in the manner in which the notice of redemption was given, to the effect that the Bonds have not been redeemed.

ALL BONDS OF THIS SERIES are issuable solely as fully registered Bonds, without interest coupons, in the denomination of any integral multiple of $5,000. As provided in the Bond Order, this Bond, or any unredeemed portion hereof, may, at the request of the Registered Owner or the assignee or assignees hereof, be assigned, transferred and exchanged for a like aggregate principal amount of fully registered Bonds, without interest coupons, payable to the appropriate Registered Owner, assignee or assignees, as the case may be, having the same denomination or denominations in any integral multiple of $5,000 as requested in writing by the appropriate Registered Owner, assignee or assignees, as the case may be, upon surrender of this Bond to the Paying Agent/Registrar for cancellation, all in accordance with the form and procedures set forth in the Bond Order. Among other requirements for such assignment and transfer, this Bond must be presented and surrendered to the Paying Agent/Registrar, together with proper instruments of assignment, in form and with guarantee of signatures satisfactory to the Paying Agent/Registrar, evidencing assignment of this Bond or any portion or portions hereof in any integral multiple of $5,000 to the assignee or assignees in whose name or names this Bond or any such portion or portions hereof is or are to be registered. The form of Assignment printed or endorsed on this Bond may be executed by the Registered Owner to evidence the assignment hereof, but such method is not exclusive, and other instruments of assignment satisfactory to the Paying Agent/Registrar may be used to evidence the assignment of this Bond or any portion or portions hereof from time to time by the Registered Owner. The Paying Agent/Registrar's reasonable standard or customary fees and charges for assigning, transferring, converting and exchanging any Bond or portion thereof will be paid by the County. In any circumstance, any taxes or governmental charges required to be paid with respect thereto shall be paid by the one requesting such assignment, transfer, conversion or exchange, as a condition precedent to the exercise of such privilege. The Paying Agent/Registrar shall not be required to make any such transfer, conversion, or exchange (i) during the period commencing on the close of business on any Record Date and ending with the opening of business on the next following principal or interest payment date or (ii) with respect to any Bond or portion thereof called for redemption prior to maturity, within 45 days prior to its redemption date; provided, however, such limitation of transfer shall not be applicable to an exchange by the Registered Owner of the unredeemed balance of the Bond.

WHENEVER the beneficial ownership of this Bond is determined by a book entry at a securities depository for the Bonds, the foregoing requirements of holding, delivering or transferring this Bond shall be modified to require the appropriate person or entity to meet the requirements of the securities depository as to registering or transferring the book entry to produce the same effect.

IN THE EVENT any Paying Agent/Registrar for the Bonds is changed by the County, resigns, or otherwise ceases to act as such, the County has covenanted in the Bond Order that it promptly will appoint a competent and legally qualified substitute therefor, and cause written notice thereof to be mailed to the Registered Owners of the Bonds.

IT IS HEREBY certified, recited, and covenanted that this Bond has been duly and validly authorized, issued, and delivered; that all acts, conditions, and things required or proper to be performed, exist, and be done precedent to or in the authorization, issuance, and delivery of this Bond have been performed, existed, and been done in accordance with law; and that ad valorem taxes sufficient to provide for the payment of the interest on and principal of this Bond, as such interest comes due, and as such principal matures, have been levied and ordered to be levied against all taxable property in the County, and have been pledged for such payment, within the limits prescribed by law.

BY BECOMING the Registered Owner of this Bond, the Registered Owner thereby acknowledges all of the terms and provisions of the Bond Order, agrees to be bound by such terms and provisions, acknowledges that the Bond Order is duly recorded and available for inspection in the official minutes and records of the governing body of the County, and agrees that the terms and provisions of this Bond and the Bond Order constitute a contract between each Registered Owner hereof and the County.

IN WITNESS WHEREOF, the County has caused this Bond to be signed with the manual or facsimile signature of the County Judge of the County and countersigned with the manual or facsimile signature of the County Clerk and County Treasurer, and has caused the official seal of the County to be duly impressed, or placed in facsimile, on this Bond.

_____ _____

County Clerk County Judge

_____

County Treasurer

[COUNTY SEAL]

FORM OF PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE

PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE

(To be executed if this Bond is not accompanied by an executed Registration Certificate of the Comptroller of Public Accounts of the State of Texas)

It is hereby certified that this Bond has been issued under the provisions of the Bond Order described in the text of this Bond; and that this Bond has been issued in replacement of, or in exchange for, a Bond, Bonds, or a portion of a Bond or Bonds which originally was approved by the Attorney General of the State of Texas and registered by the Comptroller of Public Accounts of the State of Texas.

Dated _____

_____, Texas
Paying Agent/Registrar

By_____

Authorized Representative

FORM OF ASSIGNMENT

ASSIGNMENT

For value received, the undersigned hereby sells, assigns and transfers unto

_____

_____
Please insert Social Security or Taxpayer
Identification Number of Transferee

_____
_____
(Please print or typewrite name and address,
including zip code, of Transferee)

_____

the within Bond and all rights thereunder, and hereby irrevocably constitutes and appoints _____, attorney, to register the transfer of the within Bond on the books kept for registration thereof, with full power of substitution in the premises.

Dated: _____

Signature Guaranteed:

NOTICE: Signature(s) must be guaranteed by a member firm of the New York Stock Exchange or a commercial bank or trust company.	NOTICE: The signature above must correspond with the name of the Registered Owner as it appears upon the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.

FORM OF REGISTRATION CERTIFICATE OF THE COMPTROLLER OF PUBLIC ACCOUNTS:

COMPTROLLER'S REGISTRATION CERTIFICATE: REGISTER NO.

I hereby certify that this Bond has been examined, certified as to validity, and approved by the Attorney General of the State of Texas, and that this Bond has been registered by the Comptroller of Public Accounts of the State of Texas.

Witness my signature and seal this _____.

Comptroller of Public Accounts
of the State of Texas

[COMPTROLLER'S SEAL]

INSERTIONS FOR THE INITIAL BONDS*

(i) The initial Current Interest Bonds shall be in the form set forth in this Section, except that:

A. immediately under the name of the Current Interest Bond, the headings "INTEREST RATE" and "MATURITY DATE" shall both be completed with the words "As shown below" and "CUSIP NO." shall be deleted.

B. the first paragraph shall be deleted and the following will be inserted:

"ON THE MATURITY DATE SPECIFIED BELOW, Williamson County, Texas (the "County"), being a political subdivision, hereby promises to pay to the Registered Owner specified

above, or registered assigns (hereinafter called the "Registered Owner"), on _____* in each of the years, in the principal installments and bearing interest at the per annum rates set forth in the following schedule:

Years	Principal Installments	Interest Rates

(Information from Pricing Certificate to be inserted)

The County promises to pay interest on the unpaid principal amount hereof (calculated on the basis of a 360-day year of twelve 30-day months) from _____* at the respective Interest Rate per annum specified above. Interest is payable on _____* and semiannually on each _____* and _____* thereafter to the date of payment of the principal installment specified above; except, that if this Bond is required to be authenticated and the date of its authentication is later than the first Record Date (hereinafter defined), such principal amount shall bear interest from the interest payment date next preceding the date of authentication, unless such date of authentication is after any Record Date but on or before the next following interest payment date, in which case such principal amount shall bear interest from such next following interest payment date; provided, however, that if on the date of authentication hereof the interest on the Bond or Bonds, if any, for which this Bond is being exchanged is due but has not been paid, then this Bond shall bear interest from the date to which such interest has been paid in full."

C. The initial Bond shall be numbered "T-1."

(ii) The Initial Compound Interest Bond shall be in the form set forth in this Section, except that:

A. immediately under the name of the Bond, the headings "INTEREST RATE" and "MATURITY DATE" shall both be completed with the words "As shown below" and "CUSIP NO. _____" shall be deleted.

B. the first paragraph shall be deleted and the following will be inserted:

"**WILLIAMSON COUNTY, TEXAS** (the "County"), being a political subdivision of the State of Texas, hereby promises to pay to the Registered Owner set forth above, or registered assigns (hereinafter called the "Registered Owner") the Payment at Maturity on _____* in each of the years and in installments of the respective Maturity Amounts set forth in the following schedule:

Year	Maturity Amounts	Interest Rates

* As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete the missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

(Information for the Premium Compound Interest Bonds from the Pricing Certificate to be inserted)

The amount shown above as the respective Maturity Amounts represent the principal amount hereof and accrued and compounded interest hereon. Interest shall accrue on the principal amount hereof from the Issuance Date at the interest rate per annum specified above, compounded semiannually on _____* and _____* of each year commencing _____*. For convenience of reference, a table appears on the back of this Bond showing the "Compounded Amount" of the original principal amount plus initial premium, if any, per $5,000 Maturity Amount compounded semiannually at the yield shown on such table."

C. the Initial Premium Compound Interest Bond shall be numbered "TPC-1."

Section 6. TAX LEVY. A special Interest and Sinking Fund (the "Interest and Sinking Fund") is hereby created solely for the benefit of the Bonds, and the Interest and Sinking Fund shall be established and maintained by the County at an official depository bank of the County. The Interest and Sinking Fund shall be kept separate and apart from all other funds and accounts of the County, and shall be used only for paying the interest on and principal of the Bonds. All ad valorem taxes levied and collected for and on account of the Bonds shall be deposited, as collected, to the credit of the Interest and Sinking Fund. During each year while any of the Bonds or interest thereon are outstanding and unpaid, the Commissioners Court of the County shall compute and ascertain a rate and amount of ad valorem tax which will be sufficient to raise and produce the money required to pay the interest on the Bonds as such interest comes due, and to provide and maintain a sinking fund adequate to pay the principal of the Bonds as such principal matures (but never less than 2% of the original principal amount of the Bonds as a sinking fund each year); and the tax shall be based on the latest approved tax rolls of the County, with full allowance being made for tax delinquencies and the cost of tax collection. The rate and amount of ad valorem tax is hereby levied, and is hereby ordered to be levied, against all taxable property in the County for each year while any of the Bonds or interest thereon are outstanding and unpaid; and the tax shall be assessed and collected each such year and deposited to the credit of the Interest and Sinking Fund. The ad valorem taxes sufficient to provide for the payment of the interest on and principal of the Bonds, as such interest comes due and such principal matures, are hereby pledged for such payment within the legal limits prescribed by law. Accrued interest shall be deposited in the Interest and Sinking Fund. Any remaining premium after payment of costs of issuance and deposits to the Escrow Fund shall be deposited in the Interest and Sinking Fund and used to only pay principal of the Bonds.

Section 7. ESTABLISHMENT OF ESCROW FUND AND DISPOSITION OF PROCEEDS. (a) Escrow Fund. The proceeds of the Bonds less the costs of issuance and accrued interest, together with any cash contribution, in an amount necessary to refund the Refunded Obligations shall be deposited in the Escrow Fund created and governed by the terms of the Escrow Agreement substantially in the form previously used by the County in connection with refunding outstanding obligations, with such changes as approved by the Pricing Officer.

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* As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete the missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

(b) Accrued Interest. Any accrued interest on the Bonds shall be deposited in the Interest and Sinking Fund.

(c) Interest Earnings. Interest earnings derived from the investment of proceeds from the sale of the Bonds shall be used along with the Bond proceeds for the purpose for which the Bonds are issued as set forth in Section 1 hereof or to pay principal or interest payments on the Bonds; provided that after completion of such purpose, if any of such interest earnings remain on hand, such interest earnings shall be deposited in the Interest and Sinking Fund. It is further provided, however, that any interest earnings on bond proceeds which are required to be rebated to the United States of America pursuant to Section 11 hereof in order to prevent the Bonds from being arbitrage bonds shall be so rebated and not considered as interest earnings for the purposes of this Section.

(d) Investment of Funds. The County hereby covenants that the proceeds of the sale of the Bonds will be used as soon as practicable for the purposes for which the Bonds are issued. Obligations purchased as an investment of money in any fund shall be deemed to be a part of such fund. Any money in any fund created by this Order, other than the Escrow Fund, may be invested as permitted by the Public Funds Investment Act, as amended. The Escrow Fund shall be invested only as directed by the Escrow Agreement.

(e) Security for Funds. All funds created by this Order shall be secured in the manner and to the fullest extent required by law for the security of funds of the County.

(f) Maintenance of Funds. Any funds created pursuant to this Order, other than the Escrow Fund, may be created as separate funds or accounts or as subaccounts of the County's General Fund held by the County's depository, and, as such, not held in separate bank accounts, such treatment shall not constitute a commingling of the monies in such funds or of such funds and the County shall keep full and complete records indicating the monies and investments credited to each such fund.

(g) Perfection. Chapter 1208, Texas Government Code, applies to the issuance of the Bonds and the pledge of the ad valorem taxes granted by the County under this Section, and is therefore valid, effective, and perfected. If Texas law is amended at any time while the Bonds are outstanding and unpaid such that the pledge of the ad valorem taxes granted by the County under this Section is to be subject to the filing requirements of Chapter 9, Business and Commerce Code, then in order to preserve to the Owners of the Bonds the perfection of the security interest in said pledge, the County agrees to take such measures as it determines are reasonable and necessary under Texas law to comply with the applicable provisions of Chapter 9, Business and Commerce Code and enable a filing to perfect the security interest in said pledge to occur.

(h) Appropriation of Available Funds. There is hereby appropriated from funds of the County lawfully available for such purpose a sum sufficient to pay the interest and/or principal to become due on the Bonds prior to receipt of applicable tax receipts.

Section 8. DEFEASANCE OF BONDS. (a) Any Bond and the interest thereon shall be deemed to be paid, retired and no longer outstanding (a "Defeased Bond") within the meaning

of this Order, except to the extent provided in subsections (c) and (e) of this Section, when payment of the principal of such Bond, plus interest thereon to the due date or dates (whether such due date or dates be by reason of maturity, upon redemption, or otherwise) either (i) shall have been made or caused to be made in accordance with the terms thereof (including the giving of any required notice of redemption) or (ii) shall have been provided for on or before such due date by irrevocably depositing with or making available to the Paying Agent/Registrar or commercial bank or trust company for such payment (1) lawful money of the United States of America sufficient to make such payment, (2) Defeasance Securities, certified by an independent public accounting firm of national reputation to mature as to principal and interest in such amounts and at such times as will ensure the availability, without reinvestment, of sufficient money to provide for such payment and when proper arrangements have been made by the County with the Paying Agent/Registrar or commercial bank or trust company for the payment of its services until all Defeased Bonds shall have become due and payable or (3) any combination of (1) and (2). At such time as a Bond shall be deemed to be a Defeased Bond hereunder, as aforesaid, such Bond and the interest thereon shall no longer be secured by, payable from, or entitled to the benefits of, the ad valorem taxes herein levied as provided in this Order, and such principal and interest shall be payable solely from such money or Defeasance Securities.

(b) The deposit under clause (ii) of subsection (a) shall be deemed a payment of a Bond as aforesaid when proper notice of redemption of such Bonds shall have been given, in accordance with this Order. Any money so deposited with the Paying Agent/Registrar or commercial bank or trust company as provided in this Section may at the discretion of the Commissioners Court also be invested in Defeasance Securities, maturing in the amounts and at the times as hereinbefore set forth, and all income from all Defeasance Securities in possession of the Paying Agent/Registrar or commercial bank or trust company pursuant to this Section which is not required for the payment of such Bond and premium, if any, and interest thereon with respect to which such money has been so deposited, shall be turned over to the Commissioners Court.

(c) Notwithstanding any provision of any other Section of this Order which may be contrary to the provisions of this Section, all money or Defeasance Securities set aside and held in trust pursuant to the provisions of this Section for the payment of principal of the Bonds and premium, if any, and interest thereon, shall be applied to and used solely for the payment of the particular Bonds and premium, if any, and interest thereon, with respect to which such money or Defeasance Securities have been so set aside in trust. Until all Defeased Bonds shall have become due and payable, the Paying Agent/Registrar shall perform the services of Paying Agent/Registrar for such Defeased Bonds the same as if they had not been defeased, and the County shall make proper arrangements to provide and pay for such services as required by this Order.

(d) Notwithstanding anything elsewhere in this Order, if money or Defeasance Securities have been deposited or set aside with the Paying Agent/Registrar or commercial bank or trust company pursuant to this Section for the payment of Bonds and such Bonds shall not have in fact been actually paid in full, no amendment of the provisions of this Section shall be made without the consent of the registered owner of each Bond affected thereby.

(e) Notwithstanding the provisions of subsection (a) immediately above, to the extent that, upon the defeasance of any Defeased Bond to be paid at its maturity, the County retains the right

under Texas law to later call that Defeased Bond for redemption in accordance with the provisions of the Order authorizing its issuance, the County may call such Defeased Bond for redemption upon complying with the provisions of Texas law and upon the satisfaction of the provisions of subsection (a) immediately above with respect to such Defeased Bond as though it was being defeased at the time of the exercise of the option to redeem the Defeased Bond and the effect of the redemption is taken into account in determining the sufficiency of the provisions made for the payment of the Defeased Bond.

Section 9. DAMAGED, MUTILATED, LOST, STOLEN, OR DESTROYED BONDS. (a) Replacement Bonds. In the event any outstanding Bond is damaged, mutilated, lost, stolen, or destroyed, the Paying Agent/Registrar shall cause to be printed, executed, and delivered, a new Bond of the same principal amount, maturity, and interest rate, as the damaged, mutilated, lost, stolen, or destroyed Bond, in replacement for such Bond in the manner hereinafter provided.

(b) Application for Replacement Bonds. Application for replacement of damaged, mutilated, lost, stolen, or destroyed Bonds shall be made by the Registered Owner thereof to the Paying Agent/Registrar. In every case of loss, theft, or destruction of a Bond, the Registered Owner applying for a replacement bond shall furnish to the County and to the Paying Agent/Registrar such security or indemnity as may be required by them to save each of them harmless from any loss or damage with respect thereto. Also, in every case of loss, theft, or destruction of a Bond, the Registered Owner shall furnish to the County and to the Paying Agent/Registrar evidence to their satisfaction of the loss, theft, or destruction of such Bond, as the case may be. In every case of damage or mutilation of a Bond, the Registered Owner shall surrender to the Paying Agent/Registrar for cancellation the Bond so damaged or mutilated.

(c) No Default Occurred. Notwithstanding the foregoing provisions of this Section, in the event any such Bond shall have matured, and no default has occurred which is then continuing in the payment of the principal of, redemption premium, if any, or interest on the Bond, the County may authorize the payment of the same (without surrender thereof except in the case of a damaged or mutilated Bond) instead of issuing a replacement Bond, provided security or indemnity is furnished as above provided in this Section.

(d) Charge for Issuing Replacement Bonds. Prior to the issuance of any replacement Bond, the Paying Agent/Registrar shall charge the Registered Owner of such Bond with all legal, printing, and other expenses in connection therewith. Every replacement Bond issued pursuant to the provisions of this Section by virtue of the fact that any Bond is lost, stolen, or destroyed shall constitute a contractual obligation of the County whether or not the lost, stolen, or destroyed Bond shall be found at any time, or be enforceable by anyone, and shall be entitled to all the benefits of this Order equally and proportionately with any and all other Bonds duly issued under this Order.

(e) Authority for Issuing Replacement Bonds. In accordance with Subchapter D of Texas Government Code, Chapter 1201, this Section 9 shall constitute authority for the issuance of any such replacement Bond without necessity of further action by the governing body of the County or any other body or person, and the duty of the replacement of such Bonds is hereby authorized and imposed upon the Paying Agent/Registrar, and the Paying Agent/Registrar shall authenticate

and deliver such Bonds in the form and manner and with the effect, as provided in Section 4(a) of this Order for Bonds issued in conversion and exchange for other Bonds.

Section 10. CUSTODY, APPROVAL, AND REGISTRATION OF BONDS; BOND COUNSEL'S OPINION; CUSIP NUMBERS AND CONTINGENT INSURANCE PROVISION, IF OBTAINED. The County Judge is hereby authorized to have control of the Bonds initially issued and delivered hereunder and all necessary records and proceedings pertaining to the Bonds pending their delivery and their investigation, examination, and approval by the Attorney General of the State of Texas, and their registration by the Comptroller of Public Accounts of the State of Texas. Upon registration of the Bonds the Comptroller of Public Accounts (or a deputy designated in writing to act for the Comptroller) shall manually sign the Comptroller's Registration Certificate attached to such Bonds, and the seal of the Comptroller shall be impressed, or placed in facsimile, on such Certificate. The approving legal opinion of the County's Bond Counsel and the assigned CUSIP numbers may, at the option of the County, be printed on the Bonds issued and delivered under this Order, but neither shall have any legal effect, and shall be solely for the convenience and information of the Registered Owners of the Bonds. In addition, if bond insurance or other credit enhancement is obtained, the Bonds may bear an appropriate legend.

Section 11. COVENANTS REGARDING TAX EXEMPTION OF INTEREST ON THE TAX EXEMPT BONDS. (a) Covenants. The County covenants to take any action necessary to assure, or refrain from any action which would adversely affect, the treatment of the Tax Exempt Bonds as obligations described in section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), the interest on which is not includable in the "gross income" of the holder for purposes of federal income taxation. In furtherance thereof, the County covenants as follows:

(1) to take any action to assure that no more than 10 percent of the proceeds of the Tax Exempt Bonds or the Refunded Obligations or the projects financed or refinanced therewith (less amounts deposited to a reserve fund, if any) are used for any "private business use," as defined in section 141(b)(6) of the Code or, if more than 10 percent of the proceeds of the Tax Exempt Bonds or the Refunded Bonds or the projects financed or refinanced therewith are so used, such amounts, whether or not received by the County, with respect to such private business use, do not, under the terms of this Order or any underlying arrangement, directly or indirectly, secure or provide for the payment of more than 10 percent of the debt service on the Tax Exempt Bonds, in contravention of section 141(b)(2) of the Code;

(2) to take any action to assure that in the event that the "private business use" described in subsection (1) hereof exceeds 5 percent of the proceeds of the Tax Exempt Bonds or the Refunded Bonds or the projects financed or refinanced therewith (less amounts deposited into a reserve fund, if any) then the amount in excess of 5 percent is used for a "private business use" which is "related" and not "disproportionate," within the meaning of section 141(b)(3) of the Code, to the governmental use;

(3) to take any action to assure that no amount which is greater than the lesser of $5,000,000, or 5 percent of the proceeds of the Tax Exempt Bonds (less amounts deposited

into a reserve fund, if any) is directly or indirectly used to finance loans to persons, other than state or local governmental units, in contravention of section 141(c) of the Code;

(4) to refrain from taking any action which would otherwise result in the Tax Exempt Bonds being treated as "private activity bonds" within the meaning of section 141(b) of the Code;

(5) to refrain from taking any action that would otherwise result in the Tax Exempt Bonds being "federally guaranteed" within the meaning of section 149(b) of the Code;

(6) to refrain from using any portion of the proceeds of the Tax Exempt Bonds, directly or indirectly, to acquire or to replace funds which were used, directly or indirectly, to acquire investment property (as defined in section 148(b)(2) of the Code) which produces a materially higher yield over the term of the Tax Exempt Bonds, other than investment property acquired with --

(A) proceeds of the Tax Exempt Bonds invested for a reasonable temporary period,

(B) amounts invested in a bona fide debt service fund, within the meaning of section l.148-1(b) of the Treasury Regulations, and

(C) amounts deposited in any reasonably required reserve or replacement fund to the extent such amounts do not exceed 10 percent of the proceeds of the Tax Exempt Bonds;

(7) to otherwise restrict the use of the proceeds of the Tax Exempt Bonds or amounts treated as proceeds of the Tax Exempt Bonds, as may be necessary, so that the Tax Exempt Bonds do not otherwise contravene the requirements of section 148 of the Code (relating to arbitrage) and, to the extent applicable, section 149(d) of the Code (relating to advance refundings); and

(8) to pay to the United States of America at least once during each five-year period (beginning on the date of delivery of the Tax Exempt Bonds) an amount that is at least equal to 90 percent of the "Excess Earnings," within the meaning of section 148(f) of the Code and to pay to the United States of America, not later than 60 days after the Tax Exempt Bonds have been paid in full, 100 percent of the amount then required to be paid as a result of Excess Earnings under section 148(f) of the Code.

(b) Rebate Fund. In order to facilitate compliance with the above covenant (9), a "Rebate Fund" is hereby established by the County for the sole benefit of the United States of America, and such fund shall not be subject to the claim of any other person, including without limitation the bondholders. The Rebate Fund is established for the additional purpose of compliance with section 148 of the Code.

(c) Proceeds. The County understands that the term "proceeds" includes "disposition proceeds" as defined in the Treasury Regulations and, in the case of refunding bonds, transferred proceeds (if any) and proceeds of the refunded bonds expended prior to the date of issuance of the Bonds. It is the understanding of the County that the covenants contained herein are intended to assure compliance with the Code and any regulations or rulings promulgated by the U.S. Department of the Treasury pursuant thereto. In the event that regulations or rulings are hereafter promulgated which modify or expand provisions of the Code, as applicable to the Tax Exempt Bonds, the County will not be required to comply with any covenant contained herein to the extent that such failure to comply, in the opinion of nationally recognized bond counsel, will not adversely affect the exemption from federal income taxation of interest on the Tax Exempt Bonds under section 103 of the Code. In the event that regulations or rulings are hereafter promulgated which impose additional requirements which are applicable to the Tax Exempt Bonds, the County agrees to comply with the additional requirements to the extent necessary, in the opinion of nationally recognized bond counsel, to preserve the exemption from federal income taxation of interest on the Tax Exempt Bonds under section 103 of the Code. In furtherance of such intention, the County hereby authorizes and directs the Pricing Officer to execute any documents, certificates or reports required by the Code and to make such elections, on behalf of the County, which may be permitted by the Code as are consistent with the purpose for the issuance of the Bonds. This Order is intended to satisfy the official intent requirements set forth in Section 1.150-2 of the Treasury Regulations.

(d) Disposition of Project. The County covenants that the property constituting the projects financed or refinanced with the proceeds of the Tax Exempt Bonds will not be sold or otherwise disposed in a transaction resulting in the receipt by the County of cash or other compensation, unless the County obtains an opinion of nationally-recognized bond counsel that such sale or other disposition will not adversely affect the tax-exempt status of the Bonds. For purposes of the foregoing, the portion of the property comprising personal property and disposed in the ordinary course shall not be treated as a transaction resulting in the receipt of cash or other compensation. For purposes hereof, the County shall not be obligated to comply with this covenant if it obtains an opinion that such failure to comply will not adversely affect the excludability for federal income tax purposes from gross income of the interest.

Section 12. SALE OF BONDS. Each Series of Bonds shall be sold and delivered, pursuant to each purchase agreement by and between the County and the Underwriters or initial purchaser, as applicable, in substantially the form previously approved by the County in connection with refunding bonds at a price and under the terms set forth in each Pricing Certificate. The Pricing Officer is authorized to approve such changes to each bond purchase agreement as necessary in connection with the sale of each Series of the Bonds.

Section 13. REMEDIES IN EVENT OF DEFAULT. In addition to all of the rights and remedies provided by the laws of the State of Texas, the County covenants and agrees that in the event of default in payment of principal or interest on any of the Bonds when due, or defaults in the observance or performance of any other of the contracts, covenants, conditions or obligations set forth in this Order or in the Bonds, the following remedies shall be available:

(a) the Registered Owners shall be entitled to a writ of mandamus issued by a court of competent jurisdiction compelling and requiring the County and officials thereof to observe and perform the contracts, covenants, obligations or conditions prescribed in this Order; and

(b) any delay or omission to exercise any right or power accruing upon any default shall not impair any such right or power nor be construed to be a waiver of any such default or acquiescence therein, and every such right and power may be exercised from time to time and as often as may be deemed expedient.

Section 14. APPROVAL OF OFFICIAL STATEMENT. The Pricing Officer is hereby authorized to approve the Preliminary Official Statement in connection with each Series of Bonds, the Official Statement relating to each Series of the Bonds and any addenda, supplement or amendment thereto, and to deem such documents final in accordance with Rule 15c2-12. The County further approves the distribution of such Official Statement in the reoffering of the Bonds by the Underwriter in final form, with such changes therein or additions thereto as the Pricing Officer executing the same may deem advisable, such determination to be conclusively evidenced by his execution thereof.

Section 15. APPROVAL OF ESCROW AGREEMENT. The Escrow Agreement in connection with each Series of the Bonds by and between the County and the Escrow Agent ("Escrow Agreement") is hereby approved, and the Pricing Officer is hereby authorized to complete, amend, modify and execute each Escrow Agreement, as necessary.

Section 16. APPROVAL OF PAYING AGENT/REGISTRAR AGREEMENT. One or more Paying Agent/Registrar Agreements in connection with each Series of the Bonds by and between the County and of the Paying Agent/Registrar ("Paying Agent Agreement") in substantially the form and substance previously approved by the Commissions Court and the Pricing Officer is hereby authorized to designate the Paying Agent/Registrar and authorized and directed to complete, amend, modify and execute each Paying Agent Agreement, as necessary.

Section 17. ESCROW AGREEMENT AND RELATED PROVISIONS

(a) The discharge and defeasance of Refunded Obligations shall be effectuated pursuant to the terms and provision of an Escrow Agreement, in the form and containing the terms and provisions as shall be approved by a Pricing Officer, including designation of the Escrow Agent and insertions, additions, deletions, and modifications as may be necessary (a) to carry out the program designed for the County by the underwriters or purchasers, (b) to maximize the County's present value savings and /or to minimize the County's costs of refunding, (c) to comply with all applicable laws and regulations relations to the refunding of the Refunded Obligations and (d) to carry out the other intents and purposes of this order; and, the Pricing Officer is hereby authorized to execute and deliver such Escrow Agreement on behalf of the County, in multiple counterparts.

(b) To maximize the County's present value savings and to minimize the County's costs of refunding, the County hereby authorizes and directs that certain of the Refunded Obligations shall be called for redemption prior to maturity in the amounts , at the dates and at the redemption

prices set forth in each Pricing Certificate, and the Pricing Officer is hereby authorized an directed to take all necessary and appropriate action to give or cause to be given a notice of redemption to the holders or paying agent/registrars, as appropriate, of such Refunded Obligations, in the manner required by the documents authorizing the issuance of such Refunded Obligations.

(c) A Pricing Officer and the Escrow Agent are each hereby authorized (a) to subscribe for, agree to purchase, and purchase Defeasance Securities that are permitted investments for a defeasance escrow established to defease Refunded Obligations, and to execute any and all subscriptions, purchase agreement, commitments, letter of authorization and other documents necessary to effectuate the foregoing, and any actions heretofore taken for such purpose are hereby ratified and approved, and (b) to authorize such contributions to the escrow fund as are provided in each Escrow Agreement.

Section 18. NOTICE TO PAYING AGENT. The Refunded Obligations shall be called for redemption pursuant to each Pricing Certificate, and the Pricing Officer is hereby authorized to direct the respective paying agents for the Refunded Obligations to make appropriate arrangements so that such Refunded Obligations may be redeemed on the respective redemption dates pursuant to the Pricing Certificate. A copy of such notice of redemption shall be delivered to the respective paying agents so mentioned in the notices.

Section 19 CONTINUING DISCLOSURE UNDERTAKING. (a) Annual Reports. The County shall provide annually to the MSRB, (1) within six months after the end of each fiscal year of the County ending in or after 2016, financial information and operating data with respect to the County of the general type included in the final Official Statement authorized by Section 14 of this Order, being information of the type described in each Pricing Certificate, including financial statements of the County if audited financial statements of the County are then available, and (2) if not provided as part of such financial information and operating data, audited financial statements of the County, when and if available. Any financial statements to be provided shall be (i) prepared in accordance with the accounting principles described in Exhibit "B" hereto, or such other accounting principles as the County may be required to employ from time to time pursuant to state law or regulation, and in substantially the form included in the official statement, and (ii) audited, if the County commissions an audit of such financial statements and the audit is completed within the period during which they must be provided. If the audit of such financial statements is not complete within 12 months after any such fiscal year end, then the County shall file unaudited financial statements within such 12-month period and audited financial statements for the applicable fiscal year, when and if the audit report on such statements becomes available.

If the County changes its fiscal year, it will notify the MSRB of the change (and of the date of the new fiscal year end) prior to the next date by which the County otherwise would be required to provide financial information and operating data pursuant to this Section.

The financial information and operating data to be provided pursuant to this Section may be set forth in full in one or more documents or may be included by specific reference to any document that is available to the public on the MSRB's internet web site or filed with the SEC. All documents provided to the MSRB pursuant to this Section shall be accompanied by identifying information as prescribed by the MSRB.

(b) Event Notices. The County shall notify the MSRB, in an electronic format as prescribed by the MSRB, in a timely manner not in excess of ten business days after the occurrence of the event, of any of the following events with respect to the Bonds:

A. Principal and interest payment delinquencies;

B. Non-payment related defaults, if material within the meaning of the federal securities laws;

C. Unscheduled draws on debt service reserves reflecting financial difficulties;

D. Unscheduled draws on credit enhancements reflecting financial difficulties;

E. Substitution of credit or liquidity providers, or their failure to perform;

F. Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701–TEB) or other material notices or determinations with respect to the tax-exempt status of the Bonds, or other events affecting the tax-exempt status of the Bonds

G. Modifications to rights of holders of the Bonds, if material within the meaning of the federal securities laws;

H. Bond calls, if material within the meaning of the federal securities laws and tender offers;

I. Defeasances;

J. Release, substitution, or sale of property securing repayment of the Bonds, if material within the meaning of the federal securities laws;

K. Rating changes;

L. Bankruptcy, insolvency, receivership or similar event of the County;

M. The consummation of a merger, consolidation, or acquisition involving the County or the sale of all or substantially all of the assets of the County, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material within the meaning of the federal securities laws; and

N. Appointment of a successor or additional trustee or the change of name of a trustee, if material within the meaning of the federal securities laws.

The County shall notify the MSRB, in an electronic format as prescribed by the MSRB, in a timely manner, of any failure by the County to provide financial information or operating data in accordance with subsection (a) of this Section by the time required by such subsection. All documents provided to the MSRB pursuant to this Section shall be accompanied by identifying information as prescribed by the MSRB.

(c) Limitations, Disclaimers, and Amendments. The County shall be obligated to observe and perform the covenants specified in this Section for so long as, but only for so long as, the County remains an "obligated person" with respect to the Bonds within the meaning of the Rule, except that the County in any event will give notice of any deposit made in accordance with Section 8 of this Order that causes the Bonds no longer to be outstanding.

The provisions of this Section are for the sole benefit of the holders and beneficial owners of the Bonds, and nothing in this Section, express or implied, shall give any benefit or any legal or equitable right, remedy, or claim hereunder to any other person. The County undertakes to provide only the financial information, operating data, financial statements, and notices which it has expressly agreed to provide pursuant to this Section and does not hereby undertake to provide any other information that may be relevant or material to a complete presentation of the City's financial results, condition, or prospects or hereby undertake to update any information provided in accordance with this Section or otherwise, except as expressly provided herein. The County does not make any representation or warranty concerning such information or its usefulness to a decision to invest in or sell Bonds at any future date.

UNDER NO CIRCUMSTANCES SHALL THE COUNTY BE LIABLE TO THE HOLDER OR BENEFICIAL OWNER OF ANY CERTIFICATE OR ANY OTHER PERSON, IN CONTRACT OR TORT, FOR DAMAGES RESULTING IN WHOLE OR IN PART FROM ANY BREACH BY THE COUNTY, WHETHER NEGLIGENT OR WITHOUT FAULT ON ITS PART, OF ANY COVENANT SPECIFIED IN THIS SECTION, BUT EVERY RIGHT AND REMEDY OF ANY SUCH PERSON, IN CONTRACT OR TORT, FOR OR ON ACCOUNT OF ANY SUCH BREACH SHALL BE LIMITED TO AN ACTION FOR *MANDAMUS* OR SPECIFIC PERFORMANCE.

No default by the County in observing or performing its obligations under this Section shall comprise a breach of or default under this Order for purposes of any other provision of this Order.

Should the Rule be amended to obligate the County to make filings with or provide notices to entities other than the MSRB, the County hereby agrees to undertake such obligation with respect to the Bonds in accordance with the Rule as amended.

Nothing in this Section is intended or shall act to disclaim, waive, or otherwise limit the duties of the County under federal and state securities laws.

The provisions of this Section may be amended by the County from time to time to adapt to changed circumstances that arise from a change in legal requirements, a change in law, or a change in the identity, nature, status, or type of operations of the County, but only if (1) the provisions of this Section, as so amended, would have permitted an underwriter to purchase or sell

Bonds in the primary offering of the Bonds in compliance with the Rule, taking into account any amendments or interpretations of the Rule since such offering as well as such changed circumstances and (2) either (a) the holders of a majority in aggregate principal amount (or any greater amount required by any other provision of this Order that authorizes such an amendment) of the outstanding Bonds consents to such amendment or (b) a person that is unaffiliated with the County (such as nationally recognized bond counsel) determines that such amendment will not materially impair the interest of the holders and beneficial owners of the Bonds. If the County so amends the provisions of this Section, it shall include with any amended financial information or operating data next provided in accordance with paragraph (a) of this Section an explanation, in narrative form, of the reason for the amendment and of the impact of any change in the type of financial information or operating data so provided. The County may also amend or repeal the provisions of this continuing disclosure agreement if the SEC amends or repeals the applicable provision of the Rule or a court of final jurisdiction enters judgment that such provisions of the Rule are invalid, but only if and to the extent that the provisions of this sentence would not prevent an underwriter from lawfully purchasing or selling Bonds in the primary offering of the Bonds.

Section 20. AMENDMENT OF ORDER. The County hereby reserves the right to amend this Order subject to the following terms and conditions, to-wit:

(a) The County may from time to time, without the consent of any holder, except as otherwise required by paragraph (b) below, amend or supplement this Order in order to (i) cure any ambiguity, defect or omission in this Order that does not materially adversely affect the interests of the holders, (ii) grant additional rights or security for the benefit of the holders, (iii) add events of default as shall not be inconsistent with the provisions of this Order and that shall not materially adversely affect the interests of the holders, (iv) qualify this Order under the Trust Indenture Act of 1939, as amended, or corresponding provisions of federal laws from time to time in effect, or (v) make such other provisions in regard to matters or questions arising under this Order as shall not be inconsistent with the provisions of this Order and that shall not in the opinion of the County's Bond Counsel materially adversely affect the interests of the holders.

(b) Except as provided in paragraph (a) above, the holders of Bonds aggregating in principal amount 51% of the aggregate principal amount of then Outstanding Bonds that are the subject of a proposed amendment shall have the right from time to time to approve any amendment hereto that may be deemed necessary or desirable by the County; provided, however, that without the consent of 100% of the holders in aggregate principal amount of the then Outstanding Bonds, nothing herein contained shall permit or be construed to permit amendment of the terms and conditions of this Order or in any of the Bonds so as to:

(1) Make any change in the maturity of any of the Outstanding Bonds;

(2) Reduce the rate of interest borne by any of the Outstanding Bonds;

(3) Reduce the amount of the principal of, or redemption premium, if any, payable on any Outstanding Bonds;

(4) Modify the terms of payment of principal or of interest or redemption premium on Outstanding Bonds or any of them or impose any condition with respect to such payment; or

(5) Change the minimum percentage of the principal amount of any series of Bonds necessary for consent to such amendment.

(c) If at any time the County shall desire to amend this Order under this Section, the County shall send by U.S. mail to each registered owner of the affected Bonds a copy of the proposed amendment and cause notice of the proposed amendment to be published at least once in a financial publication published in The City of New York, New York or in the State of Texas. Such published notice shall briefly set forth the nature of the proposed amendment and shall state that a copy thereof is on file at the office of the County for inspection by all holders of such Bonds.

(d) Whenever at any time within one year from the date of publication of such notice the County shall receive an instrument or instruments executed by the holders of at least 51% in aggregate principal amount of all of the Bonds then Outstanding that are required for the amendment, which instrument or instruments shall refer to the proposed amendment and that shall specifically consent to and approve such amendment, the County may adopt the amendment in substantially the same form.

(e) Upon the adoption of any amendatory Order pursuant to the provisions of this Section, this Order shall be deemed to be modified and amended in accordance with such amendatory Order, and the respective rights, duties, and obligations of the County and all holders of such affected Bonds shall thereafter be determined, exercised, and enforced, subject in all respects to such amendment.

(f) Any consent given by the holder of a Bond pursuant to the provisions of this Section shall be irrevocable for a period of six months from the date of the publication of the notice provided for in this Section, and shall be conclusive and binding upon all future holders of the same Bond during such period. Such consent may be revoked at any time after six months from the date of the publication of said notice by the holder who gave such consent, or by a successor in title, by filing notice with the County, but such revocation shall not be effective if the holders of 51% in aggregate principal amount of the affected Bonds then Outstanding, have, prior to the attempted revocation, consented to and approved the amendment.

Section 21. NO RECOURSE AGAINST COUNTY OFFICIALS. No recourse shall be had for the payment of principal of or interest on the Bonds or for any claim based thereon or on this Order against any official of the County or any person executing any Bonds.

Section 22. FURTHER ACTIONS. The officers and employees of the County are hereby authorized, empowered and directed from time to time and at any time to do and perform all such acts and things and to execute, acknowledge and deliver in the name and under the corporate seal and on behalf of the County all such instruments, whether or not herein mentioned, as may be necessary or desirable in order to carry out the terms and provisions of this Order, the Bonds, the initial sale and delivery of the Bonds, the Paying Agent/Registrar Agreement, the Bond

Purchase Agreement, the Escrow Agreement and the Official Statement. In addition, prior to the initial delivery of the Bonds, the County Judge, the County Clerk, the County Treasurer, the Financial Advisor, the County Attorney, and Bond Counsel are hereby authorized and directed to approve any changes or corrections to this Order or to any of the instruments authorized and approved by this Order necessary in order to (i) correct any ambiguity or mistake or properly or more completely document the transactions contemplated and approved by this Order and as described in the Official Statement or (ii) obtain the approval of the Bonds by the Texas Attorney General's office. Bond Counsel is authorized to insert into the Pricing Certificate any necessary provisions required by the Bond Insurer and agreed to by the Pricing Officer.

In case any officer of the County whose signature shall appear on any Bond shall cease to be such officer before the delivery of such Bond, such signature shall nevertheless be valid and sufficient for all purposes the same as if such officer had remained in office until such delivery.

Section 23. INTERPRETATIONS. All terms defined herein and all pronouns used in this Order shall be deemed to apply equally to singular and plural and to all genders. The titles and headings of the articles and sections of this Order have been inserted for convenience of reference only and are not to be considered a part hereof and shall not in any way modify or restrict any of the terms or provisions hereof. This Order and all the terms and provisions hereof shall be liberally construed to effectuate the purposes set forth herein and to sustain the validity of the Bonds and the validity of the lien on and pledge to secure the payment of the Bonds.

Section 24. INCONSISTENT PROVISIONS. All orders or resolutions, or parts thereof, which are in conflict or inconsistent with any provisions of this Order are hereby repealed to the extent of such conflict and the provisions of this Order shall be and remain controlling as to the matters contained herein.

Section 25. INTERESTED PARTIES. Nothing in this Order expressed or implied is intended or shall be construed to confer upon, or to give to, any person or entity, other than the County and the registered owners of the Bonds, any right, remedy or claim under or by reason of this Order or any covenant, condition or stipulation hereof, and all covenants, stipulations, promises and agreements in this Order contained by and on behalf of the County shall be for the sole and exclusive benefit of the County and the registered owners of the Bonds.

Section 26. SEVERABILITY. The provisions of this Order are severable; and in case any one or more of the provisions of this Order or the application thereof to any person or circumstance should be held to be invalid, unconstitutional, or ineffective as to any person or circumstance, the remainder of this Order nevertheless shall be valid, and the application of any such invalid provision to persons or circumstances other than those as to which it is held invalid shall not be affected thereby.

Section 27. REPEALER. All orders and resolutions, or parts thereof, inconsistent herewith are hereby repealed to the extent of such inconsistency.

Section 28. PAYMENT OF ATTORNEY GENERAL FEE. The County hereby authorizes the disbursement of a fee equal to the lesser of (i) one-tenth of one percent of the

principal amount of the Bonds or (ii) $9,500, provided that such fee shall not be less than $750, to the Attorney General of Texas Public Finance Division for payment of the examination fee charged by the State of Texas for the Attorney General's review and approval of public securities and credit agreements, as required by Section 1202.004 of the Texas Government Code. The appropriate member of the County's staff is hereby instructed to take the necessary measures to make this payment. The County is also authorized to reimburse the appropriate County funds for such payment from proceeds of the Bonds.

EXHIBIT A

DESCRIPTION OF ANNUAL FINANCIAL INFORMATION

Accounting Principles

The accounting principles of the County relating to funds and account groups will conform to generally accepted accounting principles (GAAP) as applied to governmental entities.

Commissioners Court - Regular Session **17.**

Meeting Date: 03/07/2017

Order Authorizing Unlimited Tax Road Bonds

Submitted For: Julie Kiley **Submitted By:** Julie Kiley, County Auditor

Department: County Auditor

Agenda Category: Regular Agenda Items

Information

Agenda Item

Consideration and action with respect to "Order Authorizing the Issuance of Williamson County, Texas Unlimited Tax Road Bonds in One or More Series; Levying an Ad Valorem Tax in Support of the Bonds; Approving Paying Agent/Registrar Agreements, Official Statements and Purchase Agreements; Establishing the Procedures for Selling and Delivering One or More Series of the Bonds; and Authorizing Other Matters Relating to the Bonds."

Background

Dan Wegmiller of Specialized Public Finance, Financial Advisor, will answer questions. This is delegation authorizing the ability to enter the market with the balance of the Road Bonds over the next 12 months. Jana Edwards of McCall, Parkhurst & Horton, Bond Counsel, will also be available to answer questions regarding legal documents.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Order Unlimited Tax Road Bonds

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/01/2017 11:24 AM
Form Started By: Julie Kiley		Started On: 03/01/2017 09:00 AM
Final Approval Date: 03/01/2017		

ORDER AUTHORIZING THE ISSUANCE OF WILLIAMSON COUNTY, TEXAS UNLIMITED TAX ROAD BONDS IN ONE OR MORE SERIES; LEVYING AN AD VALOREM TAX IN SUPPORT OF THE BONDS; APPROVING PAYING AGENT/REGISTRAR AGREEMENTS, OFFICIAL STATEMENTS AND PURCHASE AGREEMENTS; ESTABLISHING THE PROCEDURES FOR SELLING AND DELIVERING ONE OR MORE SERIES OF THE BONDS; AND AUTHORIZING OTHER MATTERS RELATING TO THE BONDS

Adopted March 7, 2017

ORDER AUTHORIZING THE ISSUANCE OF WILLIAMSON COUNTY, TEXAS UNLIMITED TAX ROAD BONDS IN ONE OR MORE SERIES; LEVYING AN AD VALOREM TAX IN SUPPORT OF THE BONDS; APPROVING PAYING AGENT/REGISTRAR AGREEMENTS, OFFICIAL STATEMENTS AND PURCHASE AGREEMENTS; ESTABLISHING THE PROCEDURES FOR SELLING AND DELIVERING ONE OR MORE SERIES OF THE BONDS; AND AUTHORIZING OTHER MATTERS RELATING TO THE BONDS

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ORDER AUTHORIZING THE ISSUANCE OF WILLIAMSON COUNTY, TEXAS UNLIMITED TAX ROAD BONDS IN ONE OR MORE SERIES; LEVYING AN AD VALOREM TAX IN SUPPORT OF THE BONDS; APPROVING PAYING AGENT/REGISTRAR AGREEMENTS, OFFICIAL STATEMENTS AND PURCHASE AGREEMENTS; ESTABLISHING THE PROCEDURES FOR SELLING AND DELIVERING ONE OR MORE SERIES OF THE BONDS; AND AUTHORIZING OTHER MATTERS RELATING TO THE BONDS

THE STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

WHEREAS, on the 20th day of August, 2013, in accordance with Chapter 1251, Texas Government Code, as amended, the Texas Election Code, as amended, and other general laws, the Commissioners Court of Williamson County, Texas (the "County") adopted an "Order Calling a Bond Election; Making Provision for Conducting the Election; and Ordering Other Matters Incident and Related to Such Election" with such election to be held within the County on November 5, 2013 to submit to the voters of the County two different propositions to authorize the bonds hereinafter stated; and

WHEREAS, the voters of the County authorized the Commissioners Court of the County to issue the bonds set forth in Proposition Number 1 ("Proposition Number 1") which aggregates $275,000,000 in principal amount for road projects and Proposition Number 2 which aggregates $40,000,000 in principal amount for park purposes; and

WHEREAS, the Commissioners Court has determined it is in the best interest of the County to issue one or more series of bonds from Proposition Number 1; and

WHEREAS, the County has previously issued its Unlimited Tax Road Bonds, Series 2014 in the aggregate principal amount of $91,750,000 plus premium and its Unlimited Tax Road Bonds, Series 2015 in the aggregate principal amount of $90,205,000 plus premium for the purpose of funding road projects as set forth in Proposition Number 1; and

WHEREAS, the County deems it to be in the best interest of the County to issue all or a portion from the remaining $75,000,000 authorized but unissued bonds from Proposition Number 1; and

NOW, THEREFORE, BE IT ORDERED BY THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, TEXAS:

Section 1. **RECITALS, AMOUNT AND PURPOSE OF THE BONDS**. The recitals set forth in the preamble hereof are incorporated herein and shall have the same force and effect as if set forth in this section. The bond or bonds of the County are hereby authorized pursuant to Article III, Section 52 of the Texas Constitution and Chapters 1251, 1371 and 1471,

Texas Government Code, to be issued and delivered in the aggregate principal amount not to exceed $75.000,000 for the purpose of funding road projects as set forth in Proposition Number 1 and pay certain costs of issuance of the Bonds.

Section 2. **DEFINITIONS**. When used in this Order, except in Section 5, and in any resolution or order amendatory or supplemental hereto, the terms listed below shall have the meanings specified below, unless it is otherwise expressly provided or unless the context otherwise requires:

"Accreted Value" means, with respect to a Premium Compound Interest Bond, as of any particular date of calculation, the original principal amount thereof, plus all interest accrued and compounded to the particular date of calculation, as determined in accordance with the Pricing Certificate and the Accretion Table attached as an exhibit to each Pricing Certificate relating to the Bonds that shows the Accreted Value per $5,000 maturity amount on the calculation date of maturity to its maturity.

"Accretion Table" means the exhibit attached to each Pricing Certificate, if necessary, that sets forth the rounded original principal amounts at the Issuance Date for the Premium Compound Interest Bonds and the Accreted Values and maturity amounts thereof as of each Compounding Date until final maturity.

"Authorized Denominations" means the denomination of $5,000 or any integral multiple thereof with respect to the Current Interest Bonds and in the denomination of $5,000 in maturity amount or any integral multiple thereof with respect to the Premium Compound Interest Bonds.

"Bonds" means and includes collectively the Premium Compound Interest Bonds and Current Interest Bonds initially issued and delivered for each Series pursuant to this Bond Order and the respective Pricing Certificate for the Bonds and all substitute Bonds exchanged therefor, as well as all other substitute bonds and replacement bonds issued pursuant hereto, and the term "Bond" shall mean any of the Bonds.

"Bond Order" or "Order" means this Order of the Commissioners Court authorizing the issuance of one or more Series the Bonds.

"Business Day" means any day which is not a Saturday, Sunday or a day on which the Paying Agent/Registrar is authorized by law or executive order to remain closed.

"Commissioners Court" means the governing body of the County.

"Compounded Amount" means, with respect to a Premium Compound Interest Bond, as of any particular date of calculation, the original principal amount thereof plus all interest accrued and compounded to the particular date of calculation.

"Compounding Dates" means the dates on which interest is compounded on the Premium Compound Interest Bonds as set forth in the Accretion Table attached to each Pricing Certificate.

"County" means Williamson County, Texas and any other public agency succeeding to the powers, rights, privileges, and functions of the County and, when appropriate, the Commissioners Court of the County.

"Current Interest Bonds" means the Bonds paying current interest and maturing in each of the years and in the aggregate principal amounts set forth in each Pricing Certificate.

"Defeasance Securities" means (i) Federal Securities, (ii) noncallable obligations of an agency or instrumentality of the United States of America, including obligations that are unconditionally guaranteed or insured by the agency or instrumentality and that, on the date the Commissioners Court adopts or approves proceedings authorizing the issuance of refunding bonds or otherwise provide for the funding of an escrow to effect the defeasance of the Bonds are rated as to investment quality by a nationally recognized investment rating firm not less than "AAA" or its equivalent, (iii) noncallable obligations of a state or an agency or a county, municipality, or other political subdivision of a state that have been refunded and that, on the date the Commissioners Court adopts or approves proceedings authorizing the issuance of refunding bonds or otherwise provide for the funding of an escrow to effect the defeasance of the Bonds, are rated as to investment quality by a nationally recognized investment rating firm no less than "AAA" or its equivalent and (iv) any other then authorized securities or obligations under applicable State law that may be used to defease obligations such as the Bonds.

"Federal Securities" means direct, noncallable obligations of the United States of America, including obligations that are unconditionally guaranteed by the United States of America.

"Fiscal Year" means the twelve-month accounting period for the County, which presently is the twelve-month period beginning on October 1 of each year and ending on September 30 of the following year, but which may be changed from time to time by the Commissioners Court.

"Initial Bond(s)" means the Bond(s) authorized, issued, and initially delivered as provided in Section 3 of this Bond Order.

"Interest Payment Date" means a date on which interest on the Current Interest Bonds is due and payable as set forth in each Pricing Certificate.

"Issuance Date" means the date of delivery of a Series of the Bonds.

"MSRB" means the Municipal Securities Rulemaking Board.

"Outstanding" when used with reference to Bonds, means, as of a particular date, all Bonds theretofore and thereupon delivered except; (a) any Bond canceled by or on behalf of the

County at or before said date, (b) any Bond defeased or no longer considered Outstanding pursuant to the provisions of this Order or otherwise defeased as permitted by applicable law and (c) any such Bond in lieu of or in substitution for which another Bond shall have been delivered pursuant to this Order.

"Premium Compound Interest Bonds" means the Bonds on which no interest is paid prior to maturity, maturing in various amounts and in the aggregate principal amount as set forth in each Pricing Certificate.

"Pricing Certificate" means each Pricing Certificate of the County's Pricing Officer to be executed and delivered pursuant to Section 3 hereof in connection with the issuance of one or more series of the Bonds.

"Pricing Officer" means the County Auditor, acting as the designated pricing officer of the County to execute each Pricing Certificate. In the absence of the County Auditor, the County Judge may act as the designated pricing officer of the County to execute each Pricing Certificate.

"Record Date" means, with respect to an Interest Payment Date, those dates set forth in each Pricing Certificate.

"Redemption Date" means a date fixed for redemption of any Bond pursuant to the terms of this Bond Order and each Pricing Certificate.

"Register" means the registry system maintained on behalf of the County by the Registrar in which are listed the names and addresses of the Registered Owners and the principal amount of Bonds registered in the name of each Registered Owner.

"Registered Owner" means any person or entity in whose name a Bond is registered.

"Registrar" or "Paying Agent/Registrar" means BOKF, NA dba Bank of Texas, or such other bank, trust company, financial institution, or other entity as may hereafter be designated by the County to act as paying agent and registrar for the Bonds in accordance with the terms of this Bond Order.

"Replacement Bonds" means the Bonds authorized by the County to be issued in substitution for lost, apparently destroyed, or wrongfully taken Bonds as provided in Section 9 of this Bond Order.

"Rule" means SEC Rule 15c2-12, as amended from time to time.

"Series" means any designated series of Bonds issued pursuant to this Order.

"SEC" means the United States Securities and Exchange Commission.

"Tax Exempt Bonds" means each Series of Bonds bearing interest which is excludable from gross income for federal taxation purposes pursuant to Section 103 of the IRS Code.

"Taxable Series" means each Series of Bonds bearing interest at a taxable rate.

"Tax Exempt Series" means each Series of Tax Exempt Bonds.

"Underwriter" means the senior managing underwriter as selected by the Pricing Officer for each series of the Bonds issued pursuant to this Bond Order and the other co-managers for each Series of Bonds as the Pricing Officer deems appropriate.

Section 3. DESIGNATION, DATE, DENOMINATIONS, NUMBERS AND DELEGATION TO PRICING OFFICER. (a) Each bond issued pursuant to this Order shall be designated: **"WILLIAMSON COUNTY, TEXAS UNLIMITED TAX ROAD BOND"** and initially there shall be issued, sold, and delivered hereunder one or more Series of fully registered Bonds, without interest coupons, which may be in the form of Current Interest Bonds or Premium Compound Interest Bonds, numbered consecutively from R-1 upward, in the case of Current Interest Bonds, and from PC-1 upward, in the case of Premium Compound Interest Bonds (except the Initial Bond delivered to the Attorney General of the State of Texas which shall be numbered T-1 and TPC-1, respectively) payable to the respective initial Registered Owners thereof, or to the registered assignee or assignees of said Bonds or any portion or portions thereof, in Authorized Denominations, with each Series of Bonds maturing not later than thirty (30) years from the date of each series of the Bonds, serially or otherwise on the dates, in the years and in the principal a-mounts, respectively, and dated, all as set forth in each Pricing Certificate to be executed and delivered by the Pricing Officer pursuant to subsection (b) of this section. The Pricing Certificate is hereby incorporated in and made a part of this Order. The title of each Series of the Bonds shall be designated by the year in which it is awarded pursuant to Section 3(b) below. The authority for the Pricing Officer to execute and deliver each Pricing Certificate for a Series of Bonds shall expire at 5:00 p.m. C.S.T on March 7, 2018. A Series of Bonds priced on or before March 7, 2018 may be delivered to the Underwriters or purchasers, as applicable, after such date.

(b) As authorized by Section 1371.053, Texas Government Code, as amended, the Pricing Officer is hereby authorized to act on behalf of the County in selling and delivering one or more Series of the Bonds, determining if a Series of Bonds is a Tax Exempt Series or a Taxable Series and carrying out the other procedures specified in this Order, including determining the date of the Bonds, any additional or different designation or title by which the Bonds shall be known, the price at which the Bonds will be sold, the years in which the Bonds will mature, the principal amount to mature in each of such years, the aggregate principal amount of Current Interest Bonds and Premium Compound Interest Bonds, the rate or rates of interest to be borne by each such maturity, the interest payment periods, the dates, price, and terms upon and at which the Bonds shall be subject to redemption prior to maturity at the option of the County, as well as any mandatory sinking fund redemption provisions, and all other matters relating to the issuance, sale, and delivery of the Bonds, all of which shall be specified in each

Pricing Certificate; provided that (i) the price to be paid for a Series of the Bonds shall not be less than 90% of the aggregate original principal amount thereof plus accrued interest, if any, thereon from its date to its delivery and (ii) the net effective interest rate of the Bonds, or yield in the case of Premium Compound Interest Bonds, shall not be greater than the maximum rate allowed by law. In establishing the aggregate principal amount of the Bonds, the Pricing Officer shall establish an amount not to exceed the amount authorized in Section 1, which shall be sufficient to provide for the purposes for which the Bonds are authorized and to pay the costs of issuing the Bonds.

(c) To achieve advantageous borrowing costs for the County, the Bonds shall be sold on a negotiated, placement or competitive basis as determined by the Pricing Officer in each Pricing Certificate. In determining whether to sell the Bonds by negotiated, placement or competitive sale, the Pricing Officer shall take into account any material disclosure issues which might exist at the time, the market conditions expected at the time of the sale and any other matters which, in the judgment of the Pricing Officer, might affect the net borrowing costs on a Series of the Bonds.

If the Pricing Officer determines that the Bonds should be sold at a competitive sale, the Pricing Officer shall cause to be prepared a notice of sale and official statement in such manner as the Pricing Officer deems appropriate, to make the notice of sale and official statement available to those institutions and firms wishing to submit a bid for the Bonds, to receive such bids, and to award the sale of the Bonds to the bidder submitting the best bid in accordance with the provisions of the notice of sale.

If the Pricing Officer determines that the Bonds should be sold by a negotiated sale or placement, the Pricing Officer shall designate the placement purchaser or the Underwriter for the Bonds and such additional investment banking firms as the Pricing Officer deems appropriate to assure that the Bonds are sold on the most advantageous terms to the County. The Pricing Officer, acting for and on behalf of the County, is authorized to enter into and carry out a Bond Purchase Contract or other agreement for a Series of the Bonds to be sold by negotiated sale or placement, with the Underwriters or placement purchasers respectively, at such price, with and subject to such terms as determined by the Pricing Officer pursuant to Section 3(b) above. Each Bond Purchase Contract or other agreement shall be substantially in the form and substance previously approved by the County in connection with the previously issued ad valorem tax debt with such changes as are acceptable to the Pricing Officer.

(d) The Current Interest Bonds shall bear interest calculated on the basis of a 360-day year composed of twelve 30-day months from the dates specified in the FORM OF BONDS set forth in this Order to their respective dates of maturity or redemption at the rates per annum set forth in each Pricing Certificate.

The Premium Compound Interest Bonds shall bear interest from the Issuance Date, calculated on the basis of a 360-day year composed of twelve 30-day months (subject to rounding to the Compounded Amounts thereof), compounded on the Compounding Dates as set

forth in each Pricing Certificate, and payable, together with the principal amount thereof, in the manner provided in the Form of Bonds at the rates set forth in the Pricing Certificate. Attached to each Pricing Certificate, if Premium Compound Interest Bonds are to be issued, shall be the Accretion Table. The Accreted Value with respect to any date other than a Compounding Date is the amount set forth on the Accretion Table with respect to the last preceding Compounding Date, plus the portion of the difference between such amount and the amount set forth on the Accretion Table with respect to the next succeeding Compounding Date that the number of days (based on 30-day months) from such last preceding Compounding Date to the date for which such determination is being calculated bears to the total number of days (based on 30-day months) from such last preceding Compounding Date to the next succeeding Compounding Date.

Section 4. CHARACTERISTICS OF THE BONDS. (a) Registration, Transfer, Conversion and Exchange; Authentication. The County shall keep or cause to be kept at BOKF, NA dba Bank of Texas, Austin, Texas (the "Paying Agent/Registrar") books or records for the registration of the transfer and exchange of the Bonds (the "Register"), and the County hereby appoints the Paying Agent/Registrar as its registrar and transfer agent to keep such books or records and make such registrations of transfers and exchanges under such reasonable regulations as the County and Paying Agent/Registrar may prescribe; and the Paying Agent/Registrar shall make such registrations and conversions and exchanges as herein provided. The Paying Agent/Registrar shall obtain and record in the Register the address of the Registered Owner of each Bond to which payments with respect to the Bonds shall be mailed, as herein provided; but it shall be the duty of each Registered Owner to notify the Paying Agent/Registrar in writing of the address to which payments shall be mailed, and such interest payments shall not be mailed unless such notice has been given. The County shall have the right to inspect the Register during regular business hours of the Paying Agent/Registrar, but otherwise the Paying Agent/Registrar shall keep the Register confidential and, unless otherwise required by law, shall not permit their inspection by any other entity. The County shall pay the Paying Agent/Registrar's standard or customary fees and charges for making such registration, transfer, exchange and delivery of a substitute Bond or Bonds. Registration of assignments, transfers and exchanges of Bonds shall be made in the manner provided and with the effect stated in the FORM OF BOND set forth in this Order. Each substitute Bond shall bear a letter and/or number to distinguish it from each other Bond.

Except as provided in Section 4(c) of this Order, an authorized representative of the Paying Agent/Registrar shall, before the delivery of any such Bond, date and manually sign said Bond, and no such Bond shall be deemed to be issued or outstanding unless such Bond is so executed. The Paying Agent/Registrar promptly shall cancel all paid Bonds and Bonds surrendered for exchange. No additional orders or resolutions need be passed or adopted by the Commissioners Court of the County or any other body or person so as to accomplish the foregoing exchange of any Bond or portion thereof, and the Paying Agent/Registrar shall provide for the printing, execution, and delivery of the substitute Bonds in the manner prescribed herein. Pursuant to Chapter 1201, Texas Government Code, as amended, and particularly Subchapter D thereof, the duty of exchange of Bonds as aforesaid is hereby imposed upon the Paying

Agent/Registrar, and, upon the execution of said Bond, the exchanged Bond shall be valid, incontestable, and enforceable in the same manner and with the same effect as the Bonds which initially were issued and delivered pursuant to this Order, approved by the Attorney General, and registered by the Comptroller of Public Accounts.

(b) Payment of Bonds and Interest. The County hereby further appoints the Paying Agent/Registrar to act as the paying agent for paying the principal of and interest on the Bonds, all as provided in this Order and the Pricing Certificate. The Paying Agent/Registrar shall keep proper records of all payments made by the County and the Paying Agent/Registrar with respect to the Bonds, and of all conversions and exchanges of Bonds, and all replacements of Bonds, as provided in this Order. However, in the event of a nonpayment of interest on a scheduled payment date, and for thirty (30) days thereafter, a new Record Date for such interest payment (a "Special Record Date") will be established by the Paying Agent/Registrar, if and when funds for the payment of such interest have been received from the County. Notice of the past due interest shall be sent at least five (5) Business Days prior to the Special Record Date by United States mail, first-class postage prepaid, to the address of each Registered Owner appearing on the Register at the close of business on the last Business Day next preceding the date of mailing of such notice.

(c) In General. The Bonds (I) shall be issued in fully registered form, without interest coupons, with the principal of and interest on such Bonds to be payable only to the Registered Owners thereof, (ii) may be transferred and assigned, (iii) may be exchanged for other Bonds, (iv) shall have the characteristics, (v) shall be signed, sealed, executed and authenticated, (vi) the principal of and interest on the Bonds shall be payable, and (vii) shall be administered and the Paying Agent/Registrar and the County shall have certain duties and responsibilities with respect to the Bonds, all as provided, and in the manner and to the effect as required or indicated, in the Pricing Certificate and the FORM OF BOND set forth in this Order. The Initial Bond(s) are not required to be, and shall not be, authenticated by the Paying Agent/Registrar, but on each substitute Bond issued in exchange for any Initial Bond or Bonds issued under this Order the Paying Agent/Registrar shall execute the PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE, in the form set forth in the FORM OF BOND.

(d) Substitute Paying Agent/Registrar. The County covenants with the Registered Owners of the Bonds that at all times while the Bonds are outstanding the County will provide a competent and legally qualified bank, trust company, financial institution, or other agency to act as and perform the services of Paying Agent/Registrar for the Bonds under this Order, and that the Paying Agent/Registrar will be one entity. The County reserves the right to, and may, at its option, change the Paying Agent/Registrar upon not less than 30 days written notice to the Paying Agent/Registrar, to be effective at such time which will not disrupt or delay payment on the next principal or interest payment date after such notice. In the event that the entity at any time acting as Paying Agent/Registrar (or its successor by merger, acquisition, or other method) should resign or otherwise cease to act as such, the County covenants that promptly it will appoint a competent and legally qualified bank, trust company, financial institution, or other agency to act as Paying Agent/Registrar under this Order. Upon any change in the Paying

Agent/Registrar, the previous Paying Agent/Registrar promptly shall transfer and deliver the Register (or a copy thereof), along with all other pertinent books and records relating to the Bonds, to the new Paying Agent/Registrar designated and appointed by the County. Upon any change in the Paying Agent/Registrar, the County promptly will cause a written notice thereof to be sent by the new Paying Agent/Registrar to each Registered Owner of the Bonds, by United States mail, first-class postage prepaid, which notice also shall give the address of the new Paying Agent/Registrar. By accepting the position and performing as such, each Paying Agent/Registrar shall be deemed to have agreed to the provisions of this Order, and a certified copy of this Order shall be delivered to each Paying Agent/Registrar.

(e) Book-Entry-Only System. The Bonds issued in exchange for the Initial Bond initially issued as provided in Section 4(h) shall be issued in the form of a separate single fully registered Bond for each of the maturities thereof registered in the name of Cede & Co., as nominee of The Depository Trust Company, New York, New York ("DTC") and except as provided in subsection (f) hereof, all of the Outstanding Bonds shall be registered in the name of Cede & Co., as nominee of DTC.

With respect to Bonds registered in the name of Cede & Co., as nominee of DTC, the County and the Paying Agent/Registrar shall have no responsibility or obligation to any securities brokers and dealers, banks, trust companies, clearing corporations and certain other organizations on whose behalf DTC was created to hold securities to facilitate the clearance and settlement of securities transactions among DTC participants (the "DTC Participant") or to any person on behalf of whom such a DTC Participant holds an interest in the Bonds. Without limiting the immediately preceding sentence, the County and the Paying Agent/Registrar shall have no responsibility or obligation with respect to (I) the accuracy of the records of DTC, Cede & Co. or any DTC Participant with respect to any ownership interest in the Bonds, (ii) the delivery to any DTC Participant or any other person, other than a Registered Owner, as shown on the Register, of any notice with respect to the Bonds, or (iii) the payment to any DTC Participant or any person, other than a Registered Owner, as shown on the Register of any amount with respect to principal of or interest on the Bonds. Notwithstanding any other provision of this Order to the contrary, but to the extent permitted by law, the County and the Paying Agent/Registrar shall be entitled to treat and consider the person in whose name each Bond is registered in the Register as the absolute owner of such Bond for the purpose of payment of principal of and interest, with respect to such Bond, for the purposes of registering transfers with respect to such Bond, and for all other purposes of registering transfers with respect to such Bonds, and for all other purposes whatsoever. The Paying Agent/Registrar shall pay all principal of and interest on the Bonds only to or upon the order of the respective Registered Owners, as shown in the Register as provided in this Order, or their respective attorneys duly authorized in writing, and all such payments shall be valid and effective to fully satisfy and discharge the County's obligations with respect to payment of principal of and interest on the Bonds to the extent of the sum or sums so paid. No person other than a Registered Owner, as shown in the Register, shall receive a Bond evidencing the obligation of the County to make payments of principal, and interest pursuant to this Order. Upon delivery by DTC to the Paying Agent/Registrar of written notice to the effect that DTC has determined to substitute a new

nominee in place of Cede & Co., and subject to the provisions in this Order with respect to interest checks being mailed to the registered owner at the close of business on the Record Date the word "Cede & Co." in this Order shall refer to such new nominee of DTC.

(f) Successor Securities Depository; Transfer Outside Book-Entry-Only System. In the event that the County determines to discontinue the book-entry system through DTC or a successor or DTC determines to discontinue providing its services with respect to the Bond, the County shall either (I) appoint a successor securities depository, qualified to act as such under Section 17(a) of the Securities and Exchange Act of 1934, as amended, notify DTC and DTC Participants of the appointment of such successor securities depository and transfer one or more separate Bonds to such successor securities depository or (ii) notify DTC and DTC Participants of the availability through DTC of Bonds and transfer one or more separate Bonds to DTC Participants having Bonds credited to their DTC accounts. In such event, the Bonds shall no longer be restricted to being registered in the Register in the name of Cede & Co., as nominee of DTC, but may be registered in the name of the successor securities depository, or its nominee, or in whatever name or names the Registered Owner transferring or exchanging Bond shall designate, in accordance with the provisions of this Order.

(g) Payments to Cede & Co. Notwithstanding any other provision of this Order to the contrary, so long as any Bond is registered in the name of Cede & Co., as nominee of DTC, all payments with respect to principal of, and interest on such Bond and all notices with respect to such Bond shall be made and given, respectively, in the manner provided in the Blanket Issuer Letter of Representations of the County to DTC.

(h) Initial Bond(s). The Bonds herein authorized shall be initially issued as fully registered Bonds, being one Bond in the denomination of the applicable principal amount and the Initial Bond shall be registered in the name of the Underwriter. The Initial Bond shall be the Bond submitted to the Office of the Attorney General of the State of Texas for approval, certified and registered by the Office of the Comptroller of Public Accounts of the State of Texas and delivered to the Underwriters or initial purchaser, as applicable. Immediately after the delivery of the Initial Bond(s), the Paying Agent/Registrar shall cancel the Initial Bond(s) delivered hereunder and exchange therefor Bonds in the form of a separate single fully registered Bond for each of the maturities thereof registered in the name of Cede & Co., as nominee of DTC and except as provided in Section 4(f) herein, all of the Outstanding Bonds shall be registered in the name of Cede & Co., as nominee of DTC.

(I) DTC Blanket Letter of Representations. The County confirms execution of a Blanket Issuer Letter of Representations with DTC establishing the Book-Entry-Only System which will be utilized with respect to each Series of the Bonds.

Section 5. FORM OF BOND. The form of the Bond, including the form of Paying Agent/Registrar's Authentication Certificate, the form of Assignment and the form of Registration Certificate of the Comptroller of Public Accounts of the State of Texas to be attached to the Bonds initially issued and delivered pursuant to this Order, shall be, respectively,

substantially as follows, with such appropriate variations, omissions, or insertions as are permitted or required by this Order and the Pricing Certificate.

FORM OF FIRST PARAGRAPHS OF CURRENT INTEREST BONDS

NO. R-	**UNITED STATES OF AMERICA** **STATE OF TEXAS** **WILLIAMSON COUNTY**	**PRINCIPAL AMOUNT** **$_____**

WILLIAMSON COUNTY, TEXAS
UNLIMITED TAX ROAD BONDS,
SERIES _____ *

INTEREST RATE	**DATE OF BOND**	**MATURITY DATE**	**CUSIP NO.**

REGISTERED OWNER:

PRINCIPAL AMOUNT: **DOLLARS**

ON THE MATURITY DATE specified above, **WILLIAMSON COUNTY, TEXAS** (the "County"), being a political subdivision of the State of Texas, hereby promises to pay to the Registered Owner set forth above, or registered assigns (hereinafter called the "Registered Owner") the principal amount set forth above, and to pay interest thereon from _____*, on _____* and semiannually thereafter on each _____* and _____* to the maturity date specified above, or the date of redemption prior to maturity, at the interest rate per annum specified above; except that if this Bond is required to be authenticated and the date of its authentication is later than the first Record Date (hereinafter defined), such principal amount shall bear interest from the interest payment date next preceding the date of authentication, unless such date of authentication is after any Record Date but on or before the next following interest payment date, in which case such principal amount shall bear interest from such next following interest payment date; provided, however, that if on the date of authentication hereof the interest on the Bond or Bonds, if any, for which this Bond is being exchanged is due but has not been paid, then this Bond shall bear interest from the date to which such interest has been paid in full. Notwithstanding the foregoing, during any period in which ownership of the Bonds is determined only by a book entry at a securities depository for the Bonds, any payment to the securities depository, or its nominee or registered assigns, shall be made in accordance with existing arrangements between the County and the securities depository.

*As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

THE PRINCIPAL OF AND INTEREST ON this Bond are payable in lawful money of the United States of America, without exchange or collection charges. The principal of this Bond shall be paid to the Registered Owner hereof upon presentation and surrender of this Bond at maturity or upon the date fixed for its redemption prior to maturity, at BOKF, NA dba Bank of Texas, (the "Paying Agent/Registrar") at their office in Austin, Texas (the "Designated Payment/Transfer Office"). The payment of interest on this Bond shall be made by the Paying Agent/Registrar to the Registered Owner hereof on each interest payment date by check or draft, dated as of such interest payment date, drawn by the Paying Agent/Registrar on, and payable solely from, funds of the County required by the order authorizing the issuance of this Bond (the "Bond Order") to be on deposit with the Paying Agent/Registrar for such purpose as hereinafter provided; and such check or draft shall be sent by the Paying Agent/Registrar by United States mail, first-class postage prepaid, on each such interest payment date, to the Registered Owner hereof, at its address as it appeared on the close of business as of the last day of the month preceding each such date (the "Record Date") on the Register kept by the Paying Agent/Registrar (the "Register"). In addition, interest may be paid by such other method, acceptable to the Paying Agent/Registrar, requested by, and at the risk and expense of, the Registered Owner. In the event of a non-payment of interest on a scheduled payment date, and for 30 days thereafter, a new record date for such interest payment (a "Special Record Date") will be established by the Paying Agent/Registrar, if and when funds for the payment of such interest have been received from the County. Notice of the Special Record Date and of the scheduled payment date of the past due interest (which shall be 15 days after the Special Record Date) shall be sent at least five Business Days prior to the Special Record Date by United States mail, first-class postage prepaid, to the address of each owner of a Bond appearing on the Register at the close of business on the last Business Day next preceding the date of mailing of such notice.

DURING ANY PERIOD in which ownership of the Bonds is determined only by a book entry at a securities depository for the Bonds, if fewer than all of the Bonds of the same maturity and bearing the same interest rate are to be redeemed, the particular Bonds of such maturity and bearing such interest rate shall be selected in accordance with the arrangements between the County and the securities depository.

ANY ACCRUED INTEREST due at maturity as provided herein or upon the redemption of this Bond prior to maturity shall be paid to the Registered Owner upon presentation and surrender of this Bond for payment at the Designated Payment/Transfer Office of the Paying Agent/Registrar. The County covenants with the Registered Owner of this Bond that on or before each principal payment date, interest payment date and accrued interest payment date for this Bond it will make available to the Paying Agent/Registrar, from the "Interest and Sinking Fund" created by the Bond Order, the amounts required to provide for the payment, in immediately available funds, of all principal of and interest on the Bonds, when due.

FORM OF FIRST PARAGRAPHS OF PREMIUM COMPOUND INTEREST BONDS

NO. R-	UNITED STATES OF AMERICA STATE OF TEXAS WILLIAMSON COUNTY	MATURITY AMOUNT $_____

WILLIAMSON COUNTY, TEXAS
UNLIMITED TAX ROAD BONDS,
SERIES _____ *

INTEREST RATE	ISSUANCE DATE	DATE OF BONDS	MATURITY DATE

REGISTERED OWNER:

MATURITY AMOUNT: **DOLLARS**

ON THE MATURITY DATE specified above, **WILLIAMSON COUNTY, TEXAS** (the "County"), being a political subdivision of the State of Texas, hereby promises to pay to the Registered Owner set forth above, or registered assigns (hereinafter called the "Registered Owner") the principal amount set forth above representing the principal amount hereof and accrued and compounded interest hereon. Interest shall accrue on the principal amount hereof from the Issuance Date at the interest rate per annum specified above, calculated on the basis of a 360 day year comprised of twelve 30 day months, compounded semiannually on _____* and _____* of each year commencing _____, 20___*. For convenience of reference a table of the "Accreted Value" per $5,000 Maturity Amount is printed on the reverse side of this Bond. The term "Accreted Value" as set forth in the table on the reverse side hereof shall mean the original principal amount plus initial premium per $5,000 Maturity Amount compounded semiannually on _____* and _____* at the yield shown on such table.

THE MATURITY AMOUNT of this Bond is payable in lawful money of the United States of America, without exchange or collection charges. The Maturity Amount of this Bond shall be paid to the Registered Owner hereof upon presentation and surrender of this Bond at maturity, at the designated office for payment of BOKF, NA dba Bank of Texas, which is the "Paying Agent/Registrar" for this Bond, and shall be drawn by the Paying Agent/Registrar on, and solely from, funds of the County required by the order authorizing the issuance of the Bonds (the "Bond Order") to be on deposit with the Paying Agent/Registrar for such purpose as hereinafter provided, payable to the Registered Owner hereof, as it appears on the Register kept by the Paying Agent/Registrar, as hereinafter described. The County covenants with the Registered Owner of this Bond that on or before the Maturity Date for this Bond it will make

*As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

available to the Paying Agent/Registrar, from the "Interest and Sinking Fund" created by the Bond Order, the amounts required to provide for the payment, in immediately available funds of the Maturity Amount, when due. Notwithstanding the foregoing, during any period in which ownership of the Bonds is determined only by a book entry at a securities depository for the Bonds, any payment to the securities depository, or its nominee or registered assigns, shall be made in accordance with existing arrangements between the County and the securities depository.

[FORM OF REMAINDER OF EACH BOND]

IF THE DATE for the payment of the principal of or interest on this Bond shall be a Saturday, Sunday, a legal holiday, or a day on which banking institutions in the county where the principal corporate trust office of the Paying Agent/Registrar is located are authorized by law or executive order to close, then the date for such payment shall be the next succeeding day which is not such a Saturday, Sunday, legal holiday, or day on which banking institutions are authorized to close; and payment on such date shall have the same force and effect as if made on the original date payment was due.

THIS BOND is one of a series of Bonds dated _____*, authorized in accordance with the Constitution and laws of the State of Texas in the principal amount of **$_____*** **[CONSTITUTING $_____ CURRENT INTEREST BONDS AND $_____ PREMIUM COMPOUND INTEREST BONDS]**** **FOR THE PURPOSE OF FUNDING ROAD PROJECTS AS SET FORTH IN PROPOSITION NUMBER 1 AS PROVIDED IN THE PREAMBLE TO THIS ORDER AND PAYING CERTAIN COSTS OF ISSUANCE OF THE BONDS.**

(INSERT REDEMPTION PROVISIONS AS PROVIDED IN THE PRICING CERTIFICATE)

ON _____, or on any date thereafter, the Bonds maturing on and after _____ may be redeemed prior to their scheduled maturities, at the option of the County, with funds derived from any available and lawful source, at a redemption price equal to the principal amount to be redeemed plus accrued interest to the date fixed for redemption as a whole, or from time to time in part, and, if in part, the particular Bonds, or portions thereof, to be redeemed shall be selected and designated by the County and if less than all of a maturity is to be redeemed, the Paying Agent/Registrar shall determine by lot the Bonds, or portions thereof, within such maturity to be redeemed (provided that a portion of a Bond may be redeemed only in integral multiples of $5,000).

**To be included only if Current Interest Bonds and Premium Compound Interest Bonds are both issued and completed as determined in the Pricing Certificate.

[**THE BONDS MATURING ON _____**[*] are subject to mandatory sinking fund redemption by lot prior to maturity in the following amounts, on the following dates and at a price of par plus accrued interest to the redemption date.

Bonds Maturing on _____[*]

Mandatory Redemption Date[*]	Principal Amount[*]
_____†	$_____†

†Final Maturity

THE PRINCIPAL AMOUNT of the Bonds required to be redeemed pursuant to the operation of the mandatory sinking fund redemption provisions shall be reduced, at the option of the County by the principal amount of any Bonds of the stated maturity which, at least 50 days prior to a mandatory redemption date, (1) shall have been acquired by the County at a price not exceeding the principal amount of such Bonds plus accrued interest to the date of purchase thereof, and delivered to the Paying Agent/Registrar for cancellation, (2) shall have been purchased and cancelled by the Paying Agent/Registrar at the request of the County with monies in the Interest and Sinking Fund at a price not exceeding the principal amount of the Bonds plus accrued interest to the date of purchase thereof, or (3) shall have been redeemed pursuant to the optional redemption provisions and not theretofore credited against a mandatory sinking fund redemption requirement.][**]

NO LESS THAN 30 calendar days prior to the date fixed for any optional redemption, the County shall cause the Paying Agent/Registrar to send notice by United States mail, first-class postage prepaid to the Registered Owner of each Bond to be redeemed at its address as it appeared on the Register of the Paying Agent/Registrar at the close of business on the 45th day prior to the redemption date and to major securities depositories, national bond rating agencies and bond information services; provided, however, that the failure to send, mail or receive such notice, or any defect therein or in the sending or mailing thereof, shall not affect the validity or effectiveness of the proceedings for the redemption of any Bonds. By the date fixed for any such redemption due provision shall be made with the Paying Agent/Registrar for the payment of the required redemption price for the Bonds or portions thereof which are to be so redeemed. If due provision for such payment is made, all as provided above, the Bonds or portions thereof which are to be so redeemed thereby automatically shall be treated as redeemed prior to their scheduled maturities, and they shall not bear interest after the date fixed for redemption, and they shall not be regarded as being outstanding except for the right of the Registered Owner to receive the redemption price from the Paying Agent/Registrar out of the funds provided for such payment. If a portion of any Bonds shall be redeemed a substitute Bonds or Bonds having the same maturity date, bearing interest at the same rate, in any denomination or denominations in any

[*]As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

[**]To be included only if certain maturities of Bonds are subject to mandatory sinking fund redemption as determined by the Pricing Officer in the Pricing Certificate.

integral multiple of $5,000, at the written request of the Registered Owner, and in aggregate principal amount equal to the unredeemed portion thereof, will be issued to the Registered Owner upon the surrender thereof for cancellation, at the expense of the County, all as provided in the Bond Order.

WITH RESPECT TO any optional redemption of the Bonds, unless certain prerequisites to such redemption required by the Order have been met and moneys sufficient to pay the principal of and premium, if any, and interest on the Bonds to be redeemed shall have been received by the Paying Agent/Registrar prior to the giving of such notice of redemption, such notice shall state that said redemption may, at the option of the County, be conditional upon the satisfaction of such prerequisites and receipt of such moneys by the Paying Agent/Registrar on or prior to the date fixed for such redemption, or upon any prerequisite set forth in such notice of redemption. If a conditional notice of redemption is given and such prerequisites to the redemption and sufficient moneys are not received, such notice shall be of no force and effect, the County shall not redeem such Bonds and the Paying Agent/Registrar shall give notice, in the manner in which the notice of redemption was given, to the effect that the Bonds have not been redeemed.

ALL BONDS OF THIS SERIES are issuable solely as fully registered Bonds, without interest coupons, in the denomination of any integral multiple of $5,000. As provided in the Bond Order, this Bond, or any unredeemed portion hereof, may, at the request of the Registered Owner or the assignee or assignees hereof, be assigned, transferred and exchanged for a like aggregate principal amount of fully registered Bonds, without interest coupons, payable to the appropriate Registered Owner, assignee or assignees, as the case may be, having the same denomination or denominations in any integral multiple of $5,000 as requested in writing by the appropriate Registered Owner, assignee or assignees, as the case may be, upon surrender of this Bond to the Paying Agent/Registrar for cancellation, all in accordance with the form and procedures set forth in the Bond Order. Among other requirements for such assignment and transfer, this Bond must be presented and surrendered to the Paying Agent/Registrar, together with proper instruments of assignment, in form and with guarantee of signatures satisfactory to the Paying Agent/Registrar, evidencing assignment of this Bond or any portion or portions hereof in any integral multiple of $5,000 to the assignee or assignees in whose name or names this Bond or any such portion or portions hereof is or are to be registered. The form of Assignment printed or endorsed on this Bond may be executed by the Registered Owner to evidence the assignment hereof, but such method is not exclusive, and other instruments of assignment satisfactory to the Paying Agent/Registrar may be used to evidence the assignment of this Bond or any portion or portions hereof from time to time by the Registered Owner. The Paying Agent/Registrar's reasonable standard or customary fees and charges for assigning, transferring, converting and exchanging any Bond or portion thereof will be paid by the County. In any circumstance, any taxes or governmental charges required to be paid with respect thereto shall be paid by the one requesting such assignment, transfer, conversion or exchange, as a condition precedent to the exercise of such privilege. The Paying Agent/Registrar shall not be required to make any such transfer, conversion, or exchange (i) during the period commencing on the close of business on any Record Date and ending with the opening of business on the next

following principal or interest payment date or (ii) with respect to any Bond or portion thereof called for redemption prior to maturity, within 45 days prior to its redemption date; provided, however, such limitation of transfer shall not be applicable to an exchange by the Registered Owner of the unredeemed balance of the Bond.

WHENEVER the beneficial ownership of this Bond is determined by a book entry at a securities depository for the Bonds, the foregoing requirements of holding, delivering or transferring this Bond shall be modified to require the appropriate person or entity to meet the requirements of the securities depository as to registering or transferring the book entry to produce the same effect.

IN THE EVENT any Paying Agent/Registrar for the Bonds is changed by the County, resigns, or otherwise ceases to act as such, the County has covenanted in the Bond Order that it promptly will appoint a competent and legally qualified substitute therefor, and cause written notice thereof to be mailed to the Registered Owners of the Bonds.

IT IS HEREBY certified, recited, and covenanted that this Bond has been duly and validly authorized, issued, and delivered; that all acts, conditions, and things required or proper to be performed, exist, and be done precedent to or in the authorization, issuance, and delivery of this Bond have been performed, existed, and been done in accordance with law; and that ad valorem taxes sufficient to provide for the payment of the interest on and principal of this Bond, as such interest comes due, and as such principal matures, have been levied and ordered to be levied against all taxable property in the County, and have been pledged for such payment.

BY BECOMING the Registered Owner of this Bond, the Registered Owner thereby acknowledges all of the terms and provisions of the Bond Order, agrees to be bound by such terms and provisions, acknowledges that the Bond Order is duly recorded and available for inspection in the official minutes and records of the governing body of the County, and agrees that the terms and provisions of this Bond and the Bond Order constitute a contract between each Registered Owner hereof and the County.

IN WITNESS WHEREOF, the County has caused this Bond to be signed with the manual or facsimile signature of the County Judge of the County and countersigned with the manual or facsimile signature of the County Clerk and County Treasurer, and has caused the official seal of the County to be duly impressed, or placed in facsimile, on this Bond.

_____ _____

County Clerk County Judge

_____

County Treasurer

[COUNTY SEAL]

FORM OF PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE

PAYING AGENT/REGISTRAR'S AUTHENTICATION CERTIFICATE
(To be executed if this Bond is not accompanied by an
executed Registration Certificate of the Comptroller
of Public Accounts of the State of Texas)

It is hereby certified that this Bond has been issued under the provisions of the Bond Order described in the text of this Bond; and that this Bond has been issued in replacement of, or in exchange for, a Bond, Bonds, or a portion of a Bond or Bonds of a Series which originally was approved by the Attorney General of the State of Texas and registered by the Comptroller of Public Accounts of the State of Texas.

Dated

BOKF, NA DBA BANK OF TEXAS
Paying Agent/Registrar

By_____
Authorized Representative

FORM OF ASSIGNMENT

ASSIGNMENT

For value received, the undersigned hereby sells, assigns and transfers unto

_____

_____
Please insert Social Security or Taxpayer
Identification Number of Transferee

_____
_____

(Please print or typewrite name and address,
including zip code, of Transferee)

_____

the within Bond and all rights thereunder, and hereby irrevocably constitutes and appoints _____, attorney, to register the transfer of the within Bond on the books kept for registration thereof, with full power of substitution in the premises.

Dated: _____

Signature Guaranteed:

_____

NOTICE: Signature(s) must be guaranteed by a member firm of the New York Stock Exchange or a commercial bank or trust company.

_____

NOTICE: The signature above must correspond with the name of the Registered Owner as it appears upon the front of this Bond in every particular, without alteration or enlargement or any change whatsoever.

FORM OF REGISTRATION CERTIFICATE OF THE COMPTROLLER OF PUBLIC ACCOUNTS:

COMPTROLLER'S REGISTRATION CERTIFICATE: REGISTER NO.

I hereby certify that this Bond has been examined, certified as to validity, and approved by the Attorney General of the State of Texas, and that this Bond has been registered by the Comptroller of Public Accounts of the State of Texas.

Witness my signature and seal this _____.

_____

Comptroller of Public Accounts
of the State of Texas

[COMPTROLLER'S SEAL]

INSERTIONS FOR THE INITIAL CURRENT INTEREST BOND

The Initial Bond for a Current Interest Bond shall be in the form set forth in this Section, except that;

A. immediately under the name of the Current Interest Bond, the headings "INTEREST RATE" and "MATURITY DATE" shall both be completed with the words "As shown below" and "CUSIP NO." shall be deleted.

B. the first paragraph shall be deleted and the following will be inserted:

"ON THE MATURITY DATE SPECIFIED BELOW, Williamson County, Texas (the "County"), being a political subdivision, hereby promises to pay to the Registered Owner specified above, or registered assigns (hereinafter called the "Registered Owner"), on February 15 in each of the years, in the principal installments and bearing interest at the per annum rates set forth in the following schedule:

Years	Principal Installments	Interest Rates

(Information from Pricing Certificate to be inserted)

The County promises to pay interest on the unpaid principal amount hereof (calculated on the basis of a 360-day year of twelve 30-day months) from _____* at the respective Interest Rate per annum specified above. Interest is payable on _____* and semiannually on each August 15 and February 15 thereafter to the date of payment of the principal installment specified above; except, that if this Bond is required to be authenticated and the date of its authentication is later than the first Record Date (hereinafter defined), such principal amount shall bear interest from the interest payment date next preceding the date of authentication, unless such date of authentication is after any Record Date but on or before the next following interest payment date, in which case such principal amount shall bear interest from such next following interest payment date; provided, however, that if on the date of authentication hereof the interest on the Bond or Bonds, if any, for which this Bond is being exchanged is due but has not been paid, then this Bond shall bear interest from the date to which such interest has been paid in full."

C. The Initial Bond for a Current Interest Bond shall be numbered "T-1" and the Initial Bond for a Premium Compound Interest Bond shall be numbered "TPC-1"

Section 6. TAX LEVY. A special Interest and Sinking Fund (the "Interest and Sinking Fund") is hereby created solely for the benefit of the Bonds, and the Interest and Sinking Fund shall be established and maintained by the County at an official depository bank of the County. The Interest and Sinking Fund shall be kept separate and apart from all other funds and accounts of the County, and shall be used only for paying the interest on and principal of the Bonds. All ad valorem taxes levied and collected for and on account of the Bonds shall be deposited, as collected, to the credit of the Interest and Sinking Fund. During each year while

*As provided in the Pricing Certificate. To the extent that the Pricing Certificate relating to the Bonds is inconsistent with any provisions in this Form of Bond or contains information to complete missing information in this Form of Bond, the language in the Pricing Certificate shall be used in the executed Bonds.

any of the Bonds or interest thereon are outstanding and unpaid, the Commissioners Court of the County shall compute and ascertain a rate and amount of ad valorem tax which will be sufficient to raise and produce the money required to pay the interest on the Bonds as such interest comes due, and to provide and maintain a sinking fund adequate to pay the principal of the Bonds as such principal matures; and the tax shall be based on the latest approved tax rolls of the County, with full allowance being made for tax delinquencies and the cost of tax collection. The rate and amount of ad valorem tax is hereby levied, and is hereby ordered to be levied, against all taxable property in the County for each year while any of the Bonds or interest thereon are outstanding and unpaid; and the tax shall be assessed and collected each such year and deposited to the credit of the Interest and Sinking Fund. The ad valorem taxes sufficient to provide for the payment of the interest on and principal of the Bonds, as such interest comes due and such principal matures, are hereby pledged for such payment. Any accrued interest shall be deposited in the Interest and Sinking Fund.

Section 7. DISPOSITION OF PROCEEDS. Proceeds from the sale of the Bonds shall, promptly upon receipt thereof, be applied by the Pricing Officer as follows:

(i) any underwriting discount or fees for the Bonds may be retained by and/or wired directly to such parties;

(ii) any accrued interest shall be deposited into the Interest and Sinking Fund; and

(iii) an amount sufficient to pay the remaining costs of issuance of the Bonds and the cost of the projects authorized in Section 1 of this Order.

Any sale proceeds of the Bonds remaining after making all deposits and payments provided for above shall be deposited into the Interest and Sinking Account and applied to the payment of and interest on the Current Interest Bonds and Maturity Amounts in the case of Premium Compound Interest Bond.

Accrued Interest and Premium. Any accrued interest on the Bonds shall be deposited in the Interest and Sinking Fund. Any premium on the Bonds shall be deposited as provided in the Pricing Certificate.

Interest Earnings. Interest earnings derived from the investment of proceeds from the sale of the Bonds shall be used along with the Bond proceeds for the purpose for which the Bonds are issued as set forth in Section 1 hereof or to pay principal or interest payments on the Bonds; provided that after completion of such purpose, if any of such interest earnings remain on hand, such interest earnings shall be deposited in the Interest and Sinking Fund. It is further provided, however, that any interest earnings on bond proceeds which are required to be rebated to the United States of America pursuant to Section 11 hereof in order to prevent the Bonds from being arbitrage bonds shall be so rebated and not considered as interest earnings for the purposes of this Section.

Investment of Funds. The County hereby covenants that the proceeds of the sale of the Bonds will be used as soon as practicable for the purposes for which the Bonds are issued. Obligations purchased as an investment of money in any fund shall be deemed to be a part of such fund. Any money in any fund created by this Order may be invested as permitted by the Public Funds Investment Act, as amended.

Security for Funds. All funds created by this Order shall be secured in the manner and to the fullest extent required by law for the security of funds of the County.

Maintenance of Funds. Any funds created pursuant to this Order, other than the Escrow Fund, may be created as separate funds or accounts or as subaccounts of the County's General Fund held by the County's depository, and, as such, not held in separate bank accounts, such treatment shall not constitute a commingling of the monies in such funds or of such funds and the County shall keep full and complete records indicating the monies and investments credited to each such fund.

Perfection. Chapter 1208, Texas Government Code, applies to the issuance of the Bonds and the pledge of the ad valorem taxes granted by the County under this Section, and is therefore valid, effective, and perfected. If Texas law is amended at any time while the Bonds are outstanding and unpaid such that the pledge of the ad valorem taxes granted by the County under this Section is to be subject to the filing requirements of Chapter 9, Business and Commerce Code, then in order to preserve to the Owners of the Bonds the perfection of the security interest in said pledge, the County agrees to take such measures as it determines are reasonable and necessary under Texas law to comply with the applicable provisions of Chapter 9, Business and Commerce Code and enable a filing to perfect the security interest in said pledge to occur.

Appropriation of Available Funds. There is hereby appropriated from funds of the County lawfully available for such purpose a sum sufficient to pay the interest and/or principal to become due on the Bonds prior to receipt of applicable tax receipts.

Section 8. DEFEASANCE OF BONDS. (a) Any Bond and the interest thereon shall be deemed to be paid, retired and no longer outstanding (a "Defeased Bond") within the meaning of this Order, except to the extent provided in subsections (c) and (e) of this Section, when payment of the principal of such Bond, plus interest thereon to the due date or dates (whether such due date or dates be by reason of maturity, upon redemption, or otherwise) either (i) shall have been made or caused to be made in accordance with the terms thereof (including the giving of any required notice of redemption) or (ii) shall have been provided for on or before such due date by irrevocably depositing with or making available to the Paying Agent/Registrar or an eligible trust company or commercial bank for such payment (1) lawful money of the United States of America sufficient to make such payment, (2) Defeasance Securities, certified by an independent public accounting firm of national reputation to mature as to principal and interest in such amounts and at such times as will ensure the availability, without reinvestment, of sufficient money to provide for such payment and when proper arrangements have been made

by the County with the Paying Agent/Registrar or commercial bank or trust company for the payment of its services until all Defeased Bonds shall have become due and payable or (3) any combination of (1) and (2). At such time as a Bond shall be deemed to be a Defeased Bond hereunder, as aforesaid, such Bond and the interest thereon shall no longer be secured by, payable from, or entitled to the benefits of, the ad valorem taxes herein levied as provided in this Order, and such principal and interest shall be payable solely from such money or Defeasance Securities.

(b) The deposit under clause (ii) of subsection (a) shall be deemed a payment of a Bond as aforesaid when proper notice of redemption of such Bonds shall have been given, in accordance with this Order. Any money so deposited with the Paying Agent/Registrar or commercial bank or trust company as provided in this Section may at the discretion of the Commissioners Court also be invested in Defeasance Securities, maturing in the amounts and at the times as hereinbefore set forth, and all income from all Defeasance Securities in possession of the Paying Agent/Registrar or an eligible trust company or commercial bank pursuant to this Section which is not required for the payment of such Bond and premium, if any, and interest thereon with respect to which such money has been so deposited, shall be turned over to the Commissioners Court.

(c) Notwithstanding any provision of any other Section of this Order which may be contrary to the provisions of this Section, all money or Defeasance Securities set aside and held in trust pursuant to the provisions of this Section for the payment of principal of the Bonds and premium, if any, and interest thereon, shall be applied to and used solely for the payment of the particular Bonds and premium, if any, and interest thereon, with respect to which such money or Defeasance Securities have been so set aside in trust. Until all Defeased Bonds shall have become due and payable, the Paying Agent/Registrar shall perform the services of Paying Agent/Registrar for such Defeased Bonds the same as if they had not been defeased, and the County shall make proper arrangements to provide and pay for such services as required by this Order.

(d) Notwithstanding anything elsewhere in this Order, if money or Defeasance Securities have been deposited or set aside with the Paying Agent/Registrar or an eligible trust company or commercial bank pursuant to this Section for the payment of Bonds and such Bonds shall not have in fact been actually paid in full, no amendment of the provisions of this Section shall be made without the consent of the registered owner of each Bond affected thereby.

(e) Notwithstanding the provisions of subsection (a) immediately above, to the extent that, upon the defeasance of any Defeased Bond to be paid at its maturity, the County retains the right under Texas law to later call that Defeased Bond for redemption in accordance with the provisions of the Order authorizing its issuance, the County may call such Defeased Bond for redemption upon complying with the provisions of Texas law and upon the satisfaction of the provisions of subsection (a) immediately above with respect to such Defeased Bond as though it was being defeased at the time of the exercise of the option to redeem the Defeased Bond and the effect of the redemption is taken into account in determining the sufficiency of the provisions made for the payment of the Defeased Bond.

Section 9. DAMAGED, MUTILATED, LOST, STOLEN, OR DESTROYED BONDS. (a) Replacement Bonds. In the event any outstanding Bond is damaged, mutilated, lost, stolen, or destroyed, the Paying Agent/Registrar shall cause to be printed, executed, and delivered, a new Bond of the same principal amount, maturity, and interest rate, as the damaged, mutilated, lost, stolen, or destroyed Bond, in replacement for such Bond in the manner hereinafter provided.

(b) Application for Replacement Bonds. Application for replacement of damaged, mutilated, lost, stolen, or destroyed Bonds shall be made by the Registered Owner thereof to the Paying Agent/Registrar. In every case of loss, theft, or destruction of a Bond, the Registered Owner applying for a replacement bond shall furnish to the County and to the Paying Agent/Registrar such security or indemnity as may be required by them to save each of them harmless from any loss or damage with respect thereto. Also, in every case of loss, theft, or destruction of a Bond, the Registered Owner shall furnish to the County and to the Paying Agent/Registrar evidence to their satisfaction of the loss, theft, or destruction of such Bond, as the case may be. In every case of damage or mutilation of a Bond, the Registered Owner shall surrender to the Paying Agent/Registrar for cancellation the Bond so damaged or mutilated.

(c) No Default Occurred. Notwithstanding the foregoing provisions of this Section, in the event any such Bond shall have matured, and no default has occurred which is then continuing in the payment of the principal of, redemption premium, if any, or interest on the Bond, the County may authorize the payment of the same (without surrender thereof except in the case of a damaged or mutilated Bond) instead of issuing a replacement Bond, provided security or indemnity is furnished as above provided in this Section.

(d) Charge for Issuing Replacement Bonds. Prior to the issuance of any replacement Bond, the Paying Agent/Registrar shall charge the Registered Owner of such Bond with all legal, printing, and other expenses in connection therewith. Every replacement Bond issued pursuant to the provisions of this Section by virtue of the fact that any Bond is lost, stolen, or destroyed shall constitute a contractual obligation of the County whether or not the lost, stolen, or destroyed Bond shall be found at any time, or be enforceable by anyone, and shall be entitled to all the benefits of this Order equally and proportionately with any and all other Bonds duly issued under this Order.

(e) Authority for Issuing Replacement Bonds. In accordance with Subchapter D of Texas Government Code, Chapter 1201, this Section 9 shall constitute authority for the issuance of any such replacement Bond without necessity of further action by the governing body of the County or any other body or person, and the duty of the replacement of such Bonds is hereby authorized and imposed upon the Paying Agent/Registrar, and the Paying Agent/Registrar shall authenticate and deliver such Bonds in the form and manner and with the effect, as provided in Section 4(a) of this Order for Bonds issued in conversion and exchange for other Bonds.

Section 10. CUSTODY, APPROVAL, AND REGISTRATION OF BONDS; BOND COUNSEL'S OPINION; CUSIP NUMBERS AND CONTINGENT INSURANCE PROVISION, IF OBTAINED. The County Judge is hereby authorized to have control of the Bonds initially issued and delivered hereunder and all necessary records and proceedings pertaining to the Bonds pending their delivery and their investigation, examination, and approval by the Attorney General of the State of Texas, and their registration by the Comptroller of Public Accounts of the State of Texas. Upon registration of the Bonds the Comptroller of Public Accounts (or a deputy designated in writing to act for the Comptroller) shall manually sign the Comptroller's Registration Certificate attached to such Bonds, and the seal of the Comptroller shall be impressed, or placed in facsimile, on such Certificate. The approving legal opinion of the County's Bond Counsel and the assigned CUSIP numbers may, at the option of the County, be printed on the Bonds issued and delivered under this Order, but neither shall have any legal effect, and shall be solely for the convenience and information of the Registered Owners of the Bonds. In addition, if bond insurance or other credit enhancement is obtained, the Bonds may bear an appropriate legend.

Section 11. COVENANTS REGARDING TAX EXEMPTION OF INTEREST ON THE TAX EXEMPT BONDS. (a) Covenants. The County covenants to take any action necessary to assure, or refrain from any action which would adversely affect, the treatment of the Tax Exempt Bonds as obligations described in section 103 of the Internal Revenue Code of 1986, as amended (the "Code"), the interest on which is not includable in the "gross income" of the holder for purposes of federal income taxation. In furtherance thereof, the County covenants as follows:

(1) to take any action to assure that no more than 10 percent of the proceeds of the Tax Exempt Bonds or the projects financed or refinanced therewith (less amounts deposited to a reserve fund, if any) are used for any "private business use," as defined in section 141(b)(6) of the Code or, if more than 10 percent of the proceeds of the Tax Exempt Bonds or the projects financed therewith are so used, such amounts, whether or not received by the County, with respect to such private business use, do not, under the terms of this Order or any underlying arrangement, directly or indirectly, secure or provide for the payment of more than 10 percent of the debt service on the Bonds, in contravention of section 141(b)(2) of the Code;

(2) to take any action to assure that in the event that the "private business use" described in subsection (1) hereof exceeds 5 percent of the proceeds of the Tax Exempt Bonds projects financed or refinanced therewith (less amounts deposited into a reserve fund, if any) then the amount in excess of 5 percent is used for a "private business use" which is "related" and not "disproportionate," within the meaning of section 141(b)(3) of the Code, to the governmental use;

(3) to take any action to assure that no amount which is greater than the lesser of $5,000,000, or 5 percent of the proceeds of the Tax Exempt Bonds (less amounts deposited into a reserve fund, if any) is directly or indirectly used to finance loans to

persons, other than state or local governmental units, in contravention of section 141(c) of the Code;

(4) to refrain from taking any action which would otherwise result in the Tax Exempt Bonds being treated as "private activity bonds" within the meaning of section 141(b) of the Code;

(5) to refrain from taking any action that would result in the Tax Exempt Bonds being "federally guaranteed" within the meaning of section 149(b) of the Code;

(6) to refrain from using any portion of the proceeds of the Tax Exempt Bonds, directly or indirectly, to acquire or to replace funds which were used, directly or indirectly, to acquire investment property (as defined in section 148(b)(2) of the Code) which produces a materially higher yield over the term of the Tax Exempt Bonds, other than investment property acquired with –

(A) proceeds of the Tax Exempt Bonds invested for a reasonable temporary period of 3 years or less or, in the case of a refunding bond, for a period of 30 days or less until such proceeds are needed for the purpose for which the bonds are issued,

(B) amounts invested in a bona fide debt service fund, within the meaning of section l.148-1(b) of the Treasury Regulations, and

(C) amounts deposited in any reasonably required reserve or replacement fund to the extent such amounts do not exceed 10 percent of the proceeds of the Tax Exempt Bonds;

(7) to otherwise restrict the use of the proceeds of the Tax Exempt Bonds or amounts treated as proceeds of the Tax Exempt Bonds, as may be necessary, so that the Tax Exempt Bonds do not otherwise contravene the requirements of section 148 of the Code (relating to arbitrage) and, to the extent applicable, section 149(d) of the Code (relating to advance refundings); and

(8) to pay to the United States of America at least once during each five-year period (beginning on the date of delivery of the Tax Exempt Bonds) an amount that is at least equal to 90 percent of the "Excess Earnings," within the meaning of section 148(f) of the Code and to pay to the United States of America, not later than 60 days after the Tax Exempt Bonds have been paid in full, 100 percent of the amount then required to be paid as a result of Excess Earnings under section 148(f) of the Code.

(b) Rebate Fund. In order to facilitate compliance with the above covenant (8), a "Rebate Fund" is hereby established by the County for the sole benefit of the United States of America, and such fund shall not be subject to the claim of any other person, including without limitation

the bondholders. The Rebate Fund is established for the additional purpose of compliance with section 148 of the Code.

(c) Proceeds. The County understands that the term "proceeds" includes "disposition proceeds" as defined in the Treasury Regulations and, in the case of refunding bonds, transferred proceeds (if any) and proceeds of the refunded bonds expended prior to the date of issuance of the Tax Exempt Bonds. It is the understanding of the County that the covenants contained herein are intended to assure compliance with the Code and any regulations or rulings promulgated by the U.S. Department of the Treasury pursuant thereto. In the event that regulations or rulings are hereafter promulgated which modify or expand provisions of the Code, as applicable to the Tax Exempt Bonds, the County will not be required to comply with any covenant contained herein to the extent that such failure to comply, in the opinion of nationally recognized bond counsel, will not adversely affect the exemption from federal income taxation of interest on the Bonds under section 103 of the Code. In the event that regulations or rulings are hereafter promulgated which impose additional requirements which are applicable to the Tax Exempt Bonds, the County agrees to comply with the additional requirements to the extent necessary, in the opinion of nationally recognized bond counsel, to preserve the exemption from federal income taxation of interest on the Tax Exempt Bonds under section 103 of the Code. In furtherance of such intention, the County hereby authorizes and directs the County Auditor to execute any documents, certificates or reports required by the Code and to make such elections, on behalf of the County, which may be permitted by the Code as are consistent with the purpose for the issuance of the Tax Exempt Bonds. This Order is intended to satisfy the official intent requirements set forth in Section 1.150-2 of the Treasury Regulations.

(d) Disposition of Project. The County covenants that the property constituting the Project will not be sold or otherwise disposed in a transaction resulting in the receipt by the County of cash or other compensation, unless the County obtains an opinion of nationally-recognized bond counsel that such sale or other disposition will not adversely affect the tax-exempt status of the Tax Exempt Bonds. For purposes of the foregoing, the portion of the property comprising personal property and disposed in the ordinary course shall not be treated as a transaction resulting in the receipt of cash or other compensation. For purposes hereof, the County shall not be obligated to comply with this covenant if it obtains an opinion that such failure to comply will not adversely affect the excludability for federal income tax purposes from gross income of the interest.

(e) Allocation Of, and Limitation On, Expenditures for Project. The County covenants to account for the expenditure of sale proceeds and investment earnings to be used for the purposes described in Section 1 of this Order on its books and records by allocating proceeds to expenditures within 18 months of the later of the date that (i) the expenditure is made, or (ii) the purposes for which the Bonds are issued have been accomplished. The foregoing notwithstanding, the County shall not expend sale proceeds or investment earnings thereon more than 60 days after the earlier of (i) the fifth anniversary of the delivery of the Tax Exempt Bonds, or (ii) the date the Tax Exempt Bonds are retired, unless the County obtains an opinion of nationally-recognized bond counsel that such expenditure will not adversely affect the tax-

exempt status of the Tax Exempt Bonds. For purposes hereof, the County shall not be obligated to comply with this covenant if it obtains an opinion that such failure to comply will not adversely affect the excludability for federal income tax purposes from gross income of the interest.

Section 12. **REMEDIES IN EVENT OF DEFAULT**. In addition to all of the rights and remedies provided by the laws of the State of Texas, the County covenants and agrees that in the event of default in payment of principal or interest on any of the Bonds when due, or defaults in the observance or performance of any other of the contracts, covenants, conditions or obligations set forth in this Order or in the Bonds, the following remedies shall be available:

(a) the Registered Owners shall be entitled to a writ of mandamus issued by a court of competent jurisdiction compelling and requiring the County and officials thereof to observe and perform the contracts, covenants, obligations or conditions prescribed in this Order; and

(b) any delay or omission to exercise any right or power accruing upon any default shall not impair any such right or power nor be construed to be a waiver of any such default or acquiescence therein, and every such right and power may be exercised from time to time and as often as may be deemed expedient.

Section 13. **APPROVAL OF OFFICIAL STATEMENT**. The Pricing Officer is hereby authorized to approve and deem final the Preliminary Official Statement, the Official Statement relating to the Bonds and any addenda, supplement or amendment thereto, and to deem such documents final in accordance with Rule 15c2-12. The County further approves the distribution of such Official Statement in the reoffering of the Bonds, with such changes therein or additions thereto as the Pricing Officer executing the same may deem advisable, such determination to be conclusively evidenced by his execution thereof.

ection 14. **APPROVAL OF PAYING AGENT/REGISTRAR AGREEMENT**. One or more Paying Agent/Registrar Agreements by and between the County and BOKF, NA dba Bank of Texas, ("Paying Agent Agreement") in substantially the form and substance previously approved by the County is hereby approved and the Pricing Officer is hereby authorized and directed to complete, amend, modify and execute the Paying Agent Agreement, as necessary.

Section 15. **CONTINUING DISCLOSURE UNDERTAKING.** (a) Annual Reports. The County shall provide annually to the MSRB, (1) within six months after the end of each fiscal year of the County ending in or after 2016, financial information and operating data with respect to the County of the general type included in the final official statement authorized by Section 13 of this Order, being the information as determined by the Pricing Officer at the time the Certificates are sold, including financial statements of the County if audited financial statements of the County are then available, and (2) if not provided as part of such financial information and operating data, audited financial statements of the County, when and if

available. The Pricing Certificate shall specify the financial information and operating data to be provided. Any financial statements to be provided shall be (i) prepared in accordance with the accounting principles described in Exhibit "A" hereto as may be modified in the Pricing Certificate, or such other accounting principles as the County may be required to employ from time to time pursuant to state law or regulation, and in substantially the form included in the official statement, and (ii) audited, if the County commissions an audit of such financial statements and the audit is completed within the period during which they must be provided. If the audit of such financial statements is not complete within 12 months after any such fiscal year end, then the County shall file unaudited financial statements within such 12-month period and audited financial statements for the applicable fiscal year, when and if the audit report on such statements becomes available.

If the County changes its fiscal year, it will notify the MSRB of the change (and of the date of the new fiscal year end) prior to the next date by which the County otherwise would be required to provide financial information and operating data pursuant to this Section.

The financial information and operating data to be provided pursuant to this Section may be set forth in full in one or more documents or may be included by specific reference to any document that is available to the public on the MSRB's internet web site or filed with the SEC. All documents provided to the MSRB pursuant to this Section shall be accompanied by identifying information as prescribed by the MSRB.

(b) Event Notices. The County shall notify the MSRB, in an electronic format as prescribed by the MSRB, in a timely manner not in excess of ten business days after the occurrence of the event, of any of the following events with respect to the Bonds:

A. Principal and interest payment delinquencies;

B. Non-payment related defaults, if material within the meaning of the federal securities laws;

C. Unscheduled draws on debt service reserves reflecting financial difficulties;

D. Unscheduled draws on credit enhancements reflecting financial difficulties;

E. Substitution of credit or liquidity providers, or their failure to perform;

F. Adverse tax opinions, the issuance by the Internal Revenue Service of proposed or final determinations of taxability, Notices of Proposed Issue (IRS Form 5701–TEB) or other material notices or determinations with respect to the tax-exempt status of the Bonds, or other events affecting the tax-exempt status of the Bonds

G. Modifications to rights of holders of the Bonds, if material within the meaning of the federal securities laws;

H. Bond calls, if material within the meaning of the federal securities laws and tender offers;

I. Defeasances;

J. Release, substitution, or sale of property securing repayment of the Bonds, if material within the meaning of the federal securities laws;

K. Rating changes;

L. Bankruptcy, insolvency, receivership or similar event of the County;

M. The consummation of a merger, consolidation, or acquisition involving the County or the sale of all or substantially all of the assets of the County, other than in the ordinary course of business, the entry into a definitive agreement to undertake such an action or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms, if material within the meaning of the federal securities laws; and

N. Appointment of a successor or additional trustee or the change of name of a trustee, if material within the meaning of the federal securities laws.

The County shall notify the MSRB, in an electronic format as prescribed by the MSRB, in a timely manner, of any failure by the County to provide financial information or operating data in accordance with subsection (a) of this Section by the time required by such subsection. All documents provided to the MSRB pursuant to this Section shall be accompanied by identifying information as prescribed by the MSRB.

(c) Limitations, Disclaimers, and Amendments. The County shall be obligated to observe and perform the covenants specified in this Section for so long as, but only for so long as, the County remains an "obligated person" with respect to the Bonds within the meaning of the Rule, except that the County in any event will give notice of any deposit made in accordance with Section 8 of this Order that causes the Bonds no longer to be outstanding.

The provisions of this Section are for the sole benefit of the holders and beneficial owners of the Bonds, and nothing in this Section, express or implied, shall give any benefit or any legal or equitable right, remedy, or claim hereunder to any other person. The County undertakes to provide only the financial information, operating data, financial statements, and notices which it has expressly agreed to provide pursuant to this Section and does not hereby undertake to provide any other information that may be relevant or material to a complete

presentation of the City's financial results, condition, or prospects or hereby undertake to update any information provided in accordance with this Section or otherwise, except as expressly provided herein. The County does not make any representation or warranty concerning such information or its usefulness to a decision to invest in or sell Bonds at any future date.

UNDER NO CIRCUMSTANCES SHALL THE COUNTY BE LIABLE TO THE HOLDER OR BENEFICIAL OWNER OF ANY CERTIFICATE OR ANY OTHER PERSON, IN CONTRACT OR TORT, FOR DAMAGES RESULTING IN WHOLE OR IN PART FROM ANY BREACH BY THE COUNTY, WHETHER NEGLIGENT OR WITHOUT FAULT ON ITS PART, OF ANY COVENANT SPECIFIED IN THIS SECTION, BUT EVERY RIGHT AND REMEDY OF ANY SUCH PERSON, IN CONTRACT OR TORT, FOR OR ON ACCOUNT OF ANY SUCH BREACH SHALL BE LIMITED TO AN ACTION FOR *MANDAMUS* OR SPECIFIC PERFORMANCE.

No default by the County in observing or performing its obligations under this Section shall comprise a breach of or default under this Order for purposes of any other provision of this Order.

Should the Rule be amended to obligate the County to make filings with or provide notices to entities other than the MSRB, the County hereby agrees to undertake such obligation with respect to the Bonds in accordance with the Rule as amended.

Nothing in this Section is intended or shall act to disclaim, waive, or otherwise limit the duties of the County under federal and state securities laws.

The provisions of this Section may be amended by the County from time to time to adapt to changed circumstances that arise from a change in legal requirements, a change in law, or a change in the identity, nature, status, or type of operations of the County, but only if (1) the provisions of this Section, as so amended, would have permitted an underwriter to purchase or sell Bonds in the primary offering of the Bonds in compliance with the Rule, taking into account any amendments or interpretations of the Rule since such offering as well as such changed circumstances and (2) either (a) the holders of a majority in aggregate principal amount (or any greater amount required by any other provision of this Order that authorizes such an amendment) of the outstanding Bonds consents to such amendment or (b) a person that is unaffiliated with the County (such as nationally recognized bond counsel) determines that such amendment will not materially impair the interest of the holders and beneficial owners of the Bonds. If the County so amends the provisions of this Section, it shall include with any amended financial information or operating data next provided in accordance with paragraph (a) of this Section an explanation, in narrative form, of the reason for the amendment and of the impact of any change in the type of financial information or operating data so provided. The County may also amend or repeal the provisions of this continuing disclosure agreement if the SEC amends or repeals the applicable provision of the Rule or a court of final jurisdiction enters judgment that such provisions of the Rule are invalid, but only if and to the extent that the provisions of this sentence would not

prevent an underwriter from lawfully purchasing or selling Bonds in the primary offering of the Bonds.

Section 16. AMENDMENT OF ORDER. The County hereby reserves the right to amend this Order subject to the following terms and conditions, to-wit:

(a) The County may from time to time, without the consent of any holder, except as otherwise required by paragraph (b) below, amend or supplement this Order in order to (i) cure any ambiguity, defect or omission in this Order that does not materially adversely affect the interests of the holders, (ii) grant additional rights or security for the benefit of the holders, (iii) add events of default as shall not be inconsistent with the provisions of this Order and that shall not materially adversely affect the interests of the holders, (iv) qualify this Order under the Trust Indenture Act of 1939, as amended, or corresponding provisions of federal laws from time to time in effect, or (v) make such other provisions in regard to matters or questions arising under this Order as shall not be inconsistent with the provisions of this Order and that shall not in the opinion of the County's Bond Counsel materially adversely affect the interests of the holders.

(b) Except as provided in paragraph (a) above, the holders of Bonds aggregating in principal amount 51% of the aggregate principal amount of then Outstanding Bonds that are the subject of a proposed amendment shall have the right from time to time to approve any amendment hereto that may be deemed necessary or desirable by the County; provided, however, that without the consent of 100% of the holders in aggregate principal amount of the then Outstanding Bonds, nothing herein contained shall permit or be construed to permit amendment of the terms and conditions of this Order or in any of the Bonds so as to:

(1) Make any change in the maturity of any of the Outstanding Bonds;

(2) Reduce the rate of interest borne by any of the Outstanding Bonds;

(3) Reduce the amount of the principal of, or redemption premium, if any, payable on any Outstanding Bonds;

(4) Modify the terms of payment of principal or of interest or redemption premium on Outstanding Bonds or any of them or impose any condition with respect to such payment; or

(5) Change the minimum percentage of the principal amount of any series of Bonds necessary for consent to such amendment.

(c) If at any time the County shall desire to amend this Order under this Section, the County shall send by U.S. mail to each registered owner of the affected Bonds a copy of the proposed amendment and cause notice of the proposed amendment to be published at least once in a financial publication published in The City of New York, New York or in the State of Texas. Such published notice shall briefly set forth the nature of the proposed amendment and shall state

that a copy thereof is on file at the office of the County for inspection by all holders of such Bonds.

(d) Whenever at any time within one year from the date of publication of such notice the County shall receive an instrument or instruments executed by the holders of at least 51% in aggregate principal amount of all of the Bonds then Outstanding that are required for the amendment, which instrument or instruments shall refer to the proposed amendment and that shall specifically consent to and approve such amendment, the County may adopt the amendment in substantially the same form.

(e) Upon the adoption of any amendatory Order pursuant to the provisions of this Section, this Order shall be deemed to be modified and amended in accordance with such amendatory Order, and the respective rights, duties, and obligations of the County and all holders of such affected Bonds shall thereafter be determined, exercised, and enforced, subject in all respects to such amendment.

(f) Any consent given by the holder of a Bond pursuant to the provisions of this Section shall be irrevocable for a period of six months from the date of the publication of the notice provided for in this Section, and shall be conclusive and binding upon all future holders of the same Bond during such period. Such consent may be revoked at any time after six months from the date of the publication of said notice by the holder who gave such consent, or by a successor in title, by filing notice with the County, but such revocation shall not be effective if the holders of 51% in aggregate principal amount of the affected Bonds then Outstanding, have, prior to the attempted revocation, consented to and approved the amendment.

Section 17. NO RECOURSE AGAINST COUNTY OFFICIALS. No recourse shall be had for the payment of principal of or interest on the Bonds or for any claim based thereon or on this Order against any official of the County or any person executing any Bonds.

Section 18. FURTHER ACTIONS. The officers and employees of the County are hereby authorized, empowered and directed from time to time and at any time to do and perform all such acts and things and to execute, acknowledge and deliver in the name and under the corporate seal and on behalf of the County all such instruments, whether or not herein mentioned, as may be necessary or desirable in order to carry out the terms and provisions of this Order, the Bonds, the initial sale and delivery of the Bonds, the Paying Agent/Registrar Agreement, the Bond Purchase Agreement, the Escrow Agreement and the Official Statement. In addition, prior to the initial delivery of the Bonds, the County Judge, the County Clerk, the County Treasurer, the Financial Advisor, the County Attorney, and Bond Counsel are hereby authorized and directed to approve any changes or corrections to this Order or to any of the instruments authorized and approved by this Order necessary in order to (i) correct any ambiguity or mistake or properly or more completely document the transactions contemplated and approved by this Order and as described in the Official Statement or (ii) obtain the approval of the Bonds by the Texas Attorney General's office.

In case any officer of the County whose signature shall appear on any Bond shall cease to be such officer before the delivery of such Bond, such signature shall nevertheless be valid and sufficient for all purposes the same as if such officer had remained in office until such delivery.

Section 19. NONPRESENTMENT OF BONDS. If any Bond shall not be presented for payment when the principal thereof becomes due, either at maturity or otherwise, or if the Maturity Amounts of Premium Compound Interest Bond become due, if moneys sufficient to pay such Bond shall have been deposited with the Paying Agent/Registrar, it shall be the duty of the Paying Agent/Registrar to hold such moneys, without liability to the County, any Owner, or any other person for interest thereon, for the benefit of the Owner of such Bond.

Any moneys so deposited with and held by the Paying Agent/Registrar due to nonpresentment of Bonds must be retained by the Paying Agent/Registrar for a period of at least two years after the final maturity date of the Bonds or advance refunding date, if applicable. Thereafter, to the extent permitted by the unclaimed property laws of the State, such amounts shall be paid by the Paying Agent/Registrar to the County, free from the trusts created by this Order and Owners shall be entitled to look only to the County for payment, and then only to the extent of the amount so repaid by the Paying Agent/Registrar.

Section 20. EFFECT OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS. Whenever this Order requires any action to be taken on a Saturday, Sunday, or legal holiday, such action shall be taken on the first business day occurring thereafter. Whenever in this Order the time within which any action is required to be taken or within which any right will lapse or expire shall terminate on a Saturday, Sunday, or legal holiday, such time shall continue to run until midnight on the next succeeding business day.

Section 21. PARTIAL INVALIDITY. If any one or more of the covenants or agreements or portions thereof provided in this Order on the part of the County should be determined by a court of competent jurisdiction to be contrary to law, then such covenant or covenants, or such agreement or agreements, or such portions thereof, shall be deemed severable from the remaining covenants and agreements or portions thereof provided in this Order and the invalidity thereof shall in no way affect the validity of the other provisions of this Order or of the Bonds, but the Owners of the Bonds shall retain all the rights and benefits accorded to them hereunder and under any applicable provisions of law.

Section 22. BOND INSURANCE. (a) Purchase of Insurance. In connection with the sale of the Bonds, the County may obtain municipal bond insurance policies from one or more Bond Insurers to guarantee the full and complete payment required to be made by or on behalf of the County on some or all of the Bonds as determined by the Pricing Officer. The Pricing Officer is hereby authorized to sign a commitment letter with a Bond Insurer and to pay the premium for the bond insurance policies at the time of the delivery of the Bonds out of the proceeds of sale of the Bonds or from other available funds and to execute such other documents and certificates as necessary in connection with the bond insurance policies as he or she may deem appropriate. Printing on Bonds covered by the bond insurance policies a statement

describing such insurance, in form and substance satisfactory to a Bond Insurer and the Pricing Officer, is hereby approved and authorized. The Pricing Certificate may contain provisions related to the bond insurance policies, including payment provisions thereunder, and the rights of a Bond Insurer, and any such provisions shall be read and interpreted as an integral part of this Order.

(b) Rights of Bond Insurer(s). As long as a Bond Insurer is not in default on the related bond insurance policy for the Bonds or in bankruptcy, the Bond Insurer shall be deemed to be the sole Owner of such Bonds insured by it for all purposes of this Order or the Master Order.

Section 23. CREDIT AGREEMENT. To the extent permitted by law, the County reserves the right to enter into Credit Agreements in connection with the Bonds, upon the written opinion of the County Auditor that such Credit Agreements are in the best interest of the County given the market conditions at the time.

Section 24. INTERPRETATIONS. All terms defined herein and all pronouns used in this Order shall be deemed to apply equally to singular and plural and to all genders. The titles and headings of the articles and sections of this Order have been inserted for convenience of reference only and are not to be considered a part hereof and shall not in any way modify or restrict any of the terms or provisions hereof. This Order and all the terms and provisions hereof shall be liberally construed to effectuate the purposes set forth herein and to sustain the validity of the Bonds and the validity of the lien on and pledge to secure the payment of the Bonds.

Section 25. INCONSISTENT PROVISIONS. All orders or resolutions, or parts thereof, which are in conflict or inconsistent with any provisions of this Order are hereby repealed to the extent of such conflict and the provisions of this Order shall be and remain controlling as to the matters contained herein.

Section 26. INTERESTED PARTIES. Nothing in this Order expressed or implied is intended or shall be construed to confer upon, or to give to, any person or entity, other than the County and the registered owners of the Bonds, any right, remedy or claim under or by reason of this Order or any covenant, condition or stipulation hereof, and all covenants, stipulations, promises and agreements in this Order contained by and on behalf of the County shall be for the sole and exclusive benefit of the County and the registered owners of the Bonds.

Section 27. SEVERABILITY. The provisions of this Order are severable; and in case any one or more of the provisions of this Order or the application thereof to any person or circumstance should be held to be invalid, unconstitutional, or ineffective as to any person or circumstance, the remainder of this Order nevertheless shall be valid, and the application of any such invalid provision to persons or circumstances other than those as to which it is held invalid shall not be affected thereby.

Section 28. REPEALER. All orders and resolutions, or parts thereof, inconsistent herewith are hereby repealed to the extent of such inconsistency.

Section 29. NO PERSONAL LIABILITY. No covenant or agreement contained in the Bonds, this Order or any corollary instrument shall be deemed to be the covenant or agreement of any member of the Commissioners Court or any officer, agent, employee or representative of the County in his individual capacity, and neither the Commissioners Court, directors, members, officers, agents, employees or representatives of the County nor any person executing the Bonds shall be personally liable thereon or be subject to any personal liability for damages or otherwise or accountability by reason of the issuance thereof, or any actions taken or duties performed in relation to the issuance of the Bonds, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any assessment or penalty, or otherwise, all such liability being expressly released and waived as a condition of and in consideration for the issuance of the Bonds.

Section 30. PAYMENT OF ATTORNEY GENERAL FEE. The County hereby authorizes the disbursement of a fee equal to the lesser of (i) one-tenth of one percent of the principal amount of the Bonds or (ii) $9,500, per Series provided that such fee shall not be less than $750, to the Attorney General of Texas Public Finance Division for payment of the examination fee charged by the State of Texas for the Attorney General's review and approval of public securities and credit agreements, as required by Section 1202.004 of the Texas Government Code. The appropriate member of the County's staff is hereby instructed to take the necessary measures to make this payment. The County is also authorized to reimburse the appropriate County funds for such payment from proceeds of the Bonds.

EXHIBIT A

DESCRIPTION OF ANNUAL FINANCIAL INFORMATION

Accounting Principles

The accounting principles of the County relating to funds and account groups will conform to generally accepted accounting principles (GAAP) as applied to governmental entities.

Commissioners Court - Regular Session **18.**

Meeting Date: 03/07/2017

Presentation

Submitted For: Dan Gattis **Submitted By:** Connie Watson, County Judge

Department: County Judge

Agenda Category: Regular Agenda Items

Information

Agenda Item

Presentation to reveal the updated www.wilco.org website.

Background

Over the last year or so Technology Services, along with the Public Information Office (PIO), has redesigned the official Williamson County website. The site was last updated in 2011.The new site features a flat design, highlighting the County's most frequently accessed pages, and is responsive to mobile devices. The new design will go live this week.
The redesign process focused on the following goals:
Responsive Web design.
Expand and improve security.
Navigation integration enhancements.
Style that is consistent with the County's identity.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 08:06 AM
Public Information Office (Originator)	Connie Watson	03/02/2017 11:14 AM
Form Started By: Connie Watson		Started On: 03/01/2017 04:23 PM
Final Approval Date: 03/02/2017		

Commissioners Court - Regular Session **19.**

Meeting Date: 03/07/2017

Website Guidelines

Submitted For: Dan Gattis **Submitted By:** Connie Watson, County Judge

Department: County Judge

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on adoption of the Governance for Posting on and Editing Williamson County Websites document.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Website Editing & Posting Guidelines

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 08:06 AM
Public Information Office (Originator)	Connie Watson	03/02/2017 11:14 AM
Form Started By: Connie Watson		Started On: 03/01/2017 04:30 PM
Final Approval Date: 03/02/2017		

Williamson County

Governance for Posting on and Editing Williamson County Websites

All Williamson County websites are communication tools for sharing information with residents about county government. The responsibility of these sites is shared between the Public Information Office, Technology Services and Elected Officials.

Definitions and Acronyms

Content Management System (CMS) - Application that supports the creation and modification of digital content using a common interface. Wilco.org is created and maintained using a CMS.

Portable Document Format (PDF) - Adobe Acrobat driven document that is cross-platform viewable with a free reader application.

Public Information Office (PIO) - Office within Williamson County that oversees the public appearance of Williamson County government, including wilco.org.

Content Provisioning
New pages are created only when the content does not have a logical place to go. Each new page must fit a specific need with content not already addressed elsewhere.

Environment

- All department, project, and content pages will use designated template (this includes, icons, buttons, menus, fonts, colors, headers, and titles) to maintain a consistent look and feel across the environment.
- Forms Standardization
- Any request for a different template must be approved by the PIO.
- Third party development tools are not supported.

Access and Training

- Department Head or Elected Official must register the web component as an asset through Oracle Self Service Manager to the person they wish to contribute or edit content.
- They must complete Web Content Training

Accessibility
To strive to meet the accessibility standards outlined in Section 508 of the Rehabilitation Act of 1973:

- <marquee>, <blink> elements will not be used, nor any other type of blinking, scrolling, fast moving text features
- ALL Images MUST have relevant <alt> and <title> tags
- Text should not be added to pages as an image, if there is an image posted and the text is relevant to the user for comprehension the text needs to be in the Long Description <longdesc> of the image. You can ask the Primary Website Administrator for assistance with this if you need it.
- Form elements will have associated <label> or <title> tags

Subject Matter
Content (including published links) shall not contain inappropriate subject matter, including but not limited to:

- Gambling, alcohol, tobacco, or illegal drugs
- Hate, bias, discrimination, pornography, adult/sexually oriented
- Political agenda regarding organizations, causes, or candidates
- Websites that charge fees for products or services online
- Websites that lobby, advocate, or advance the policies and priorities of a particular industry, organization, or enterprise.
- All Images used on Williamson County websites must have been created by Williamson County personnel, bought by Williamson County or licensed by Williamson County. No copyrighted images will be allowed to be used unless it meets the prior criteria.
- Postings must be spell-checked and grammar-checked before posting.
- Any resource that is otherwise deemed inappropriate for use on Williamson County websites.

Security

- Content dependent on plug-ins with noted security vulnerabilities are not allowed on wilco.org. This is including but not limited to Adobe Shockwave/Flash.
- Section 508 compatible PDFs are to be used in lieu of .doc, .docx, .xls, .xlsx, and other word processing native files.
- Any request to utilize scripting or style sheets will be approved and implemented by the Williamson County Website Administrator.
- All content is considered property of Williamson County and should adhere to Internet and Computer Usage Policies.

Sensitive Information
Williamson County websites are anonymously, publicly accessed sites. Sensitive and protected data as defined by the TS Security Policy (available on the County Intranet portal), shall not posted on or collected by Williamson County websites. This includes page content, images, PDFs, surveys, online forms, and all other file formats. If there is a need for dissemination of protected or sensitive data to the public, contact the Primary Website Administrator. A consultation will be setup to determine the best course of action.

Conduct
Williamson County Employees managing content on Williamson County websites are direct representatives of Williamson County. They are expected to conduct themselves in a professional business manner. Malicious intent and gross misuse of Williamson County websites will result in removal of access.
Williamson County department administrators and contributors that violate the policies and procedures set forth in this document may be subject to:

- Notification to their Department Head / Elected Official
- Suspension of Administrator / Contributor access
- Notification to Human Resources
- Legal action

Commissioners Court - Regular Session **20.**

Meeting Date: 03/07/2017

Discuss consider and take appropriate action on the Department of Infrastructure projects and issues update

Submitted For: Robert Daigh **Submitted By:** Lydia Linden, Unified Road System

Department: Unified Road System

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on the Department of Infrastructure projects and issues update.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/22/2017 02:09 PM
Form Started By: Lydia Linden		Started On: 02/17/2017 09:55 AM
Final Approval Date: 02/22/2017		

Commissioners Court - Regular Session **21.**

Meeting Date: 03/07/2017

Brown and Gay Engineers Corridor E1 Contract

Submitted By: Marie Walters, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a contract for Corridor E1 between Williamson County and Brown & Gay, Engineers, Inc. relating to the LTP Corridor Study.

Background

The compensation cap for this contract is $3,000,000.00 with Work Authorization #1 being for $997,356.59 which falls within the approved $4M for FY2017 P456 LTP Corridor Study.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

BGEcontract-CorridorE1

BGE-WA1-CorridorE1

Form Review

Inbox	Reviewed By	Date
Hal Hawes	Hal Hawes	03/02/2017 10:53 AM
County Judge Exec Asst.	Wendy Coco	03/03/2017 04:08 PM
Form Started By: Marie Walters		Started On: 03/01/2017 06:00 PM
Final Approval Date: 03/03/2017		

RECEIVED
FEB 27 2017
BY: PST

WILLIAMSON COUNTY
CONTRACT FOR ENGINEERING SERVICES

FIRM: **Brown & Gay Engineers, Inc. ("Engineer")**
ADDRESS: **7000 N. Mopac, Ste. 330 Austin, Texas 78731**
PROJECT: **Corridor E1 ("Project")**

THE STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

THIS CONTRACT FOR ENGINEERING SERVICES ("Contract") is made and entered into, effective as the date of the last party's execution hereinbelow, by and between Williamson County, Texas, a political subdivision of the State of Texas, whose offices are located at 710 Main Street, Suite 101, Georgetown, Texas, 78626 (hereinafter referred to as "County"), and Engineer, and such Contract is for the purpose of contracting for professional engineering services.

RECITALS:

WHEREAS, V.T.C.A., Government Code §2254.002(2)(A)(vii) under Subchapter A entitled "Professional Services Procurement Act" provides for the procurement by counties of services of professional engineers; and

WHEREAS, County and Engineer desire to contract for such professional engineering services; and

WHEREAS, County and Engineer wish to document their agreement concerning the requirements and respective obligations of the parties;

NOW, THEREFORE, WITNESSETH:

That for and in consideration of the mutual promises contained herein and other good and valuable considerations, and the covenants and agreements hereinafter contained to be kept and performed by the respective parties hereto, it is agreed as follows:

ARTICLE 1
CONTRACT DOCUMENTS AND APPLICABLE PROJECT DOCUMENTS

A. Contract Documents. The Contract Documents consist of this Contract, any exhibits attached hereto (which exhibits are hereby incorporated into and made a part of this Contract), any fully executed Work Authorizations; any fully executed Supplemental Work Authorizations and all fully executed Contract Amendments (as defined herein in Article 14) which are subsequently issued. These form the entire contract, and all are as fully a part of this Contract as if attached to this Contract or repeated herein.

B. Project Documents. In addition to any other pertinent and necessary Project documents, the following documents shall be used in the development of the Project:

A. TxDOT 2011 Texas Manual of Uniform Traffic Control Devices for Streets and Highways, including latest revisions
B. Texas Department of Transportation's Standard Specifications for Construction of Highways, Streets, and Bridges, 2014 (English units)
C. National Environmental Policy Act (NEPA)
D. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, Effective April 4, 1994, including latest revisions
E. Americans with Disabilities Act (ADA) Regulations
F. U.S. Army Corps Regulations
G. International Building Code, current edition as updated
H. Williamson County Design Criteria & Project Development Manual, latest edition
I. Williamson County Multi-Corridor Transportation Plan Project Level Environmental Review and Compliance Protocol, latest edition
J. Williamson County Protocol for Sustainable Roadsides, latest edition
K. TxDOT Bridge Design Manual - LRFD, latest edition
L. TxDOT Geotechnical Manual, latest edition

ARTICLE 2
NON-COLLUSION; DEBARMENT; AND FINANCIAL INTEREST PROHIBITED

A. Non-collusion. Engineer warrants that he/she/it has not employed or retained any company or persons, other than a bona fide employee working solely for Engineer, to solicit or secure this Contract, and that he/she/it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, County reserves and shall have the right to annul this Contract without liability or, in its discretion and at its sole election, to deduct from the contract price or compensation, or to otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

B. Debarment Certification. Engineer must sign the Debarment Certification

enclosed herewith as **Exhibit A**.

C. **Financial Interest Prohibited.** Engineer covenants and represents that Engineer, his/her/its officers, employees, agents, consultants and subcontractors will have no financial interest, direct or indirect, in the purchase or sale of any product, materials or equipment that will be recommended or required for the construction of the Project.

ARTICLE 3
ENGINEERING SERVICES

Engineer shall perform Engineering Services as identified in **Exhibit B** entitled "Engineering Services."

County will prepare and issue Work Authorizations, in substantially the same form identified and attached hereto as **Exhibit C** and entitled "Work Authorization No. ____", to authorize the Engineer to perform one or more tasks of the Engineering Services. Each Work Authorization will include a description of the work to be performed, a description of the tasks and milestones, a work schedule for the tasks, definite review times by County and Engineer of all Engineering Services and a fee amount agreed upon by the County and Engineer. The amount payable for a Work Authorization shall be supported by the estimated cost of each work task as described in the Work Authorization. The Work Authorization will not waive the Engineer's responsibilities and obligations established in this Contract. The executed Work Authorizations shall become part of this Contract.

All work must be completed on or before the date specified in the Work Authorization. The Engineer shall promptly notify the County of any event which will affect completion of the Work Authorization, although such notification shall not relieve the Engineer from costs or liabilities resulting from delays in completion of the Work Authorization. Should the review times or Engineering Services take longer than shown on the Work Authorization, through no fault of Engineer, Engineer may submit a timely written request for additional time, which shall be subject to the approval of the County. Any changes in a Work Authorization shall be enacted by a written Supplemental Work Authorization before additional costs may be incurred. Any Supplemental Work Authorization must be executed by both parties within the period specified in the Work Authorization.

ARTICLE 4
CONTRACT TERM

A. **Term.** The Engineer is expected to complete the Engineering Services described herein in accordance with the above described Work Authorizations or any Supplemental Work Authorization related thereto. If Engineer does not perform the Engineering Services in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall have the right to terminate this Contract as set forth below in Article 20. So long as the County elects not to terminate this Contract, it shall continue from day to day until such time as the Engineering Services are completed in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto. Any Engineering Services performed or

costs incurred after the date of termination shall not be eligible for reimbursement. Engineer shall notify County in writing as soon as possible if he/she/it determines, or reasonably anticipates, that the Engineering Services will not be completed in accordance with an applicable Work Authorization or any Supplemental Work Authorization related thereto.

B. Work Authorizations. Engineer acknowledges that each Work Authorization is of critical importance, and agrees to undertake all reasonably necessary efforts to expedite the performance of Engineering Services required herein so that construction of the Project will be commenced and completed as scheduled. In this regard, and subject to adjustments in a particular Work Authorization, as provided in Article 3 herein, Engineer shall proceed with sufficient qualified personnel and consultants necessary to fully and timely accomplish all Engineering Services required under this Contract in a professional manner.

C. Commencement of Engineering Services. After execution of this Contract, Engineer shall not proceed with Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and has been notified in writing by the County to proceed, as provided in Article 8.

ARTICLE 5
COMPENSATION AND EXPENSES

County shall pay and Engineer agrees to accept up to the amount shown below as full compensation for the Engineering Services performed and to be performed under this Contract. The basis of compensation for the services of principals and employees engaged in the performance of the Engineering Services shall be based on the Rate Schedule set forth in the attached **Exhibit D**.

OK ✓

The maximum amount payable under this Contract, without modification, is **Three Million** **Dollars ($3,000,000)** (the "Compensation Cap"), provided that any amounts paid or payable shall be solely pursuant to a validly issued Work Authorization or any Supplemental Work Authorization related thereto. In no event may the aggregate amount of compensation authorized under Work Authorizations and Supplemental Work Authorizations exceed the Compensation Cap. The Compensation Cap shall be revised equitably only by written Contract Amendments executed by both parties in the event of a change the overall scope of the Engineering Services set forth in **Exhibit B**, as authorized by County.

The Compensation Cap is based upon all labor and non-labor costs estimated to be required in the performance of the Engineering Services provided for under this Contract. Should the actual costs of all labor and non-labor costs rendered under this Contract be less than the above stated Compensation Cap, then Engineer shall receive compensation for only actual fees and costs of the Engineering Services actually rendered and incurred, which may be less than the above stated Compensation Cap.

The Compensation Cap herein referenced may be adjusted for Additional Engineering Services requested and performed only if approved by a written Contract Amendment signed by both parties.

Engineer shall prepare and submit to County monthly progress reports in sufficient detail to support the progress of the Engineering Services and to support invoices requesting monthly payment. The format for such monthly progress reports and invoices must be in a format acceptable to County. Satisfactory progress of Engineering Services shall be an absolute condition of payment.

Engineer shall be reimbursed for actual non-labor and subcontract expenses incurred in the performance of the services under this Contract in accordance with the Williamson County Vendor Reimbursement Policy set forth under **Exhibit E**. Invoices requesting reimbursement for costs and expenditures related to the Project (reimbursables) must be accompanied by copies of the provider's invoice and comply with the Williamson County Vendor Reimbursement Policy. The copies of the provider's invoice must evidence the actual costs billed to Engineer without mark-up.

ARTICLE 6
METHOD OF PAYMENT

Payments to Engineer shall be made while Engineering Services are in progress. A monthly progress report, as referenced in Article 5 above (in a form acceptable to the County), shall be submitted to Williamson County Department of Infrastructure, to the attention of the Sr. Director of Infrastructure. Such progress report shall provide a summary of the work accomplished during the billing period for each Work Authorization task with an estimated percentage of completion for the task.

Simultaneous with submission of such progress report, Engineer shall prepare and submit one (1) original of a certified invoice to the Director of Road & Bridge in a form acceptable to the County Auditor. All invoices submitted to County must, at a minimum, be accompanied by an original complete packet of supporting documentation and time sheets detailing hours worked by staff persons with a description of the work performed by such persons. For Additional Engineering Services performed pursuant to this Contract, a separate invoice or itemization of the Additional Engineering Services must be presented with the same aforementioned requirements.

Payments shall be made by County based upon Engineering Services actually provided and performed.[a] Upon timely receipt and approval of each statement, County shall make a good faith effort to pay the amount which is due and payable within thirty (30) days of the County Auditor's receipt. County reserves the right to reasonably withhold payment pending verification of satisfactory Engineering Services performed. Engineer has the responsibility to submit proof to County, adequate and sufficient in its determination, that tasks of an applicable Work Authorization or any Supplemental Work Authorization related thereto were completed.

The certified statements shall show the total amount earned to the date of submission and shall show the amount due and payable as of the date of the current statement. Final payment does not relieve Engineer of the responsibility of correcting any errors and/or omissions resulting from his/her/its negligence.

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[a] *See also,* Art. 32(P) "Termination of Work Authorization".

Upon submittal of the initial invoice, Engineer shall provide the County Auditor with an Internal Revenue Form W-9, Request for Taxpayer Identification Number and Certification that is complete in compliance with the Internal Revenue Code, its rules and regulations.

ARTICLE 7
PROMPT PAYMENT POLICY

In accordance with Chapter 2251, V.T.C.A., Texas Government Code, payment to Engineer will be made within thirty (30) days of the day on which the performance of services was complete, or within thirty (30) days of the day on which the County Auditor receives a correct invoice for services, whichever is later.

Engineer may charge a late fee (fee shall not be greater than that which is permitted by Texas law) for payments not made in accordance with this prompt payment policy; however, this policy does not apply in the event:

A. There is a bona fide dispute between County and Engineer concerning the supplies, materials, or equipment delivered or the services performed that causes the payment to be late; or

B. The terms of a federal contract, grant, regulation, or statute prevent County from making a timely payment with federal funds; or

C. There is a bona fide dispute between Engineer and a subcontractor/subconsultant or between a subcontractor/subconsultant and its supplier concerning supplies, materials, or equipment delivered or the Engineering Services performed which causes the payment to be late; or

D. The invoice is not submitted to Williamson County[b] in strict accordance with instructions, if any, on the purchase order, or this Contract or other such contractual agreement.

The County Auditor shall document to Engineer the issues related to disputed invoices within ten (10) calendar days of receipt of such invoice. Any non-disputed invoices shall be considered correct and payable per the terms of Chapter 2251, V.T.C.A., Texas Government Code.

ARTICLE 8
COMMENCEMENT OF ENGINEERING SERVICES

The Engineer shall not proceed with any task of the Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and instructed, in writing by the County, to proceed with the applicable Engineering Services. The County shall not be responsible for work performed or costs incurred by Engineer related to any task for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties. Engineer shall not be required to perform any work for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties.

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[b] *See* Art. 6, *supra.*

ARTICLE 9
PROJECT TEAM

County's Designated Representative for purposes of this Contract is as follows:

Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

County shall have the right, from time to time, to change the County's Designated Representative by giving Engineer written notice thereof. With respect to any action, decision or determination which is to be taken or made by County under this Contract, the County's Designated Representative may take such action or make such decision or determination or shall notify Engineer in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the County's Designated Representative on behalf of County shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the County's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the County's Designated Representative shall be binding on County; *provided, however,* the County's Designated Representative shall not have any right to modify, amend or terminate this Contract, an Executed Work Authorization, an executed Supplemental Work Authorization or executed Contract Amendment. County's Designated Representative shall not have any authority to execute a Contract Amendment, Work Authorization or any Supplemental Work Authorization unless otherwise granted such authority by the Williamson County Commissioners Court.

Engineer's Designated Representative for purposes of this Contract is as follows:

Wesley E. Jasek, P.E.
Director of Transportation Systems
7000 N. Mopac, Ste. 330
Austin, Texas 78731

Engineer shall have the right, from time to time, to change the Engineer's Designated Representative by giving County written notice thereof. With respect to any action, decision or determination which is to be taken or made by Engineer under this Contract, the Engineer's Designated Representative may take such action or make such decision or determination or shall notify County in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the Engineer's Designated Representative on behalf of Engineer shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the Engineer's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by

the Engineer's Designated Representative shall be binding on Engineer. Engineer's Designated Representative shall have the right to modify, amend and execute Work Authorizations, Supplemental Work Authorizations and Contract Amendments on behalf of Engineer.

ARTICLE 10
PROGRESS EVALUATION

Engineer shall, from time to time during the progress of the Engineering Services, confer with County at County's election. Engineer shall prepare and present such information as may be pertinent and necessary, or as may be reasonably requested by County, in order for County to evaluate features of the Engineering Services. At the request of County or Engineer, conferences shall be provided at Engineer's office, the offices of County, or at other locations designated by County. When requested by County, such conferences shall also include evaluation of the Engineering Services. County may, from time to time, require Engineer to appear and provide information to the Williamson County Commissioners Court.

Should County determine that the progress in Engineering Services does not satisfy an applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall review same with Engineer to determine corrective action required.

Engineer shall promptly advise County in writing of events which have or may have a significant impact upon the progress of the Engineering Services, including but not limited to the following:

A. Problems, delays, adverse conditions which may materially affect the ability to meet the objectives of an applicable Work Authorization or any Supplemental Work Authorization related thereto, or preclude the attainment of Project Engineering Services units by established time periods; and such disclosure shall be accompanied by statement of actions taken or contemplated, and County assistance needed to resolve the situation, if any; and

B. Favorable developments or events which enable meeting goals sooner than anticipated in relation to an applicable Work Authorization's or any Supplemental Work Authorization related thereto.

ARTICLE 11
SUSPENSION

Should County desire to suspend the Engineering Services, but not to terminate this Contract, then such suspension may be effected by County giving Engineer thirty (30) calendar days' verbal notification followed by written confirmation to that effect. Such thirty-day notice may be waived in writing by agreement and signature of both parties. The Engineering Services may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from County to resume the Engineering Services. Such sixty-day (60) notice may be waived in writing by agreement and signature of both parties. If this Contract is suspended for more than thirty (30) days, Engineer shall have the option of terminating this Contract and, in the event, Engineer shall be compensated for all Engineering Services performed and reimbursable expenses incurred, provided such Engineering Services and reimbursable expenses have been previously authorized and approved by County, to the effective date of suspension.

If County suspends the Engineering Services, the contract period as determined in Article 4, and the Work Authorization or any Supplemental Work Authorization related thereto, shall be extended for a time period equal to the suspension period.

County assumes no liability for Engineering Services performed or costs incurred prior to the date authorized by County for Engineer to begin Engineering Services, and/or during periods when Engineering Services is suspended, and/or subsequent to the completion date.

ARTICLE 12
ADDITIONAL ENGINEERING SERVICES

If Engineer forms a reasonable opinion that any work he/she/it has been directed to perform is beyond the overall scope of this Contract, as set forth in **Exhibit B,** and as such constitutes extra work ("Additional Engineering Services"), he/she/it shall promptly notify County in writing. In the event County finds that such work does constitute Additional Engineering Services, County shall so advise Engineer and a written Contract Amendment will be executed between the parties as provided in Article 14. Any increase to the Compensation Cap due to Additional Engineering Services must be set forth in such Contract Amendment. Engineer shall not perform any proposed Additional Engineering Services nor incur any additional costs prior to the execution, by both parties, of a written Contract Amendment. Following the execution of a Contract Amendment that provides for Additional Engineering Services, a written Work Authorization, which sets forth the Additional Engineering Services to be performed, must be executed by the parties. County shall not be responsible for actions by Engineer nor for any costs incurred by Engineer relating to Additional Engineering Services not directly associated with the performance of the Engineering Services authorized in this Contract, by a fully executed Work Authorization or a fully executed Contract Amendment thereto.

ARTICLE 13
CHANGES IN COMPLETED ENGINEERING SERVICES

If County deems it necessary to request changes to previously satisfactorily completed

Engineering Services or parts thereof which involve changes to the original Engineering Services or character of Engineering Services under this Contract, then Engineer shall make such revisions as requested and as directed by County. Such revisions shall be considered as Additional Engineering Services and paid for as specified under Article 12.

Engineer shall make revisions to Engineering Services authorized hereunder as are necessary to correct errors appearing therein, when required to do so by County. No additional compensation shall be due for such Engineering Services.

ARTICLE 14
CONTRACT AMENDMENTS

The terms set out in this Contract may be modified by a written fully executed Contract Amendment. Changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization. To the extent that such changes or modifications to a Work Authorization do not also require modifications to the terms of this Contract (i.e. changes to the overall scope of Engineering Services set forth in **Exhibit B**, modification of the Compensation Cap, etc.) a Contract Amendment will not be required.

ARTICLE 15
USE OF DOCUMENTS

All documents, including but not limited to drawings, specifications and data or programs stored electronically, (hereinafter referred to as "Engineering Work Products") prepared by Engineer and its subcontractors/subconsultants are related exclusively to the services described in this Contract and are intended to be used with respect to this Project. However, it is expressly understood and agreed by and between the parties hereto that all of Engineer's designs under this Contract (including but not limited to tracings, drawings, estimates, specifications, investigations, studies and other documents, completed or partially completed), shall be the property of County to be thereafter used in any lawful manner as County elects. Any such subsequent use made of documents by County shall be at County's sole risk and without liability to Engineer.

By execution of this Contract and in confirmation of the fee for services to be paid under this Contract, Engineer hereby conveys, transfers and assigns to County all rights under the Federal Copyright Act of 1976 (or any successor copyright statute), as amended, all common law copyrights and all other intellectual property rights acknowledged by law in the Project Designs and work product developed under this Contract. Copies may be retained by Engineer. Engineer shall be liable to County for any loss or damage to any such documents while they are in the possession of or while being worked upon by Engineer or anyone connected with Engineer, including agents, employees, Engineers or subcontractors/subconsultants. All documents so lost or damaged shall be replaced or restored by Engineer without cost to County.

Upon execution of this Contract, Engineer grants to County permission to reproduce Engineer's work and documents for purposes of constructing, using and maintaining the Project, provided that County shall comply with its obligations, including prompt payment of all sums when due, under this Contract. Engineer shall obtain similar permission from Engineer's

subcontractors/subconsultants consistent with this Contract. If and upon the date Engineer is adjudged in default of this Contract, County is permitted to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the work and documents for the purposes of completing, using and maintaining the Project.

County shall not assign, delegate, sublicense, pledge or otherwise transfer any permission granted herein to another party without the prior written consent of Engineer. However, County shall be permitted to authorize the contractor, subcontractors and material or equipment suppliers to reproduce applicable portions of the Engineering Work Products appropriate to and for use in the execution of the Work. Submission or distribution of Engineering Work Products to meet official regulatory requirements or for similar purposes in connection with the Project is permitted. Any unauthorized use of the Engineering Work Products shall be at County's sole risk and without liability to Engineer and its Engineers.

Prior to Engineer providing to County any Engineering Work Products in electronic form or County providing to Engineer any electronic data for incorporation into the Engineering Work Products, County and Engineer shall by separate written contract set forth the specific conditions governing the format of such Engineering Work Products or electronic data, including any special limitations not otherwise provided in this Contract. Any electronic files are provided by Engineer for the convenience of County, and use of them is at County's sole risk. In the case of any defects in electronic files or any discrepancies between them and any hardcopy of the same documents prepared by Engineer, the hardcopy shall prevail. Only printed copies of documents conveyed by Engineer shall be relied upon.

Engineer shall have no liability for changes made to the drawings by other engineers subsequent to the completion of the Project. Any such change shall be sealed by the engineer making that change and shall be appropriately marked to reflect what was changed or modified.

ARTICLE 16
PERSONNEL, EQUIPMENT AND MATERIAL

Engineer shall furnish and maintain, at its own expense, quarters for the performance of all Engineering Services, and adequate and sufficient personnel and equipment to perform the Engineering Services as required. All employees of Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Engineer who, in the reasonable opinion of County, is incompetent or whose conduct becomes detrimental to the Engineering Services shall immediately be removed from association with the Project when so instructed by County. Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the Engineering Services required under this Contract, or will obtain such personnel from sources other than County. Engineer may not change the Project Manager without prior written consent of County.

ARTICLE 17
SUBCONTRACTING

Engineer shall not assign, subcontract or transfer any portion of the Engineering Services under this Contract without prior written approval from County. All subcontracts shall include the provisions required in this Contract. No subcontract shall relieve Engineer of any responsibilities under this Contract.

ARTICLE 18
REVIEW OF ENGINEERING SERVICES

Engineer's Engineering Services will be reviewed by County under its applicable technical requirements and procedures.

A. Completion. Reports, plans, specifications, and supporting documents shall be submitted by Engineer on or before the dates specified in the applicable Work Authorization or Supplemental Work Authorization related thereto. Upon receipt of same, the submission shall be checked for completion. "Completion" or "Complete" shall be defined as all of the required items, as set out in the applicable Work Authorization, have been included in compliance with the requirements of this Contract. The completeness of any Engineering Services submitted to County shall be determined by County within thirty (30) days of such submittal and County shall notify Engineer in writing within such thirty (30) day period if such Engineering Services have been found to be incomplete. If the submission is Complete, County shall notify Engineer and County's technical review process will begin.

If the submission is not Complete, County shall notify Engineer, who shall perform such professional services as are required to complete the Engineering Services and resubmit it to County. This process shall be repeated until a submission is Complete.

B. Acceptance. County shall review the completed Engineering Services for compliance with this Contract. If necessary, the completed Engineering Services shall be returned to Engineer, who shall perform any required Engineering Services and resubmit it to County. This process shall be repeated until the Engineering Services are Accepted. "Acceptance" or "Accepted" shall mean that in the County's reasonable opinion, substantial compliance with the requirements of this Contract has been achieved.

C. Final Approval. After Acceptance, Engineer shall perform any required modifications, changes, alterations, corrections, redesigns, and additional work necessary to receive Final Approval by the County. "Final Approval" in this sense shall mean formal recognition that the Engineering Services have been fully carried out.

D. Errors and Omissions. After Final Approval, Engineer shall, without additional compensation, perform any work required as a result of Engineer's development of the work which is found to be in error or omission due to Engineer's negligence. However, any work required or occasioned for the convenience of County after Final Approval shall be paid for as Additional Engineering Services.

E. Disputes Over Classifications. In the event of any dispute over the classification of Engineer's Engineering Services as Complete, Accepted, or having attained Final Approved under this Contract, the decision of the County shall be final and binding on Engineer, subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

F. County's Reliance on Engineer. ENGINEER'S DUTIES AS SET FORTH HEREIN SHALL AT NO TIME BE IN ANY WAY DIMINISHED BY REASON OF ANY REVIEW, EVALUATION OR APPROVAL BY THE COUNTY NOR SHALL THE ENGINEER BE RELEASED FROM ANY LIABILITY BY REASON OF SUCH REVIEW, EVALUATION OR APPROVAL BY THE COUNTY, IT BEING UNDERSTOOD THAT THE COUNTY AT ALL TIMES IS ULTIMATELY RELYING UPON THE ENGINEER'S SKILL, ABILITY AND KNOWLEDGE IN PERFORMING THE ENGINEERING SERVICES REQUIRED HEREUNDER.

ARTICLE 19
VIOLATION OF CONTRACT TERMS/BREACH OF CONTRACT

Violation of contract terms or breach of contract by Engineer shall be grounds for termination of this Contract, and any increased costs arising from Engineer's default, breach of contract, or violation of contract terms shall be paid by Engineer.

ARTICLE 20
TERMINATION

This Contract may be terminated as set forth below.

- **A.** By mutual agreement and consent, in writing, of both parties.
- **B.** By County, by notice in writing to Engineer, as a consequence of failure by Engineer to perform the Engineering Services set forth herein in a satisfactory manner.
- **C.** By either party, upon the failure of the other party to fulfill its obligations as set forth herein.
- **D.** By County, for reasons of its own and not subject to the mutual consent of Engineer, upon not less than thirty (30) days' written notice to Engineer.
- **E.** By satisfactory completion of all Engineering Services and obligations described herein.

Should County terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination plus reimbursable expenses incurred shall thereafter be paid to Engineer. In determining the value of the Engineering Services performed by Engineer prior to termination, County shall be the sole judge. Compensation for Engineering Services at termination will be based on a percentage of the Engineering Services completed at that time. Should County terminate this Contract under Subsection (D) immediately above, then the amount charged during the thirty-day notice period shall not exceed the amount charged during the preceding thirty (30) days.

If Engineer defaults in the performance of this Contract or if County terminates this Contract for fault on the part of Engineer, then County shall give consideration to the actual costs incurred by Engineer in performing the Engineering Services to the date of default, the amount of Engineering Services required which was satisfactorily completed to date of default, the value of the Engineering Services which are usable to County, the cost to County of employing another firm to complete the Engineering Services required and the time required to do so, and other factors which affect the value to County of the Engineering Services performed at the time of default.

The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of County under this Contract. If the termination of this Contract is due to the failure of Engineer to fulfill his/her/its contractual obligations, then County may take over the Project and prosecute the Engineering Services to completion. In such case, Engineer shall be liable to County for any additional and reasonable costs incurred by County.

Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurements made by Engineer in support of the Engineering Services under this Contract.

ARTICLE 21
COMPLIANCE WITH LAWS

A. Compliance. Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including without limitation, minimum/maximum salary and wage statutes and regulations, and licensing laws and regulations. Engineer shall furnish County with satisfactory proof of his/her/its compliance.

Engineer shall further obtain all permits and licenses required in the performance of the Engineering Services contracted for herein.

B. Taxes. Engineer will pay all taxes, if any, required by law arising by virtue of the Engineering Services performed hereunder. County is qualified for exemption pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise, and Use Tax Act.

ARTICLE 22
INDEMNIFICATION

ENGINEER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM AN NEGLIGENT ACT OR OMISSION, NEGLIGENCE, OR INTENTIONAL TORT COMMITTED BY ENGINEER,

ENGINEER'S EMPLOYEES, AGENTS, OR ANY OTHER PERSON OR ENTITY UNDER CONTRACT WITH ENGINEER INCLUDING, WITHOUT LIMITATION, ENGINEER'S SUBCONSULTANTS, OR ANY OTHER ENTITY OVER WHICH ENGINEER EXERCISES CONTROL.

ENGINEER FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM ENGINEER'S FAILURE TO PAY ENGINEER'S EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY ENGINEER.

ENGINEER FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM THE INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY ENGINEER IN THE PERFORMANCE OF THIS CONTRACT.

THE LIMITS OF INSURANCE REQUIRED IN THIS CONTRACT AND/OR THE CONTRACT DOCUMENTS SHALL NOT LIMIT ENGINEER'S OBLIGATIONS UNDER THIS SECTION. THE TERMS AND CONDITIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THE CONTRACT AND/OR CONTRACT DOCUMENTS OR THE SUSPENSION OF THE WORK HEREUNDER. TO THE EXTENT THAT ANY LIABILITIES, PENALTIES, DEMANDS, CLAIMS, LAWSUITS, LOSSES, DAMAGES, COSTS AND EXPENSES ARE CAUSED IN PART BY THE ACTS OF THE COUNTY OR THIRD PARTIES FOR WHOM ENGINEER IS NOT LEGALLY LIABLE, ENGINEER'S OBLIGATIONS SHALL BE IN PROPORTION TO ENGINEER'S FAULT. THE OBLIGATIONS HEREIN SHALL ALSO EXTEND TO ANY ACTIONS BY THE COUNTY TO ENFORCE THIS INDEMNITY OBLIGATION.

IN THE EVENT THAT CONTRACTORS INITIATE LITIGATION AGAINST THE COUNTY IN WHICH THE CONTRACTOR ALLEGES DAMAGES AS A RESULT OF ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, INCLUDING, BUT NOT LIMITED TO, DEFECTS, ERRORS, OR OMISSIONS, THEN THE COUNTY SHALL HAVE THE RIGHT TO JOIN ENGINEER IN ANY SUCH PROCEEDINGS AT THE COUNTY'S COST. ENGINEER SHALL ALSO HOLD THE COUNTY HARMLESS AND INDEMNIFY THE COUNTY TO THE EXTENT THAT ENGINEER, ANY OF ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, CAUSED SUCH DAMAGES TO CONTRACTOR, INCLUDING ANY AND ALL COSTS AND ATTORNEYS' FEES INCURRED BY THE COUNTY IN CONNECTION WITH THE DEFENSE OF ANY CLAIMS WHERE ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, ARE ADJUDICATED AT FAULT.

ARTICLE 23

ENGINEER'S RESPONSIBILITIES

Engineer shall be responsible for the accuracy of his/her/its Engineering Services and shall promptly make necessary revisions or corrections to its work product resulting from errors, omissions, or negligent acts, and same shall be done without compensation. County shall determine Engineer's responsibilities for all questions arising from design errors and/or omissions, subject to the dispute resolution provisions of Article 33. Engineer shall not be relieved of responsibility for subsequent correction of any such errors or omissions in its work product, or for clarification of any ambiguities until after the construction phase of the Project has been completed.

ARTICLE 24
ENGINEER'S SEAL

The responsible engineer shall sign, seal and date all appropriate engineering submissions to County in accordance with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

ARTICLE 25
INSURANCE

Engineer must comply with the following insurance requirements at all times during this Contract:

A. Coverage Limits. Engineer, at Engineer's sole cost, shall purchase and maintain during the entire term while this Contract is in effect the following insurance:

1. Worker's Compensation in accordance with statutory requirements.
2. Commercial General Liability Insurance with a combined minimum Bodily Injury and Property Damage limits of $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.
3. Automobile Liability Insurance for all owned, non-owned, and hired vehicles with combined minimum limits for Bodily Injury and Property Damage limits of $500,000.00 per occurrence and $1,000,000.00 in the aggregate.
4. Professional Liability Errors and Omissions Insurance in the amount of $2,000,000.00 per claim.

B. Additional Insureds; Waiver of Subrogation. County, its directors, officers and employees shall be added as additional insureds under policies listed under (2) and (3) above, and on those policies where County, its directors, officers and employees are additional insureds, such insurance shall be primary and any insurance maintained by County shall be excess and not contribute with it. Such policies shall also include waivers of subrogation in favor of County.

C. Premiums and Deductible. Engineer shall be responsible for payment of premiums for all of the insurance coverages required under this section. Engineer further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all

matters for which the Engineer is responsible hereunder, Engineer shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over $50,000 in the Engineer's insurance must be declared and approved in writing by County in advance.

D. Commencement of Work. Engineer shall not commence any field work under this Contract until he/she/it has obtained all required insurance and such insurance has been approved by County. As further set out below, Engineer shall not allow any subcontractor/subconsultant(s) to commence work to be performed in connection with this Contract until all required insurance has been obtained and approved and such approval shall not be unreasonably withheld. Approval of the insurance by County shall not relieve or decrease the liability of Engineer hereunder.

E. Insurance Company Rating. The required insurance must be written by a company approved to do business in the State or Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued.

F. Certification of Coverage. Engineer shall furnish County with a certification of coverage issued by the insurer. Engineer shall not cause any insurance to be canceled nor permit any insurance to lapse. **In addition to any other notification requires set forth hereunder, Engineer shall also notify County, within twenty-four (24) hours of receipt, of any notices of expiration, cancellation, non-renewal, or material change in coverage it receives from its insurer.**

G. No Arbitration. It is the intention of the County and agreed to and hereby acknowledged by the Engineer, that no provision of this Contract shall be construed to require the County to submit to mandatory arbitration in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder or as may be required by law or a court of law with jurisdiction over the provisions of this Contract.

H. Subcontractor/Subconsultant's Insurance. Without limiting any of the other obligations or liabilities of Engineer, Engineer shall require each subcontractor/subconsultant performing work under this Contract (to the extent a subcontractor/subconsultant is allowed by County) to maintain during the term of this Contract, at the subcontractor/subconsultant's own expense, the same stipulated minimum insurance required in this Article above, including the required provisions and additional policy conditions as shown below in this Article.

Engineer shall obtain and monitor the certificates of insurance from each subcontractor/subconsultant in order to assure compliance with the insurance requirements. Engineer must retain the certificates of insurance for the duration of this Contract, and shall have the responsibility of enforcing these insurance requirements among its subcontractor/subconsultants. County shall be entitled, upon request and without expense, to receive copies of these certificates of insurance.

I. Insurance Policy Endorsements. Each insurance policy shall include the following conditions by endorsement to the policy:

1. County shall be notified thirty (30) days prior to the expiration, cancellation, non-renewal or any material change in coverage, and such notice thereof shall be given to County by certified mail to:

   Williamson County Auditor
   c/o: Pam Navarrette
   710 Main Street, Suite 301
   Georgetown, Texas 78626

   ✓ 2/22/2017

   With copy to: Williamson County Dept. of Infrastructure
   Attn: Director of Road & Bridge
   3151 SE Inner Loop, Suite B
   Georgetown, Texas 78626

2. The policy clause "Other Insurance" shall not apply to any insurance coverage currently held by County, to any such future coverage, or to County's Self-Insured Retentions of whatever nature.

J. Cost of Insurance. The cost of all insurance required herein to be secured and maintained by Engineer shall be borne solely by Engineer, with certificates of insurance evidencing such minimum coverage in force to be filed with County. Such Certificates of Insurance are evidenced as **Exhibit F** herein entitled "Certificates of Insurance."

ARTICLE 26
COPYRIGHTS

County shall have the royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use, any reports developed by Engineer for governmental purposes.

ARTICLE 27
SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and inure to the benefit of the parties hereto, their successors, lawful assigns, and legal representatives. Engineer may not assign, sublet or transfer any interest in this Contract, in whole or in part, by operation of law or otherwise, without obtaining the prior written consent of County.

ARTICLE 28
SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

ARTICLE 29
PRIOR AGREEMENTS SUPERSEDED

This Contract constitutes the sole agreement of the parties hereto, and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein. This Contract may only be amended or supplemented by mutual agreement of the parties hereto in writing.

ARTICLE 30
ENGINEER'S ACCOUNTING RECORDS

Engineer agrees to maintain, for a period of three (3) years after final payment under this Contract, detailed records identifying each individual performing the Engineering Services, the date or dates the services were performed, the applicable hourly rates, the total amount billed for each individual and the total amount billed for all persons, records of reimbursable costs and expenses of other providers and provide such other details as may be requested by the County Auditor for verification purposes. Engineer agrees that County or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any and all books, documents, papers and records of Engineer which are directly pertinent to the services to be performed under this Contract for the purposes of making audits, examinations, excerpts, and transcriptions. Engineer further agrees that County shall have access during normal working hours to all necessary Engineer facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. County shall give Engineer reasonable advance notice of intended audits.

ARTICLE 31
NOTICES

All notices to either party by the other required under this Contract shall be personally delivered or mailed to such party at the following respective addresses:

County: Williamson County Judge
710 Main Street, Suite 101
Georgetown, Texas 78626

OK 2/27/2017

With copy to: Williamson County Dept. of Infrastructure

Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

and to: Office of General Counsel
Williamson County
710 Main Street, Suite 102
Georgetown, Texas 78626

DK 2/2/2017

Engineer: Wesley E. Jasek, P.E.
Director of Transportation Systems
7000 N. Mopac, Ste.330
Austin, Texas 78731

ARTICLE 32
GENERAL PROVISIONS

A. Time is of the Essence. Subject to Article 3 hereof, Engineer understands and agrees that time is of the essence and that any failure of Engineer to complete the Engineering Services for each phase of this Contract within the agreed work schedule set out in the applicable Work Authorization may constitute a material breach of this Contract. Engineer shall be fully responsible for his/her/its delays or for failures to use his/her/its reasonable efforts in accordance with the terms of this Contract and the Engineer's standard of performance as defined herein. Where damage is caused to County due to Engineer's negligent failure to perform County may accordingly withhold, to the extent of such damage, Engineer's payments hereunder without waiver of any of County's additional legal rights or remedies.

B. Force Majeure. Neither County nor Engineer shall be deemed in violation of this Contract if prevented from performing any of their obligations hereunder by reasons for which they are not responsible or circumstances beyond their control. However, notice of such impediment or delay in performance must be timely given, and all reasonable efforts undertaken to mitigate its effects.

C. Enforcement and Venue. This Contract shall be enforceable in Georgetown, Williamson County, Texas, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for same shall lie in Williamson County, Texas. This Contract shall be governed by and construed in accordance with the laws and court decisions of the State of Texas excluding, however, its choice of law rules.

D. Standard of Performance. The standard of care for all professional engineering, consulting and related services performed or furnished by Engineer and its employees under this Contract will be the care and skill ordinarily used by members of Engineer's profession practicing under the same or similar circumstances at the same time and in the same locality.

E. Opinion of Probable Cost. Any opinions of probable Project cost or probable construction cost provided by Engineer are made on the basis of information available to Engineer and on the basis of Engineer's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, Engineer does not guarantee that proposals, bids or actual Project or construction cost will not vary from opinions of probable cost Engineer prepares.

F. Opinions and Determinations. Where the terms of this Contract provide for action to be based upon opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

G. Reports of Accidents. Within 24 hours after Engineer becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Engineer), whether or not it results from or involves any action or failure to act by the Engineer or any employee or agent of the Engineer and which arises in any manner from the performance of this Contract, the Engineer shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Engineer, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Engineer's performance of work under this Contract.

H. Gender, Number and Headings. Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Contract.

I. Construction. Each party hereto acknowledges that it and its counsel have reviewed this Contract and that the normal rules of construction are not applicable and there will be no presumption that any ambiguities will be resolved against the drafting party in the interpretation of this Contract.

J. Independent Contractor Relationship. Both parties hereto, in the performance of this Contract, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

K. No Waiver of Immunities. Nothing in this Contract shall be deemed to waive, modify or amend any legal defense available at law or in equity to County, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United

States.

L. Texas Public Information Act. To the extent, if any, that any provision in this Contract is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that County, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to County as to whether or not the same are available to the public. It is further understood that County's officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

M. Governing Terms and Conditions. If there is an irreconcilable conflict between the terms and conditions set forth in this Contract or any Contract Amendment and the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract, the terms and conditions set forth in this Contract or any Contract Amendment shall control over the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract.

N. Meaning of Day. For purposes of this Contract, all references to a "day" or "days" shall mean a calendar day or calendar days.

O. Appropriation of Funds by County. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Contract. Engineer understands and agrees that County's payment of amounts under this Contract is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

P. Termination of Work Authorization. Should it be determined that the progress in the production of Engineer's services and work does not satisfy the requirements of the approved Work Authorization as provided by Exhibit "C", attached hereto, the County shall review the approved Work Authorization with the Engineer to determine the corrective action needed, including potential termination of such Work Authorization by Williamson County. Additionally, if an approved Work Authorization has not been completed by the end of the applicable County fiscal year under this contract and the Williamson County Commissioners Court does not provide for funding through its budgetary oversight for the subsequent County fiscal year, Williamson County reserves the right to terminate such Work Authorization at its discretion.

ARTICLE 33
DISPUTE RESOLUTION

Except as otherwise specifically set forth herein, County and Engineer shall work together in good faith to resolve any controversy, dispute or claim between them which arises out of or relates to this Contract, whether stated in tort, contract, statute, claim for benefits, bad faith, professional liability or otherwise ("Claim"). If the parties are unable to resolve the Claim within thirty (30) days following the date in which one party sent written notice of the Claim to the other party, and if a party wishes to pursue the Claim, such Claim shall be addressed through non-binding mediation. A single mediator engaged in the practice of law, who is knowledgeable about subject matter of this Contract, shall be selected by agreement of the parties and serve as the mediator. Any mediation under this Contract shall be conducted in Williamson County, Texas. The mediator's fees shall be borne equally between the parties. Such non-binding mediation is a condition precedent to seeking redress in a court of competent jurisdiction, but this provision shall not preclude either party from filing a lawsuit in a court of competent jurisdiction prior to completing a mediation if necessary to preserve the statute of limitations, in which case such lawsuit shall be stayed pending completion of the mediation process contemplated herein. This provision shall survive the termination of the Contract.

ARTICLE 34
EQUAL OPPORTUNITY IN EMPLOYMENT

During the performance of this Contract and to the extent the Project is a federally funded project, Engineer, for itself, its assignees and successors in interest agrees as follows:

A. Compliance with Regulations. The Engineer shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

B. Nondiscrimination. The Engineer, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors/subconsultants, including procurements of materials and leases of equipment. The Engineer shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor/subconsultant or supplier shall be notified by the Engineer of the Engineer's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports. The Engineer shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by

the County (referred to in this Article as the "Recipient") or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the Engineer shall so certify to the Recipient, or the Texas Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance. In the event of the Engineer's noncompliance with the nondiscrimination provisions of this contract, the Recipient shall impose such contract sanctions as it or the Texas Department of Transportation may determine to be appropriate, including, but not limited to:

1. withholding of payments to the Engineer under the contract until the Engineer complies, and/or;
2. cancellation, termination or suspension of the Contract, in whole or in part.

F. Incorporation of Provisions. The Engineer shall include the provisions of Subsections (A) through (F) above in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Engineer shall take such action with respect to any subcontract or procurement as the Recipient or the Texas Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor/subconsultant or supplier as a result of such direction, the Engineer may request the Recipient to enter into such litigation to protect the interests of the Recipient, and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

SIGNATORY WARRANTY

The undersigned signatory for Engineer hereby represents and warrants that the signatory is an officer of the organization for which he/she has executed this Contract and that he/she has full and complete authority to enter into this Contract on behalf of the firm. The above-stated representations and warranties are made for the purpose of inducing County to enter into this Contract.

IN WITNESS WHEREOF, County has caused this Contract to be signed in its name by its duly authorized County Judge, as has Engineer, signing by and through its duly authorized representative(s), thereby binding the parties hereto, their successors, assigns and representatives for the faithful and full performance of the terms and provisions hereof, to be effective as of the date of the last party's execution below. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND, TERMINATE OR MODIFY THIS CONTRACT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

COUNTY

WILLIAMSON COUNTY, TEXAS

By: _____
Dan A. Gattis, County Judge

Date: _____ ____, 20____

OK
MG 2/22/17

ENGINEER

Brown & Gay Engineers, Inc.

By: Wesley E. Jasek, P.E.

Printed Name: Wesley E. Jasek, P.E.

Title: Director of Transportation Systems

Date: FEBRUARY 27, 2017

SUBSCRIBED and sworn to before me the undersigned authority by Wesley Jasek the Director of Trans. Systems of **ENGINEER**, on behalf of said firm.

LAURA BALLIS
Notary ID # 126675748
My Commission Expires
September 20, 2020

Laura Ballis
Notary Public in and for the
State of Texas

My commission expires: 9/20/2020

LIST OF EXHIBITS ATTACHED

(1) **Exhibit A** Debarment Certification

(2) **Exhibit B** Engineering Services

(3) **Exhibit C** Work Authorization

(4) **Exhibit D** Rate Schedule

(5) **Exhibit E** Williamson County Vendor Reimbursement Policy

(6) **Exhibit F** Certificates of Insurance

EXHIBIT A
DEBARMENT CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Engineer and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public* transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity* with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions* terminated for cause or default; and

(e) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

Brown & Gay Engineers, Inc.
Name of Firm

Rob Harris
Signature of Certifying Official

ROB HARRIS
Printed Name of Certifying Official

VICE PRESIDENT
Title of Certifying Official

FEBRUARY 27, 2017
Date

(2) Where the PROVIDER is unable to certify to any of the statements in this certification, such PROVIDER shall attach an explanation to this certification.

* federal, state, or local

SUBSCRIBED and sworn to before me the undersigned authority by Rob Harris _____ the Vice President of BGE, Inc., on behalf of said firm.



Laura Ballis
Notary Public in and for the
State of Texas

My commission expires: 9/20/2020

EXHIBIT B

ENGINEERING SERVICES

General Work Description: Provide engineering services and planning to develop Transportation Corridor E-1 as shown on the attached map.

The Engineer may perform any or all of the following tasks listed below, as described in detail in each Work Authorization:

TASK 1 - PROJECT MANAGEMENT

TASK 2 - ROUTE AND DESIGN STUDIES

TASK 3 - PUBLIC INVOLVEMENT

TASK 4 - SURVEYING

TASK 5 - ROW MAPPING

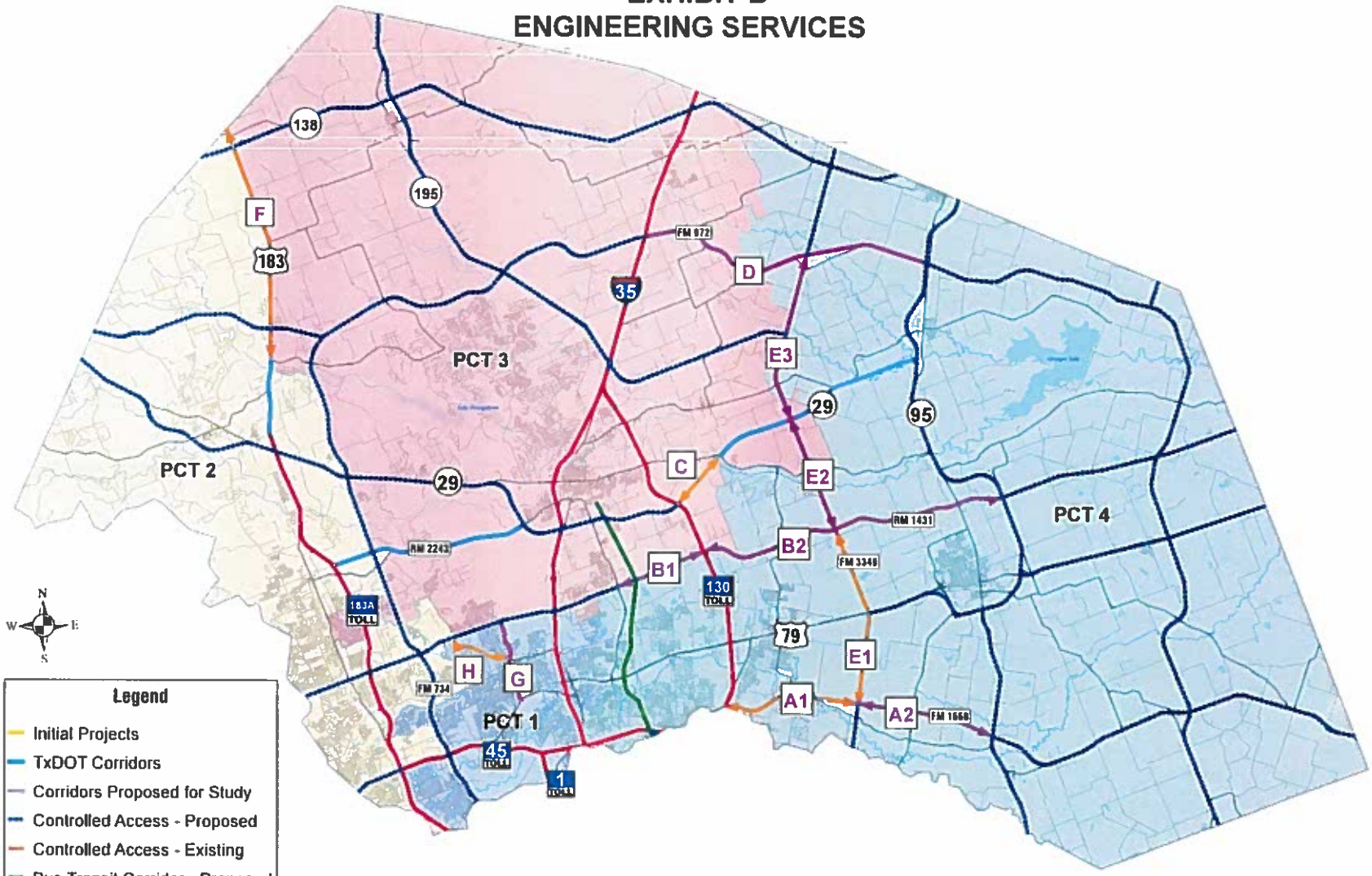
TASK 6 - ENVIRONMENTAL STUDIES & DOCUMENTS

TASK 7 - GEOTECHNICAL SERVICES

TASK 8 - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

TASK 9 - CONSTRUCTION PHASE SERVICES

EXHIBIT B
ENGINEERING SERVICES



Note: The locations of controlled access and arterial facilities are conceptual only. Final alignments for each route will be determined through appropriate planning and environmental studies.

WILLIAMSON COUNTY

EXHIBIT C

WORK AUTHORIZATION

(To Be Completed and Executed After Contract Execution)

WORK AUTHORIZATION NO. _____
PROJECT: _____

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ ____, 20____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and _____ (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is _____.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on _____ ____, 20_____. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:

[Insert Company Name HERE]

By:_____
Signature

_____
Printed Name

_____
Title

COUNTY:

Williamson County, Texas

By:_____
Signature

_____
Printed Name

_____
Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

EXHIBIT D

RATE SCHEDULE

CPI Rate Adjustments: Rates will remain firm for the initial first year of the Contract and such rates shall be deemed the "Initial Base Rates". Engineer must request rate adjustments, in writing, at least thirty (30) days prior to each annual anniversary date of the Contract and any rate changes will take effect on the first day following the prior year. If Engineer fails to request a CPI rate adjustment, as set forth herein, the adjustment will be effective thirty (30) days after the County receives Engineer's written request. No retroactive rate adjustments will be allowed.

Price adjustments will be made in accordance with changes in the U.S. Department of Labor Consumer Price Index (CPI-U) for All Urban Consumers, All Items, South Region (Base 1982-84 = 100).

The rate adjustment will be determined by multiplying the Initial Base Rates by a fraction, the numerator of which is the index number for most recently released index before each annual anniversary date of the Contract and the denominator of which is the index number for the first month of the Contract (the index number for the month in which the Contract was originally executed). If the products are greater than the Initial Base Rates, County will pay the greater amounts as the rates during the successive year until the next rate adjustment. Rates for each successive year will never be less than the Initial Base Rates.

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR E1

BGE, Inc.	
CATEGORY	**RATE**
Project Director	$260.00
Senior Project Manager	$220.00
Senior Structural Engineer	$260.00
Senior Engineer	$205.00
Project Engineer	$160.00
Graduate Engineer	$125.00
Senior Design Technician	$140.00
Design Technician	$115.00
Senior CADD Technician	$110.00
CADD Technician	$80.00
Environmental QA/QC Manager	$220.00
Environmental Task Leader	$145.00
GIS Technician	$100.00
Junior Environmental Scientist	$90.00
Survey RPLS	$190.00
Survey Technician	$105.00
Survey Field Crew	$170.00
Clerical	$80.00
DIRECT EXPENSES	
Postage	Current Postage Rate
Mileage (per mile)	Current Federal Rate
Photocopies B/W (8.5 x 11)	$0.10
Photocopies B/W (11 x 17)	$0.30
Photocopies Color (8.5 x 11)	$1.50
Photocopies Color (11 x 17)	$2.00
Foam Board Exhibit (36 x 48)	$50.00
Cardstock Color (8.5 x 11)	$1.10
Blueline Prints (23 x 36)	$5.00
Bond Paper Plot (Blueline/Blackline)	$0.25
Plots (B/W on Bond)	$0.50
Plots (Color on Bond)	$1.50
Plots (Color on Photographic Paper)	$9.00
Lamination	$3.00

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR E1

Alliance Transportation Group, Inc.	
CATEGORY	**RATE**
Project Principal	$250.00
Senior Project Engineer	$244.00
Senior Engineer	$193.00
Project Engineer	$144.00
Engineer-in-Training (EIT)	$101.00
Senior Engineering Technician	$133.00
Engineering Technician	$90.00
Planning Director	$230.00
Senior Travel Demand Modeler	$182.00
Travel Demand Modeler III	$137.00
Travel Demand Modeler II	$117.00
Senior Planner	$162.00
Planner II	$125.00
Planner I	$85.00
Project Administrator	$104.00
Clerical	$65.00
DIRECT EXPENSES	
Postage	Current Postage Rate
Mileage (per mile)	Current Federal Rate
Photocopies B/W (8.5 x 11)	$0.16
Photocopies B/W (11 x 17)	$0.32
Photocopies Color (8.5 x 11)	$0.75
Photocopies Color (11 x 17)	$1.50
24 Hour Counts	$135.00
2-Hour Turning Movement Counts	$650.00

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR E1

Amaterra Environmental, Inc.	
CATEGORY	**RATE**
Principal	$216.00
Project Manager	$142.00
Historical Architect/Historian IV	$137.00
Architectural Historian/Historian III	$104.00
Architectural Historian/Historian II	$82.00
Architectural Historian/Historian I	$70.00
Archeologist V/Principal Investigator	$128.00
Archeologist IV/Project Investigator	$103.00
Archeologist III/Field Director	$73.00
Archeologist II/Crew Chief	$68.00
Archeologist I/Tech	$58.00
GIS Specialist	$84.00
GIS Tech	$68.00
Editor	$62.00
Admin/Document Production	$88.00
Clerical	$47.00
DIRECT EXPENSES	
Postage	Current Postage Rate
Mileage (per mile)	Current Federal Rate
Photocopies B/W (8.5 x 11)	$0.10
Photocopies B/W (11 x 17)	$0.30
Photocopies Color (8.5 x 11)	$1.50
Photocopies Color (11 x 17)	$2.00

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR E1

Concept Development & Planning, LLC	
CATEGORY	**RATE**
Principal	$165.00
Project Manager	$130.00
Senior Media Specialist	$115.00
Senior Public Involvement Specialist	$115.00
Public Involvement Specialist	$100.00
Senior Graphic Design and Web Developer	$90.00
Graphic Design and Web Developer	$65.00
Junior Public Involvement Specialist	$65.00
Admin Clerical	$50.00
DIRECT EXPENSES	
Postage	Current Postage Rate
Mileage (per mile)	Current Federal Rate
Photocopies B/W (8.5 x 11)	$0.10
Photocopies B/W (11 x 17)	$0.20
Photocopies Color (8.5 x 11)	$0.40
Photocopies Color (11 x 17)	$0.80

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR E1

Inland Geodetics, LLC	
CATEGORY	**RATE**
Project Manager	$140.00
RPLS	$135.00
Survey Technician	$98.00
GPS Technician	$98.00
2-Man Crew	$142.00
3-Man Crew	$165.00
1-Man w/GPS	$120.00
Clerical	$54.00
DIRECT EXPENSES	
Postage	Current Postage Rate
Mileage (per mile)	Current Federal Rate
GPS Receivers	$15.00
Vehicle	$60.00
ATV	$55.00

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR E1

Poznecki-Camarillo, Inc.	
CATEGORY	**RATE**
Principal	$205.79
Senior Project Manager	$170.00
Senior Engineer	$205.00
Engineer I	$133.49
Senior Engineering Technician	$92.70
Senior Environmental Specialist	$111.24
Environmental Specialist	$103.00
Senior Environmental Planner	$155.74
Environmental Planner	$111.24
Noise Analyst	$111.24
Air Quality Expert	$111.24
GIS Specialist	$103.00
Clerical	$51.50
DIRECT EXPENSES	
Postage	Current Postage Rate
Mileage (per Mile)	Current Federal Rate
Photocopies B/W (8.5 x 11)	$0.12
Photocopies B/W (11 x 17)	$0.30
Photocopies Color (8.5 x 11)	$1.20
Photocopies Color (11 x 17)	$2.00
Cardstock Color (8.5 x 11)	$1.10
Blueline Prints (23 x 36)	$5.00
Bond Paper Plot (Blueline/Blackline)	$0.25
Plots (B/W on Bond)	$0.50
Plots (Color on Bond)	$1.50
Plots (Color on Photographic Paper)	$8.94
Aerial Photographs (1" =500' scale)	$100.00
Hazardous Materials Database Search	$500.00
GPS Receiver	$25.00
Lamination	$3.00

EXHIBIT E

Williamson County
Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy ("Policy") is to provide clear guidelines to vendors on Williamson County's expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. **Invoices and Affidavits**
   - 1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.
   - 1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.
   - 1.3 Upon County's request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. Travel Reimbursement

2.1 The County will only cover costs associated with travel on vendors outside a 50 mile radius from Williamson County, Texas.

2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.

2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.

2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).

2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.

2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.

2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.

2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).

2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.

2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.

2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. **Meals**
   - 3.1 Meal reimbursements are limited to a maximum of $50.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of $20.00 per day. The travel must be outside the Williamson County, Texas line by a 50 mile radius.
   - 3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.
   - 3.3 Meals are reimbursable only for vendors who do not have the necessary personnel located within a 50 mile radius of Williamson County, Texas that are capable of carrying the vendor's obligations to County. Meals will not be reimbursed to vendors who are located within a 50 mile radius of Williamson County, Texas.
   - 3.4 County will not reimburse for alcoholic beverages.
   - 3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance
   - 3.6 No meals purchased for entertainment purposes will be allowed.
   - 3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. **Lodging**
   - 4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.
   - 4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.
   - 4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. **Airfare**
   - 5.1 The County will only reimburse up to a coach price fare for air travel.
   - 5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. early bird check in, seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)
   - 5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.

5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.

5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.

6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.

6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.

6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.

6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.

6.6 Insurance purchased when renting vehicle may also be reimbursed.

6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.

7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:

7.2.1.1 Date

7.2.1.2 Destination

7.2.1.3 Purpose

7.2.1.4 Name of traveler(s)

7.2.1.5 Correspondence that verifies business purpose of the expense

7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.

7.4 Mileage will be reimbursed on the basis of the most commonly used route.

7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.

7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.

7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of Williamson County, Texas by at least a 50 mile radius.

7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.

7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).

7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.

7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Nonreimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

10.1 Alcoholic beverages/tobacco products
10.2 Personal phone calls
10.3 Laundry service
10.4 Valet service (excludes hotel valet)
10.5 Movie rentals
10.6 Damage to personal items
10.7 Flowers/plants
10.8 Greeting cards
10.9 Fines and/or penalties
10.10 Entertainment, personal clothing, personal sundries and services
10.11 Transportation/mileage to places of entertainment or similar personal activities
10.12 Upgrades to airfare, hotel and/or car rental

10.13 Airport parking above the most affordable rate available
10.14 Excessive weight baggage fees or cost associated with more than two airline bags
10.15 Auto repairs
10.16 Babysitter fees, kennel costs, pet or house-sitting fees
10.17 Saunas, massages or exercise facilities
10.18 Credit card delinquency fees or service fees
10.19 Doctor bills, prescription and other medical services
10.20 Hand tools
10.21 Safety Equipment (hard hats, safety vests, etc.)
10.22 Office Supplies
10.23 Lifetime memberships to any association
10.24 Donations to other entities
10.25 Any items that could be construed as campaigning
10.26 Community outreach items exceeding $2 per item
10.27 Sales tax on goods purchased
10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

EXHIBIT F

CERTIFICATES OF INSURANCE

ATTACHED BEHIND THIS PAGE

Client#: 156557 BROWNGAY

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 2/28/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Michelle Weweh	
USI Southwest 9811 Katy Freeway, Suite 500 Houston, TX 77024 713 490-4600	PHONE (A/C, No, Ext): 713 490-4512	FAX (A/C, No): 713-490-4700
	E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Travelers Property Cas. Co. of	25674
INSURER B : Travelers Indemnity Company	25658
INSURER C : Farmington Casualty Company	41483
INSURER D : Atlantic Specialty Insurance Co	27154
INSURER E : Charter Oak Fire Insurance Comp	25615
INSURER F :	

INSURED
Brown and Gay Engineers, Inc.
10777 Westheimer, Suite 400
Houston, TX 77042

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY			6805H7943931647	12/31/2016	12/31/2017	EACH OCCURRENCE	$1,000,000
	CLAIMS-MADE X OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$1,000,000
							MED EXP (Any one person)	$10,000
							PERSONAL & ADV INJURY	$1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$2,000,000
	POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$2,000,000
	OTHER:							$
E	AUTOMOBILE LIABILITY			BA3F87932816GRP	12/31/2016	12/31/2017	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	X HIRED AUTOS / X NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
B	X UMBRELLA LIAB X OCCUR			CUP3F8780921647	12/31/2016	12/31/2017	EACH OCCURRENCE	$10,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$10,000,000
	DED X RETENTION $10000							$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N			XV2FUB4369T94416	12/31/2016	12/31/2017	X PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N (Mandatory in NH)	N/A					E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000
D	Professional Liability			DPL619616	12/31/2016	12/31/2017	$5,000,000 per claim $5,000,000 annl aggr.	
A	Contractors Equip			6805H7943931647	12/31/2016	12/31/2017	Limit: $1,241,499	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Corridor EI, 7000 N. Mopac, Ste. 330 Austin, Texas 78731.
Additional Insured Includes: Williamson County, its directors, officers and employees.

The General Liability and Automobile Liability policies include an automatic Additional Insured endorsement that provides Additional Insured status to the Certificate Holder only when there is a written contract
(See Attached Descriptions)

CERTIFICATE HOLDER

Williamson County a political subdivision of the State of Texas
710 Main Street, Suite 101
Georgetown, TX 78626

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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DESCRIPTIONS (Continued from Page 1)

that requires such status, and only with regard to work performed on behalf of the named insured.
The General Liability and Automobile Liability policies contain a special endorsement with "Primary and Noncontributory" wording.
The General Liability, Automobile, Workers Compensation and Professional Liability policies provide a Blanket Waiver of Subrogation when required by written contract.
The Umbrella Liability policy follows form to the underlying General Liability, Automobile and Workers Compensation policies. The Umbrella Liability coverage limits are in addition to those provided by the General Liability, Automobile and Workers Compensation policies.
The General Liability, Automobile, Workers Compensation, Umbrella Liability and Professional Liability policies include an endorsement providing that 30 days notice of cancellation for reasons other than nonpayment of premium and 10 days notice of cancellation for nonpayment of premium will be given to the Certificate Holder by the Insurance Carrier.
Valuable Papers Limit: $100,000 Policy Limit

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED (ARCHITECTS, ENGINEERS AND SURVEYORS)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

1. The following is added to **SECTION II – WHO IS AN INSURED**:

   Any person or organization that you agree in a "written contract requiring insurance" to include as an additional insured on this Coverage Part, but:

   a. Only with respect to liability for "bodily injury", "property damage" or "personal injury"; and

   b. If, and only to the extent that, the injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies, or in connection with premises owned by or rented to you.

   The person or organization does not qualify as an additional insured:

   c. With respect to the independent acts or omissions of such person or organization; or

   d. For "bodily injury", "property damage" or "personal injury" for which such person or organization has assumed liability in a contract or agreement.

   The insurance provided to such additional insured is limited as follows:

   e. This insurance does not apply on any basis to any person or organization for which coverage as an additional insured specifically is added by another endorsement to this Coverage Part.

   f. This insurance does not apply to the rendering of or failure to render any "professional services".

   g. In the event that the Limits of Insurance of the Coverage Part shown in the Declarations exceed the limits of liability required by the "written contract requiring insurance", the insurance provided to the additional insured shall be limited to the limits of liability required by that "written contract requiring insurance". This endorsement does not increase the limits of insurance described in Section III – Limits Of Insurance.

   h. This insurance does not apply to "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the "written contract requiring insurance" specifically requires you to provide such coverage for that additional insured, and then the insurance provided to the additional insured applies only to such "bodily injury" or "property damage" that occurs before the end of the period of time for which the "written contract requiring insurance" requires you to provide such coverage or the end of the policy period, whichever is earlier.

2. The following is added to Paragraph **4.a.** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   The insurance provided to the additional insured is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured for a loss we cover. However, if you specifically agree in the "written contract requiring insurance" that this insurance provided to the additional insured under this Coverage Part must apply on a primary basis or a primary and non-contributory basis, this insurance is primary to other insurance available to the additional insured which covers that person or organizations as a named insured for such loss, and we will not share with the other insurance, provided that:

   (1) The "bodily injury" or "property damage" for which coverage is sought occurs; and

   (2) The "personal injury" for which coverage is sought arises out of an offense committed;

   after you have signed that "written contract requiring insurance". But this insurance provided to the additional insured still is excess over valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the additional insured when that person or organization is an additional insured under any other insurance.

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3. The following is added to Paragraph **8., Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   We waive any right of recovery we may have against any person or organization because of payments we make for "bodily injury", "property damage" or "personal injury" arising out of "your work" performed by you, or on your behalf, done under a "written contract requiring insurance" with that person or organization. We waive this right only where you have agreed to do so as part of the "written contract requiring insurance" with such person or organization signed by you before, and in effect when, the "bodily injury" or "property damage" occurs, or the "personal injury" offense is committed.

4. The following definition is added to the **DEFINITIONS** Section:

   "Written contract requiring insurance" means that part of any written contract under which you are required to include a person or organization as an additional insured on this Coverage Part, provided that the "bodily injury" and "property damage" occurs and the "personal injury" is caused by an offense committed:

   a. After you have signed that written contract;

   b. While that part of the written contract is in effect; and

   c. Before the end of the policy period.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ARCHITECTS, ENGINEERS AND SURVEYORS COVERAGE XTEND ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

GENERAL DESCRIPTION OF COVERAGE This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to this Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

A. Broadened Named Insured

B. Incidental Medical Malpractice

C. Reasonable Force – Bodily Injury Or Property Damage

D. Non-Owned Watercraft – Increased To Up To 75 feet

E. Aircraft Chartered With Crew

F. Damage To Premises Rented To You

G. Malicious Prosecution – Exception To Knowing Violation Of Rights Of Another Exclusion

H. Medical Payments – Increased Limit

I. Increased Supplementary Payments

J. Additional Insured – Owner, Manager Or Lessor Of Premises

K. Additional Insured – Lessor Of Leased Equipment

L. Additional Insured – State Or Political Subdivisions – Permits Relating To Premises

M. Additional Insured – State Or Political Subdivisions – Permits Relating To Operations

N. Who Is An Insured – Newly Acquired Or Formed Organizations

O. Knowledge And Notice Of Occurrence Or Offense

P. Unintentional Omission

Q. Waiver Of Transfer Of Rights Of Recovery Against Others To Us When Required By Written Contract

R. Amended Insured Contract Definition – Railroad Easement

PROVISIONS

A. BROADENED NAMED INSURED

1. The following is added to **SECTION II – WHO IS AN INSURED**:

   Any organization, other than a partnership or joint venture, over which you maintain ownership or majority interest on the effective date of the policy qualifies as a Named Insured. However, coverage for any such additional organization will cease as of the date during the policy period that you no longer maintain ownership of, or majority interest in, such organization.

B. INCIDENTAL MEDICAL MALPRACTICE

1. The following is added to the definition of "occurrence" in the **DEFINITIONS** Section:

   Unless you are in the business or occupation of providing professional health care services, "occurrence" also means an act or omission committed in providing or failing to provide first aid or "Good Samaritan services" to a person.

2. The following is added to the **DEFINITIONS** Section:

   "Good Samaritan services" means any emergency medical services for which no compensation is demanded or received.

3. The following is added to Paragraph **2.a.(1)** of **SECTION II – WHO IS AN INSURED**:

   Unless you are in the business or occupation of providing professional health care services, Paragraphs **(1)(a)**, **(b)**, **(c)** and **(d)** above

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does not apply to any "bodily injury" arising out of any providing or failing to provide first aid or "Good Samaritan services" by any of your "employees", other than an employed doctor. Any such "employees" providing or failing to provide first aid or "Good Samaritan services" during their work hours for you will be deemed to be acting within the scope of their employment by you or performing duties related to the conduct of your business.

4. The following exclusion is added to Paragraph **2., Exclusions**, of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY** in **COVERAGES**:

   Sale of Pharmaceuticals

   "Bodily injury" or "property damage" arising out of the willful violation of a penal statute or ordinance relating to the sale of pharmaceuticals committed by, or with the knowledge or consent of, the insured.

5. The following is added to Paragraph **5.** of **SECTION III – LIMITS OF INSURANCE**:

   For the purposes of determining the applicable Each Occurrence Limit, all related acts or omissions committed in the providing or failing to provide first aid or "Good Samaritan services" to any one person will be considered one "occurrence".

6. The following is added to Paragraph **4.b., Excess Insurance**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   This insurance is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to any of your "employees" for "bodily injury" that arises out of providing or failing to provide first aid or "Good Samaritan services" to any person to the extent not subject to Paragraph **2.a.(1)** of Section II – Who Is An Insured.

C. REASONABLE FORCE – BODILY INJURY OR PROPERTY DAMAGE

The following replaces Exclusion **a., Expected Or Intended Injury**, in Paragraph **2.** of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY**:

a. Expected Or Intended Injury Or Damage

"Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" or "property damage" resulting from the use of reasonable force to protect any person or property.

D. NON-OWNED WATERCRAFT – INCREASED TO UP TO 75 FEET

1. The following replaces Paragraph **(2)** of Exclusion **g., Aircraft, Auto Or Watercraft**, in Paragraph **2.** of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY**:

   (2) A watercraft you do not own that is:

   (a) Less than 75 feet long; and

   (b) Not being used to carry any person or property for a charge;

2. The following is added to Paragraph **2.** of **SECTION II – WHO IS AN INSURED**:

   Any person or organization that, with your express or implied consent, either uses or is responsible for the use of a watercraft that you do not own that is:

   (a) Less than 75 feet long; and

   (b) Not being used to carry any person or property for a charge;

3. The following is added to Paragraph **4.b., Excess Insurance**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   This insurance is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the insured for "bodily injury" that arises out of the use of a watercraft that you do not own that is:

   (a) Less than 75 feet long; and

   (b) Not being used to carry any person or property for a charge.

E. AIRCRAFT CHARTERED WITH CREW

1. The following is added to Exclusion **g., Aircraft, Auto Or Watercraft**, in Paragraph **2.** of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY** in **COVERAGES**:

   This exclusion does not apply to an aircraft that is:

   (a) Chartered with crew to any insured;

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(b) Not owned by any insured; and

(c) Not being used to carry any person or property for a charge.

2. The following is added to Paragraph **4.b., Excess Insurance**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

This insurance is excess over any valid and collectible other insurance, whether primary, excess, contingent or on any other basis, that is available to the insured for use of an aircraft that is:

(a) Chartered with crew to any insured;

(b) Not owned by any insured; and

(c) Not being used to carry any person or property for a charge.

F. DAMAGE TO PREMISES RENTED TO YOU

1. The following replaces the last paragraph of Paragraph **2., Exclusions**, of **SECTION I – COVERAGES – COVERAGE A BODILY INJURY AND PROPERTY DAMAGE LIABILITY** in **COVERAGES**:

Exclusions **c.** through **n.** do not apply to damage to premises while rented to you, or temporarily occupied by you with permission of the owner, caused by:

a. Fire;

b. Explosion;

c. Lightning;

d. Smoke resulting from such fire, explosion, or lightning; or

e. Water.

A separate limit of insurance applies to such damage to premises as described in Paragraph **6.** of Section **III** – Limits Of Insurance. This insurance does not apply to damage to premises while rented to you, or temporarily occupied by you with permission of the owner, caused by:

a. Rupture, bursting, or operation of pressure relief devices;

b. Rupture or bursting due to expansion or swelling of the contents of any building or structure, caused by or resulting from water; or

c. Explosion of steam boilers, steam pipes, steam engines, or steam turbines.

2. The following replaces Paragraph **6.** of **SECTION III – LIMITS OF INSURANCE**:

Subject to **5.** above, the Damage To Premises Rented To You Limit is the most we will pay under Coverage **A** for damages because of "property damage" to any one premises while rented to you, or temporarily occupied by you with permission of the owner, caused by fire; explosion; lightning; smoke resulting from such fire, explosion, or lightning; or water. The Damage To Premises Rented To You Limit will apply to all damage proximately caused by the same "occurrence", whether such damage results from: fire; explosion; lightning; smoke resulting from such fire, explosion, or lightning; or water; or any combination of any of these.

The Damage To Premises Rented To You Limit will be the higher of:

a. $1,000,000; or

b. The amount shown on the Declarations of this Coverage Part for Damage To Premises Rented To You Limit.

3. The following replaces Paragraph **a.** of the definition of "insured contract" in the **DEFINITIONS** Section:

a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage to premises while rented to you, or temporarily occupied by you with permission of the owner, caused by:

(1) Fire;

(2) Explosion;

(3) Lightning;

(4) Smoke resulting from such fire, explosion, or lightning; or

(5) Water,

is not an "insured contract";

4. The following replaces Paragraph **4.b.(1)(b)** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

(b) That is insurance for premises rented to you, or temporarily occupied by you with the permission of the owner;

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G. MALICIOUS PROSECUTION – EXCEPTION TO KNOWING VIOLATION OF RIGHTS OF ANOTHER EXCLUSION

The following is added to Exclusion **a., Knowing Violation Of Rights Of Another**, in Paragraph **2.** of **SECTION I – COVERAGES – COVERAGE B PERSONAL AND ADVERTISING INJURY LIABILITY**:

This exclusion does not apply to "personal injury" caused by malicious prosecution.

H. MEDICAL PAYMENTS – INCREASED LIMIT

The following replaces Paragraph **7.** of **SECTION III – LIMITS OF INSURANCE**:

7. Subject to **5.** above, the Medical Expense Limit is the most we will pay under Coverage C. for all medical expenses because of "bodily injury" sustained by any one person, and will be the higher of:

(a) $10,000; or

(b) The amount shown on the Declarations of this Coverage Part for Medical Expense Limit.

I. INCREASED SUPPLEMENTARY PAYMENTS

1. The following replaces Paragraph **1.b.** of **SUPPLEMENTARY PAYMENTS – COVERAGES A AND B of SECTION I – COVERAGES**:

b. Up to $2,500 for cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

2. The following replaces Paragraph **1.d.** of **SUPPLEMENTARY PAYMENTS – COVERAGES A AND B** of **SECTION I – COVERAGES**:

d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to $500 a day because of time off from work.

J. ADDITIONAL INSURED – OWNER, MANAGER OR LESSOR OF PREMISES

The following is added to **SECTION II – WHO IS AN INSURED**:

Any person or organization that is a premises owner, manager or lessor and that you have agreed in a written contract to name as an additional insured on this Coverage Part is an insured, but only with respect to liability for "bodily injury", "property damage", "personal injury" or "advertising injury" that:

a. Is "bodily injury" or "property damage" caused by an "occurrence" that takes place, or "personal injury" caused by an offense that is committed, after you have signed that contract; and

b. Arises out of the ownership, maintenance or use of that part of any premises leased to you under that written contract.

The insurance provided to such premises owner, manager or lessor is subject to the following provisions:

a. The limits of insurance provided to such premises owner, manager or lessor will be the limits which you agreed to provide in the written contract, or the limits shown on the Declarations of this Coverage Part, whichever are less.

b. The insurance provided to such premises owner, manager or lessor does not apply to:

(1) "Bodily injury" or "property damage" caused by an "occurrence" that takes place, or "personal injury" caused by an offense that is committed, after you cease to be a tenant in that premises; or

(2) Structural alterations, new construction or demolition operations performed by or on behalf of such premises owner, manager or lessor.

c. The insurance provided to such premises owner, manager or lessor is excess over any valid and collectible other insurance available to such premises owner, manager or lessor, unless you have agreed in a written contract for this insurance to apply on a primary or contributory basis.

K. ADDITIONAL INSURED – LESSOR OF LEASED EQUIPMENT

The following is added to **SECTION II – WHO IS AN INSURED**:

Any person or organization that is an equipment lessor and that you have agreed in a written contract to name as an additional insured on this Coverage Part is an insured, but only with respect to liability for "bodily injury", "property damage", "personal injury" or "advertising injury" that:

a. Is "bodily injury" or "property damage" caused by an "occurrence" that takes place, or "personal injury" caused by an offense that is

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committed, after you have signed that written contract; and

b. Is caused, in whole or in part, by acts or omissions of you or any person or organization performing operations on your behalf, in the maintenance, operation or use of equipment leased to you by such equipment lessor.

The insurance provided to such equipment lessor is subject to the following provisions:

a. The limits of insurance provided to such equipment lessor will be the limits which you agreed to provide in the written contract, or the limits shown on the Declarations of this Coverage Part, whichever are less; and

b. The insurance provided to such equipment lessor does not apply:

(1) To any "bodily injury" or "property damage" caused by an "occurrence" that takes place, or "personal injury" caused by an offense that is committed, after the equipment lease expires; or

(2) If the equipment is leased with an operator.

c. The insurance provided to such equipment lessor is excess over any valid and collectible other insurance available to such equipment lessor, unless you have agreed in a written contract for this insurance to apply on a primary or contributory basis.

L. ADDITIONAL INSURED – STATE OR POLITICAL SUBDIVISIONS – PERMITS RELATING T O PREMISES

The following is added to Paragraph **2.** of **SECTION II – WHO IS AN INSURED**:

Any state or political subdivision that has issued a permit in connection with premises owned or occupied by, or rented or loaned to, you, is an insured, but only with respect to "bodily injury", "property damage", "personal injury" or "advertising injury" arising out of the existence, ownership, use, maintenance, repair, construction, erection or removal of advertising signs, awnings, canopies, cellar entrances, coal holes, driveways, manholes, marquees, hoist away openings, sidewalk vaults, elevators, street banners or decorations for which that state or political subdivision has issued such permit.

M. ADDITIONAL INSURED – STATE OR POLITICAL SUBDIVISIONS – PERMITS RELATING TO OPERATIONS

The following is added to Paragraph **2.** of **SECTION II – WHO IS AN INSURED**:

Any state or political subdivision that has issued a permit with respect to operations performed by you or on your behalf is an insured, but only with respect to "bodily injury", "property damage", "personal injury" or "advertising injury" arising out of operations performed by you or on your behalf for which that state or political subdivision has issued such permit. However, no such state or political subdivision is an insured for:

(1) "Bodily injury", "property damage", "personal injury" or "advertising injury" arising out of operations performed for that state or political subdivision; or

(2) "Bodily injury" or "property damage" included within the "products – completed operations hazard".

N. WHO IS AN INSURED – NEWLY ACQUIRED OR FORMED ORGANIZATIONS

The following replaces Paragraph **4.a.** of **SECTION II – WHO IS AN INSURED**:

a. Coverage under this provision is afforded only:

(1) Until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier, if you do not report such organization in writing to us within 180 days after you acquire or form it; or

(2) Until the end of the policy period, when that date is later than 180 days after you acquire or form such organizations, if you report such organization in writing to us within 180 days after you acquire or form it.

O. KNOWLEDGE AND NOTICE OF OCCURRENCE OR OFFENSE

The following is added to Paragraph **2.**, **Duties In The Event of Occurrence, Offense, Claim Or Suit**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

e. The following provisions apply to Paragraph **a.** above, but only for the purposes of the insurance provided under this Coverage Part to you or any insured listed in Paragraph **1.** or **2.** of Section II – Who Is An Insured:

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(1) Notice to us of such "occurrence" or of an offense must be given as soon as practicable only after the "occurrence" or offense is known to you (if you are an individual), any of your partners or members who is an individual (if you are a partnership or joint venture), any of your managers who is an individual (if you are a limited liability company), any of your trustees who is an individual (if you are a trust), any of your "executive officers" or directors (if you are an organization other than a partnership, joint venture, limited liability company or trust), or any "employee" (such as an insurance, loss control or risk manager or administrator) authorized by you to give notice of an "occurrence" or offense.

Knowledge by any other "employee" of an "occurrence" or offense does not imply that you also have such knowledge.

(2) If you are a partnership, joint venture, limited liability company or trust, and none of your partners, joint venture members, managers or trustees are individuals, notice to us of such "occurrence" or offense must be given as soon as practicable only after the "occurrence" or offense is known by:

(a) Any individual who is:

(i) A partner or member of any partnership or joint venture;

(ii) A manager of any limited liability company;

(iii) A trustee of any trust; or

(iv) An executive officer or director of any other organization;

that is your partner, joint venture member, manager or trustee; or

(b) Any "employee" authorized by such partnership, joint venture, limited liability company, trust or other organization to give notice of an "occurrence" or offense.

(3) Notice to us of such "occurrence" or offense will be deemed to be given as soon as practicable if it is given in good faith as soon as practicable to your workers' compensation, accident, or health insurer. This applies only if you subsequently give notice to us of the "occurrence" or offense as soon as practicable after any of the persons described in Paragraphs **e. (1)** or **(2)** above discovers that the "occurrence" or offense may result in sums to which the insurance provided under the Coverage Part may apply.

P. UNINTENTIONAL OMISSION

The following is added to Paragraph **6., Representations**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

The unintentional omission of, or unintentional error in, any information provided by you which we relied upon in issuing this policy will not prejudice your rights under this insurance. However, this provision does not affect our right to collect additional premium or to exercise our rights of cancellation or nonrenewal in accordance with applicable insurance laws or regulations.

Q. WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US WHEN REQUIRED BY WRITTEN CONTRACT

The following is added to Paragraph **8., Transfer of Rights of Recovery Against Others to Us**, of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

We waive any right of recovery we may have against any person or organization because of payments we make for injury or damage arising out of premises owned or occupied by or rented or loaned to you; ongoing operations performed by you or on your behalf, done under a written contract with that person or organization; "your work"; or "your products". We waive this right where you have agreed to do so as part of a written contract signed by you prior to loss.

R. AMENDED INSURED CONTRACT DEFINITION – RAILROAD EASEMENT

1. The following replaces Paragraph **c.** of the definition of "insured contract" in the **DEFINITIONS** Section:

   c. Any easement or license agreement;

2. Paragraph **f.(1)** of the definition of "insured contract" in the **DEFINITIONS** Section is deleted.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO COVERAGE FORM

Various provisions in this policy restrict coverage. Read the entire policy carefully to determine rights, duties and what is and is not covered.

Throughout this policy the words "you" and "your" refer to the Named Insured shown in the Declarations. The words "we", "us" and "our" refer to the company providing this insurance.

Other words and phrases that appear in quotation marks have special meaning. Refer to Section V – Definitions.

SECTION I – COVERED AUTOS

Item Two of the Declarations shows the "autos" that are covered "autos" for each of your coverages. The following numerical symbols describe the "autos" that may be covered "autos". The symbols entered next to a coverage on the Declarations designate the only "autos" that are covered "autos".

A. Description Of Covered Auto Designation Symbols

Symbol	Description Of Covered Auto Designation Symbols	
1	Any "Auto"	
2	Owned "Autos" Only	Only those "autos" you own (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" you acquire ownership of after the policy begins.
3	Owned Private Passenger "Autos" Only	Only the private passenger "autos" you own. This includes those private passenger "autos" you acquire ownership of after the policy begins.
4	Owned "Autos" Other Than Private Passenger "Autos" Only	Only those "autos" you own that are not of the private passenger type (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to power units you own). This includes those "autos" not of the private passenger type you acquire ownership of after the policy begins.
5	Owned "Autos" Subject To No-fault	Only those "autos" you own that are required to have no-fault benefits in the state where they are licensed or principally garaged. This includes those "autos" you acquire ownership of after the policy begins provided they are required to have no-fault benefits in the state where they are licensed or principally garaged.
6	Owned "Autos" Subject To A Compulsory Uninsured Motorists Law	Only those "autos" you own that because of the law in the state where they are licensed or principally garaged are required to have and cannot reject Uninsured Motorists Coverage. This includes those "autos" you acquire ownership of after the policy begins provided they are subject to the same state uninsured motorists requirement.
7	Specifically Described "Autos"	Only those "autos" described in Item Three of the Declarations for which a premium charge is shown (and for Covered Autos Liability Coverage any "trailers" you don't own while attached to any power unit described in Item Three).
8	Hired "Autos" Only	Only those "autos" you lease, hire, rent or borrow. This does not include any "auto" you lease, hire, rent or borrow from any of your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households.
9	Non-owned "Autos" Only	Only those "autos" you do not own, lease, hire, rent or borrow that are used in connection with your business. This includes "autos" owned by your "employees", partners (if you are a partnership), members (if you are a limited liability company) or members of their households but only while used in your business or your personal affairs.

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19	Mobile Equipment Subject To Compulsory Or Financial Responsibility Or Other Motor Vehicle Insurance Law Only	Only those "autos" that are land vehicles and that would qualify under the definition of "mobile equipment" under this policy if they were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law where they are licensed or principally garaged.

B. Owned Autos You Acquire After The Policy Begins

1. If Symbols **1, 2, 3, 4, 5, 6** or **19** are entered next to a coverage in Item Two of the Declarations, then you have coverage for "autos" that you acquire of the type described for the remainder of the policy period.
2. But, if Symbol **7** is entered next to a coverage in Item Two of the Declarations, an "auto" you acquire will be a covered "auto" for that coverage only if:
   a. We already cover all "autos" that you own for that coverage or it replaces an "auto" you previously owned that had that coverage; and
   b. You tell us within 30 days after you acquire it that you want us to cover it for that coverage.

C. Certain Trailers, Mobile Equipment And Temporary Substitute Autos

If Covered Autos Liability Coverage is provided by this Coverage Form, the following types of vehicles are also covered "autos" for Covered Autos Liability Coverage:

1. "Trailers" with a load capacity of 2,000 pounds or less designed primarily for travel on public roads.
2. "Mobile equipment" while being carried or towed by a covered "auto".
3. Any "auto" you do not own while used with the permission of its owner as a temporary substitute for a covered "auto" you own that is out of service because of its:
   a. Breakdown;
   b. Repair;
   c. Servicing;
   d. "Loss"; or
   e. Destruction.

SECTION II – COVERED AUTOS LIABILITY COVERAGE

A. Coverage

We will pay all sums an "insured" legally must pay as damages because of "bodily injury" or "property damage" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of a covered "auto".

We will also pay all sums an "insured" legally must pay as a "covered pollution cost or expense" to which this insurance applies, caused by an "accident" and resulting from the ownership, maintenance or use of covered "autos". However, we will only pay for the "covered pollution cost or expense" if there is either "bodily injury" or "property damage" to which this insurance applies that is caused by the same "accident".

We have the right and duty to defend any "insured" against a "suit" asking for such damages or a "covered pollution cost or expense". However, we have no duty to defend any "insured" against a "suit" seeking damages for "bodily injury" or "property damage" or a "covered pollution cost or expense" to which this insurance does not apply. We may investigate and settle any claim or "suit" as we consider appropriate. Our duty to defend or settle ends when the Covered Autos Liability Coverage Limit of Insurance has been exhausted by payment of judgments or settlements.

1. Who Is An Insured

The following are "insureds":

a. You for any covered "auto".
b. Anyone else while using with your permission a covered "auto" you own, hire or borrow except:
   (1) The owner or anyone else from whom you hire or borrow a covered "auto".

   This exception does not apply if the covered "auto" is a "trailer" connected to a covered "auto" you own.

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(2) Your "employee" if the covered "auto" is owned by that "employee" or a member of his or her household.

(3) Someone using a covered "auto" while he or she is working in a business of selling, servicing, repairing, parking or storing "autos" unless that business is yours.

(4) Anyone other than your "employees", partners (if you are a partnership), members (if you are a limited liability company) or a lessee or borrower or any of their "employees", while moving property to or from a covered "auto".

(5) A partner (if you are a partnership) or a member (if you are a limited liability company) for a covered "auto" owned by him or her or a member of his or her household.

c. Anyone liable for the conduct of an "insured" described above but only to the extent of that liability.

2. **Coverage Extensions**

a. **Supplementary Payments**

We will pay for the "insured":

(1) All expenses we incur.

(2) Up to $2,000 for cost of bail bonds (including bonds for related traffic law violations) required because of an "accident" we cover. We do not have to furnish these bonds.

(3) The cost of bonds to release attachments in any "suit" against the "insured" we defend, but only for bond amounts within our Limit of Insurance.

(4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to $250 a day because of time off from work.

(5) All court costs taxed against the "insured" in any "suit" against the "insured" we defend. However, these payments do not include attorneys' fees or attorneys' expenses taxed against the "insured".

(6) All interest on the full amount of any judgment that accrues after entry of the judgment in any "suit" against the "insured" we defend, but our duty to pay interest ends when we have paid, offered to pay or deposited in court the part of the judgment that is within our Limit of Insurance.

These payments will not reduce the Limit of Insurance.

b. **Out-of-state Coverage Extensions**

While a covered "auto" is away from the state where it is licensed, we will:

(1) Increase the Limit of Insurance for Covered Autos Liability Coverage to meet the limits specified by a compulsory or financial responsibility law of the jurisdiction where the covered "auto" is being used. This extension does not apply to the limit or limits specified by any law governing motor carriers of passengers or property.

(2) Provide the minimum amounts and types of other coverages, such as no-fault, required of out-of-state vehicles by the jurisdiction where the covered "auto" is being used.

We will not pay anyone more than once for the same elements of loss because of these extensions.

B. Exclusions

This insurance does not apply to any of the following:

1. **Expected Or Intended Injury**

"Bodily injury" or "property damage" expected or intended from the standpoint of the "insured".

2. **Contractual**

Liability assumed under any contract or agreement.

But this exclusion does not apply to liability for damages:

a. Assumed in a contract or agreement that is an "insured contract", provided the "bodily injury" or "property damage" occurs subsequent to the execution of the contract or agreement; or

b. That the "insured" would have in the absence of the contract or agreement.

3. **Workers' Compensation**

Any obligation for which the "insured" or the "insured's" insurer may be held liable under any workers' compensation, disability benefits

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or unemployment compensation law or any similar law.

4. **Employee Indemnification And Employer's Liability**

"Bodily injury" to:

a. An "employee" of the "insured" arising out of and in the course of:

(1) Employment by the "insured"; or

(2) Performing the duties related to the conduct of the "insured's" business; or

b. The spouse, child, parent, brother or sister of that "employee" as a consequence of Paragraph **a.** above.

This exclusion applies:

(1) Whether the "insured" may be liable as an employer or in any other capacity; and

(2) To any obligation to share damages with or repay someone else who must pay damages because of the injury.

But this exclusion does not apply to "bodily injury" to domestic "employees" not entitled to workers' compensation benefits or to liability assumed by the "insured" under an "insured contract". For the purposes of the Coverage Form, a domestic "employee" is a person engaged in household or domestic work performed principally in connection with a residence premises.

5. **Fellow Employee**

"Bodily injury" to:

a. Any fellow "employee" of the "insured" arising out of and in the course of the fellow "employee's" employment or while performing duties related to the conduct of your business; or

b. The spouse, child, parent, brother or sister of that fellow "employee" as a consequence of Paragraph **a.** above.

6. **Care, Custody Or Control**

"Property damage" to or "covered pollution cost or expense" involving property owned or transported by the "insured" or in the "insured's" care, custody or control. But this exclusion does not apply to liability assumed under a sidetrack agreement.

7. **Handling Of Property**

"Bodily injury" or "property damage" resulting from the handling of property:

a. Before it is moved from the place where it is accepted by the "insured" for movement into or onto the covered "auto"; or

b. After it is moved from the covered "auto" to the place where it is finally delivered by the "insured".

8. **Movement Of Property By Mechanical Device**

"Bodily injury" or "property damage" resulting from the movement of property by a mechanical device (other than a hand truck) unless the device is attached to the covered "auto".

9. **Operations**

"Bodily injury" or "property damage" arising out of the operation of:

a. Any equipment listed in Paragraphs **6.b.** and **6.c.** of the definition of "mobile equipment"; or

b. Machinery or equipment that is on, attached to or part of a land vehicle that would qualify under the definition of "mobile equipment" if it were not subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

10. **Completed Operations**

"Bodily injury" or "property damage" arising out of your work after that work has been completed or abandoned.

In this exclusion, your work means:

a. Work or operations performed by you or on your behalf; and

b. Materials, parts or equipment furnished in connection with such work or operations.

Your work includes warranties or representations made at any time with respect to the fitness, quality, durability or performance of any of the items included in Paragraph **a.** or **b.** above.

Your work will be deemed completed at the earliest of the following times:

(1) When all of the work called for in your contract has been completed;

(2) When all of the work to be done at the site has been completed if your

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contract calls for work at more than one site; or

(3) When that part of the work done at a job site has been put to its intended use by any person or organization other than another contractor or subcontractor working on the same project.

Work that may need service, maintenance, correction, repair or replacement, but which is otherwise complete, will be treated as completed.

11. Pollution

"Bodily injury" or "property damage" arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

a. That are, or that are contained in any property that is:

(1) Being transported or towed by, handled or handled for movement into, onto or from the covered "auto";

(2) Otherwise in the course of transit by or on behalf of the "insured"; or

(3) Being stored, disposed of, treated or processed in or upon the covered "auto";

b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or

c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

Paragraph a. above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts if:

(1) The "pollutants" escape, seep, migrate or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and

(2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraphs **6.b.** and **6.c.** of the definition of "mobile equipment".

Paragraphs **b.** and **c.** above of this exclusion do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

(a) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and

(b) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

12. War

"Bodily injury" or "property damage" arising directly or indirectly out of:

a. War, including undeclared or civil war;

b. Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or

c. Insurrection, rebellion, revolution, usurped power or action taken by governmental authority in hindering or defending against any of these.

13. Racing

Covered "autos" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. This insurance also does not apply while that covered "auto" is being prepared for such a contest or activity.

C. Limit Of Insurance

Regardless of the number of covered "autos", "insureds", premiums paid, claims made or vehicles involved in the "accident", the most we will pay for the total of all damages and "covered pollution cost or expense" combined resulting from any one "accident" is the Limit Of Insurance for Covered Autos Liability Coverage shown in the Declarations.

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All "bodily injury", "property damage" and "covered pollution cost or expense" resulting from continuous or repeated exposure to substantially the same conditions will be considered as resulting from one "accident".

No one will be entitled to receive duplicate payments for the same elements of "loss" under this Coverage Form and any Medical Payments Coverage endorsement, Uninsured Motorists Coverage endorsement or Underinsured Motorists Coverage endorsement attached to this Coverage Part.

SECTION III – PHYSICAL DAMAGE COVERAGE

A. Coverage

1. We will pay for "loss" to a covered "auto" or its equipment under:

   a. Comprehensive Coverage

   From any cause except:

   (1) The covered "auto's" collision with another object; or

   (2) The covered "auto's" overturn.

   b. Specified Causes Of Loss Coverage

   Caused by:

   (1) Fire, lightning or explosion;

   (2) Theft;

   (3) Windstorm, hail or earthquake;

   (4) Flood;

   (5) Mischief or vandalism; or

   (6) The sinking, burning, collision or derailment of any conveyance transporting the covered "auto".

   c. Collision Coverage

   Caused by:

   (1) The covered "auto's" collision with another object; or

   (2) The covered "auto's" overturn.

2. **Towing**

   We will pay up to the limit shown in the Declarations for towing and labor costs incurred each time a covered "auto" of the private passenger type is disabled. However, the labor must be performed at the place of disablement.

3. **Glass Breakage – Hitting A Bird Or Animal – Falling Objects Or Missiles**

   If you carry Comprehensive Coverage for the damaged covered "auto", we will pay for the following under Comprehensive Coverage:

   a. Glass breakage;

   b. "Loss" caused by hitting a bird or animal; and

   c. "Loss" caused by falling objects or missiles.

   However, you have the option of having glass breakage caused by a covered "auto's" collision or overturn considered a "loss" under Collision Coverage.

4. **Coverage Extensions**

   a. Transportation Expenses

   We will pay up to $20 per day, to a maximum of $600, for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type. We will pay only for those covered "autos" for which you carry either Comprehensive or Specified Causes Of Loss Coverage. We will pay for temporary transportation expenses incurred during the period beginning 48 hours after the theft and ending, regardless of the policy's expiration, when the covered "auto" is returned to use or we pay for its "loss".

   b. Loss Of Use Expenses

   For Hired Auto Physical Damage, we will pay expenses for which an "insured" becomes legally responsible to pay for loss of use of a vehicle rented or hired without a driver under a written rental contract or agreement. We will pay for loss of use expenses if caused by:

   (1) Other than collision only if the Declarations indicates that Comprehensive Coverage is provided for any covered "auto";

   (2) Specified Causes Of Loss only if the Declarations indicates that Specified Causes Of Loss Coverage is provided for any covered "auto"; or

   (3) Collision only if the Declarations indicates that Collision Coverage is provided for any covered "auto".

   However, the most we will pay for any expenses for loss of use is $20 per day, to a maximum of $600.

B. Exclusions

1. We will not pay for "loss" caused by or resulting from any of the following. Such "loss" is excluded regardless of any other cause or

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event that contributes concurrently or in any sequence to the "loss".

a. **Nuclear Hazard**

(1) The explosion of any weapon employing atomic fission or fusion; or

(2) Nuclear reaction or radiation, or radioactive contamination, however caused.

b. **War Or Military Action**

(1) War, including undeclared or civil war;

(2) Warlike action by a military force, including action in hindering or defending against an actual or expected attack, by any government, sovereign or other authority using military personnel or other agents; or

(3) Insurrection, rebellion, revolution, usurped power or action taken by governmental authority in hindering or defending against any of these.

2. We will not pay for "loss" to any covered "auto" while used in any professional or organized racing or demolition contest or stunting activity, or while practicing for such contest or activity. We will also not pay for "loss" to any covered "auto" while that covered "auto" is being prepared for such a contest or activity.

3. We will not pay for "loss" due and confined to:

a. Wear and tear, freezing, mechanical or electrical breakdown.

b. Blowouts, punctures or other road damage to tires.

This exclusion does not apply to such "loss" resulting from the total theft of a covered "auto".

4. We will not pay for "loss" to any of the following:

a. Tapes, records, discs or other similar audio, visual or data electronic devices designed for use with audio, visual or data electronic equipment.

b. Any device designed or used to detect speed-measuring equipment, such as radar or laser detectors, and any jamming apparatus intended to elude or disrupt speed-measuring equipment.

c. Any electronic equipment, without regard to whether this equipment is permanently installed, that reproduces, receives or transmits audio, visual or data signals.

d. Any accessories used with the electronic equipment described in Paragraph **c.** above.

5. Exclusions **4.c.** and **4.d.** do not apply to equipment designed to be operated solely by use of the power from the "auto's" electrical system that, at the time of "loss", is:

a. Permanently installed in or upon the covered "auto";

b. Removable from a housing unit which is permanently installed in or upon the covered "auto";

c. An integral part of the same unit housing any electronic equipment described in Paragraphs **a.** and **b.** above; or

d. Necessary for the normal operation of the covered "auto" or the monitoring of the covered "auto's" operating system.

6. We will not pay for "loss" to a covered "auto" due to "diminution in value".

C. **Limits Of Insurance**

1. The most we will pay for:

a. "Loss" to any one covered "auto" is the lesser of:

(1) The actual cash value of the damaged or stolen property as of the time of the "loss"; or

(2) The cost of repairing or replacing the damaged or stolen property with other property of like kind and quality.

b. All electronic equipment that reproduces, receives or transmits audio, visual or data signals in any one "loss" is $1,000, if, at the time of "loss", such electronic equipment is:

(1) Permanently installed in or upon the covered "auto" in a housing, opening or other location that is not normally used by the "auto" manufacturer for the installation of such equipment;

(2) Removable from a permanently installed housing unit as described in Paragraph **b.(1)** above; or

(3) An integral part of such equipment as described in Paragraphs **b.(1)** and **b.(2)** above.

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2. An adjustment for depreciation and physical condition will be made in determining actual cash value in the event of a total "loss".
3. If a repair or replacement results in better than like kind or quality, we will not pay for the amount of the betterment.

D. Deductible

For each covered "auto", our obligation to pay for, repair, return or replace damaged or stolen property will be reduced by the applicable deductible shown in the Declarations. Any Comprehensive Coverage deductible shown in the Declarations does not apply to "loss" caused by fire or lightning.

SECTION IV – BUSINESS AUTO CONDITIONS

The following conditions apply in addition to the Common Policy Conditions:

A. Loss Conditions

1. Appraisal For Physical Damage Loss

If you and we disagree on the amount of "loss", either may demand an appraisal of the "loss". In this event, each party will select a competent appraiser. The two appraisers will select a competent and impartial umpire. The appraisers will state separately the actual cash value and amount of "loss". If they fail to agree, they will submit their differences to the umpire. A decision agreed to by any two will be binding. Each party will:

a. Pay its chosen appraiser; and

b. Bear the other expenses of the appraisal and umpire equally.

If we submit to an appraisal, we will still retain our right to deny the claim.

2. Duties In The Event Of Accident, Claim, Suit Or Loss

We have no duty to provide coverage under this policy unless there has been full compliance with the following duties:

a. In the event of "accident", claim, "suit" or "loss", you must give us or our authorized representative prompt notice of the "accident" or "loss". Include:

(1) How, when and where the "accident" or "loss" occurred;

(2) The "insured's" name and address; and

(3) To the extent possible, the names and addresses of any injured persons and witnesses.

b. Additionally, you and any other involved "insured" must:

(1) Assume no obligation, make no payment or incur no expense without our consent, except at the "insured's" own cost.

(2) Immediately send us copies of any request, demand, order, notice, summons or legal paper received concerning the claim or "suit".

(3) Cooperate with us in the investigation or settlement of the claim or defense against the "suit".

(4) Authorize us to obtain medical records or other pertinent information.

(5) Submit to examination, at our expense, by physicians of our choice, as often as we reasonably require.

c. If there is "loss" to a covered "auto" or its equipment, you must also do the following:

(1) Promptly notify the police if the covered "auto" or any of its equipment is stolen.

(2) Take all reasonable steps to protect the covered "auto" from further damage. Also keep a record of your expenses for consideration in the settlement of the claim.

(3) Permit us to inspect the covered "auto" and records proving the "loss" before its repair or disposition.

(4) Agree to examinations under oath at our request and give us a signed statement of your answers.

3. Legal Action Against Us

No one may bring a legal action against us under this Coverage Form until:

a. There has been full compliance with all the terms of this Coverage Form; and

b. Under Covered Autos Liability Coverage, we agree in writing that the "insured" has an obligation to pay or until the amount of that obligation has finally been determined by judgment after trial. No one has the right under this policy to bring us into an action to determine the "insured's" liability.

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4. **Loss Payment – Physical Damage Coverages**

   At our option, we may:

   a. Pay for, repair or replace damaged or stolen property;

   b. Return the stolen property, at our expense. We will pay for any damage that results to the "auto" from the theft; or

   c. Take all or any part of the damaged or stolen property at an agreed or appraised value.

   If we pay for the "loss", our payment will include the applicable sales tax for the damaged or stolen property.

5. **Transfer Of Rights Of Recovery Against Others To Us**

   If any person or organization to or for whom we make payment under this Coverage Form has rights to recover damages from another, those rights are transferred to us. That person or organization must do everything necessary to secure our rights and must do nothing after "accident" or "loss" to impair them.

B. General Conditions

1. **Bankruptcy**

   Bankruptcy or insolvency of the "insured" or the "insured's" estate will not relieve us of any obligations under this Coverage Form.

2. **Concealment, Misrepresentation Or Fraud**

   This Coverage Form is void in any case of fraud by you at any time as it relates to this Coverage Form. It is also void if you or any other "insured", at any time, intentionally conceals or misrepresents a material fact concerning:

   a. This Coverage Form;

   b. The covered "auto";

   c. Your interest in the covered "auto"; or

   d. A claim under this Coverage Form.

3. **Liberalization**

   If we revise this Coverage Form to provide more coverage without additional premium charge, your policy will automatically provide the additional coverage as of the day the revision is effective in your state.

4. **No Benefit To Bailee – Physical Damage Coverages**

   We will not recognize any assignment or grant any coverage for the benefit of any person or organization holding, storing or transporting property for a fee regardless of any other provision of this Coverage Form.

5. **Other Insurance**

   a. For any covered "auto" you own, this Coverage Form provides primary insurance. For any covered "auto" you don't own, the insurance provided by this Coverage Form is excess over any other collectible insurance. However, while a covered "auto" which is a "trailer" is connected to another vehicle, the Covered Autos Liability Coverage this Coverage Form provides for the "trailer" is:

      (1) Excess while it is connected to a motor vehicle you do not own; or

      (2) Primary while it is connected to a covered "auto" you own.

   b. For Hired Auto Physical Damage Coverage, any covered "auto" you lease, hire, rent or borrow is deemed to be a covered "auto" you own. However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

   c. Regardless of the provisions of Paragraph **a.** above, this Coverage Form's Covered Autos Liability Coverage is primary for any liability assumed under an "insured contract".

   d. When this Coverage Form and any other Coverage Form or policy covers on the same basis, either excess or primary, we will pay only our share. Our share is the proportion that the Limit of Insurance of our Coverage Form bears to the total of the limits of all the Coverage Forms and policies covering on the same basis.

6. **Premium Audit**

   a. The estimated premium for this Coverage Form is based on the exposures you told us you would have when this policy began. We will compute the final premium due when we determine your actual exposures. The estimated total premium will be credited against the final premium due and the first Named Insured will be billed for the balance, if any. The due date for the final premium or retrospective premium is the date shown as the due date on the bill. If the estimated total premium exceeds the final premium due, the first Named Insured will get a refund.

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b. If this policy is issued for more than one year, the premium for this Coverage Form will be computed annually based on our rates or premiums in effect at the beginning of each year of the policy.

7. **Policy Period, Coverage Territory**

Under this Coverage Form, we cover "accidents" and "losses" occurring:

a. During the policy period shown in the Declarations; and

b. Within the coverage territory.

The coverage territory is:

(1) The United States of America;

(2) The territories and possessions of the United States of America;

(3) Puerto Rico;

(4) Canada; and

(5) Anywhere in the world if a covered "auto" of the private passenger type is leased, hired, rented or borrowed without a driver for a period of 30 days or less,

provided that the "insured's" responsibility to pay damages is determined in a "suit" on the merits, in the United States of America, the territories and possessions of the United States of America, Puerto Rico or Canada, or in a settlement we agree to.

We also cover "loss" to, or "accidents" involving, a covered "auto" while being transported between any of these places.

8. **Two Or More Coverage Forms Or Policies Issued By Us**

If this Coverage Form and any other Coverage Form or policy issued to you by us or any company affiliated with us applies to the same "accident", the aggregate maximum Limit of Insurance under all the Coverage Forms or policies shall not exceed the highest applicable Limit of Insurance under any one Coverage Form or policy. This condition does not apply to any Coverage Form or policy issued by us or an affiliated company specifically to apply as excess insurance over this Coverage Form.

SECTION V – DEFINITIONS

A. "Accident" includes continuous or repeated exposure to the same conditions resulting in "bodily injury" or "property damage".

B. "Auto" means:

1. A land motor vehicle, "trailer" or semitrailer designed for travel on public roads; or

2. Any other land vehicle that is subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged.

However, "auto" does not include "mobile equipment".

C. "Bodily injury" means bodily injury, sickness or disease sustained by a person, including death resulting from any of these.

D. "Covered pollution cost or expense" means any cost or expense arising out of:

1. Any request, demand, order or statutory or regulatory requirement that any "insured" or others test for, monitor, clean up, remove, contain, treat, detoxify or neutralize, or in any way respond to, or assess the effects of, "pollutants"; or

2. Any claim or "suit" by or on behalf of a governmental authority for damages because of testing for, monitoring, cleaning up, removing, containing, treating, detoxifying or neutralizing, or in any way responding to, or assessing the effects of, "pollutants".

"Covered pollution cost or expense" does not include any cost or expense arising out of the actual, alleged or threatened discharge, dispersal, seepage, migration, release or escape of "pollutants":

a. That are, or that are contained in any property that is:

(1) Being transported or towed by, handled or handled for movement into, onto or from the covered "auto";

(2) Otherwise in the course of transit by or on behalf of the "insured"; or

(3) Being stored, disposed of, treated or processed in or upon the covered "auto";

b. Before the "pollutants" or any property in which the "pollutants" are contained are moved from the place where they are accepted by the "insured" for movement into or onto the covered "auto"; or

c. After the "pollutants" or any property in which the "pollutants" are contained are moved from the covered "auto" to the place where they are finally delivered, disposed of or abandoned by the "insured".

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Paragraph **a.** above does not apply to fuels, lubricants, fluids, exhaust gases or other similar "pollutants" that are needed for or result from the normal electrical, hydraulic or mechanical functioning of the covered "auto" or its parts, if:

(1) The "pollutants" escape, seep, migrate or are discharged, dispersed or released directly from an "auto" part designed by its manufacturer to hold, store, receive or dispose of such "pollutants"; and

(2) The "bodily injury", "property damage" or "covered pollution cost or expense" does not arise out of the operation of any equipment listed in Paragraph **6.b.** or **6.c.** of the definition of "mobile equipment".

Paragraphs **b.** and **c.** above do not apply to "accidents" that occur away from premises owned by or rented to an "insured" with respect to "pollutants" not in or upon a covered "auto" if:

(a) The "pollutants" or any property in which the "pollutants" are contained are upset, overturned or damaged as a result of the maintenance or use of a covered "auto"; and

(b) The discharge, dispersal, seepage, migration, release or escape of the "pollutants" is caused directly by such upset, overturn or damage.

E. "Diminution in value" means the actual or perceived loss in market value or resale value which results from a direct and accidental "loss".

F. "Employee" includes a "leased worker". "Employee" does not include a "temporary worker".

G. "Insured" means any person or organization qualifying as an insured in the Who Is An Insured provision of the applicable coverage. Except with respect to the Limit of Insurance, the coverage afforded applies separately to each insured who is seeking coverage or against whom a claim or "suit" is brought.

H. "Insured contract" means:

1. A lease of premises;

2. A sidetrack agreement;

3. Any easement or license agreement, except in connection with construction or demolition operations on or within 50 feet of a railroad;

4. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;

5. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another to pay for "bodily injury" or "property damage" to a third party or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement; or

6. That part of any contract or agreement entered into, as part of your business, pertaining to the rental or lease, by you or any of your "employees", of any "auto". However, such contract or agreement shall not be considered an "insured contract" to the extent that it obligates you or any of your "employees" to pay for "property damage" to any "auto" rented or leased by you or any of your "employees".

An "insured contract" does not include that part of any contract or agreement:

a. That indemnifies a railroad for "bodily injury" or "property damage" arising out of construction or demolition operations, within 50 feet of any railroad property and affecting any railroad bridge or trestle, tracks, roadbeds, tunnel, underpass or crossing;

b. That pertains to the loan, lease or rental of an "auto" to you or any of your "employees", if the "auto" is loaned, leased or rented with a driver; or

c. That holds a person or organization engaged in the business of transporting property by "auto" for hire harmless for your use of a covered "auto" over a route or territory that person or organization is authorized to serve by public authority.

I. "Leased worker" means a person leased to you by a labor leasing firm under an agreement between you and the labor leasing firm to perform duties related to the conduct of your business. "Leased worker" does not include a "temporary worker".

J. "Loss" means direct and accidental loss or damage.

K. "Mobile equipment" means any of the following types of land vehicles, including any attached machinery or equipment:

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1. Bulldozers, farm machinery, forklifts and other vehicles designed for use principally off public roads;
2. Vehicles maintained for use solely on or next to premises you own or rent;
3. Vehicles that travel on crawler treads;
4. Vehicles, whether self-propelled or not, maintained primarily to provide mobility to permanently mounted:
   a. Power cranes, shovels, loaders, diggers or drills; or
   b. Road construction or resurfacing equipment such as graders, scrapers or rollers;
5. Vehicles not described in Paragraph **1.**, **2.**, **3.** or **4.** above that are not self-propelled and are maintained primarily to provide mobility to permanently attached equipment of the following types:
   a. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting and well-servicing equipment; or
   b. Cherry pickers and similar devices used to raise or lower workers; or
6. Vehicles not described in Paragraph **1.**, **2.**, **3.** or **4.** above maintained primarily for purposes other than the transportation of persons or cargo. However, self-propelled vehicles with the following types of permanently attached equipment are not "mobile equipment" but will be considered "autos":
   a. Equipment designed primarily for:
      (1) Snow removal;
      (2) Road maintenance, but not construction or resurfacing; or
      (3) Street cleaning;
   b. Cherry pickers and similar devices mounted on automobile or truck chassis and used to raise or lower workers; and
   c. Air compressors, pumps and generators, including spraying, welding, building cleaning, geophysical exploration, lighting or well-servicing equipment.

   However, "mobile equipment" does not include land vehicles that are subject to a compulsory or financial responsibility law or other motor vehicle insurance law where it is licensed or principally garaged. Land vehicles subject to a compulsory or financial responsibility law or other motor vehicle insurance law are considered "autos".

L. "Pollutants" means any solid, liquid, gaseous or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals and waste. Waste includes materials to be recycled, reconditioned or reclaimed.

M. "Property damage" means damage to or loss of use of tangible property.

N. "Suit" means a civil proceeding in which:
   1. Damages because of "bodily injury" or "property damage"; or
   2. A "covered pollution cost or expense";

   to which this insurance applies, are alleged.

   "Suit" includes:
   a. An arbitration proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the "insured" must submit or does submit with our consent; or
   b. Any other alternative dispute resolution proceeding in which such damages or "covered pollution costs or expenses" are claimed and to which the insured submits with our consent.

O. "Temporary worker" means a person who is furnished to you to substitute for a permanent "employee" on leave or to meet seasonal or short-term workload conditions.

P. "Trailer" includes semitrailer.

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COMMERCIAL AUTO

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET WAIVER OF SUBROGATION

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
TRUCKERS COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

Paragraph **5. Transfer of Rights Of Recovery Against Others To Us** of the CONDITIONS section is replaced by the following:

5. Transfer Of Rights Of Recovery Against Others To Us

We waive any right of recovery we may have against any person or organization to the extent required of you by a written contract executed prior to any "accident" or "loss", provided that the "accident" or "loss" arises out of the operations contemplated by such contract. The waiver applies only to the person or organization designated in such contract.

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CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-167370

Date Filed:
02/15/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
Brown & Gay Engineers, Inc.
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Williamson County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
Corridor E1
Preliminary Engineering for Corridor E1

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Dillon, William	Frisco, TX United States	X	
Johnston, Dave	Houston, TX United States	X	
Randermann, Randy	Houston, TX United States	X	
Lennard, Lee	Houston, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

BRENDA SWOPE
MY COMMISSION EXPIRES
October 9, 2017

Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said Randy Randermann, this the 15th day of February, 2017, to certify which, witness my hand and seal of office.

Signature of officer administering oath	Printed name of officer administering oath	Title of officer administering oath
Brenda Swope	Brenda Swope	Office Administrator

RECEIVED
MAR 01 2017
BY: PST

WORK AUTHORIZATION NO. 1

PROJECT: CORRIDOR E1

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **Brown & Gay Engineers, Inc.** (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is **$997,356.59.**

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **December 31, 2017**. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:	COUNTY:
Brown & Gay Engineers, Inc.	Williamson County, Texas
By: _____ Signature	By: _____ Signature
Wesley E. Jasek, P.E. Printed Name	_____ Printed Name
Director of Transportation Systems Title	_____ Title

OK
3/1/2017

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

ATTACHMENT A
SERVICES TO BE PROVIDED BY THE COUNTY
PRELIMINARY ENGINEERING FOR CORRIDOR E1

In general, Williamson County and its representatives to their best efforts will render services as follows:

1. Name, business address and phone number of County's project manager.

2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.

3. Obtain Rights of Entry from landowners that are unwilling to grant access to the Engineer.

4. Provide available appropriate County data on file, plans and specifications that are deemed pertinent to the completion of the work required by the scope of services (including previous hydraulic studies, models, previous reports and studies, available existing traffic counts, and design year traffic projections).

5. Provide available criteria and full information as to the client's requirements for the project. Provide examples of acceptable format for the required deliverables.

6. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.

7. Submittal of documentation to regulatory agencies for review and comment, when specified.

8. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.

9. Post and maintain project information for public consumption on the County website.

10. Assist with Coordination between the Engineer and the County's other subconsultants.

11. Negotiate with all utility companies for any agreements and/or relocations required.

12. Provide an agent as necessary to secure proposed ROW.

13. Provide construction observation and review contractor pay applications and progress.

14. Provide Engineer with Contractor submittals, Requests for Information (RFI's), shop drawings, and correspondence.

15. Review Engineer progress, submittals, and plan changes.

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
PRELIMINARY ENGINEERING FOR CORRIDOR E1

PROJECT DESCRIPTION

Existing Facility
County Road (CR) 101 and FM 3349 are currently 2-lane, north-south rural roads. The surrounding area consists of flat farm and ranch land.

Proposed Facility
A full access controlled freeway with 4 to 6 main lanes and 4 to 6 frontage road lanes, with approximately 350 feet of right of way (ROW). This includes an ultimate interchange at US 79 and at the intersection with Corridor B. Future extension to Phase E2 will be considered.

Design Criteria
Project-specific design criteria (typical sections, design speed, functional classification, geometric criteria, etc.) shall be identified and documented and shall be in accordance with the latest version of Williamson County design criteria, the Texas Department of Transportation (TxDOT) Roadway Design Manual, American Association of State Highway and Transportation Officials (AASHTO) Policy on Geometric Design of Highways and Streets, TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges, Highway Capacity Manual - Transportation Research Board, AASHTO – A Policy on Design Standards Interstate System, and other associated local and State Manuals, as applicable.

1. PROJECT MANAGEMENT

   a. COMMUNICATION:

      - Shall designate one Licensed Professional Engineer (Texas) to be responsible for the project management, and all communications with the County and its representatives.

   b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS:

      - Submit monthly progress status reports to the GEC. Progress reports will include: tasks completed, tasks/objectives that are planned for the upcoming periods, lists or descriptions of items or decisions needed from the County and its representatives. Subconsultant progress will be incorporated into the monthly progress report. A copy of the monthly progress report will be uploaded to ProjectWise.
      - Prepare correspondence, invoices, and progress reports on a monthly basis in accordance with current County requirements.

c. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:

- Prepare a project specific QA/QC plan and submit to the County within thirty (30) days of notice to proceed.
- For each deliverable, provide evidence of their internal review and mark-up of that deliverable as preparation for submittal and in accordance with submitted project specific QA/QC plan.
- Provide continuous QA/QC throughout the duration of the scheduled services included herein to appraise both technical and business performance and provide direction for project activities.

d. PROJECT COORDINATION & ADMINISTRATION:

- Prepare and maintain routine project record keeping including records of meetings.
- Correspondence and coordination will be handled through and with the concurrence of the GEC.
- Manage project activities (including documenting emails, phone and conference calls, maintain project files for the length of the project, meeting agendas, meeting minutes, and schedule meetings), direct Engineer's team/staff, correspond with the County and its representatives, and assist the County and its representatives in preparing responses to project-related inquiries.
- Coordinate with City of Hutto and City of Taylor Engineers, as applicable.
- Coordinate with Design Engineer developing interchange at intersection of Corridor E1 and Corridor A1.

e. PROGRESS/COORDINATION MEETINGS ([7] external meetings assumed):

- Attend a kickoff meeting and coordination/progress meeting with the County and its representatives and stakeholders, as necessary to communicate development of the project and design issues.
- Prepare agenda and sign-in sheets for external coordination/progress meetings.
- Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting.
- Conduct internal coordination meetings as required to advance the development of the project.

f. PROJECT SCHEDULE:

- Maintain a project schedule indicating tasks, subtasks, critical dates, milestones, and deliverables.

DELIVERABLES:

- Monthly Invoices and Progress Reports
- Project Specific QA/QC Plan
- Meeting Minutes, Sign-In Sheets, and Agendas
- Project Schedule

2. ROUTE AND DESIGN STUDIES

a. DATA COLLECTION:

- Perform record research and obtaining existing information, including but not limited to: as-built plans, construction plans, ROW maps, studies, future land use maps, floodplain data, floodplain and drainage models and analyses. Obtain construction plans for projects within the project limits and abutting TxDOT and County roads. Obtain drainage studies, reports, and mapping for the Study Area, including reports for developments affecting the drainage area.
- Conduct a field investigation of the proposed roadway alignment and the surrounding area to determine field conditions including photographic record of notable existing features.
- Develop and maintain adjacent property ownership information (including owner's name, mailing address, property address, property id number) spreadsheet to be used for disseminating project information.
- Review the data collected and organize the information.

b. STUDY AREA MAP:

- The Engineer shall establish a Study Area boundary for the route study based on previous studies, existing roadway corridors, and collected traffic evaluations and projections. The established Study Area will be presented at the first public meeting and used as the basis for the Constraints Map.

DELIVERABLES:

- Preliminary Study Area Map

- Refined Study Area Maps (up to four versions)
- Final Study Area Map

c. STAKEHOLDER COORDINATION ([15] meetings assumed):

- Prepare agendas, sign in sheets, meeting minutes, discussion topics, presentations, overall exhibits, and maps of the project limits for stakeholder coordination meetings.
- Coordinate with affected local agencies, County's consultants, and affected property owners.

d. CONSTRAINTS MAP ([6] preliminary alignments assumed):

- Develop a constraints map and technical memorandum that includes environmental concerns, known constraints (structures, floodplain), aerial photography, contour information, utility information, based on research of public databases and sources and details screening measures and decision practices for eliminating non-viable corridors.

DELIVERABLES:

- Preliminary Study Area Map
- Refined Study Area Maps (up to four versions)
- Final Study Area Map
- Preliminary Constraints Map and Technical Memorandum (pdf and hardcopies)
- Refined Constraints Map and Technical Memorandum Recommendation (pdf and hardcopies)
- Design Summary Form (pdf and hardcopies)

e. TRAFFIC EVALUATIONS AND PROJECTIONS

- The Engineer shall conduct traffic evaluations, studies and projections to determine the effects of an alternative on network operations and to determine the most effective alternative. Evaluation shall include a planning Level of Service (LOS) analysis for the current and design year in accordance with the latest version of Williamson County criteria, the TxDOT Roadway Design Manual, Highway Capacity Manual - Transportation Research Board, and other associated State Manuals or guidance, as applicable. The work shall include the following tasks:

a. A review of previous traffic studies;

b. Obtaining and analyzing crash data for the last three years on record on the highways. The crash data will be summarized in tabular format; collision diagrams may be used for critical intersections;

c. Obtaining and reviewing the 2040 MPO travel demand model for the roadways in the Study Area;

d. Obtaining and analyzing historical traffic volumes for the highways in the Study Area and calculating growth rates to be used in traffic projections;

e. Developing traffic projections for the roadways in the Study Area;

f. Performing a planning level capacity analysis and LOS analysis of critical roadways and critical intersections for current and design year;

g. Performing a planning level capacity analysis and LOS analysis of critical roadways and critical intersections for Build and No-Build conditions;

h. Preparing a traffic study draft report that will contain the data collected, the analysis, conclusions and recommendations.

i. Address comments from the County;

j. Prepare a final report.

DELIVERABLES:

- Draft Traffic Study Report (up to four versions)
- Final Traffic Study Report

f. DESIGN CRITERIA:

- The Engineer shall analyze and identify project-specific design criteria (typical sections, design speed, functional classification, geometric criteria) in accordance with the latest version of Williamson County criteria, the TxDOT Roadway Design Manual, AASHTO Policy on Geometric Design of Highways and Streets, TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges, Highway Capacity Manual -Transportation Research Board, AASHTO – A Policy on Design Standards Interstate System, and other associated local and State Manuals, as applicable. Independent DSRs will be developed for varying types of facilities.

DELIVERABLES:

- Draft Design Summary Report (DSR) (up to three versions)
- Final Design Summary Report (DSR) (up to three versions)

- 5 Typical Sections

g. ROUTE LOCATION STUDIES:

- The Engineer shall develop and evaluate preliminary route alternatives that are feasible and reasonable in terms of construction and operation. The preliminary route alternatives will also and satisfy the project purpose and need, and be developed in accordance with the latest version of Williamson County criteria, the TxDOT Roadway Design Manual, AASHTO Policy on Geometric Design of Highways and Streets, TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges, Highway Capacity Manual - Transportation Research Board, AASHTO – A Policy on Design Standards Interstate System, and other associated local and State Manuals, as applicable.
- Initial Screening and Evaluation Criteria: Within the Study Area, the Engineer shall develop an evaluation criteria to screen and evaluate a range of alternatives for the route study. Land use/land cover calculations shall be performed using desktop analysis and published Geographic Information Systems (GIS) databases. This activity will result in a working list of evaluation criteria that shall be used in refining up to six identified alternatives. This task will be structured to encourage a consensus on the measures to be used in the evaluation and selection of the route alternatives. It will further include categories such as transportation benefits, cost effectiveness, public support, environmental impacts, and constructability. The least viable alternatives, based on this level of analysis, shall be eliminated from further consideration. The remaining two to three alternatives will become the Reasonable Alternatives.
- Reasonable Screening and Evaluation Criteria: The Engineer shall pursue comments and ideas for modification of the Reasonable Alternatives. This will take place with input from stakeholder meetings. The Engineer shall present a general description of each alternative, the general alignment, overall operating scenarios, and the viability of each alternative to respond to the project's purpose and need.
- The Engineer shall revise the initial screening and evaluation criteria for use in analyzing the Reasonable Alternatives based on the input received at the stakeholders and agency scoping meetings. These criteria will focus on engineering and environmental constraints. The Reasonable Alternatives will be established using these criteria as well as the stated purpose and need. Reasonable Alternatives will be selected and advanced for detailed analysis in the corridor study. It is anticipated that a maximum of three Reasonable Alternatives will be evaluated at this revised screening.

- Recommended Alternative: The Engineer shall identify the Recommended Alternative based on the revised screening and evaluation criteria and route study analysis. The Engineer shall solicit comments on the Recommended Alternative from the County and other stakeholders. The Recommended Alternative shall be revised to address comments received through public involvement and stakeholder input.

DELIVERABLES:

- Draft Alternatives Evaluation Screening Matrix (up to four versions)
- Final Alternatives Evaluation Screening Matrix
- Draft Alternatives Evaluation Technical Report (up to four versions)
- Final Alternatives Evaluation Technical Report

h. PRELIMINARY COST ESTIMATES:

- Preliminary cost estimates shall be developed utilizing the most current TxDOT Statewide and District bid tabs, as applicable. Estimates shall be developed in present day dollars and escalated to the projected year of construction. The Engineer shall develop cursory ("rule of thumb") construction cost estimates for comparison and evaluation of the Reasonable Alternatives developed under the route study. The Engineer shall refine the cost estimate for the Recommended Alternative. The refined cost estimate for the Recommended Alternative shall include significant construction elements such as structures, retaining walls, pavement structures, and approximate cut and fill quantities. The Engineer shall provide ROW cost estimates, including compensable and non-compensable utility relocations, for the Reasonable Alternatives and the Recommended Alternative based upon per-acre/utility type costs.

DELIVERABLES:

- Draft Preliminary Cost Estimates (up to four versions)
- Final Preliminary Cost Estimates

i. PRELIMINARY RIGHT OF WAY REQUIREMENT:

- Preliminary ROW requirements and associated costs shall be determined for the Reasonable Alternatives in accordance with the latest version of Williamson County criteria, the TxDOT Roadway Design Manual, AASHTO Policy on Geometric Design of Highways and

Streets, TxDOT Standard Specifications for Construction of Highways, Streets, and Bridges, Highway Capacity Manual - Transportation Research Board, AASHTO – A Policy on Design Standards Interstate System, TxDOT ROW and Survey Manuals, and other associated local and State Manuals, as applicable. Determine current ROW widths based on TxDOT as-built plans and the Williamson County Appraisal District published information.

DELIVERABLES:

- 5 Proposed Typical Sections with estimated ROW
- Estimated ROW location on alignment maps
- Estimated ROW Cost

j. CONCEPTUAL DESIGN ALIGNMENT:

- The Engineer shall develop conceptual design schematics in MicroStation format to evaluate various methods of handling traffic while providing access in key areas. It is anticipated that a single design alternative that optimizes traffic flow and access shall be produced. The conceptual schematics will be plan view only. Profile work will be done only to the extent necessary to lay out the proper horizontal geometry.
- The alignment layout will adhere to a design scale of 1 inch = 100 feet and developed in English units. All Microsoft Office and Microstation V8 or V8i – Geopak computer graphic files furnished to the County must be submitted in electronic format by means of a CD media that will be compatible to the County. Design will follow the State and Federal Highway Administration (FHWA) standards, and follow the CADD standards used by the County. The alignment layout shall be submitted as an original document, accompanied with an original with an original Microstation V8 or V8i formatted graphic file.
- The schematics shall contain the following design elements:

a. Mainlane roadway alignment

b. Typical sections of existing and proposed roadways

c. Proposed structure locations

d. Preliminary ROW requirements

e. Existing and projected traffic volumes

DELIVERABLES:

- Draft Roll Plot (up to four versions)

- Final Roll Plot
- Preliminary cross sections
- KMZ file of conceptual alignment(s)

3. PUBLIC INVOLVEMENT

a. PUBLIC ENGAGEMENT PLAN:

- The Engineer will develop a Public Engagement Plan, which outlines the objectives, strategies, tools and timeline of the engagement process. The overall approach will be to inform, update, and define methods of collecting input from stakeholders. The Plan may include elements such as: general public meetings, one-on-one meetings with affected property owners and businesses and outlined communication tools to be used. Development of the plan will start with thorough research of the Study Area, areas of concern, and identification of stakeholders.

DELIVERABLES:

- Draft Public Engagement Plan
- Final Public Engagement Plan

b. OUTREACH TOOLS:

- A database will be developed and maintained in Excel format which includes nearby property owners and residents, businesses, churches, educational/community organizations, elected/public officials, County contacts, and any interested individuals. The Engineer will identify and reach out to key stakeholders that may be interested and will collect contact information for updates. Project Status Updates, meeting notices, and notices of opportunities to participate will be emailed to stakeholders in the database. The Engineer will set up and monitor a project email address and be the point of contact to reply to questions and comments in a timely manner. All communication will be logged and team members and County staff will be involved in development of messages.

DELIVERABLES:

- Development and continuous updates of stakeholder database
- Up to 4 Email Updates (Outside of meeting notices)
- Communications and responses to stakeholders

c. STAKEHOLDER OUTREACH AND MEETINGS:

- The Engineer will identify and reach out to key stakeholders to set up one-on-one meetings. These meetings will allow the project team an opportunity to visit about concerns and needs of the affected property owners and businesses.
- The Engineer will arrange, facilitate, and document meetings. It is assumed that there will be up to three rounds of outreach to key stakeholders, the project introduction, proposed alternatives and preferred alternative solution.

DELIVERABLES:

- Identification and contact with stakeholders
- Coordination and Facilitation of meetings (up to 3 rounds of outreach)
- Documentation of meetings

d. PUBLIC MEETING/OPEN HOUSE ([2] public meetings assumed):

- The Engineer will plan, schedule, conduct, and facilitate 2 public meetings to share project information with and collect feedback from citizens and stakeholders. The first meeting will introduce the project and review the environmental constraints of the project to the community, and allow for initial general input. The second meeting will be held to share findings and the proposed alternatives to the community and gather feedback. The third public meeting will present the preferred alternative to the community and collect input.
- The Engineer will develop handout materials, presentation, and exhibits for public viewing. Develop an invitation list of affected property owners, elected officials, stakeholders, school districts, local affected agencies, utility owners, and any other individuals who have showed interest in the project.
- The Engineer will plan, schedule, conduct, and facilitate public meeting(s) to share project information with and collect feedback from citizens and stakeholders. Tasks may include, but not limited to: calling and/or visiting potential meeting sites; reserving meeting space; announcing the meetings by distributing meeting information and coordinating with attendees; holding and participating in meeting rehearsals; and facilitating meetings. The Engineer will coordinate meeting announcements such as letters, email notices, signage, media releases, and postings.

- In addition, the Engineer will provide experienced meeting facilitators and attend public open house meetings to solicit input from the public. For each public meeting a summary analysis and responses to any comments or questions will be provided to the County.

DELIVERABLES:

- Meeting planning (logistics, location, facility prep)
- Meeting announcements such as email notices, signage, calling civic group contacts, etc.
- Meeting facilitation
- Meeting materials (notification flyer, PPT, exhibits, appropriate signage)
- Electronic version of meeting materials for virtual open house
- Summary report

e. PROJECT MATERIALS AND TOOLS:

- The Engineer will develop and coordinate materials for consistency and project branding. Materials will relay project information and provide opportunities to give input during the project. The approach to materials will be to tell the story of why these improvements are needed, explain the approach the County is taking to address transportation needs, and encourage involvement. Materials may include but are not limited to a handouts, fliers, or fact sheets.

DELIVERABLES:

- Illustrations to share project information
- Handouts, flyers, FAQs, or factsheets

f. WEBPAGE:

- The Engineer will develop content and coordinate with the County for posting the County website. It will include project information, information on how to get involved and share input, project contact information, project materials and materials from public meetings.

DELIVERABLES:

- Draft content for project webpage
- Coordination with County for posting
- Updates to content

g. MEDIA OUTREACH:

- The Engineer will develop and implement additional media outreach strategies. Drafts of media releases will be developed for the County to distribute to announce project launch and public meetings.
- Social media posts will be drafted and sent to the appropriate contacts for posting to existing County and other relevant groups social media accounts. The Engineer will develop a message and plan for sharing information on Facebook, Twitter, and Nextdoor.
- The Engineer will identify opportunities for, and place advertisements for public meetings in local media outlets. Print and digital advertisements allow the message to be broadcast to a broader audience in the county and promote the public meetings.

DELIVERABLES:

- Up to 2 media releases
- Content for social media posts on Facebook, Twitter, and Nextdoor
- Development of up to 2 display advertisements for print or digital placement

4. RIGHT OF WAY (ROW) MAPPING

NONE

5. SURVEYING

a. RIGHT OF ENTRY ([20] letters assumed):

- Prepare and mail right of entry letters per the County's standard for the project team including environmental, geotechnical, and environmental. Send a second follow up letter to non-responsive property owners.

b. GROUND SURVEY:

- Locate and verify aerial LiDAR mapping control to ground targets in the immediate area.
- Establish horizontal and vertical control using 3 inter-visible monument pairs at locations near both ends and near the center of the project study area.
- Survey a sample of ground data (cross sectional) in areas not requiring right of entry e.g., crossing roadways, watercourses, etc.

- Perform coordinate system translations for existing file integration and to generate a homogenous project coordinate system.

DELIVERABLES:

- DGN file of ground verification data and crossing roadway information. This will NOT be a DTM or have associated TIN files.
- Control Monument data in ASCII format. ASCII file of ground verification data.
- Tiled LiDAR data files of classified points in LAS format.

c. DESIGN SURVEY:

- The Engineer will establish horizontal and vertical control including a minimum of 8 points within the survey limits. The survey control points will be set in locations that will likely be undisturbed by construction or State maintenance. The project control will be placed on horizontal and vertical datums [NAD83/93/NAVD88 values (Texas State Plane, South Central Zone)] with a scale factor of 1.00011 or as provided by the County. Elevations will be derived from GPS observations using Geoid 2012A model. Digital levels will be run through all control points to confirm the established elevations.
- The Engineer will supplement the aerial mapping design survey with conventional on-the-ground surveying in areas that are obscured from the LiDAR sensors field of view. Exact location of trees is not included in this scope of services.
- Supplemental design survey data will be merged and appended to the aerial mapping 2D and DTM to create seamless 2D, DTM and TIN files for the BBI section of Studabove.

DELIVERABLES:

- None

d. FIELD SURVEYING:

NONE

6. <u>SCHEMATIC DEVELOPMENT</u>

NONE

7. DRAINAGE STUDY

NONE

8. ENVIRONMENTAL SERVICES

a. PRELIMINARY ENVIRONMENTAL ANALYSIS:

- This task will include data collection and field reconnaissance for the Study Area and up to six alternative corridors. Assume no right of entry for the alternative corridors. All field reconnaissance for this task will be conducted from public ROW. Right of entry is reserved for the Recommended Alternative corridor.
- Utilize previous studies conducted for the CR 101 project and identify environmental, community, cultural, and other features. Resources evaluated in the analysis will be in accordance with current Federal and State statutes, regulations and guidelines and the State's latest codes, practices, criteria, specifications, policies, procedures, and Statement of Understanding including but not limited to National Environmental Policy Act (NEPA) (42 U.S.C. 4371, as amended) and TAC Title 43 Part 1, Chapters 2 and 16.
- Obtain environmental data from publically available sources and purchased through GeoSearch. The information will be collected in GIS format and incorporated in the Constraints Map for the Study Area.
- Update periodically publicly available information including but not limited to: locations of public buildings (schools, churches, parks), aerial photography, National Wetland Inventory data, Soil Survey data, TCEQ & EPA hazardous materials database information, FEMA floodplain information, vegetation information, and habitat for Federal and State protected species known to occur in Williamson County.
- Conduct a regulatory records review of the Study Area to identify recorded hazardous waste generators, treatment, storage and disposal facilities; solid waste landfills, unauthorized sites; documented spills; oil and gas exploration and production sites; and underground storage tank sites within the proposed site location.
- Complete the TxDOT Scope Development Form to document potential environmental risks and identify studies required for the Recommended Alternative corridor.

DELIVERABLES:

- Draft & Final Scope Development Form (electronic submission of up to 3 drafts and 1 final in PDF format)

9. GEOTECHNICAL SERVICES

NONE

10. PLAN PREPARATION

NONE

11. PERMITS

NONE

12. BIDDING PHASE SERVICES

NONE

13. CONSTRUCTION PHASE SERVICES

NONE

14. DELIVERABLES

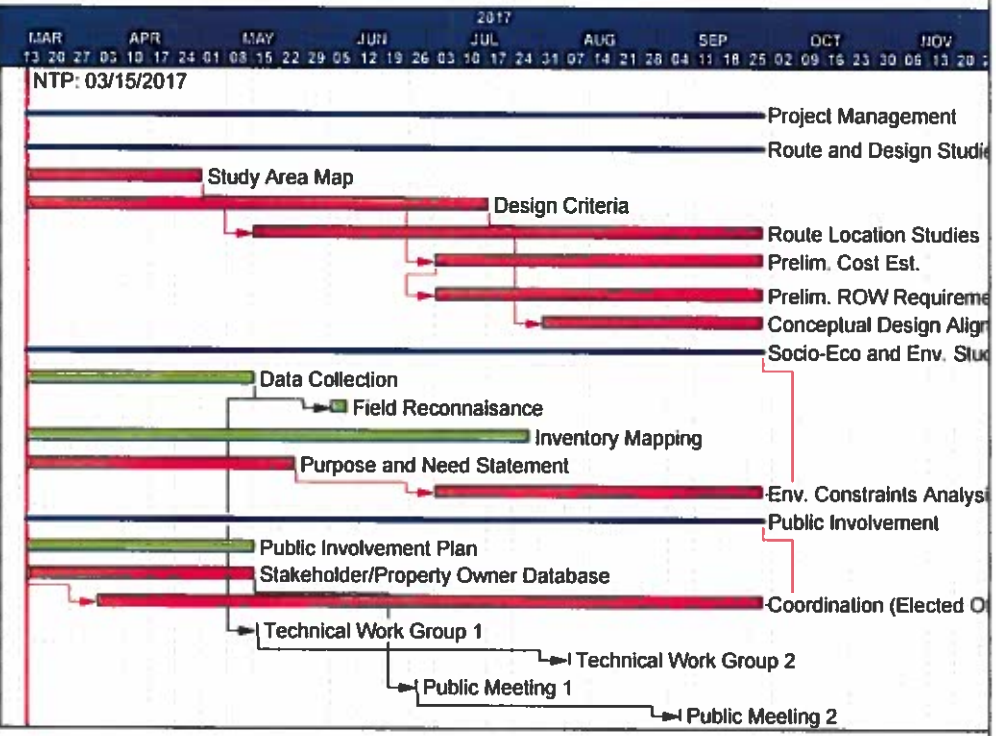
SEE OTHER TASKS

15. EXCLUSIONS

SEE OTHER TASKS. WORK NOT SPECIFIED IN THIS CONTRACT IS EXCLUDED.

ATTACHMENT C - WORK SCHEDULE

Act ID	Description	Orig Dur	Early Start	Early Finish
0001	NTP: 03/15/2017	1d	15MAR17	15MAR17
0002	Project Management	142d	15MAR17	29SEP17
11010	Route and Design Studies	142d	15MAR17	29SEP17
11020	Study Area Map	34d	15MAR17	01MAY17
11030	Design Criteria	88d	15MAR17	17JUL17
11040	Route Location Studies	99d	15MAY17	29SEP17
11055	Prelim. Cost Est.	64d	03JUL17	29SEP17
12010	Prelim. ROW Requirements	64d	03JUL17	29SEP17
12020	Conceptual Design Alignment	44d	01AUG17	29SEP17
12025	Socio-Eco and Env. Studies	142d	15MAR17	29SEP17
12026	Data Collection	44d	15MAR17	15MAY17
12030	Field Reconnaisance	5d	05JUN17	09JUN17
12040	Inventory Mapping	97d	15MAR17	28JUL17
12080	Purpose and Need Statement	53d	15MAR17	26MAY17
12090	Env. Constraints Analysis Tech. Report	64d	03JUL17	29SEP17
12100	Public Involvement	142d	15MAR17	29SEP17
12130	Public Involvement Plan	44d	15MAR17	15MAY17
12145	Stakeholder/Property Owner Database	44d	15MAR17	15MAY17
12170	Coordination (Elected Officials/Stakeholders)	129d	03APR17	29SEP17
12180	Technical Work Group 1	1d	16MAY17	16MAY17
12195	Technical Work Group 2	1d	08AUG17	08AUG17
12300	Public Meeting 1	1d	28JUN17	28JUN17
12320	Public Meeting 2	1d	07SEP17	07SEP17



Start date	15MAR17
Finish date	29SEP17
Data date	15MAR17
Run date	01MAR17
Page number	1A

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Corridor E1 - WA 1
Work Schedule
BGE, Inc.

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

ATTACHMENT D-FEE SCHEDULE (BROWN & GAY ENGINEERS, INC.)

PRIME PROVIDER NAME: BROWN & GAY ENGINEERS, Inc.
Williamson County
PROJECT NAME: Corridor E1

	CORRIDOR E1																	
	BGE		ATG		IG		POZ		AMA		CAM		CDP		HVJ		TOTAL	
FUNCTION CODE	HOURS	FEES	HOURS	FEES	HOURS	FEES	HOURS	FEES	HOURS	FEES	HOURS	FEES	HOURS	FEES	HOURS	FEES	HOURS	FEES
1) Project Management	526	$105,790 00					16	$2,606 12	8	$1,062 00			38	$4,170 00			590	$113,628 12
2. Route and Design Studies	3,663	$ 604,020 00															3663	$604,020 00
3) Public Involvement	496	$89,140 00											510	$ 54,235 00			1006	$143,375 00
4. Right of Way Mapping	0	$0 00			44	$4,933 00											44	$4,933 00
5. Surveying	52	$7,610 00			79	$9,595 00											131	$17,205 00
6. Schematic Development	0	$0 00															0	$0 00
7. Drainage Study	0	$0 00															0	$0 00
8) Environmental Services	600	$72,200 00					160	$18,979 84	94	$ 9,752 00							854	$100,931 84
9. Geotechnical Services	0	$0 00															0	$0 00
10) Plan Preparation	0	$ -															0	$0 00
11. Permits	0	$ -															0	$0 00
12. Bidding Phase Services	0	$ -															0	$0 00
13) Construction Phase Services	0	$ -															0	$0 00
14. Deliverables	0	$ -															0	$0 00
ODE		$8,641 00						$1,981 63		$114 00				$4,327 00			0	$13,063 83
TOTAL	5,339	$885,401 00	0	$ -	123	$ 14,528 00	176	$23,767 59	102	$ 10,928 00	0	$ -	548	$ 62,732 00	0	$ -	6288	$ 997,356 59

LEGEND:

Brown and Gay Engineers, Inc	BGE
Alliance Transportation Group	ATG
Inland Geodetics	IG
Poznecki-Camarillo, Inc.	POZ
Ama Terra Environmental, Inc.	AMA
Cambrian Environmental	CAM
Concept Development & Planning	CDP
HVJ Associates, Inc.	HVJ

ATTACHMENT D-FEE SCHEDULE (BROWN & GAY ENGINEERS, INC.)

PRIME PROVIDER NAME: BROWN & GAY ENGINEERS, INC

TASK DESCRIPTION	PROJECT DIRECTOR	SR PROJECT MANAGER	SR STRUCT ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	GRADUATE ENGINEER	SR DESIGN TECH	DESIGN TECH	SR CADD TECH	CADD TECH	ENV CADD MANAGER	ENV TASK LEADER	GIS TECH	JR ENV SCIENTIST	SURVEY RPLS	SURVEY TECH	SURVEY FIELD CREW	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
1. PROJECT MANAGEMENT																					
COMMUNICATION	40	40	10									12							102		
MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS	20	20		20	10							10						20	100		
PROJECT COORDINATION & ADMINISTRATION	20	30	4	20								12						20	106		
PROGRESS/COORDINATION MEETINGS	40	30	4	20	10							17							119		
PROJECT SCHEDULE						20													20		
DELIVERABLES	10	40	4		13													20	84		
																			0		
HOURS SUB TOTALS	130	180	22	80	70	20	0	0	0	0	0	49	0	0	0	0	0	60	611	0	
CONTRACT RATE PER HOUR	240	230	180	205	180	175	140	115	110	90	220	145	120	80	180	105	170	60			
TOTAL LABOR COSTS	$31,200.00	$41,400.00	$3,960.00	$16,400.00	$12,600.00	$3,500.00	$0.00	$0.00	$0.00	$0.00	$0.00	$7,105.00	$0.00	$0.00	$0.00	$0.00	$0.00	$3,600.00	$119,765.00		
% DISTRIBUTION OF STAFFING	5.11%	20.3%	4.2%	11.4%	9.7%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	8.7%	0.0%	0.0%	0.0%	0.0%	0.0%	11.4%			
SUBTOTAL 1. PROJECT MANAGEMENT																			**$119,765.00**		

TASK DESCRIPTION	PROJECT DIRECTOR	SR PROJECT MANAGER	SR STRUCT ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	GRADUATE ENGINEER	SR DESIGN TECH	DESIGN TECH	SR CADD TECH	CADD TECH	ENV CADD MANAGER	ENV TASK LEADER	GIS TECH	JR ENV SCIENTIST	SURVEY RPLS	SURVEY TECH	SURVEY FIELD CREW	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
2. ROUTE AND DESIGN STUDIES																					
DATA COLLECTION		12	12	12	50	70	80		0										244		
STUDY AREA MAP	8	12		12	50	70	80		16										248		
STAKEHOLDER COORDINATION	60	70		30	50				8										238		
CONSTRAINTS MAP	8	40		60	60	80	100		16										364		
TRAFFIC EVALUATIONS AND PROJECTIONS	8	60		60	120	160	120		8										576		
DESIGN CRITERIA		16		24	60	16			4										110		
ROUTE LOCATION STUDIES	16	60	40	180	240	240	240		16										1032		
PRELIMINARY COST ESTIMATES		30		12	25	30			8										105		
CONCEPTUAL DESIGN ALIGNMENT	8	80	60	60	60	100	100		80										508		
DELIVERABLES		12	6	24	50	80	80		24										238		
																			0		
HOURS SUB TOTALS	128	412	118	414	715	826	720	0	388	0	0	0	0	0	0	0	0	0	3721		
CONTRACT RATE PER HOUR	240	230	180	205	180	175	140	115	110	90	220	145	120	80	180	105	170	60			
TOTAL LABOR COSTS	$30,720.00	$94,760.00	$21,240.00	$84,870.00	$128,700.00	$144,550.00	$100,800.00	$0.00	$42,680.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$648,320.00		
% DISTRIBUTION OF STAFFING	3.44%	11.25%	2.81%	11.24%	20.61%	22.95%	21.29%	0.00%	4.74%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
SUBTOTAL 2. ROUTE AND DESIGN STUDIES																			**$648,320.00**		

TASK DESCRIPTION	PROJECT DIRECTOR	SR PROJECT MANAGER	SR STRUCT ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	GRADUATE ENGINEER	SR DESIGN TECH	DESIGN TECH	SR CADD TECH	CADD TECH	ENV CADD MANAGER	ENV TASK LEADER	GIS TECH	JR ENV SCIENTIST	SURVEY RPLS	SURVEY TECH	SURVEY FIELD CREW	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
3. PUBLIC INVOLVEMENT																					
PUBLIC ENGAGEMENT PLAN		20									8								28		
OUTREACH TOOLS											8								8		
STAKEHOLDER OUTREACH AND MEETINGS		80		40	40	40	40				8	24							272		
PUBLIC MEETING/OPEN HOUSE		40		20	40	20	28					20							168		
PROJECT MATERIALS AND TOOLS											8								8		
WEBPAGE											4								4		
DELIVERABLES																			0		
																			0		
HOURS SUB TOTALS	0	150	0	60	80	60	68	0	0	0	36	44	0	0	0	0	0	0	498	0	
CONTRACT RATE PER HOUR	240	230	180	205	180	175	140	115	110	90	220	145	120	80	180	105	170	60			
TOTAL LABOR COSTS	$0.00	$34,500.00	$0.00	$12,300.00	$14,400.00	$10,500.00	$9,520.00	$0.00	$0.00	$0.00	$7,920.00	$6,380.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$95,520.00		
% DISTRIBUTION OF STAFFING	0.00%	20.24%	0.00%	12.10%	16.13%	12.10%	11.11%	0.00%	0.00%	0.00%	7.26%	6.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
SUBTOTAL 3. PUBLIC INVOLVEMENT																			**$95,520.00**		

ATTACHMENT D-FEE SCHEDULE (BROWN & GAY ENGINEERS, INC.)

PRIME PROVIDER NAME: BROWN & GAY ENGINEERS, INC

TASK DESCRIPTION	PROJECT DIRECTOR	SR. PROJECT MANAGER	SR. STRUCT. ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	GRADUATE ENGINEER	SR. DESIGN TECH.	DESIGN TECH.	SR. CADD TECH.	CADD TECH.	ENV. DISC. MANAGER	ENV. TASK LEADER	GIS TECH.	JR. ENV. SCIENTIST	SURVEY RPLS	SURVEY TECH.	SURVEY FIELD CREW	CLERICAL	TOTAL LABOR HRS & COSTS	NO. OF DWGS.	LABOR HRS PER SHEET
2. SURVEYING																					
RIGHT OF ENTRY																					
FIELD SURVEYING															2	8	20		0		
DELIVERABLES															8	16			26		
																			24		
HOURS SUB TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	24	20	0	0	0	
CONTRACT RATE PER HOUR	260	220	260	205	160	135	140	115	110	80	220	145	120	80	150	105	170	80	80		
TOTAL LABOR COSTS	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$1,500.00	$2,520.00	$3,400.00	$0.00	$7,420.00		
% DISTRIBUTION OF STAFFING	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	19.23%	46.15%	36.46%	0.00%			
SUBTOTAL 2. SURVEYING																			$7,420.00		

TASK DESCRIPTION	PROJECT DIRECTOR	SR. PROJECT MANAGER	SR. STRUCT. ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	GRADUATE ENGINEER	SR. DESIGN TECH.	DESIGN TECH.	SR. CADD TECH.	CADD TECH.	ENV. DISC. MANAGER	ENV. TASK LEADER	GIS TECH.	JR. ENV. SCIENTIST	SURVEY RPLS	SURVEY TECH.	SURVEY FIELD CREW	CLERICAL	TOTAL LABOR HRS & COSTS	NO. OF DWGS.	LABOR HRS PER SHEET
3. ENVIRONMENTAL SERVICES																					
PRELIMINARY ENVIRONMENTAL ANALYSIS		30																			
COMMUNITY IMPACT ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE											20	200	110	300				40	600	N/A	N/A
ARCHEOLOGICAL RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
HISTORIC PROPERTIES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
WATER RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
BIOLOGICAL RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
AIR QUALITY ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
TRAFFIC NOISE ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
SUMMARY OF THE ENVIRONMENTAL STUDIES FOR NEPA LINKAGE																			0		
																			0		
HOURS SUB TOTALS	0	30		0	0	0	0	0	0	0	20	200	110	300				40	600	0	#DIV/0!
CONTRACT RATE PER HOUR	260	220	260	205	160	135	140	115	110	80	220	145	120	80	150	105	170	80			
TOTAL LABOR COSTS	$0.00	$6,600.00		$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$4,400.00	$29,000.00	$11,000.00	$14,000.00				$3,200.00	$72,200.00		
% DISTRIBUTION OF STAFFING	0.00%	8.82%		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.56%	8.45%	3.00%	9.45%				1.09%			
SUBTOTAL 3. ENVIRONMENTAL SERVICES																			$72,200.00		

SUMMARY OF TASKS																		TOTAL MH BY PC	TOTAL COSTS BY PC
1. PROJECT MANAGEMENT																		578	$105,700.00
2. ROUTE AND DESIGN STUDIES																		3883	$454,100.00
3. PUBLIC INVOLVEMENT																		600	$68,140.00
4. RIGHT OF WAY MAPPING																		0	$0.00
5. SURVEYING																		57	$7,420.00
6. SCHEMATIC DEVELOPMENT																		0	$0.00
7. DRAINAGE STUDY																		0	$0.00
8. ENVIRONMENTAL SERVICES																		600	$72,200.00
9. GEOTECHNICAL SERVICES																		0	$0.00
10. PLAN PREPARATION																		0	$0.00
11. PERMITS																		0	$0.00
12. BIDDING PHASE SERVICES																		0	$0.00
13. CONSTRUCTION PHASE SERVICES																		0	$0.00
14. DELIVERABLES																		0	$0.00
SUBTOTAL LABOR EXPENSES																		6318	$878,760.00

OTHER DIRECT EXPENSES (COMPLIES IN ACCORDANCE WITH YOUR CONTRACT)	# OF UNITS	COST/UNIT	
Air Travel	2	$ 400.00	
Mileage (# of miles) (current state rate)	1,000	$0.535	$535.00
Per diem	6	$36.00	$216.00
Hotel	2	$125.00	$250.00
UPS Rental	4	$100.00	$400.00
DECMT (field)	4	$40.00	$160.00
GeoSearch	2	$1,000.00	$2,000.00
Foam Board Exhibit (30x48)	10	$50.00	$500.00
Photocopies B/W (11 X 17)	250	$0.30	$75.00
CD Archive	2	$5.00	$10.00
Photocopies Color (@ 8.5 X 11)	250	$1.50	$375.00
Photocopies Color (11 X 17)	250	$2.00	$500.00
			$0.00
SUBTOTAL DIRECT EXPENSES			$5,041.00

SUMMARY	
TOTAL COSTS FOR PRIME ONLY	$878,760.00
NON SALARY (OTHER DIRECT EXPENSES) FOR PRIME ONLY	$5,041.00
GRAND TOTAL	**$883,801.00**

ATTACHMENT D-FEE SCHEDULE (Alliance Transportation Group)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

TASK DESCRIPTION	PROJECT PRINCIPAL	Sr PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	EIT	SENIOR ENGINEERING TECH	ENGINEERING TECH	PLANNING DIRECTOR	SR TRAVEL DEMAND MODELER	TRAVEL DEMAND MODELER III	TRAVEL DEMAND MODELER II	SENIOR PLANNER	PLANNER II	PLANNER I	PROJECT ADMIN	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
2. ROUTE AND DESIGN STUDIES																			
DATA COLLECTION																			
STAKEHOLDER COORDINATION																	0		
CONSTRAINTS MAP																	0		
																	0		
																	0		
HOURS SUB-TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
CONTRACT RATE PER HOUR	250	244	193	144	101	133	90	230	182	137	117	163	125	85	104	85			
TOTAL LABOR COSTS	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		
% DISTRIBUTION OF STAFFING																			
SUBTOTAL 2. ROUTE AND DESIGN STUDIES																	$0.00		

TASK DESCRIPTION	PROJECT PRINCIPAL	Sr PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	EIT	SENIOR ENGINEERING TECH	ENGINEERING TECH	PLANNING DIRECTOR	SR TRAVEL DEMAND MODELER	TRAVEL DEMAND MODELER III	TRAVEL DEMAND MODELER II	SENIOR PLANNER	PLANNER II	PLANNER I	PROJECT ADMIN	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
3. PUBLIC INVOLVEMENT																			
PUBLIC MEETING/OPEN HOUSE																			
																	0		
																	0		
HOURS SUB-TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CONTRACT RATE PER HOUR	250	244	193	144	101	133	90	230	182	137	117	163	125	85	104	85			
TOTAL LABOR COSTS	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		
% DISTRIBUTION OF STAFFING																			
SUBTOTAL 3. PUBLIC INVOLVEMENT																	$0.00		

TASK DESCRIPTION	PROJECT PRINCIPAL	Sr PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	EIT	SENIOR ENGINEERING TECH	ENGINEERING TECH	PLANNING DIRECTOR	SR TRAVEL DEMAND MODELER	TRAVEL DEMAND MODELER III	TRAVEL DEMAND MODELER II	SENIOR PLANNER	PLANNER II	PLANNER I	PROJECT ADMIN	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
7. DRAINAGE STUDY																			
Drainage Areas																			
Update FEMA Models																	0		
Peak Impact Analysis / Determine Design																	0		
Erosion Protection Design																	0		
Hydraulic Design non-FEMA crossings																	0		
Hydraulic Design FEMA crossings																	0		
Mitigation Recommendations																	0		
Floodplain Volume Calculation																	0		
Floodway Impact Analysis																	0		
FPA Meetings																	0		
Floodway Certification																	0		
Preliminary Grading Plan																	0		
Coordination Meetings																	0		
Draft and Final Drainage Report and Exhibits																	0		
																	0		
																	0		
HOURS SUB-TOTALS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
CONTRACT RATE PER HOUR	250	244	193	144	101	133	90	230	182	137	117	163	125	85	104	85			
TOTAL LABOR COSTS	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00		
% DISTRIBUTION OF STAFFING																			
SUBTOTAL 7. DRAINAGE STUDY																	$0.00		

ATTACHMENT D-FEE SCHEDULE (Alliance Transportation Group)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

SUMMARY OF TASKS																TOTAL MH BY FC	TOTAL COSTS BY FC
1. PROJECT MANAGEMENT																	
2. ROUTE AND DESIGN STUDIES																0	$0.00
3. PUBLIC INVOLVEMENT																0	$0.00
4. RIGHT OF WAY MAPPING																0	$0.00
5. SURVEYING																0	$0.00
6. SCHEMATIC DEVELOPMENT																0	$0.00
7. DRAINAGE STUDY																0	$0.00
8. ENVIRONMENTAL SERVICES																0	$0.00
9. GEOTECHNICAL SERVICES																0	$0.00
10. PLAN PREPARATION																0	$0.00
11. PERMITS																0	$0.00
12. BIDDING PHASE SERVICES																0	$0.00
13. CONSTRUCTION PHASE SERVICES																0	$0.00
14. DELIVERABLES																0	$0.00
																0	$0.00
SUBTOTAL LABOR EXPENSES																0	$0.00
OTHER DIRECT EXPENSES (COMPLETED IN ACCORDANCE WITH YOUR CONTRACT)	# OF UNITS	COST/UNIT															
Air Travel																	$0.00
Mileage (# of miles) (current state rate)																	$0.00
Per diem																	$0.00
Hotel																	$0.00
GPS Rental																	$0.00
GEOKIT (field)																	$0.00
GeoSearch																	$0.00
Foam Board Exhibit (36X48)																	$0.00
Photocopies B/W (11 X 17)																	$0.00
White Mylar (11 X 17)																	$0.00
CD Archive																	$0.00
Photocopies Color (8.5 X 11)																	$0.00
Photocopies Color (11 X 17)																	$0.00
SUBTOTAL DIRECT EXPENSES																	$0.00
																	$0.00

SUMMARY	
TOTAL COSTS FOR ATG ONLY	$0.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR ATG ONLY	$0.00
GRAND TOTAL	$0.00

ATTACHMENT D-FEE SCHEDULE (IG)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

TASK DESCRIPTION	2-MAN CREW	3-MAN CREW	SURVEY PM	RPLS	1-MAN W/GPS	TECH	GPS TECH	ADMIN								TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
4. RIGHT OF WAY MAPPING																		
ROW RESEARCH				2		3										5		
ROW WORKING SKETCH				1		4		1								6		
BOUNDARY FIELD SURVEY	4		1	2	4	1		1								13		
BOUNDARY ANALYSIS				2		4										6		
ROW SCHEMATIC				2		4		1								7		
QA/QC COORDINATION			2	2		2		1								7		
																0		
HOURS SUB-TOTALS	4	0	3	11	4	18	0	4	0	0	0	0	0	0	0	44	0	
CONTRACT RATE PER HOUR	142	185	140	135	120	98	98	54	105	80	220	145	100	90	70			
TOTAL LABOR COSTS	$568.00	$0.00	$420.00	$1,485.00	$480.00	$1,764.00	$0.00	$216.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$4,933.00		
% DISTRIBUTION OF STAFFING	9.09%	0.00%	6.82%	25.00%	9.09%	40.91%	0.00%	9.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
SUBTOTAL 4. RIGHT OF WAY MAPPING																$4,933.00		

TASK DESCRIPTION	2-MAN CREW	3-MAN CREW	SURVEY PM	RPLS	1-MAN W/GPS	TECH	GPS TECH	ADMIN								TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
5. SURVEYING																		
ADMIN/MOBILIZATION			1	2		1		1								5		
PRIMARY CONTROL	5			1	4	1		1								12		
LIDAR CONTROL TIES	8			2	16	4										30		
EXISTING FILE TRANSLATIONS			1	2		5		1								9		
FIELD SURVEY/GROUND TRUTH	8			3	4	1										16		
DELIVERABLES			1	1		5										7		
																0		
																0		
HOURS SUB-TOTALS	21	0	3	11	24	17	0	3	0	0	0	0	0	0	0	79	0	
CONTRACT RATE PER HOUR	142	185	140	135	120	98	98	54										
TOTAL LABOR COSTS	$2,987.00	$0.00	$420.00	$1,485.00	$2,880.00	$1,666.00	$0.00	$162.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$9,595.00		
% DISTRIBUTION OF STAFFING	26.58%	0.00%	3.80%	13.92%	30.38%	21.52%	0.00%	3.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%			
SUBTOTAL 5. SURVEYING																$9,595.00		

SUMMARY OF TASKS																TOTAL MH BY FC	TOTAL COSTS BY FC
1. PROJECT MANAGEMENT																0	$0.00
2. ROUTE AND DESIGN STUDIES																0	$0.00
3. PUBLIC INVOLVEMENT																0	$0.00
4. RIGHT OF WAY MAPPING	4	0	3	11	4	18	0	4								44	$4,933.00
5. SURVEYING	21	0	3	11	24	17	0	3								79	$9,595.00
6. SCHEMATIC DEVELOPMENT																0	$0.00
7. DRAINAGE STUDY																0	$0.00
8. ENVIRONMENTAL SERVICES																0	$0.00
9. GEOTECHNICAL SERVICES																0	$0.00
10. PLAN PREPARATION																0	$0.00
11. PERMITS																0	$0.00
12. BIDDING PHASE SERVICES																0	$0.00
13. CONSTRUCTION PHASE SERVICES																0	$0.00
14. DELIVERABLES																0	$0.00
SUBTOTAL LABOR EXPENSES	25	0	6	22	28	35	0	7								123	$14,528.00

ATTACHMENT D-FEE SCHEDULE (IG)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

OTHER DIRECT EXPENSES (SUPPLY IS IN ACCORDANCE WITH YOUR CONTRACT)	# OF UNITS	COST/UNIT														
Air Travel																
Mileage (# of miles) (current state rate)																$0.00
Per diem																$0.00
Hotel																$0.00
GPS Rental																$0.00
GEOKIT (field)																$0.00
GeoSearch																$0.00
Foam Board Exhibit (36X48)																$0.00
Photocopies B/W (11 X 17)																$0.00
White Mylar (11 X 17)																$0.00
CD Archive																$0.00
Photocopies Color (8 5 X 11)																$0.00
Photocopies Color (11 X 17)																$0.00
SUBTOTAL DIRECT EXPENSES																$0.00
																$0.00

SUMMARY	
TOTAL COSTS FOR PRIME ONLY	$14,528.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR PRIME ONLY	$0.00
GRAND TOTAL	$14,528.00

ATTACHMENT D-FEE SCHEDULE (Pozneckl-Camarillo, Inc.)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

TASK DESCRIPTION	PRINCIPAL	SR PROJECT MANAGER	SENIOR ENGINEER	ENGINEER I	SENIOR ENGINEER TECH	SR ENV SPECIALIST	ENV SPECIALIST	SR ENV PLANNER	ENV PLANNER	PUBLIC INVOLVEMENT MANAGER	PUBLIC INVOLVEMENT SPECIALIST	NOISE ANALYST	AIR QUALITY EXPERT	GIS SPECIALIST	TECHNICAL EDITOR	FIELD TECHNICIAN	OFFICE ADMIN	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
1. PROJECT MANAGEMENT																					
COMMUNICATION		1						1											2		
MONTHLY PROGRESS REPORTS, INVOICES AND BILLINGS	4	4																	8		
QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN																			0		
PROJECT COORDINATION & ADMINISTRATION		1						1											2		
PROGRESS/COORDINATION MEETINGS		1						1											2		
PROJECT SCHEDULE		1																	1		
DELIVERABLES								1											1		
																			0		
HOURS SUB-TOTALS	4	8	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	16	0	
CONTRACT RATE PER HOUR	205.79	170	172.42	133.49	82.7	111.24	103	105.74	111.24	155.74	103	111.24	111.24	103	87.58	75.73	68.74	51.6			
TOTAL LABOR COSTS	$823.16	$1,360.00	$0.00	$0.00	$0.00	$0.00	$0.00	$423.96	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$2,608.12		
% DISTRIBUTION OF STAFFING																					
SUBTOTAL 1. PROJECT MANAGEMENT																					
																			$2,608.12		

TASK DESCRIPTION	PRINCIPAL	SR PROJECT MANAGER	SENIOR ENGINEER	ENGINEER I	SENIOR ENGINEER TECH	SR ENV SPECIALIST	ENV SPECIALIST	SR ENV PLANNER	ENV PLANNER	PUBLIC INVOLVEMENT MANAGER	PUBLIC INVOLVEMENT SPECIALIST	NOISE ANALYST	AIR QUALITY EXPERT	GIS SPECIALIST	TECHNICAL EDITOR	FIELD TECHNICIAN	OFFICE ADMIN	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
2. ENVIRONMENTAL SERVICES																					
PRELIMINARY ENVIRONMENTAL ANALYSIS		12	8				16	16	36					72					160	N/A	N/A
COMMUNITY IMPACT ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
ARCHEOLOGICAL RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
HISTORIC PROPERTIES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
WATER RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
BIOLOGICAL RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
AIR QUALITY ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
TRAFFIC NOISE ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																			0		
SUMMARY OF THE ENVIRONMENTAL STUDIES FOR NEPA PACKAGE																			0		
																			0		
HOURS SUB-TOTALS	0	12	8	0	0	0	16	16	36	0	0	0	0	72	0	0	0	0	160	0	#DIV/0!
CONTRACT RATE PER HOUR	205.79	170	172.42	133.49	82.7	111.24	103	105.74	111.24	155.74	103	111.24	111.24	103	87.58	75.73	68.74	51.6			
TOTAL LABOR COSTS	$0.00	$2,040.00	$1,379.36	$0.00	$0.00	$0.00	$1,648.00	$1,691.84	$4,004.64	$0.00	$0.00	$0.00	$0.00	$7,416.00	$0.00	$0.00	$0.00	$0.00	$18,179.84		
% DISTRIBUTION OF STAFFING																					
SUBTOTAL 2. ENVIRONMENTAL SERVICES																					
																			$18,179.84		

ATTACHMENT D-FEE SCHEDULE (Poznecki-Camarillo, Inc.)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

SUMMARY OF TASKS																		TOTAL MH BY FC	TOTAL COSTS BY FC
1 PROJECT MANAGEMENT																		16	$2,896.72
8 ENVIRONMENTAL SERVICES																		160	$18,879.84
SUBTOTAL LABOR EXPENSES																		176	$21,776.56
OTHER DIRECT EXPENSES (INVOICES TO BE ACCOMPLISHED WITH YOUR SUBMITTAL)	# OF UNITS	COST/UNIT																	
Standard Postage		0.49																	$0.00
Overnight Mail - letter size		23.75																	$0.00
Overnight Mail - oversized box		30																	$0.00
CADD Computer		25																	$0.00
Courier Services		35																	$0.00
Certified Mailings		3.35																	$0.00
Photocopies B/W (8 1/2 X 11)	2400	0.12																	$288.00
Photocopies B/W (11 X 17)	250	0.3																	$177.78
Photocopies Color (8 1/2 X 11)	500	1.2																	$600.00
Photocopies Color (11 X 17)	125	2																	$250.00
Cyanotech Color (8 1/2 X 11)		1.1																	$0.00
Blueline Prints (23 X 36)		5																	$0.00
Bond Paper Plot (Blueline/Sepia)		0.25																	$0.00
Plots (B/W on Bond)		0.6																	$0.00
Plots (Color on Bond)		1.5																	$0.00
Plots (Color on Photographic Paper)		8.84																	$0.00
Color Graphics on Foam Board	5	75																	$375.00
Color Graphics on Foam Board		8.6																	$0.00
Construction Boards 30" X 40" Color Mounted		100																	$0.00
Word Processing		15																	$0.00
CDs		4.5																	$0.00
DVD		21.42																	$0.00
Historical Aerial & Topographical Images		75																	$0.00
Aerial Photographs (1" = 500' scale)		100																	$0.00
Hazardous Materials Database Search	1	500																	$500.00
Backhoe Rental		1200																	$0.00
GPS Receiver		25																	$0.00
GPS Rental		75																	$0.00
ATV Rental		100																	$0.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)		150																	$0.00
Traffic Control		150																	$0.00
Legal Advertisement- Regional Newspaper		600																	$0.00
Legal Advertisement- Local Newspaper		6500																	$0.00
Court Reporter		600																	$0.00
Court Reporter		9																	$0.00
Law Enforcement/Uniform Officer		100																	$0.00
Costs/Loss for Public Involvement		100																	$0.00
Public Involvement Facility Rental		35																	$0.00
Public Involvement Meeting Supplies		1200																	$0.00
Professional Narrator for Public Involvement		900																	$0.00
Translator (English to Spanish, other language as appropriate, or Sign Language)		150																	$0.00
Audio - Visual Equipment Rental		110																	$0.00
Audio - Visual Equipment Rental		500																	$0.00
Audio - Equipment Rental		500																	$0.00
Electronic Message Boards		750																	$0.00
Foam Core Dry-mount Exhibits		5																	$0.00
Laminating		3																	$0.00
Report 3-Ring Binding		5																	$0.00
Video Motor Rental		110																	$0.00
Wetland Delineation Field Supplies		20																	$0.00
Oil and Gas records		80																	$0.00
Chain of Title Search		1250																	$0.00
GIS Coordinate Data		100																	$0.00
USDA Digital Aerial Photographs		50																	$0.00
Biological Consultation		65																	$0.00
Archeological Consultation		117.74																	$0.00
Resource Agency Search		80																	$0.00
Maps		30																	$0.00
TARL Research Fees		38																	$0.00
TARL Curation Fees (shovel plus pertinent fees)		3270																	$0.00
Computer rental		60																	$0.00
Downhole camera rental		50																	$0.00
Backhoe/dozer rental		50																	$0.00
Hammerdrill rental		30																	$0.00
Field Vehicle		100																	$0.00
Lodging (for overnight travel- NTE State rates)		91																	$0.00
Hotel Taxes (State, City, & Local) (13%)		11.9																	$0.00
Meals (without overnight stay)	1	36																	$36.00
Meals (with overnight stay- NTE State rates)		51																	$0.00
Vehicle Mileage (NTE State reimbursement rate)	155	0.535																	$82.93
Rental car (NTE $50/day base rate)		55																	$0.00
Rental car (taxes and fees at cost)		19																	$0.00
Airfare (standard coach rate at cost)		550																	$0.00
Parking		8																	$0.00
Gasoline		3.7																	$0.00
SUBTOTAL DIRECT EXPENSES																			$1,941.63

SUMMARY	
TOTAL COSTS FOR POZ ONLY	$21,776.56
NON-SALARY (OTHER DIRECT EXPENSES) FOR POZ ONLY	$1,941.63
GRAND TOTAL	$23,707.65

ATTACHMENT D-FEE SCHEDULE (AmaTerra Environmental, Inc.)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	HISTORICAL ARCHITECT/ HISTORIAN IV	ARCHITECTURAL HISTORIAN/ HISTORIAN III	ARCHITECTURAL HISTORIAN/ HISTORIAN II	ARCHITECTURAL HISTORIAN/ HISTORIAN I	ARCHEOLOGIST V/ PRINCIPAL INVESTIGATOR	ARCHEOLOGIST IV/ PROJECT ARCHEOLOGIST	ARCHEOLOGIST III/ FIELD DIRECTOR	ARCHEOLOGIST II/ CREW CHIEF	ARCHEOLOGIST I/ TECH	GIS SPECIALIST	GIS TECH	EDITOR	ADMIN/ DOCUMENT PRODUCTION	CLERICAL	TOTAL $ COSTS	NO OF DWGS	LABOR HRS PER SHEET
1. PROJECT MANAGEMENT																			
COMMUNICATION		1															1		
MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS		1													1		2		
QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN		1															1		
PROJECT COORDINATION & ADMINISTRATION																	0		
PROGRESS/COORDINATION MEETINGS			4														4		
PROJECT SCHEDULE																	0		
DELIVERABLES																	0		
																	0		
HOURS SUB-TOTALS	0	3	4	0	0	0	0	0	0	0	0	0	0	0	1	0	8	0	
CONTRACT RATE PER HOUR	$ 216.00	$ 142.00	$ 137.00	$ 104.00	$ 87.00	$ 70.00	$ 126.00	$ 109.00	$ 73.00	$ 88.00	$ 64.00	$ 64.00	$ 64.00	$ 87.00	$ 89.00	$ 47.00			
TOTAL LABOR COSTS	$0.00	$426.00	$548.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$89.00	$0.00	$1,063.00		
% DISTRIBUTION OF STAFFING	0.0%	37.5%	50.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.5%	0.0%			
SUBTOTAL 1. PROJECT MANAGEMENT																	$1,063.00		

TASK DESCRIPTION	PRINCIPAL	PROJECT MANAGER	HISTORICAL ARCHITECT/ HISTORIAN IV	ARCHITECTURAL HISTORIAN/ HISTORIAN III	ARCHITECTURAL HISTORIAN/ HISTORIAN II	ARCHITECTURAL HISTORIAN/ HISTORIAN I	ARCHEOLOGIST V/ PRINCIPAL INVESTIGATOR	ARCHEOLOGIST IV/ PROJECT ARCHEOLOGIST	ARCHEOLOGIST III/ FIELD DIRECTOR	ARCHEOLOGIST II/ CREW CHIEF	ARCHEOLOGIST I/ TECH	GIS SPECIALIST	GIS TECH	EDITOR	ADMIN/ DOCUMENT PRODUCTION	CLERICAL	TOTAL LABOR HRS & COSTS	NO OF DWGS	LABOR HRS PER SHEET
2. ENVIRONMENTAL SERVICES																			
PRELIMINARY ENVIRONMENTAL ANALYSIS	2	23		10	10		4		10	10		2	4		2		77	N-A	N-A
COMMUNITY IMPACT ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
ARCHEOLOGICAL RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
HISTORIC PROPERTIES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
WATER RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
BIOLOGICAL RESOURCES ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
AIR QUALITY ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
TRAFFIC NOISE ASSESSMENT FOR THE RECOMMENDED ALTERNATIVE																	0		
SUMMARY OF THE ENVIRONMENTAL STUDIES FOR NEPA LINKAGE																	0		
																	0		
HOURS SUB-TOTALS	2	23	0	10	10	0	4	0	10	10	0	2	4	0	2	0	84	0	#DIV/0!
CONTRACT RATE PER HOUR	$ 216.00	$ 142.00	$ 137.00	$ 104.00	$ 87.00	$ 70.00	$ 126.00	$ 109.00	$ 73.00	$ 88.00	$ 64.00	$ 64.00	$ 64.00	$ 87.00	$ 89.00	$ 47.00			
TOTAL LABOR COSTS	$432.00	$3,266.00		$1,040.00	$870.00	$0.00	$504.00	$0.00	$730.00	$880.00	$0.00	$128.00	$272.00	$0.00	$178.00	$0.00	$8,752.00		
% DISTRIBUTION OF STAFFING	2.4%	37.5%	0.0%	11.9%	11.9%	0.0%	100.0%	0.0%	11.9%	23.8%	0.0%	2.4%	4.8%	0.0%	2.4%	0.0%			
SUBTOTAL 2. ENVIRONMENTAL SERVICES																	$8,752.00		

SUMMARY OF TASKS																TOTAL MH BY PC	TOTAL COSTS BY PC
1. PROJECT MANAGEMENT																8	$1,062.00
2. ENVIRONMENTAL SERVICES																84	$9,752.00
SUBTOTAL LABOR EXPENSES																153	$10,814.00
OTHER DIRECT EXPENSES (COMPLETE IN ACCORDANCE WITH YOUR CONTRACT)	# OF UNITS	CONTAINT															
Air Travel																	$0.00
Mileage (# of miles) (current state rate)	100	$0.540															$54.00
Per diem																	$0.00
Hotel																	$0.00
GPS Rental																	$0.00
DEOUT (hotel)																	$0.00
Deadsearch																	$0.00
Backhoe	0	$1,000.00															$0.00
Foam Board (+Mat (36X48)																	
Photocopies B&W (11 X 17)																	$0.00
White Mylar (11 X 17)																	$0.00
CD Archive																	$0.00
Photocopies B&W @ 8 X 11)	100	$0.10															$0.00
Photocopies Color (11 X 8.5)	50	$1.00															$50.00
SUBTOTAL DIRECT EXPENSES																	$104.00

SUMMARY	
TOTAL COSTS FOR AMATERRA	$10,814.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR AMATERRA	$114.00
GRAND TOTAL	$10,928.00

ATTACHMENT D-FEE SCHEDULE (CAM)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

SUMMARY	
TOTAL COSTS FOR CAM ONLY	$0.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR CAM ONLY	$0.00
GRAND TOTAL	$0.00

ATTACHMENT D-FEE SCHEDULE (Concept Development & Planning, LLC)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.
CONTRACT NUMBER:
PROJECT NAME: Corridor E1
WORK AUTHORIZATION NO. 1

TASK DESCRIPTION	Principal	Project	Senior Media Specialist	Senior Public Involvement Specialist	Public Involvement Specialist	Senior Graphic Design & Web Developer	Graphic Design & Web Developer	Junior Public Involvement Specialist	Admin Clerical	TOTAL LABOR HRS. & COSTS	NO OF DWGS	LABOR HRS PER SHEET
1. PROJECT MANAGEMENT												
Project coordination meetings and updates	7	7						7				
Monthly status reports and invoices	3				7			7				
HOURS SUB-TOTALS	10	7	0	0	7	0	0	14	0	38		
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	165	130	115	115	100	90	65	65	50			
TOTAL LABOR COSTS	$1,650.00	$910.00	$0.00	$0.00	$700.00	$0.00	$0.00	$910.00	$0.00	$4,170.00		
% DISTRIBUTION OF STAFFING	26.3%	18.4%	0.0%	0.0%	18.4%	0.0%	0.0%	36.8%	0.0%			
SUBTOTAL 1. PROJECT MANAGEMENT										$4,170.00		

TASK DESCRIPTION	Principal	Project	Senior Media Specialist	Senior Public Involvement Specialist	Public Involvement Specialist	Senior Graphic Design & Web Developer	Graphic Design & Web Developer	Junior Public Involvement Specialist	Admin Clerical	TOTAL LABOR HRS. & COSTS	NO OF DWGS	LABOR HRS PER SHEET
3. PUBLIC INVOLVEMENT (FC 120)												
Public Involvement Plan												
Research and Draft Plan Development	4	4						4				
Revisions and Final Plan		2						2				
Outreach Tools												
Develop and maintain stakeholder database		2			8			16	8			
Develop and distribute up to 4 email updates (outside of meeting notices)		2			4	3		4				
Communications and responses to stakeholders	10	20			20							
Stakeholder Outreach and Meetings												
Identify and reach out to stakeholders	2	4			4			12				
Coordinate and facilitate meetings (up to 3 rounds of outreach)	24	24			16			16				
Document meetings	4	8			8			4				
Public Meetings (2 meetings)												
Meeting planning (logistics, location, facility prep)	2	4			16			16	4			
Meeting announcements		4			4	8		16	4			
Meeting facilitation	8	8			12			12				
Meeting materials (invite, PPT, exhibits, signage)	4	8			8	16		4				
Summary Report and Analysis	8	10	4		10			4	4			
Project Materials and Tools												
Illustrations to share project information	2	2	4			8						
Handouts, flyers, FAQs, or factsheets	4	4				8						
Webpage												
Develop draft content	2		4		4							
Monthly updates to content as needed		2			2	8						
Media Outreach												
Up to two media releases	2		4									
Content for social media posts	1		4			4						
Development of three display advertisements	1		3			4						
HOURS SUB-TOTALS	78	108	23	0	114	57	0	110	20	510		
CONTRACT RATE PER HOUR (use the loaded rate in the contract which includes base hourly rate, overhead and profit)	165	130	115	115	100	90	65	65	50			
TOTAL LABOR COSTS	$12,870.00	$14,040.00	$2,645.00	$0.00	$11,400.00	$5,130.00	$0.00	$7,150.00	$1,000.00	$54,235.00		
% DISTRIBUTION OF STAFFING	15.29%	21.18%	4.51%	0.00%	22.35%	11.18%	0.00%	21.57%	3.92%			
SUBTOTAL 3. PUBLIC INVOLVEMENT										$54,235.00		

ATTACHMENT D-FEE SCHEDULE (Concept Development & Planning, LLC)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

DESCRIPTION										TOTAL COSTS BY FC
PROJECT MANAGEMENT (FC 164)										$4,170.00
ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT (FC 120)										$54,235.00
SUBTOTAL LABOR EXPENSES										$58,406.00
OTHER DIRECT EXPENSES (COMPLETE IN ACCORDANCE WITH YOUR CONTRACT)	# OF UNITS					COST/UNIT				
Air Travel										$0.00
Mileage (# of miles) (current state rate)	1,000					$0.535				$535.00
Corrugated Meeting Signs	20					$25.00				$500.00
Foam Boards	10					$70.00				$700.00
Postage	800					$0.49				$392.00
Photocopies B/W (8.5x11)	100					$0.10				$10.00
Photocopies B/W (11 X 17)	100					$0.20				$20.00
Photocopies Color (8.5 X 11)	600					$0.40				$240.00
Photocopies Color (11 X 17)	225					$0.80				$180.00
Venue Rental	2					$125.00				$250.00
AV Rental (Estimate)	2					$150.00				$300.00
Misc. (meeting supplies, signage, etc.)	2					$100.00				$200.00
Advertisements (Estimate)	4					$250.00				$1,000.00
SUBTOTAL DIRECT EXPENSES										$4,327.00

SUMMARY	
TOTAL COSTS FOR CDP ONLY	$ 58,406.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR CDP ONLY	$4,327.00
GRAND TOTAL	$62,732.00

ATTACHMENT D-FEE SCHEDULE (HVJ)

PRIME PROVIDER NAME: Brown & Gay Engineers, Inc.

SUMMARY	
TOTAL COSTS FOR HVJ ONLY	$0.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR HVJ ONLY	$0.00
GRAND TOTAL	$0.00

Commissioners Court - Regular Session **22.**

Meeting Date: 03/07/2017

CPY Corridor F Contract

Submitted By: Marie Walters, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a contract for Corridor F between Williamson County and CP&Y, Inc. relating to the LTP Corridor Study.

Background

The compensation cap for this contract is $3,000,000.00 with Work Authorization #1 being for $989,320.25 which falls within the approved $4M for FY2017 P456 LTP Corridor Study.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

CPY-contract-CorridorF

CPY-WA1-CorridorF

Form Review

Inbox	Reviewed By	Date
Hal Hawes	Hal Hawes	03/02/2017 10:53 AM
County Judge Exec Asst.	Wendy Coco	03/03/2017 04:08 PM
Form Started By: Marie Walters		Started On: 03/01/2017 06:10 PM
Final Approval Date: 03/03/2017		

RECEIVED
FEB 27 2017
BY: PST

WILLIAMSON COUNTY
CONTRACT FOR ENGINEERING SERVICES

FIRM: CP&Y, Inc. ("Engineer")
ADDRESS: 13809 Research Blvd., Ste. 300, Austin, TX 78750
PROJECT: Transportation Corridor F ("Project")

THE STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

THIS CONTRACT FOR ENGINEERING SERVICES ("Contract") is made and entered into, effective as the date of the last party's execution hereinbelow, by and between Williamson County, Texas, a political subdivision of the State of Texas, whose offices are located at 710 Main Street, Suite 101, Georgetown, Texas, 78626 (hereinafter referred to as "County"), and Engineer, and such Contract is for the purpose of contracting for professional engineering services.

RECITALS:

WHEREAS, V.T.C.A., Government Code §2254.002(2)(A)(vii) under Subchapter A entitled "Professional Services Procurement Act" provides for the procurement by counties of services of professional engineers; and

WHEREAS, County and Engineer desire to contract for such professional engineering services; and

WHEREAS, County and Engineer wish to document their agreement concerning the requirements and respective obligations of the parties;

NOW, THEREFORE, WITNESSETH:

That for and in consideration of the mutual promises contained herein and other good and valuable considerations, and the covenants and agreements hereinafter contained to be kept and performed by the respective parties hereto, it is agreed as follows:

ARTICLE 1
CONTRACT DOCUMENTS AND APPLICABLE PROJECT DOCUMENTS

A. Contract Documents. The Contract Documents consist of this Contract, any exhibits attached hereto (which exhibits are hereby incorporated into and made a part of this Contract), any fully executed Work Authorizations; any fully executed Supplemental Work Authorizations and all fully executed Contract Amendments (as defined herein in Article 14) which are subsequently issued. These form the entire contract, and all are as fully a part of this Contract as if attached to this Contract or repeated herein.

B. Project Documents. In addition to any other pertinent and necessary Project documents, the following documents shall be used in the development of the Project:

A. TxDOT 2011 Texas Manual of Uniform Traffic Control Devices for Streets and Highways, including latest revisions
B. Texas Department of Transportation's Standard Specifications for Construction of Highways, Streets, and Bridges, 2014 (English units)
C. National Environmental Policy Act (NEPA)
D. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, Effective April 4, 1994, including latest revisions
E. Americans with Disabilities Act (ADA) Regulations
F. U.S. Army Corps Regulations
G. International Building Code, current edition as updated
H. Williamson County Design Criteria & Project Development Manual, latest edition
I. Williamson County Multi-Corridor Transportation Plan Project Level Environmental Review and Compliance Protocol, latest edition
J. Williamson County Protocol for Sustainable Roadsides, latest edition
K. TxDOT Bridge Design Manual - LRFD, latest edition
L. TxDOT Geotechnical Manual, latest edition

ARTICLE 2
NON-COLLUSION; DEBARMENT; AND FINANCIAL INTEREST PROHIBITED

A. Non-collusion. Engineer warrants that he/she/it has not employed or retained any company or persons, other than a bona fide employee working solely for Engineer, to solicit or secure this Contract, and that he/she/it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, County reserves and shall have the right to annul this Contract without liability or, in its discretion and at its sole election, to deduct from the contract price or compensation, or to otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

B. Debarment Certification. Engineer must sign the Debarment Certification

enclosed herewith as **Exhibit A**.

C. Financial Interest Prohibited. Engineer covenants and represents that Engineer, his/her/its officers, employees, agents, consultants and subcontractors will have no financial interest, direct or indirect, in the purchase or sale of any product, materials or equipment that will be recommended or required for the construction of the Project.

ARTICLE 3
ENGINEERING SERVICES

Engineer shall perform Engineering Services as identified in **Exhibit B** entitled "Engineering Services."

County will prepare and issue Work Authorizations, in substantially the same form identified and attached hereto as **Exhibit C** and entitled "Work Authorization No. ____", to authorize the Engineer to perform one or more tasks of the Engineering Services. Each Work Authorization will include a description of the work to be performed, a description of the tasks and milestones, a work schedule for the tasks, definite review times by County and Engineer of all Engineering Services and a fee amount agreed upon by the County and Engineer. The amount payable for a Work Authorization shall be supported by the estimated cost of each work task as described in the Work Authorization. The Work Authorization will not waive the Engineer's responsibilities and obligations established in this Contract. The executed Work Authorizations shall become part of this Contract.

All work must be completed on or before the date specified in the Work Authorization. The Engineer shall promptly notify the County of any event which will affect completion of the Work Authorization, although such notification shall not relieve the Engineer from costs or liabilities resulting from delays in completion of the Work Authorization. Should the review times or Engineering Services take longer than shown on the Work Authorization, through no fault of Engineer, Engineer may submit a timely written request for additional time, which shall be subject to the approval of the County. Any changes in a Work Authorization shall be enacted by a written Supplemental Work Authorization before additional costs may be incurred. Any Supplemental Work Authorization must be executed by both parties within the period specified in the Work Authorization.

ARTICLE 4
CONTRACT TERM

A. Term. The Engineer is expected to complete the Engineering Services described herein in accordance with the above described Work Authorizations or any Supplemental Work Authorization related thereto. If Engineer does not perform the Engineering Services in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall have the right to terminate this Contract as set forth below in Article 20. So long as the County elects not to terminate this Contract, it shall continue from day to day until such time as the Engineering Services are completed in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto. Any Engineering Services performed or

costs incurred after the date of termination shall not be eligible for reimbursement. Engineer shall notify County in writing as soon as possible if he/she/it determines, or reasonably anticipates, that the Engineering Services will not be completed in accordance with an applicable Work Authorization or any Supplemental Work Authorization related thereto.

B. Work Authorizations. Engineer acknowledges that each Work Authorization is of critical importance, and agrees to undertake all reasonably necessary efforts to expedite the performance of Engineering Services required herein so that construction of the Project will be commenced and completed as scheduled. In this regard, and subject to adjustments in a particular Work Authorization, as provided in Article 3 herein, Engineer shall proceed with sufficient qualified personnel and consultants necessary to fully and timely accomplish all Engineering Services required under this Contract in a professional manner.

C. Commencement of Engineering Services. After execution of this Contract, Engineer shall not proceed with Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and has been notified in writing by the County to proceed, as provided in Article 8.

ARTICLE 5
COMPENSATION AND EXPENSES

County shall pay and Engineer agrees to accept up to the amount shown below as full compensation for the Engineering Services performed and to be performed under this Contract. The basis of compensation for the services of principals and employees engaged in the performance of the Engineering Services shall be based on the Rate Schedule set forth in the attached **Exhibit D**.

The maximum amount payable under this Contract, without modification, is **Three Million Dollars and 00/100 ($3,000,000.00)** (the "Compensation Cap"), provided that any amounts paid or payable shall be solely pursuant to a validly issued Work Authorization or any Supplemental Work Authorization related thereto. In no event may the aggregate amount of compensation authorized under Work Authorizations and Supplemental Work Authorizations exceed the Compensation Cap. The Compensation Cap shall be revised equitably only by written Contract Amendments executed by both parties in the event of a change the overall scope of the Engineering Services set forth in **Exhibit B**, as authorized by County.

The Compensation Cap is based upon all labor and non-labor costs estimated to be required in the performance of the Engineering Services provided for under this Contract. Should the actual costs of all labor and non-labor costs rendered under this Contract be less than the above stated Compensation Cap, then Engineer shall receive compensation for only actual fees and costs of the Engineering Services actually rendered and incurred, which may be less than the above stated Compensation Cap.

The Compensation Cap herein referenced may be adjusted for Additional Engineering Services requested and performed only if approved by a written Contract Amendment signed by both parties.

Engineer shall prepare and submit to County monthly progress reports in sufficient detail to support the progress of the Engineering Services and to support invoices requesting monthly payment. The format for such monthly progress reports and invoices must be in a format acceptable to County. Satisfactory progress of Engineering Services shall be an absolute condition of payment.

Engineer shall be reimbursed for actual non-labor and subcontract expenses incurred in the performance of the services under this Contract in accordance with the Williamson County Vendor Reimbursement Policy set forth under **Exhibit E**. Invoices requesting reimbursement for costs and expenditures related to the Project (reimbursables) must be accompanied by copies of the provider's invoice and comply with the Williamson County Vendor Reimbursement Policy. The copies of the provider's invoice must evidence the actual costs billed to Engineer without mark-up.

ARTICLE 6
METHOD OF PAYMENT

Payments to Engineer shall be made while Engineering Services are in progress. A monthly progress report, as referenced in Article 5 above (in a form acceptable to the County), shall be submitted to Williamson County Department of Infrastructure, to the attention of the Sr. Director of Infrastructure. Such progress report shall provide a summary of the work accomplished during the billing period for each Work Authorization task with an estimated percentage of completion for the task.

Simultaneous with submission of such progress report, Engineer shall prepare and submit one (1) original of a certified invoice to the Director of Road & Bridge in a form acceptable to the County Auditor. All invoices submitted to County must, at a minimum, be accompanied by an original complete packet of supporting documentation and time sheets detailing hours worked by staff persons with a description of the work performed by such persons. For Additional Engineering Services performed pursuant to this Contract, a separate invoice or itemization of the Additional Engineering Services must be presented with the same aforementioned requirements.

Payments shall be made by County based upon Engineering Services actually provided and performed.[a] Upon timely receipt and approval of each statement, County shall make a good faith effort to pay the amount which is due and payable within thirty (30) days of the County Auditor's receipt. County reserves the right to reasonably withhold payment pending verification of satisfactory Engineering Services performed. Engineer has the responsibility to submit proof to County, adequate and sufficient in its determination, that tasks of an applicable Work Authorization or any Supplemental Work Authorization related thereto were completed.

The certified statements shall show the total amount earned to the date of submission and shall show the amount due and payable as of the date of the current statement. Final payment does not relieve Engineer of the responsibility of correcting any errors and/or omissions resulting from his/her/its negligence.

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[a] *See also,* Art. 32(P) "Termination of Work Authorization".

Upon submittal of the initial invoice, Engineer shall provide the County Auditor with an Internal Revenue Form W-9, Request for Taxpayer Identification Number and Certification that is complete in compliance with the Internal Revenue Code, its rules and regulations.

ARTICLE 7
PROMPT PAYMENT POLICY

In accordance with Chapter 2251, V.T.C.A., Texas Government Code, payment to Engineer will be made within thirty (30) days of the day on which the performance of services was complete, or within thirty (30) days of the day on which the County Auditor receives a correct invoice for services, whichever is later.

Engineer may charge a late fee (fee shall not be greater than that which is permitted by Texas law) for payments not made in accordance with this prompt payment policy; however, this policy does not apply in the event:

A. There is a bona fide dispute between County and Engineer concerning the supplies, materials, or equipment delivered or the services performed that causes the payment to be late; or

B. The terms of a federal contract, grant, regulation, or statute prevent County from making a timely payment with federal funds; or

C. There is a bona fide dispute between Engineer and a subcontractor/subconsultant or between a subcontractor/subconsultant and its supplier concerning supplies, materials, or equipment delivered or the Engineering Services performed which causes the payment to be late; or

D. The invoice is not submitted to Williamson County[b] in strict accordance with instructions, if any, on the purchase order, or this Contract or other such contractual agreement.

The County Auditor shall document to Engineer the issues related to disputed invoices within ten (10) calendar days of receipt of such invoice. Any non-disputed invoices shall be considered correct and payable per the terms of Chapter 2251, V.T.C.A., Texas Government Code.

ARTICLE 8
COMMENCEMENT OF ENGINEERING SERVICES

The Engineer shall not proceed with any task of the Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and instructed, in writing by the County, to proceed with the applicable Engineering Services. The County shall not be responsible for work performed or costs incurred by Engineer related to any task for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties. Engineer shall not be required to perform any work for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties.

ARTICLE 9

[b] *See* Art. 6, *supra*.

PROJECT TEAM

County's Designated Representative for purposes of this Contract is as follows:

Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

County shall have the right, from time to time, to change the County's Designated Representative by giving Engineer written notice thereof. With respect to any action, decision or determination which is to be taken or made by County under this Contract, the County's Designated Representative may take such action or make such decision or determination or shall notify Engineer in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the County's Designated Representative on behalf of County shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the County's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the County's Designated Representative shall be binding on County; *provided, however,* the County's Designated Representative shall not have any right to modify, amend or terminate this Contract, an Executed Work Authorization, an executed Supplemental Work Authorization or executed Contract Amendment. County's Designated Representative shall not have any authority to execute a Contract Amendment, Work Authorization or any Supplemental Work Authorization unless otherwise granted such authority by the Williamson County Commissioners Court.

Engineer's Designated Representative for purposes of this Contract is as follows:

Andrew Atlas
CP&Y. Inc.
13809 Research Blvd., Ste. 300
Austin, TX 78750

Engineer shall have the right, from time to time, to change the Engineer's Designated Representative by giving County written notice thereof. With respect to any action, decision or determination which is to be taken or made by Engineer under this Contract, the Engineer's Designated Representative may take such action or make such decision or determination or shall notify County in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the Engineer's Designated Representative on behalf of Engineer shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the Engineer's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the Engineer's Designated Representative shall be binding on Engineer. Engineer's Designated

Representative shall have the right to modify, amend and execute Work Authorizations, Supplemental Work Authorizations and Contract Amendments on behalf of Engineer.

ARTICLE 10
PROGRESS EVALUATION

Engineer shall, from time to time during the progress of the Engineering Services, confer with County at County's election. Engineer shall prepare and present such information as may be pertinent and necessary, or as may be reasonably requested by County, in order for County to evaluate features of the Engineering Services. At the request of County or Engineer, conferences shall be provided at Engineer's office, the offices of County, or at other locations designated by County. When requested by County, such conferences shall also include evaluation of the Engineering Services. County may, from time to time, require Engineer to appear and provide information to the Williamson County Commissioners Court.

Should County determine that the progress in Engineering Services does not satisfy an applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall review same with Engineer to determine corrective action required.

Engineer shall promptly advise County in writing of events which have or may have a significant impact upon the progress of the Engineering Services, including but not limited to the following:

A. Problems, delays, adverse conditions which may materially affect the ability to meet the objectives of an applicable Work Authorization or any Supplemental Work Authorization related thereto, or preclude the attainment of Project Engineering Services units by established time periods; and such disclosure shall be accompanied by statement of actions taken or contemplated, and County assistance needed to resolve the situation, if any; and

B. Favorable developments or events which enable meeting goals sooner than anticipated in relation to an applicable Work Authorization's or any Supplemental Work Authorization related thereto.

ARTICLE 11
SUSPENSION

Should County desire to suspend the Engineering Services, but not to terminate this Contract, then such suspension may be effected by County giving Engineer thirty (30) calendar days' verbal notification followed by written confirmation to that effect. Such thirty-day notice may be waived in writing by agreement and signature of both parties. The Engineering Services may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from County to resume the Engineering Services. Such sixty-day (60) notice may be waived in writing by agreement and signature of both parties. If this Contract is suspended for more than thirty (30) days, Engineer shall have the option of terminating this Contract and, in the event, Engineer shall be compensated for all Engineering Services performed and reimbursable expenses incurred, provided such Engineering Services and reimbursable expenses have been previously authorized and approved by County, to the effective date of suspension.

If County suspends the Engineering Services, the contract period as determined in Article 4, and the Work Authorization or any Supplemental Work Authorization related thereto, shall be extended for a time period equal to the suspension period.

County assumes no liability for Engineering Services performed or costs incurred prior to the date authorized by County for Engineer to begin Engineering Services, and/or during periods when Engineering Services is suspended, and/or subsequent to the completion date.

ARTICLE 12
ADDITIONAL ENGINEERING SERVICES

If Engineer forms a reasonable opinion that any work he/she/it has been directed to perform is beyond the overall scope of this Contract, as set forth in **Exhibit B,** and as such constitutes extra work ("Additional Engineering Services"), he/she/it shall promptly notify County in writing. In the event County finds that such work does constitute Additional Engineering Services, County shall so advise Engineer and a written Contract Amendment will be executed between the parties as provided in Article 14. Any increase to the Compensation Cap due to Additional Engineering Services must be set forth in such Contract Amendment. Engineer shall not perform any proposed Additional Engineering Services nor incur any additional costs prior to the execution, by both parties, of a written Contract Amendment. Following the execution of a Contract Amendment that provides for Additional Engineering Services, a written Work Authorization, which sets forth the Additional Engineering Services to be performed, must be executed by the parties. County shall not be responsible for actions by Engineer nor for any costs incurred by Engineer relating to Additional Engineering Services not directly associated with the performance of the Engineering Services authorized in this Contract, by a fully executed Work Authorization or a fully executed Contract Amendment thereto.

ARTICLE 13
CHANGES IN COMPLETED ENGINEERING SERVICES

If County deems it necessary to request changes to previously satisfactorily completed Engineering Services or parts thereof which involve changes to the original Engineering Services or character of Engineering Services under this Contract, then Engineer shall make such revisions as requested and as directed by County. Such revisions shall be considered as Additional Engineering Services and paid for as specified under Article 12.

Engineer shall make revisions to Engineering Services authorized hereunder as are necessary to correct errors appearing therein, when required to do so by County. No additional compensation shall be due for such Engineering Services.

ARTICLE 14
CONTRACT AMENDMENTS

The terms set out in this Contract may be modified by a written fully executed Contract Amendment. Changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization. To the extent that such changes or

modifications to a Work Authorization do not also require modifications to the terms of this Contract (i.e. changes to the overall scope of Engineering Services set forth in **Exhibit B**, modification of the Compensation Cap, etc.) a Contract Amendment will not be required.

ARTICLE 15
USE OF DOCUMENTS

All documents, including but not limited to drawings, specifications and data or programs stored electronically, (hereinafter referred to as "Engineering Work Products") prepared by Engineer and its subcontractors/subconsultants are related exclusively to the services described in this Contract and are intended to be used with respect to this Project. However, it is expressly understood and agreed by and between the parties hereto that all of Engineer's designs under this Contract (including but not limited to tracings, drawings, estimates, specifications, investigations, studies and other documents, completed or partially completed), shall be the property of County to be thereafter used in any lawful manner as County elects. Any such subsequent use made of documents by County shall be at County's sole risk and without liability to Engineer.

By execution of this Contract and in confirmation of the fee for services to be paid under this Contract, Engineer hereby conveys, transfers and assigns to County all rights under the Federal Copyright Act of 1976 (or any successor copyright statute), as amended, all common law copyrights and all other intellectual property rights acknowledged by law in the Project Designs and work product developed under this Contract. Copies may be retained by Engineer. Engineer shall be liable to County for any loss or damage to any such documents while they are in the possession of or while being worked upon by Engineer or anyone connected with Engineer, including agents, employees, Engineers or subcontractors/subconsultants. All documents so lost or damaged shall be replaced or restored by Engineer without cost to County.

Upon execution of this Contract, Engineer grants to County permission to reproduce Engineer's work and documents for purposes of constructing, using and maintaining the Project, provided that County shall comply with its obligations, including prompt payment of all sums when due, under this Contract. Engineer shall obtain similar permission from Engineer's subcontractors/subconsultants consistent with this Contract. If and upon the date Engineer is adjudged in default of this Contract, County is permitted to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the work and documents for the purposes of completing, using and maintaining the Project.

County shall not assign, delegate, sublicense, pledge or otherwise transfer any permission granted herein to another party without the prior written consent of Engineer. However, County shall be permitted to authorize the contractor, subcontractors and material or equipment suppliers to reproduce applicable portions of the Engineering Work Products appropriate to and for use in the execution of the Work. Submission or distribution of Engineering Work Products to meet official regulatory requirements or for similar purposes in connection with the Project is permitted. Any unauthorized use of the Engineering Work Products shall be at County's sole risk and without liability to Engineer and its Engineers.

Prior to Engineer providing to County any Engineering Work Products in electronic form or County providing to Engineer any electronic data for incorporation into the Engineering Work Products, County and Engineer shall by separate written contract set forth the specific conditions governing the format of such Engineering Work Products or electronic data, including any special limitations not otherwise provided in this Contract. Any electronic files are provided by Engineer for the convenience of County, and use of them is at County's sole risk. In the case of any defects in electronic files or any discrepancies between them and any hardcopy of the same documents prepared by Engineer, the hardcopy shall prevail. Only printed copies of documents conveyed by Engineer shall be relied upon.

Engineer shall have no liability for changes made to the drawings by other engineers subsequent to the completion of the Project. Any such change shall be sealed by the engineer making that change and shall be appropriately marked to reflect what was changed or modified.

ARTICLE 16
PERSONNEL, EQUIPMENT AND MATERIAL

Engineer shall furnish and maintain, at its own expense, quarters for the performance of all Engineering Services, and adequate and sufficient personnel and equipment to perform the Engineering Services as required. All employees of Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Engineer who, in the reasonable opinion of County, is incompetent or whose conduct becomes detrimental to the Engineering Services shall immediately be removed from association with the Project when so instructed by County. Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the Engineering Services required under this Contract, or will obtain such personnel from sources other than County. Engineer may not change the Project Manager without prior written consent of County.

ARTICLE 17
SUBCONTRACTING

Engineer shall not assign, subcontract or transfer any portion of the Engineering Services under this Contract without prior written approval from County. All subcontracts shall include the provisions required in this Contract. No subcontract shall relieve Engineer of any responsibilities under this Contract.

ARTICLE 18
REVIEW OF ENGINEERING SERVICES

Engineer's Engineering Services will be reviewed by County under its applicable technical requirements and procedures.

A. Completion. Reports, plans, specifications, and supporting documents shall be submitted by Engineer on or before the dates specified in the applicable Work Authorization or Supplemental Work Authorization related thereto. Upon receipt of same, the submission shall be checked for completion. "Completion" or "Complete" shall be defined as all of the required items, as set out in the applicable Work Authorization, have been included in compliance with the requirements of this Contract. The completeness of any Engineering Services submitted to County shall be determined by County within thirty (30) days of such submittal and County shall notify Engineer in writing within such thirty (30) day period if such Engineering Services have been found to be incomplete. If the submission is Complete, County shall notify Engineer and County's technical review process will begin.

If the submission is not Complete, County shall notify Engineer, who shall perform such professional services as are required to complete the Engineering Services and resubmit it to County. This process shall be repeated until a submission is Complete.

B. Acceptance. County shall review the completed Engineering Services for compliance with this Contract. If necessary, the completed Engineering Services shall be returned to Engineer, who shall perform any required Engineering Services and resubmit it to County. This process shall be repeated until the Engineering Services are Accepted. "Acceptance" or "Accepted" shall mean that in the County's reasonable opinion, substantial compliance with the requirements of this Contract has been achieved.

C. Final Approval. After Acceptance, Engineer shall perform any required modifications, changes, alterations, corrections, redesigns, and additional work necessary to receive Final Approval by the County. "Final Approval" in this sense shall mean formal recognition that the Engineering Services have been fully carried out.

D. Errors and Omissions. After Final Approval, Engineer shall, without additional compensation, perform any work required as a result of Engineer's development of the work which is found to be in error or omission due to Engineer's negligence. However, any work required or occasioned for the convenience of County after Final Approval shall be paid for as Additional Engineering Services.

E. Disputes Over Classifications. In the event of any dispute over the classification of Engineer's Engineering Services as Complete, Accepted, or having attained Final Approved under this Contract, the decision of the County shall be final and binding on Engineer, subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

F. County's Reliance on Engineer. **ENGINEER'S DUTIES AS SET FORTH HEREIN SHALL AT NO TIME BE IN ANY WAY DIMINISHED BY REASON OF ANY REVIEW, EVALUATION OR APPROVAL BY THE COUNTY NOR SHALL THE ENGINEER BE RELEASED FROM ANY LIABILITY BY REASON OF SUCH REVIEW, EVALUATION OR APPROVAL BY THE COUNTY, IT BEING UNDERSTOOD THAT THE COUNTY AT ALL TIMES IS ULTIMATELY RELYING UPON THE ENGINEER'S SKILL, ABILITY AND KNOWLEDGE IN PERFORMING THE ENGINEERING SERVICES REQUIRED HEREUNDER.**

ARTICLE 19
VIOLATION OF CONTRACT TERMS/BREACH OF CONTRACT

Violation of contract terms or breach of contract by Engineer shall be grounds for termination of this Contract, and any increased costs arising from Engineer's default, breach of contract, or violation of contract terms shall be paid by Engineer.

ARTICLE 20
TERMINATION

This Contract may be terminated as set forth below.

- **A.** By mutual agreement and consent, in writing, of both parties.
- **B.** By County, by notice in writing to Engineer, as a consequence of failure by Engineer to perform the Engineering Services set forth herein in a satisfactory manner.
- **C.** By either party, upon the failure of the other party to fulfill its obligations as set forth herein.
- **D.** By County, for reasons of its own and not subject to the mutual consent of Engineer, upon not less than thirty (30) days' written notice to Engineer.
- **E.** By satisfactory completion of all Engineering Services and obligations described herein.

Should County terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination plus reimbursable expenses incurred shall thereafter be paid to Engineer. In determining the value of the Engineering Services performed by Engineer prior to termination, County shall be the sole judge. Compensation for Engineering Services at termination will be based on a percentage of the Engineering Services completed at that time. Should County terminate this Contract under Subsection (D) immediately above, then the amount charged during the thirty-day notice period shall not exceed the amount charged during the preceding thirty (30) days.

If Engineer defaults in the performance of this Contract or if County terminates this Contract for fault on the part of Engineer, then County shall give consideration to the actual costs incurred by Engineer in performing the Engineering Services to the date of default, the amount of Engineering Services required which was satisfactorily completed to date of default, the value of the Engineering Services which are usable to County, the cost to County of employing another firm to complete the Engineering Services required and the time required to do so, and other factors which affect the value to County of the Engineering Services performed at the time of default.

The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of County under this Contract. If the termination of this Contract is due to the failure of Engineer to fulfill his/her/its contractual obligations, then County may take over the Project and prosecute the Engineering Services to

completion. In such case, Engineer shall be liable to County for any additional and reasonable costs incurred by County.

Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurements made by Engineer in support of the Engineering Services under this Contract.

ARTICLE 21
COMPLIANCE WITH LAWS

A. Compliance. Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including without limitation, minimum/maximum salary and wage statutes and regulations, and licensing laws and regulations. Engineer shall furnish County with satisfactory proof of his/her/its compliance.

Engineer shall further obtain all permits and licenses required in the performance of the Engineering Services contracted for herein.

B. Taxes. Engineer will pay all taxes, if any, required by law arising by virtue of the Engineering Services performed hereunder. County is qualified for exemption pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise, and Use Tax Act.

ARTICLE 22
INDEMNIFICATION

ENGINEER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM AN NEGLIGENT ACT OR OMISSION, NEGLIGENCE, OR INTENTIONAL TORT COMMITTED BY ENGINEER, ENGINEER'S EMPLOYEES, AGENTS, OR ANY OTHER PERSON OR ENTITY UNDER CONTRACT WITH ENGINEER INCLUDING, WITHOUT LIMITATION, ENGINEER'S SUBCONSULTANTS, OR ANY OTHER ENTITY OVER WHICH ENGINEER EXERCISES CONTROL.

ENGINEER FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM ENGINEER'S FAILURE TO PAY ENGINEER'S EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY ENGINEER.

ENGINEER FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES,

INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM THE INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY ENGINEER IN THE PERFORMANCE OF THIS CONTRACT.

THE LIMITS OF INSURANCE REQUIRED IN THIS CONTRACT AND/OR THE CONTRACT DOCUMENTS SHALL NOT LIMIT ENGINEER'S OBLIGATIONS UNDER THIS SECTION. THE TERMS AND CONDITIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THE CONTRACT AND/OR CONTRACT DOCUMENTS OR THE SUSPENSION OF THE WORK HEREUNDER. TO THE EXTENT THAT ANY LIABILITIES, PENALTIES, DEMANDS, CLAIMS, LAWSUITS, LOSSES, DAMAGES, COSTS AND EXPENSES ARE CAUSED IN PART BY THE ACTS OF THE COUNTY OR THIRD PARTIES FOR WHOM ENGINEER IS NOT LEGALLY LIABLE, ENGINEER'S OBLIGATIONS SHALL BE IN PROPORTION TO ENGINEER'S FAULT. THE OBLIGATIONS HEREIN SHALL ALSO EXTEND TO ANY ACTIONS BY THE COUNTY TO ENFORCE THIS INDEMNITY OBLIGATION.

IN THE EVENT THAT CONTRACTORS INITIATE LITIGATION AGAINST THE COUNTY IN WHICH THE CONTRACTOR ALLEGES DAMAGES AS A RESULT OF ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, INCLUDING, BUT NOT LIMITED TO, DEFECTS, ERRORS, OR OMISSIONS, THEN THE COUNTY SHALL HAVE THE RIGHT TO JOIN ENGINEER IN ANY SUCH PROCEEDINGS AT THE COUNTY'S COST. ENGINEER SHALL ALSO HOLD THE COUNTY HARMLESS AND INDEMNIFY THE COUNTY TO THE EXTENT THAT ENGINEER, ANY OF ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, CAUSED SUCH DAMAGES TO CONTRACTOR, INCLUDING ANY AND ALL COSTS AND ATTORNEYS' FEES INCURRED BY THE COUNTY IN CONNECTION WITH THE DEFENSE OF ANY CLAIMS WHERE ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, ARE ADJUDICATED AT FAULT.

ARTICLE 23
ENGINEER'S RESPONSIBILITIES

Engineer shall be responsible for the accuracy of his/her/its Engineering Services and shall promptly make necessary revisions or corrections to its work product resulting from errors, omissions, or negligent acts, and same shall be done without compensation. County shall determine Engineer's responsibilities for all questions arising from design errors and/or omissions, subject to the dispute resolution provisions of Article 33. Engineer shall not be relieved of responsibility for subsequent correction of any such errors or omissions in its work product, or for clarification of any ambiguities until after the construction phase of the Project has been completed.

ARTICLE 24
ENGINEER'S SEAL

The responsible engineer shall sign, seal and date all appropriate engineering submissions to County in accordance with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

ARTICLE 25
INSURANCE

Engineer must comply with the following insurance requirements at all times during this Contract:

A. Coverage Limits. Engineer, at Engineer's sole cost, shall purchase and maintain during the entire term while this Contract is in effect the following insurance:

1. Worker's Compensation in accordance with statutory requirements.
2. Commercial General Liability Insurance with a combined minimum Bodily Injury and Property Damage limits of $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.
3. Automobile Liability Insurance for all owned, non-owned, and hired vehicles with combined minimum limits for Bodily Injury and Property Damage limits of $500,000.00 per occurrence and $1,000,000.00 in the aggregate.
4. Professional Liability Errors and Omissions Insurance in the amount of $2,000,000.00 per claim.

B. Additional Insureds; Waiver of Subrogation. County, its directors, officers and employees shall be added as additional insureds under policies listed under (2) and (3) above, and on those policies where County, its directors, officers and employees are additional insureds, such insurance shall be primary and any insurance maintained by County shall be excess and not contribute with it. Such policies shall also include waivers of subrogation in favor of County.

C. Premiums and Deductible. Engineer shall be responsible for payment of premiums for all of the insurance coverages required under this section. Engineer further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Engineer is responsible hereunder, Engineer shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over $50,000 in the Engineer's insurance must be declared and approved in writing by County in advance.

D. Commencement of Work. Engineer shall not commence any field work under this Contract until he/she/it has obtained all required insurance and such insurance has been approved by County. As further set out below, Engineer shall not allow any subcontractor/subconsultant(s) to commence work to be performed in connection with this Contract until all required insurance has been obtained and approved and such approval shall not be unreasonably withheld. Approval of the insurance by County shall not relieve or decrease the liability of Engineer hereunder.

E. Insurance Company Rating. The required insurance must be written by a company approved to do business in the State or Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued.

F. Certification of Coverage. Engineer shall furnish County with a certification of coverage issued by the insurer. Engineer shall not cause any insurance to be canceled nor permit any insurance to lapse. **In addition to any other notification requires set forth hereunder, Engineer shall also notify County, within twenty-four (24) hours of receipt, of any notices of expiration, cancellation, non-renewal, or material change in coverage it receives from its insurer.**

G. No Arbitration. It is the intention of the County and agreed to and hereby acknowledged by the Engineer, that no provision of this Contract shall be construed to require the County to submit to mandatory arbitration in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder or as may be required by law or a court of law with jurisdiction over the provisions of this Contract.

H. Subcontractor/Subconsultant's Insurance. Without limiting any of the other obligations or liabilities of Engineer, Engineer shall require each subcontractor/subconsultant performing work under this Contract (to the extent a subcontractor/subconsultant is allowed by County) to maintain during the term of this Contract, at the subcontractor/subconsultant's own expense, the same stipulated minimum insurance required in this Article above, including the required provisions and additional policy conditions as shown below in this Article.

Engineer shall obtain and monitor the certificates of insurance from each subcontractor/subconsultant in order to assure compliance with the insurance requirements. Engineer must retain the certificates of insurance for the duration of this Contract, and shall have the responsibility of enforcing these insurance requirements among its subcontractor/subconsultants. County shall be entitled, upon request and without expense, to receive copies of these certificates of insurance.

I. Insurance Policy Endorsements. Each insurance policy shall include the following conditions by endorsement to the policy:

1. County shall be notified thirty (30) days prior to the expiration, cancellation, non-renewal or any material change in coverage, and such notice thereof shall be given to County by certified mail to:

   Williamson County Auditor
   c/o: Pam Navarrette
   710 Main Street, Suite 301
   Georgetown, Texas 78626

   With copy to: Williamson County Dept. of Infrastructure

Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

2. The policy clause "Other Insurance" shall not apply to any insurance coverage currently held by County, to any such future coverage, or to County's Self-Insured Retentions of whatever nature.

J. Cost of Insurance. The cost of all insurance required herein to be secured and maintained by Engineer shall be borne solely by Engineer, with certificates of insurance evidencing such minimum coverage in force to be filed with County. Such Certificates of Insurance are evidenced as **Exhibit F** herein entitled "Certificates of Insurance."

ARTICLE 26
COPYRIGHTS

County shall have the royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use, any reports developed by Engineer for governmental purposes.

ARTICLE 27
SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and inure to the benefit of the parties hereto, their successors, lawful assigns, and legal representatives. Engineer may not assign, sublet or transfer any interest in this Contract, in whole or in part, by operation of law or otherwise, without obtaining the prior written consent of County.

ARTICLE 28
SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

ARTICLE 29
PRIOR AGREEMENTS SUPERSEDED

This Contract constitutes the sole agreement of the parties hereto, and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein. This Contract may only be amended or supplemented by mutual agreement of the parties hereto in writing.

ARTICLE 30
ENGINEER'S ACCOUNTING RECORDS

Engineer agrees to maintain, for a period of three (3) years after final payment under this Contract, detailed records identifying each individual performing the Engineering Services, the date or dates the services were performed, the applicable hourly rates, the total amount billed for each individual and the total amount billed for all persons, records of reimbursable costs and expenses of other providers and provide such other details as may be requested by the County Auditor for verification purposes. Engineer agrees that County or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any and all books, documents, papers and records of Engineer which are directly pertinent to the services to be performed under this Contract for the purposes of making audits, examinations, excerpts, and transcriptions. Engineer further agrees that County shall have access during normal working hours to all necessary Engineer facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. County shall give Engineer reasonable advance notice of intended audits.

ARTICLE 31
NOTICES

All notices to either party by the other required under this Contract shall be personally delivered or mailed to such party at the following respective addresses:

County: Williamson County Judge
710 Main Street, Suite 101
Georgetown, Texas 78626

With copy to: Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

and to: Office of General Counsel
Williamson County
710 Main Street, Suite 102
Georgetown, Texas 78626

Engineer: Andrew Atlas
CP&Y, Inc.
13809 Research Blvd., Ste. 300
Austin, TX 78750

ARTICLE 32

GENERAL PROVISIONS

A. Time is of the Essence. Subject to Article 3 hereof, Engineer understands and agrees that time is of the essence and that any failure of Engineer to complete the Engineering Services for each phase of this Contract within the agreed work schedule set out in the applicable Work Authorization may constitute a material breach of this Contract. Engineer shall be fully responsible for his/her/its delays or for failures to use his/her/its reasonable efforts in accordance with the terms of this Contract and the Engineer's standard of performance as defined herein. Where damage is caused to County due to Engineer's negligent failure to perform County may accordingly withhold, to the extent of such damage, Engineer's payments hereunder without waiver of any of County's additional legal rights or remedies.

B. Force Majeure. Neither County nor Engineer shall be deemed in violation of this Contract if prevented from performing any of their obligations hereunder by reasons for which they are not responsible or circumstances beyond their control. However, notice of such impediment or delay in performance must be timely given, and all reasonable efforts undertaken to mitigate its effects.

C. Enforcement and Venue. This Contract shall be enforceable in Georgetown, Williamson County, Texas, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for same shall lie in Williamson County, Texas. This Contract shall be governed by and construed in accordance with the laws and court decisions of the State of Texas excluding, however, its choice of law rules.

D. Standard of Performance. The standard of care for all professional engineering, consulting and related services performed or furnished by Engineer and its employees under this Contract will be the care and skill ordinarily used by members of Engineer's profession practicing under the same or similar circumstances at the same time and in the same locality.

E. Opinion of Probable Cost. Any opinions of probable Project cost or probable construction cost provided by Engineer are made on the basis of information available to Engineer and on the basis of Engineer's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, Engineer does not guarantee that proposals, bids or actual Project or construction cost will not vary from opinions of probable cost Engineer prepares.

F. Opinions and Determinations. Where the terms of this Contract provide for action to be based upon opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

G. Reports of Accidents. Within 24 hours after Engineer becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Engineer), whether or not it results

from or involves any action or failure to act by the Engineer or any employee or agent of the Engineer and which arises in any manner from the performance of this Contract, the Engineer shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Engineer, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Engineer's performance of work under this Contract.

H. Gender, Number and Headings. Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Contract.

I. Construction. Each party hereto acknowledges that it and its counsel have reviewed this Contract and that the normal rules of construction are not applicable and there will be no presumption that any ambiguities will be resolved against the drafting party in the interpretation of this Contract.

J. Independent Contractor Relationship. Both parties hereto, in the performance of this Contract, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

K. No Waiver of Immunities. Nothing in this Contract shall be deemed to waive, modify or amend any legal defense available at law or in equity to County, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

L. Texas Public Information Act. To the extent, if any, that any provision in this Contract is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that County, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to County as to whether or not the same are available to the public. It is further understood that County's officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

M. Governing Terms and Conditions. If there is an irreconcilable conflict between the terms and conditions set forth in this Contract or any Contract Amendment and the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract, the terms and conditions set forth in this Contract or any Contract

Amendment shall control over the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract.

N. Meaning of Day. For purposes of this Contract, all references to a "day" or "days" shall mean a calendar day or calendar days.

O. Appropriation of Funds by County. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Contract. Engineer understands and agrees that County's payment of amounts under this Contract is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

P. Termination of Work Authorization. Should it be determined that the progress in the production of Engineer's services and work does not satisfy the requirements of the approved Work Authorization as provided by Exhibit "C", attached hereto, the County shall review the approved Work Authorization with the Engineer to determine the corrective action needed, including potential termination of such Work Authorization by Williamson County. Additionally, if an approved Work Authorization has not been completed by the end of the applicable County fiscal year under this contract and the Williamson County Commissioners Court does not provide for funding through its budgetary oversight for the subsequent County fiscal year, Williamson County reserves the right to terminate such Work Authorization at its discretion.

ARTICLE 33
DISPUTE RESOLUTION

Except as otherwise specifically set forth herein, County and Engineer shall work together in good faith to resolve any controversy, dispute or claim between them which arises out of or relates to this Contract, whether stated in tort, contract, statute, claim for benefits, bad faith, professional liability or otherwise ("Claim"). If the parties are unable to resolve the Claim within thirty (30) days following the date in which one party sent written notice of the Claim to the other party, and if a party wishes to pursue the Claim, such Claim shall be addressed through non-binding mediation. A single mediator engaged in the practice of law, who is knowledgeable about subject matter of this Contract, shall be selected by agreement of the parties and serve as the mediator. Any mediation under this Contract shall be conducted in Williamson County, Texas. The mediator's fees shall be borne equally between the parties. Such non-binding mediation is a condition precedent to seeking redress in a court of competent jurisdiction, but this provision shall not preclude either party from filing a lawsuit in a court of competent jurisdiction prior to completing a mediation if necessary to preserve the statute of limitations, in which case such lawsuit shall be stayed pending completion of the mediation process contemplated herein. This provision shall survive the termination of the Contract.

ARTICLE 34
EQUAL OPPORTUNITY IN EMPLOYMENT

During the performance of this Contract and to the extent the Project is a federally funded project, Engineer, for itself, its assignees and successors in interest agrees as follows:

A. Compliance with Regulations. The Engineer shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

B. Nondiscrimination. The Engineer, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors/subconsultants, including procurements of materials and leases of equipment. The Engineer shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor/subconsultant or supplier shall be notified by the Engineer of the Engineer's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports. The Engineer shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the County (referred to in this Article as the "Recipient") or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the Engineer shall so certify to the Recipient, or the Texas Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance. In the event of the Engineer's noncompliance with the nondiscrimination provisions of this contract, the Recipient shall impose such contract sanctions as it or the Texas Department of Transportation may determine to be appropriate, including, but not limited to:

1. withholding of payments to the Engineer under the contract until the Engineer complies, and/or;
2. cancellation, termination or suspension of the Contract, in whole or in part.

F. Incorporation of Provisions. The Engineer shall include the provisions of Subsections (A) through (F) above in every subcontract, including procurements of materials and

leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Engineer shall take such action with respect to any subcontract or procurement as the Recipient or the Texas Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor/subconsultant or supplier as a result of such direction, the Engineer may request the Recipient to enter into such litigation to protect the interests of the Recipient, and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

SIGNATORY WARRANTY

The undersigned signatory for Engineer hereby represents and warrants that the signatory is an officer of the organization for which he/she has executed this Contract and that he/she has full and complete authority to enter into this Contract on behalf of the firm. The above-stated representations and warranties are made for the purpose of inducing County to enter into this Contract.

IN WITNESS WHEREOF, County has caused this Contract to be signed in its name by its duly authorized County Judge, as has Engineer, signing by and through its duly authorized representative(s), thereby binding the parties hereto, their successors, assigns and representatives for the faithful and full performance of the terms and provisions hereof, to be effective as of the date of the last party's execution below. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND, TERMINATE OR MODIFY THIS CONTRACT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

COUNTY

WILLIAMSON COUNTY, TEXAS

By: _____
Dan A. Gattis, County Judge

Date: _____ ____, 20_____

OK
2/27/2017

ENGINEER

CP&Y, Inc.

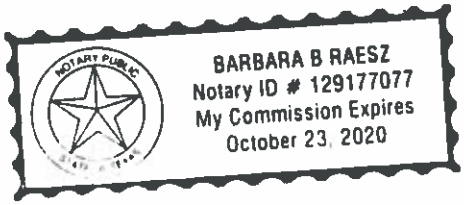
By _____

Printed Name: James J. Roohms

Title: Chief Operating Officer

Date: February 27, 2017

SUBSCRIBED and sworn to before me the undersigned authority by James J. Roohms the Chief Operating Officer of **ENGINEER**, on behalf of said firm.



Notary Public in and for the
State of Texas

My commission expires: 10/23/2020

LIST OF EXHIBITS ATTACHED

(1) **Exhibit A** Debarment Certification

(2) **Exhibit B** Engineering Services

(3) **Exhibit C** Work Authorization

(4) **Exhibit D** Rate Schedule

(5) **Exhibit E** Williamson County Vendor Reimbursement Policy

(6) **Exhibit F** Certificates of Insurance

EXHIBIT A
DEBARMENT CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Engineer and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public* transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity* with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions* terminated for cause or default; and

(e) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

CP&Y, Inc.
Name of Firm

Signature of Certifying Official

James J. Roohms
Printed Name of Certifying Official

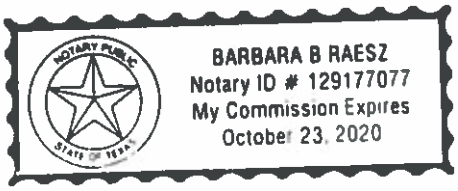
Chief Operating Officer
Title of Certifying Official

February 27, 2017
Date

(2) Where the PROVIDER is unable to certify to any of the statements in this certification, such PROVIDER shall attach an explanation to this certification.

* federal, state, or local

SUBSCRIBED and sworn to before me the undersigned authority by James J. Roohms the Chief Operating Officer of CP&Y, Inc/, on behalf of said firm.



Notary Public in and for the
State of Texas

My commission expires: 10/23/2020

EXHIBIT B

ENGINEERING SERVICES

EXHIBIT B

ENGINEERING SERVICES

General Work Description: Provide engineering services and planning to develop Transportation Corridor F as shown on the attached map.

The Engineer may perform any or all of the following tasks listed below, as described in detail in each Work Authorization:

TASK 1 - PROJECT MANAGEMENT

TASK 2 - ROUTE AND DESIGN STUDIES

TASK 3 - PUBLIC INVOLVEMENT

TASK 4 - SURVEYING

TASK 5 - ROW MAPPING

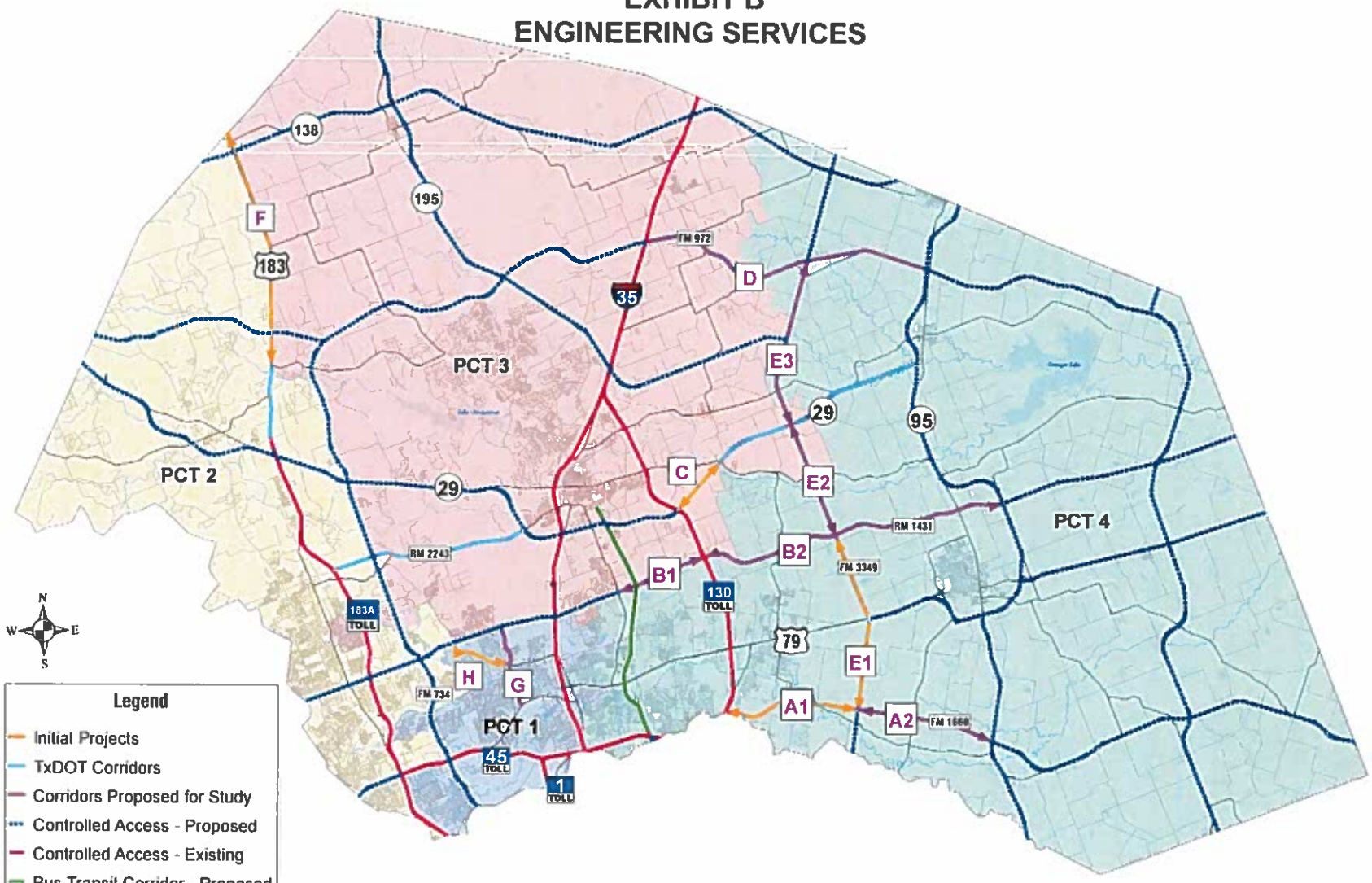
TASK 6 - ENVIRONMENTAL STUDIES & DOCUMENTS

TASK 7 - GEOTECHNICAL SERVICES

TASK 8 - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

TASK 9 - CONSTRUCTION PHASE SERVICES

EXHIBIT B
ENGINEERING SERVICES



Note: The locations of controlled access and arterial facilities are conceptual only. Final alignments for each route will be determined through appropriate planning and environmental studies.

WILLIAMSON COUNTY

EXHIBIT C

WORK AUTHORIZATION

(To Be Completed and Executed After Contract Execution)

WORK AUTHORIZATION NO. _____
PROJECT: _____

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ ____, 20____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and _____ (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is _____.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on _____ ____, 20_____. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:	COUNTY:
CP&Y, Inc.	Williamson County, Texas
By:_____	By:_____
Signature	Signature
James J. Roohms	_____
Printed Name	Printed Name
Chief Operating Officer	_____
Title	Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

EXHIBIT D

RATE SCHEDULE

CPI Rate Adjustments: Rates will remain firm for the initial first year of the Contract and such rates shall be deemed the "Initial Base Rates". Engineer must request rate adjustments, in writing, at least thirty (30) days prior to each annual anniversary date of the Contract and any rate changes will take effect on the first day following the prior year. If Engineer fails to request a CPI rate adjustment, as set forth herein, the adjustment will be effective thirty (30) days after the County receives Engineer's written request. No retroactive rate adjustments will be allowed.

Price adjustments will be made in accordance with changes in the U.S. Department of Labor Consumer Price Index (CPI-U) for All Urban Consumers, All Items, South Region (Base 1982-84 = 100).

The rate adjustment will be determined by multiplying the Initial Base Rates by a fraction, the numerator of which is the index number for most recently released index before each annual anniversary date of the Contract and the denominator of which is the index number for the first month of the Contract (the index number for the month in which the Contract was originally executed). If the products are greater than the Initial Base Rates, County will pay the greater amounts as the rates during the successive year until the next rate adjustment. Rates for each successive year will never be less than the Initial Base Rates.

Exhibit D - Rate
Transportation Corridor F

CP&Y, Inc.	
CATEGORY	**RATE**
Senior Project Manager	$250.16
Quality Manager	$162.44
Senior Engineer	$211.18
Project Engineer	$178.69
Design Engineer	$146.20
Engineer-In-Training	$110.46
Senior Engineer Tech	$142.95
Engineer Tech	$100.72
Environmental Manager	$230.67
Senior Environmental Planner	$217.68
Environmental Planner IV	$162.44
Environmental Planner I/II	$103.96
Senior Environmental Scientist	$162.44
Environmental Scientist IV	$142.95
Environmental Scientist III	$113.71
Environmental Scientist I/II	$103.96
Senior Architectural Historian	$136.45
Architectural Historian	$100.72
Admin/Clerical	$113.71
Senior GIS Operator	$103.96
GIS Operator	$94.22
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.10
Photocopies B/W (11" X 17") / each	$0.20
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies Color (11" X 17") / each	$1.25
Digital Ortho Plotting / sheet	$2.50
Plots (B/W on Bond) / square foot	$1.00
Plots (Color on Bond) / square foot	$2.00
Plots (Color on Photographic Paper) / square foot	$5.50
4" X 6" Digital Color Print / picture	$0.50
Noise Meter Rate / per day	$80.00
GPS Receiver (rates applied to actual time GPS units are in use) / hour	$25.00

Exhibit D - Rate
Transportation Corridor F

Alliance Transportation Group, Inc.	
CATEGORY	**RATE**
Project Principal	$250.00
Senior Project Engineer	$244.00
Senior Engineer	$193.00
Project Engineer	$144.00
Engineer-in-Training (EIT)	$101.00
Senior Engineering Technician	$133.00
Engineering Technician	$90.00
Planning Director	$230.00
Senior Travel Demand Modeler	$182.00
Travel Demand Modeler III	$137.00
Travel Demand Modeler II	$117.00
Senior Planner	$162.00
Planner II	$125.00
Planner I	$85.00
Project Administrator	$104.00
Clerical	$65.00
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.10
Photocopies B/W (11" X 17") / each	$0.20
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies Color (11" X 17") / each	$1.25

Exhibit D - Rate
Transportation Corridor F

Kimley-Horn & Associates, Inc.	
CATEGORY	**RATE**
Senior Engineer I	$227.82
Senior Engineer II	$176.34
Professional	$143.69
Analyst	$117.35
Senior Designer	$135.05
CAD Technician	$111.86
Senior Support Staff	$104.12
Support Staff	$84.30
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.10
Photocopies B/W (11" X 17") / each	$0.20
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies Color (11" X 17") / each	$1.25
Digital Ortho Plotting / sheet	$2.50
Plots (B/W on Bond) / square foot	$1.00
Plots (Color on Bond) / square foot	$2.00
Plots (Color on Photographic Paper) / square foot	$5.50
4" X 6" Digital Color Print / picture	$0.50

Exhibit D - Rate
Transportation Corridor F

Rifeline, LLC	
CATEGORY	**RATE**
President	$200.00
Vice-President	$180.00
Admin/Clerical	$58.00
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.16
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies B/W (11" X 17") / each	$0.32
Photocopies Color (11" X 17") / each	$1.50

Exhibit D - Rate
Transportation Corridor F

Buie & Co.	
CATEGORY	**RATE**
President	$185.00
Account Manager	$140.00
Graphic Designer	$125.00
Account Coordinator	$120.00
Admin/Clerical	$58.00
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.16
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies B/W (11" X 17") / each	$0.32
Photocopies Color (11" X 17") / each	$1.50

Exhibit D - Rate
Transportation Corridor F

Surveying And Mapping, Inc.	
CATEGORY	**RATE**
Project Engineer	$150.30
Engineer Tech	$96.10
Admin/Clerical	$70.00
Senior Utillity Coordinator	$123.00
Principal	$170.02
Senior Project Manager	$145.00
Project Manager	$125.00
Senior Survey Technician	$96.00
Survey Technician	$88.00
Two (2) Person Survey Field Crew	$130.00
Three (3) Person Survey Field Crew	$160.00
Project Coordinator - Mobile LiDAR	$123.20
SUE Project Manager	$149.00
Senior SUE Engineering Tech	$96.00
Mobile LiDAR Processing Technician	$96.10
Project Coordinator - AM	$133.06
Certified Photogrammetrist	$110.88
Analytical Triangulation Specialist	$86.24
Aerial Mapping Technician	$86.24
Orthophoto Specialist	$86.24
Mapping Editor (includes QA/QC, Finishing, & Finalization)	$81.31
Aerial Office Technician	$78.85
Project Coordinator - AP	$120.74
Aerial Processing Technician	$85.01
Project Coordinator - FWAL	$110.88
Airborne LiDAR Processing Technician	$86.24
Project Coordinator - HAL	$110.88
Helicopter LiDAR Processing Technician	$108.42
DIRECT EXPENSES	
In-house Photocopies B/W (8 1/2" X 11") / Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11") / Per Page	$0.75
In-house Photocopies B/W (11" X 17") / Per Page	$0.32
In-house Photocopies Color (11" X 17") / Per Page	$1.50
In-house Plots (B/W on Bond) / SF	$0.75
In-house Plots (Color on Bond) / SF	$1.75
In-house Large Format Plotting / SF	$2.50
In-house Mounting of Large Exhibits / SF	$10.00
In-house Traffic Control / Day	$1,500.00
GPS Receiver / Hour	$25.00
Terrestrial Laser Scanner / Hour	$80.00
LiDAR Workstation / Hour	$25.00
Helicopter Airborne Lidar / Hour	$1,650.00
Digital Imagery Processing / Each	$20.00
LiDAR Mobile Mapping System / Day	$6,000.00
Aerial Photography Flight Crew Fixed Wing Aircraft / Hour	$180.00

Exhibit D - Rate

Transportation Corridor F

Surveying And Mapping, Inc.	
LiDAR Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator) / Hour	$192.00
Helicopter Flight Crew (Includes Pilot and LiDAR Operator) / Hour	$190.00
AP Transit Miles / Mile	$5.90
AP Project Flight Miles / Mile	$20.00
AP ABGPS Processing / Project	$2,250.00
FWAL Transit Miles / Mile	$6.00
FWAL Project Flight Miles / Mile	$20.00
Aerial LiDAR System / Day	$6,500.00
B&W processing (film, development, scanning) / each	$16.00
CIR processing (film, development, scanning) / each	$23.00
Color processing (film, development, scanning) / each	$26.00
Digital Image Processing / each	$20.00

Exhibit D - Rate
Transportation Corridor F

Kent O'Brien	
CATEGORY	**RATE**
Quality Manager	$180.04
Project Engineer	$139.73
Senior Engineer Tech	$108.83
Admin/Clerical	$61.80
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.10
Photocopies B/W (11" X 17") / each	$0.20
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies Color (11" X 17") / each	$1.25
Digital Ortho Plotting / sheet	$2.50
Plots (B/W on Bond) / square foot	$1.00
Plots (Color on Bond) / square foot	$2.00
Plots (Color on Photographic Paper) / square foot	$5.50

Exhibit D - Rate
Transportation Corridor F

Cambrian Environmental	
Direct Labor	**Consultant Proposal**
CATEGORY	**RATE**
Senior Environmental Scientist	$161.39
Environmental Scientist IV	$117.66
Environmental Scientist I/II	$54.82
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.10
Photocopies B/W (11" X 17") / each	$0.20
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies Color (11" X 17") / each	$1.25
GPS Receiver (rates applied to actual time GPS units are in use) / hour	$25.00

Exhibit D - Rate
Transportation Corridor F

Horizon Environmental Services, Inc.	
CATEGORY	**RATE**
GIS Technician (or Jr. Archeologist)	$70.84
Senior Archeologist	$105.89
DIRECT EXPENSES	
Mileage / mile	Current State Rate
Standard Postage / letter	Current USPS Rate
Photocopies B/W (8 1/2" X 11") / each	$0.10
Photocopies B/W (11" X 17") / each	$0.20
Photocopies Color (8 1/2" X 11") / each	$0.75
Photocopies Color (11" X 17") / each	$1.25

EXHIBIT E

Williamson County
Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy ("Policy") is to provide clear guidelines to vendors on Williamson County's expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. **Invoices and Affidavits**
   - 1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.
   - 1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.
   - 1.3 Upon County's request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. **Travel Reimbursement**

2.1 The County will only cover costs associated with travel on vendors outside a 50 mile radius from Williamson County, Texas.

2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.

2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.

2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).

2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.

2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.

2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.

2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).

2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.

2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.

2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. **Meals**
   - 3.1 Meal reimbursements are limited to a maximum of $50.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of $20.00 per day. The travel must be outside the Williamson County, Texas line by a 50 mile radius.
   - 3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.
   - 3.3 Meals are reimbursable only for vendors who do not have the necessary personnel located within a 50 mile radius of Williamson County, Texas that are capable of carrying the vendor's obligations to County. Meals will not be reimbursed to vendors who are located within a 50 mile radius of Williamson County, Texas.
   - 3.4 County will not reimburse for alcoholic beverages.
   - 3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance
   - 3.6 No meals purchased for entertainment purposes will be allowed.
   - 3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. **Lodging**
   - 4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.
   - 4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.
   - 4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. **Airfare**
   - 5.1 The County will only reimburse up to a coach price fare for air travel.
   - 5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. early bird check in, seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)
   - 5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.

5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.

5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.

6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.

6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.

6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.

6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.

6.6 Insurance purchased when renting vehicle may also be reimbursed.

6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.

7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:

7.2.1.1 Date

7.2.1.2 Destination

7.2.1.3 Purpose

7.2.1.4 Name of traveler(s)

7.2.1.5 Correspondence that verifies business purpose of the expense

7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.

7.4 Mileage will be reimbursed on the basis of the most commonly used route.

7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.

7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.

7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of Williamson County, Texas by at least a 50 mile radius.

7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.

7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).

7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.

7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Nonreimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

10.1 Alcoholic beverages/tobacco products
10.2 Personal phone calls
10.3 Laundry service
10.4 Valet service (excludes hotel valet)
10.5 Movie rentals
10.6 Damage to personal items
10.7 Flowers/plants
10.8 Greeting cards
10.9 Fines and/or penalties
10.10 Entertainment, personal clothing, personal sundries and services
10.11 Transportation/mileage to places of entertainment or similar personal activities
10.12 Upgrades to airfare, hotel and/or car rental

10.13 Airport parking above the most affordable rate available
10.14 Excessive weight baggage fees or cost associated with more than two airline bags
10.15 Auto repairs
10.16 Babysitter fees, kennel costs, pet or house-sitting fees
10.17 Saunas, massages or exercise facilities
10.18 Credit card delinquency fees or service fees
10.19 Doctor bills, prescription and other medical services
10.20 Hand tools
10.21 Safety Equipment (hard hats, safety vests, etc.)
10.22 Office Supplies
10.23 Lifetime memberships to any association
10.24 Donations to other entities
10.25 Any items that could be construed as campaigning
10.26 Community outreach items exceeding $2 per item
10.27 Sales tax on goods purchased
10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

EXHIBIT F

CERTIFICATES OF INSURANCE

ATTACHED BEHIND THIS PAGE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/27/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
McLaughlin Brunson Insurance Agency
12801 North Central Expressway
Suite 1710
Dallas TX 75243

CONTACT NAME: Joe A Bryant
PHONE (A/C, No, Ext): (214) 503-1212 **FAX (A/C, No):** (214) 503-8899
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: XL Specialty Insurance Company	37885
INSURER B: Travelers Indemnity Co of Am	25666
INSURER C: Travelers Indemnity Company	25658
INSURER D: Charter Oak Fire Insurance Co.	25615
INSURER E:	
INSURER F:	

INSURED
CP&Y, Inc.

1820 Regal Row
Ste 200
Dallas TX 75235

COVERAGES **CERTIFICATE NUMBER:** Cert ID 34139 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
B	GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR [X] Contractual Liab [X] Severability of Int. GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC	Y	Y	6805H846843 Valuable Papers $2,245,000	01/01/2017	01/01/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
D	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED AUTOS	Y	Y	BA3865M855	01/01/2017	01/01/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
C	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $	Y	Y	CUP2D349003	01/01/2017	01/01/2018	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] N/A (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		Y	UBJ375469	01/01/2017	01/01/2018	[X] WC STATU-TORY LIMITS [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
A	Professional Liability		Y	DPR9803144	04/01/2016	04/01/2017	Per Claim/ Annual Aggregate	$ 5,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
The claims made professional liability coverage is the total aggregate limit for all claims presented within the policy period and is subject to a deductible. Thirty day notice of cancellation in favor of the certificate holder on all policies.The County, its directors, officers and employees are named as an additional insured on the general, auto and umbrella liability coverages as required by contract. A waiver of subrogation is shown in favor of the additional insured on all policies as required by contract. RE: Transportation Corridor F

CERTIFICATE HOLDER

COUNTY OF WILLIAMSON
c/o: Pam Navarrette
710 Main Street, Suite 301
Suite 101
Georgetown TX 78626

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Joe A Bryant

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CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-167830

Date Filed:
02/16/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
CP&Y, Inc.
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Williamson County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
WLSM1700137.00
Professional Engineering Services

Original

4 Name of Interested Party	City, State, Country (place of busines		
Boswell, Jeremy	Oklahoma City, OK United States		
Hays, David	Dallas, TX United States	^	
Hartzler, Michael	Dallas, TX United States	X	
Vergara, Marisa	San Antonio, TX United States	X	
Roohms, J.J.	Austin, TX United States	X	
Patel, Pete	Dallas, TX United States	X	
Chiang, Walter	Dallas, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

BARBARA B RAESZ
Notary ID # 129177077
My Commission Expires
October 23, 2020

AFFIX NOTARY STAMP / SEAL ABOVE

Signature of authorized agent of contracting business entity

Sworn to and subscribed before me, by the said James J. Roohms, this the 16th day of February, 20 17, to certify which, witness my hand and seal of office.

Signature of officer administering oath	Barbara B. Raesz Printed name of officer administering oath	Notary Public Title of officer administering oath

RECEIVED
MAR 01 2017
BY: PSI

WORK AUTHORIZATION NO. 1

PROJECT: Transportation Corridor F

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **CP&Y, Inc.** (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is **$989,320.25.**

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **December 31, 2017**. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this _____ day of _____, 20___.

ENGINEER:	COUNTY:
CP&Y, Inc.	Williamson County, Texas
By: _____ Signature	By: _____ Signature
James J. Roohms Printed Name	Dan A. Gattis Printed Name
Chief Operating Officer Title	County Judge Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

ATTACHMENT A
SERVICES TO BE PROVIDED BY THE COUNTY
PRELIMINARY ENGINEERING FOR CORRIDOR F (US 183)

In general, Williamson County and its representatives to their best efforts will render services as follows:

1. Name, business address and phone number of County's project manager.

2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.

3. Obtain Rights of Entry from landowners that are unwilling to grant access to the Engineer.

4. Provide available appropriate County data on file, plans and specifications that are deemed pertinent to the completion of the work required by the scope of services (including previous hydraulic studies, models, previous reports and studies, available existing traffic counts, and design year traffic projections).

5. Provide LiDAR and traffic data for use in the Engineer's study.

6. Provide available criteria and full information as to the client's requirements for the project. Provide examples of acceptable format for the required deliverables.

7. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.

8. Submittal of documentation to regulatory agencies for review and comment, when specified.

9. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.

10. Post and maintain project information for public consumption on the County website.

11. Assist with Coordination between the Engineer and the County's other subconsultants.

12. Negotiate with all utility companies for any agreements and/or relocations required.

13. Provide an agent as necessary to secure proposed ROW.

14. Provide construction observation and review contractor pay applications and progress.

15. Provide Engineer with Contractor submittals, Requests for Information (RFI's), shop drawings, and correspondence.

16. Review Engineer progress, submittals, and plan changes.

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
PRELIMINARY ENGINEERING FOR CORRIDOR F (US 183)

PROJECT DESCRIPTION

Existing Facility

Existing US 183 from FM 3405 to the northern Williamson County line consists of a four-lane asphalt, undivided rural arterial without shoulders and with grass-lined ditches to convey stormwater run-off. Typical existing right-of-way (ROW) width is 100 feet.

Proposed Facility

The proposed US 183 typical section will be determined during project development. It is anticipated the typical section will follow the roadway section already completed from FM 3405 to south of SH 29, which consists of 6 mainlanes and 6 frontage lanes. The proposed facility is anticipated to be an urban section, with curb and gutter on the frontage roads and barrier and shoulder for the mainlanes. Approximate ROW width will vary from approximately 350 feet to 400 feet, depending on final typical section. It is anticipated there will be up to 6 grade-separate intersections within the project limits.

Design Criteria

Texas Department of Transportation design criteria will control for US 183, and Williamson County for side corridor studies at County Road (CR) 207 and CR 221.

1. PROJECT MANAGEMENT

   a. The ENGINEER shall designate an individual to be responsible for the project management, and all communications with the County and its representatives.

   b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS:

      i. Submit monthly progress status reports to the GEC. Progress reports will include: tasks completed, tasks/objectives that are planned for the upcoming periods, lists or descriptions of items or decisions needed from the County and its representatives. Subconsultant progress will be incorporated into the monthly progress report. A copy of the monthly progress report will be uploaded to ProjectWise.

      ii. Prepare correspondence, invoices, and progress reports on a monthly basis in accordance with current County requirements.

   c. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:

      i. Prepare a project specific QA/QC plan and submit to the County within thirty (30) days of notice to proceed.

ii. For each deliverable, provide evidence of their internal review and mark-up of that deliverable as preparation for submittal and in accordance with submitted project specific QA/QC plan.

iii. Provide continuous QA/QC throughout the duration of the scheduled services included herein to appraise both technical and business performance and provide direction for project activities.

iv. Provide QA oversight and reviews to confirm conformance with project direction, intent, criteria including preparation of review comment documentation and document mark-ups.

d. PROJECT COORDINATION & ADMINISTRATION:

i. Prepare and maintain routine project record keeping including records of meetings.

ii. Correspondence and coordination will be handled through & with the concurrence of the GEC.

iii. Manage Project activities (including documenting emails, phone and conference calls, maintain project files for the length of the project, meeting agendas, meeting minutes, and schedule meetings), direct ENGINEER's team/staff, correspond with the County and its representatives, and assist the County and its representatives in preparing responses to Project-related inquiries.

e. PROGRESS/COORDINATION MEETINGS (12 external meetings assumed):

i. Prepare for and attend a kickoff meeting

ii. Prepare for and attend up to 12 coordination/progress meetings with the County and its representatives and stakeholders, as necessary to communicate development of the project and design issues.

iii. Prepare agenda and sign-in sheets for external coordination/progress meetings.

iv. Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting.

v. Conduct internal coordination meetings as required to advance the development of the project.

f. PROJECT SCHEDULE:

i. Develop project schedule utilizing Microsoft Project indicating tasks, subtasks, critical dates, milestones, and deliverables.

ii. Maintain project schedule with monthly updates

g. DELIVERABLES:

i. Monthly Invoices and Progress Reports

ii. Project Specific QA/QC Plan

iii. Meeting Minutes, Sign-In Sheets, and Agendas

iv. Project Schedule and monthly updates

2. ROUTE AND DESIGN STUDIES

a. DATA COLLECTION:

i. Perform record research and obtain existing information, including but not limited to: as-built plans, construction plans, ROW maps, automated road inventory sheets, PMIS data, environmental reports, studies, future land use maps, floodplain data, floodplain and drainage models and analyses. Obtain construction plans for projects within the project limits and abutting TxDOT and County Roads. Obtain drainage studies, reports, and mapping for the project area, including reports for developments affecting the drainage area.

ii. Identify any agreements or contracts that TxDOT or other pertinent local jurisdictions have with utility companies or other public entities.

iii. Conduct a field investigation of the proposed roadway alignment and the surrounding area to determine field conditions including photographic record of notable existing features.

iv. Develop and maintain adjacent property ownership information (including owner's name, mailing address, property address, property id number) spreadsheet to be used for disseminating project information.

v. Review the data collected and organize the information.

b. STAKEHOLDER COORDINATION (30 meetings assumed):

i. Prepare agendas, sign in sheets, meeting minutes, discussion topics, presentations, overall exhibits, and maps of the project limits for stakeholder coordination meetings.
(a) Schedule, coordinate logistics for and prepare materials (agendas, sign in sheets, meeting minutes, discussion topics) for meetings.
(b) Review and provide feedback on handouts, presentations, exhibits, and maps of the project limits for stakeholder coordination meetings.

ii. Coordinate with affected local agencies, County's consultants, and affected property owners. Includes preparing/reviewing presentations and other communications materials for elected official briefings.

iii. Conduct one (1) Neighborhood Meeting
(a) Schedule, coordinate logistics for and prepare materials (agenda, sign in sheets, meeting minutes, discussion topics).
(b) Review and provide feedback on handouts, presentations, exhibits, and maps of the project limits.
(c) Attend meeting and provide summary of meeting.

iv. Provide ongoing stakeholder coordination, to include follow-up phone calls, emails and meetings (as requested) with stakeholders after initial introductions.

v. Maintain a log of all stakeholder comments and inquiries received via phone, email, web form and written comments submitted at stakeholder meetings. Include stakeholder contact information and any responses provided.

c. ALTERNATIVES DEVELOPMENT AND EVALUATION (Four preliminary alignment alternatives assumed):

i. Develop design criteria for project

ii. Develop evaluation criteria to assist in evaluating the four preliminary alignment alternatives, to be summarized in a design criteria report

iii. Prepare typical sections for the proposed project. Typical sections will depict lane widths and configurations for the project mainlanes and frontage roads. General cross street typical sections will be developed for major collector roads including FM 3405 and up to two other roadways identified in consultation with Williamson County. It is not anticipated that typical sections will be developed for each cross street on the project corridor.

iv. Develop preliminary horizontal alignments for each of the four preliminary alignment alternatives.

v. Develop preliminary vertical alignments for each of the four preliminary alignment alternatives.

vi. Develop preliminary ROW requirements for each of the four preliminary alignment alternatives. These ROW limits are intended to be used for

comparison in the evaluation matrix. Detailed ROW limits will be developed during schematic development of the recommended alignment.

vii. Review and summarize major utility conflicts for each of the preliminary alignment alternatives.

viii. Develop constraints matrix for route selection comparison.

ix. Prepare scroll plots on digital orthophoto backgrounds that include environmental concerns, known constraints (structures, floodplain, etc.), aerial photography, contour information, utility information, based on research of public databases and sources and details screening measures and decision practices for eliminating non-viable corridors.

x. Prepare preliminary ENGINEER's opinions of probable cost for each preliminary alignment alternative. Opinions of probable cost will not be developed by individual bid items. These estimates will be developed for comparative purposes utilizing major construction item categories.

xi. Develop preliminary alignment alternatives based on stakeholder input, design criteria, existing structures, potential displacements, ROW limits and requirements, known developments, FEMA floodplain areas, existing and proposed drainage structures and other considerations identified during the development of alternatives.

xii. Document and recommend to the County the recommended alternative based on the evaluation and input from the public involvement process and environmental process more fully described later in this scope of services.

d. EVALUATION OF INTERSECTING ARTERIALS (Up to 2 arterial intersections to be evaluated)

i. Evaluate new location alignments consistent with Williamson County Long Range Transportation Plan and develop evaluation criteria to assist in evaluating route alignment alternatives, to be summarized in a design criteria report at the following locations:
(a) CR 207 at N US 183 from existing CR 207 to Ronald Reagan Blvd.
(b) CR 221 at N US 183 from County Line to SH 138

ii. Prepare typical sections for each location. Typical sections will depict lane and shoulder widths.

iii. Develop up to three preliminary horizontal and vertical alignments for each location.

iv. Develop preliminary ROW requirements for each alternative alignment. Detailed ROW limits will be developed during schematic development of the recommended alignment.

v. Review and summarize major utility conflicts for each alternative.

vi. Prepare scroll plots on digital orthophoto backgrounds for presentation to the County. These plots will be developed for use in review, as well as presentation to stakeholders and property owners in the alternatives review process.

vii. Prepare preliminary ENGINEER's opinions of probable cost for each alignment alternative. Opinions of probable cost will not be developed by individual bid items. These estimates will be developed for comparative purposes utilizing major construction item categories.

viii. Refine preliminary alignment based on stakeholder input, design criteria, existing structures, potential displacements, ROW limits and requirements, known developments, FEMA floodplain areas, existing and proposed drainage structures and other considerations identified during the development of alternatives.

ix. Document and recommend to the County the recommended alternative based on the evaluation and input from the public involvement process and environmental process more fully described later in this scope of services.

e. DELIVERABLES:

i. Constraints Map of Preliminary Alignment Alternatives (pdf and hardcopies)

ii. Constraints Map of Refined Alignment Alternatives (pdf and hardcopies)

iii. Draft Preliminary Alignment Alternatives Evaluation Memorandum (pdf and hardcopies)

iv. Final Preliminary Alignment Alternatives Evaluation Memorandum (pdf and hardcopies)

v. Draft Recommended Alternative Identification Memorandum (pdf and hardcopies)

vi. Final Recommended Alternative Identification Memorandum (pdf and hardcopies)

vii. Draft Intersection Evaluation Memoranda

viii. Final Intersection Evaluation Memoranda

ix. Design Summary Form (pdf and hardcopies)

x. Google KMZ of each alternative

3. **TRAFFIC STUDIES**

a. TRAFFIC PROJECTIONS

i. Based on the traffic data collected and the regional travel demand model (TDM), the ENGINEER shall develop a 2040 roadway level traffic forecast. The 2040 TDM model will be executed utilizing the official demographics forecast packaged with the model. The model forecast will be used in conjunction with traffic data collected for this project to develop 2040 AM and PM Peak hour volumes for six (6) major intersections along Corridor F (FM 3405, CR 207, CR 254, CR 209/215/970, CR 236, CR 243/221/SH 138) Where there is not enough detail coded into the model for existing intersections, existing counts and a growth rate will be used to help develop future traffic projections. Other intersections, including those that could be part of future developments or that are being designed by other agencies will not be assessed as part of this study. Up to two (2) phases will be assessed for the F Corridor:

(a) Phase 1 – One-way Frontage Road Pair
(b) Phase 2 – Full Freeway section

b. DATA COLLECTION

i. Review Existing AM & PM 2-hour Turning Movement Counts provided by the County at the following intersections (8):

(a) US 183 and FM 3405
(b) US 183 and CR 207
(c) US 183 and CR 254
(d) US 183 and CR 209/215/970
(e) US 183 and CR 236
(f) US 183 and SH 138
(g) US 183 and CR 243
(h) US 183 and CR 221

ii. Collect Field Observations during the AM and PM Peak Periods.

c. CRASH ANALYSIS

i. Perform a crash analysis for the existing corridor including comparison to statewide averages.

d. COORDINATION MEETINGS

i. Coordinate throughout the project (up to 1 meeting).

ii. DELIVERABLES: Attend up to one (1) meeting to coordinate traffic studies.

4. PUBLIC INVOLVEMENT

a. PROJECT DATABASE

i. The ENGINEER will provide general public outreach and engagement throughout the project. A database will be developed and maintained in Excel format which includes nearby property owners and residents, businesses, churches, educational/community organizations, elected/public officials, and any interested individuals. The ENGINEER will identify and reach out to key stakeholders that may be interested and will collect contact information for updates.

b. COMMUNICATIONS MATERIALS AND TOOLS

i. Prepare communications materials and tools to explain project information and key messages. Materials will include:
(a) Frequently Asked Questions will be developed at project commencement and will serve as the foundation for developing all other communication materials and key messages.
(b) Website copy will be provided to the County as needed.
(c) Copy for up to 6 eNewsletters / eBlasts will be provided to the County to promote public meetings and provide project updates.
(d) Copy and layout/design for up to 2 fact sheets or handouts to include a map of the project area, purpose and need for the project, and other information. Williamson County Road Bond templates/branding will be utilized.

c. PUBLIC MEETING/OPEN HOUSE (One public meeting assumed):

i. Develop and distribute a direct mail piece or flyer for adjacent property owners to notify them of the start of the project and Open House #1.

ii. Plan, schedule, conduct, and facilitate one (1) public meeting to share project information with and collect feedback from citizens and stakeholders. Tasks may include, but are not limited to:
(a) Develop invitations/advertisements/invitation lists
(b) Coordinate meeting announcements such as letters, email notices, signage, media releases, website and social media postings, outreach/ notifications to elected officials (letters and emails), and up to 3 newspaper advertisements.

(c) Coordinate meeting logistics, including securing locations and conducting site visit
(d) Provide experienced meeting facilitator and support staff to attend public meetings to solicit input from the general public.
(e) Prepare/review handouts and exhibits for public viewing.
(f) Develop public survey and summarize results for 1 public meeting
(g) Participate in meeting rehearsals
(h) Prepare public meeting summary and responses to any comments or questions provided.
(i) Coordinate court reporter and translator (if needed)

d. DELIVERABLES:

i. FAQs
ii. Website copy
iii. Copy for eNewsletters/eBlasts
iv. Fact Sheets/Handouts
v. Public Notices
vi. Sign-In Sheets, Handouts, Presentations, Maps, and Exhibits for Public Meeting.
vii. Open House Meeting Summary and comment responses.

5. RIGHT OF WAY (ROW) MAPPING

a. Right of Way (ROW) Delineation

i. The Surveyor will locate existing ROW monumentation and other physical evidence of the existing ROW and tie to the project control. ROW limits on as-built plans or existing ROW maps provided by the County will be used to establish the approximate existing ROW. This is not a ROW Retracement Survey or Boundary Survey. The information will be plotted to create a basefile for use by the ENGINEER for design purposes only and is not intended to be used for ROW acquisition.

b. DELIVERABLES:

i. Preliminary ROW Map and affected property owner list (drawing file, pdf, and hardcopies)
ii. Final ROW Map and affected property owner list (drawing file, pdf, and hardcopies)

6. SURVEYING

a. FIELD SURVEYING:

i. Primary Project Control
   (a) The Surveyor will recover and utilize the existing primary project control as published by others during the previous aerial LiDAR project. The Surveyor will establish up to six (6) secondary horizontal/vertical control points within the project limits. The Surveyor will constrain to the published control network where values are based on the horizontal and vertical datum [NAD83 (2011)/NAVD88 values (Texas Coordinate System, Central Zone)]. Replacing existing published primary control points found to be missing or disturbed is outside of this scope of services.

ii. Existing LiDAR Rectification
   (a) The Surveyor will attempt to rectify the existing aerial LiDAR file, as provided by the County, to NAD83 (2011)/NAVD88 values (Texas Coordinate System, Central Zone). This effort will require the Surveyor to be provided existing project control and metadata for the aerial LiDAR prepared by others. The Surveyor will apply a surface adjustment factor of 1.00011, or another as provided by the County, to the rectified LiDAR data. Verifying elevations and accuracy of data shown within the existing LiDAR is outside of this scope of series.

iii. Subsurface Utility Engineering – Quality Level D
   (a) Quality Level D - Existing Records: Utilities are plotted from review of available existing records

iv. Survey existing US 183 horizontal curves – PC/PTs, and breaks in ROW as shown on existing ROW plans.

b. DELIVERABLES:
   i. ROW Delineation Basemap, Microstation V8i format
   ii. ASCII points list of established project control
   iii. PDF file of scanned field book copies

7. SCHEMATIC DEVELOPMENT (NOT INCLUDED IN THIS WORK AUTHORIZATION)

8. DRAINAGE STUDY

   a. HYDROLOGIC/HYDRAULIC MODELING (2 major channel crossings, 15 cross drainage structures assumed):

      i. Delineate external drainage areas

ii. External Drainage - Prepare preliminary hydrologic and hydraulic models or modify existing models (FEMA, drainage districts, river authorities, cities, etc.) if available, to define the drainage infrastructure required for the conceptual alternatives. Detail the methodologies employed and recommendations. The external analysis will include: cross drainage structures, major channel crossings to reflect the existing conditions, based on cross drainage flood elevations, and easement requirements, Identify potential needs for FEMA Coordination. HEC-RAS shall be utilized for all stream modeling. HY-8 will be used for culvert modeling.

9. ENVIRONMENTAL SERVICES

a. ENVIRONMENTAL CONSTRAINTS ANALYSIS

Collect and review available environmental data to determine environmental constraints within the US 183 corridor. Prepare a preliminary environmental constraints map that identifies major human and natural environmental constraints within 500 feet of the US 183 centerline. The study area will expand to encompass an area within 750 feet of the US 183 centerline and extending 0.25 of a mile north and south of the following intersections: FM 3405, CR 207, and CR 221. Conduct a field reconnaissance to update and verify accuracy of preliminary environmental constraints map.

i. Obtain, review, and organize existing environmental constraints data.

ii. Prepare a draft preliminary environmental constraints map on digital orthophotography using GIS. Major environmental features identified in the record searches will be included in the constraints map. Aerial photographic interpretation will be used to identify the remaining features in the 1,000-foot corridor. The important environmental features that will be identified in the preliminary constraints map include schools, hospitals, cemeteries, churches, existing/planned developments, potential historic and 4(f) properties, archeological sites (not for public display), potential hazardous material or contamination sites, wetlands/waters of the U.S., floodplains, and endangered and/or threatened species habitats (not for public display).

iii. Perform property ownership research utilizing the Williamson County Appraisal District records (Tax Maps and Ownership Records) and compile a list (Excel Spreadsheet) of landowners for distribution of right of entry letters. Obtain "right-of-entry" by signed letter from the owner of each of the subject properties. Also, contact property owners in advance of field surveys or to address specific property owner concerns about the work to be performed or being performed. This scope anticipates that the County will handle problems regarding landowners that refuse to

grant right-of-entry or are otherwise hostile with respect to the completion of this scope of services. Record and report results of mailings for future action. Landowner contacts will be recorded and provided to the County.

iv. Conduct a field reconnaissance to verify the accuracy of the (draft) preliminary environmental constraints map. Identify important environmental features which are not included in the (draft) preliminary environmental constraints map and produce a (final) preliminary environmental constraints map for review by the County.

v. Following County review of the preliminary constraints map, produce a final constraints map.

b. INTERSECTING ARTERIAL CONSTRAINTS MAPPING (Up to 2 intersecting arterials)

i. The ENGINEER will prepare (draft) preliminary environmental constraints map on digital orthophotography using GIS for each of the arterial roadways. Major environmental features identified in the record searches will be included in the constraints map. Aerial photographic interpretation will be used to identify other features within the arterial areas. The important environmental features that will be identified in the preliminary constraints map include schools, hospitals, cemeteries, churches, existing/planned developments, potential historic and 4(f) properties, archeological sites (not for public display), potential hazardous material or contamination sites, wetlands, floodplains, and endangered and/or threatened species habitats (not for public display). The arterial constraints maps shall encompass an area not to exceed 1,500-feet in width, extending a distance not to exceed 5.5 miles in total length combined for the two arterials and starting at Corridor F/US 183.

ii. To the extent possible from publicly-accessible areas, the ENGINEER will ground-truth the (draft) preliminary environmental constraints maps of the arterial areas. Right-of-entry will not be requested/obtained within the arterial areas.

iii. After completion of ground-truthing, (final) preliminary constraints maps of the arterial areas will be produced and submitted to the County for review.

iv. Subsequent to County review, final environmental constraints maps of the arterial areas will be produced.

v. Based on information contained in the arterial environmental constraints map, a fatal flaw analysis will be performed and the results reported in the draft/final Intersection Evaluation Memoranda (outlined in Section 2.D of this Scope of Services).

c. RESOURCE-SPECIFIC EVALUATIONS - The ENGINEER will conduct resource-specific studies, surveys and evaluations. These evaluations will serve to identify existing (baseline) conditions and the impacts associated with each of the preliminary alignment alternatives.

i. Community Resources – Potential

(a) Land Use and Public Facilities –Potential effects on community resources, public and community facilities will be identified. Section 4(f) and 6(f) - Section 4(f) and 6(f) properties will be identified, and potential impacts to these properties will be assessed.

(b) ROW and Relocation Impacts – The area of ROW required for each of the four preliminary alignment alternatives will be computed. The following information will also be identified for each alternative: an estimate of the number of households to be displaced, an estimate of the numbers and descriptions of businesses and farms to be displaced.

(c) Noise Receptors – Noise receptors within the study corridor will be identified, categorized, and their locations mapped.

ii. Cultural Resources

(a) Historic Resources

(i) Conduct Reconnaissance Survey – Based on the area of potential effects (APE) prior to survey, the ENGINEER will conduct a reconnaissance field survey of properties within the APE that had not been previously inventoried. For buildings and structures that are 45 years old or older as of the letting date (2025), the ENGINEER will collect written and photographic documentation of those characteristics and contextual views that support the NRHP evaluation and the assessment of effect/impacts. All work will be conducted in accordance with the Guide.

The deliverable for this task will be an inventory table summarizing the surveyed historic resources and a constraints map indicating the locations of potential historic properties/districts in relation to the foot print of the ultimate design schematic.

(b) Archeology

(i) Phase 1. The ENGINEER will conduct a Class I archeological inventory (literature review) of files and archives maintained by the Texas Historical Commission (THC) and the Texas Archeological Research Laboratory (TARL) to identify previous archeological investigations and sites, if any, within the archeological APE (i.e. project footprint). The ENGINEER will identify and summarize all previously recorded archeological sites within the APE and also within one mile of the APE. The ENGINEER will also access published information on the nature and typical depth of soils within the APE segments and will develop predictive statements about the probability of unrecorded significant archeological sites being located within each APE segment. The ENGINEER will present these findings and recommendations for use in a technical memo. The ENGINEER will also prepare a coordination letter to be sent to the THC to request concurrence about recommendations for field survey efforts.

iii. Ecological Investigations – An ecological field survey and investigation to assess the preliminary alignment alternatives' impacts on the ecological setting, vegetation, wildlife, threatened and endangered species, wetlands, and floodplains will be conducted. An Ecological Resources Technical Report will be prepared.

(a) Vegetation and Wildlife- A characterization of project area ecological resources, including descriptions of vegetation and wildlife habitat resources will be performed.

(b) Threatened and Endangered Species - During field investigations, an assessment of the suitability of affected habitats to support listed species will be made.

(i) The federal and state threatened and endangered species will be documented for the proposed project areas. The ENGINEER will assess the suitability of the habitat for these species and the potential for the different alternatives to impact any threatened or endangered species.

(ii) A karst feature survey will be conducted in accordance with existing U.S. Fish & Wildlife Service protocols as of May 21, 2015, which state that the Texas Commission on Environmental Quality Geologic Assessment guidelines are appropriate for conducting initial karst feature surveys. The karst survey will follow the TCEQ geologic assessment guidelines, as revised October 1, 2004. This scope assumes that the karst feature surveys will be limited to areas within karst zone 3, as the entire study area is located outside of karst zones 1 and 2. If significant karst habitat features are found, detailed site-specific geologic investigations will be required. These investigations would be conducted under a supplemental work authorization.

(c) Wetlands – Wetlands determinations for the four preliminary alignment alternatives will be conducted using the three-parameter approach as outlined in the U.S. Army Corp of Engineers Wetlands Delineation Manual (1987) and Regulatory Guidance Letter No. 05-05

(d) Floodplain Impacts – National Flood Insurance Program (NFIP) maps will be used to determine whether a preliminary alignment alternative will encroach on the base (100-year) floodplain. Floodplain areas within the study area will be determined and mapped; encroachment area (in acres) will be quantified for each of the preliminary alignment alternatives.

(e) Hazardous Materials – A database search and visual inspection within the existing ROW and the 1,000-foot study corridor to determine existing conditions will be performed, the findings will be summarized, and the potential for impacts to the preliminary alignment alternatives will be evaluated

(f) Update final environmental constraints map to include information gathered during field reconnaissance

(g) Prepare final technical memorandum describing environmental constraints within the 1,000-foot corridor.

d. DELIVERABLES:

i. Draft & Final Environmental Constraints Map

10. EXCLUSIONS

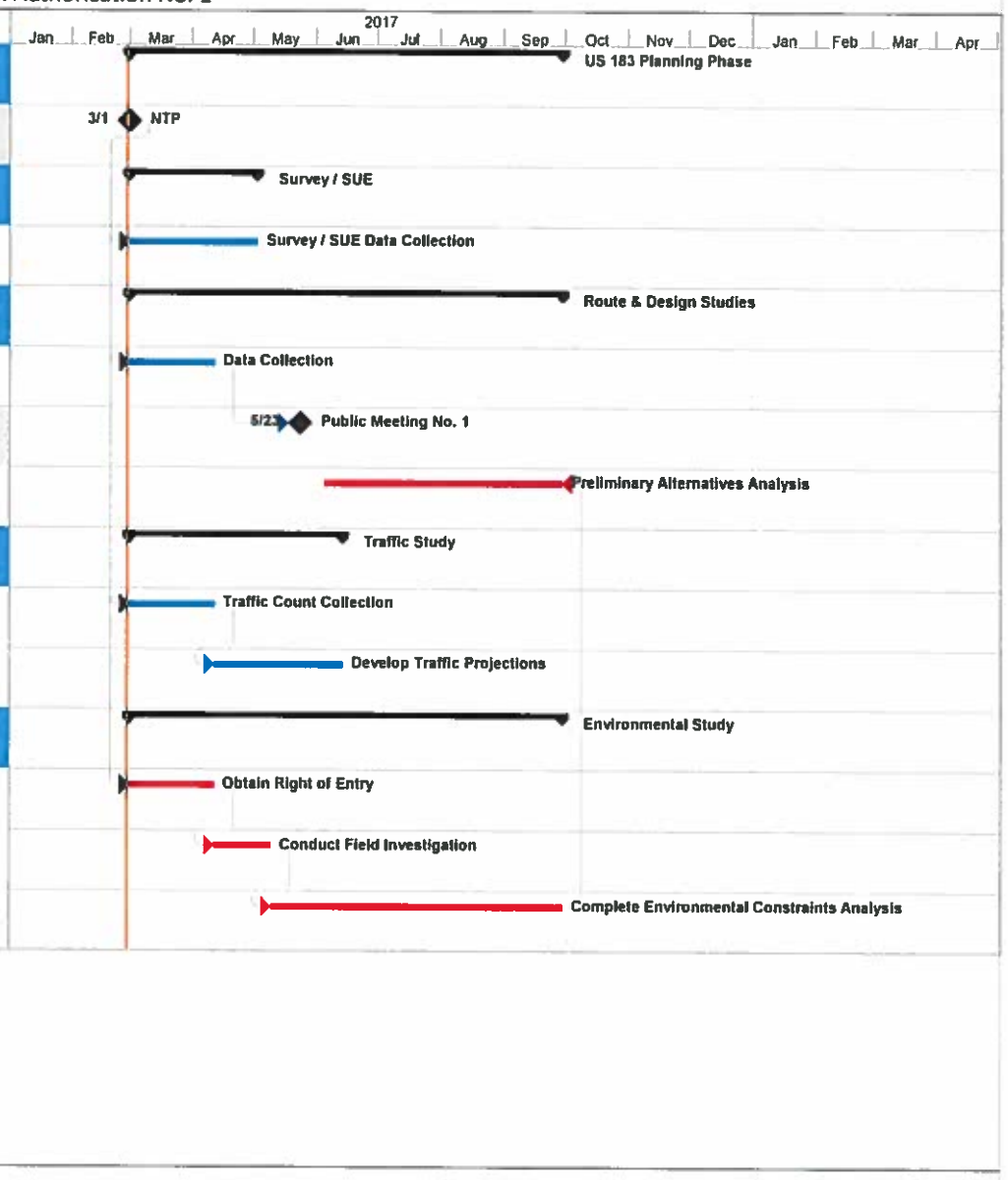
a. UTILITY COORDINATION:

i. Utility coordination is not included in this scope of work. Major utility lines will be identified from as-built drawings as provided by the utility companies.

ii. Utility conflict analysis and coordination is not included.

Transportation Corridor F
US 183 Corridor Study
Attachment C - Work Schedule
Work Authorization No. 1

ID	Task Name	Duration	Start	Finish	Predecessors
1	US 183 Planning Phase	153 days	Wed 3/1/17	Fri 9/29/17	
2	NTP	0 days	Wed 3/1/17	Wed 3/1/17	
3	Survey / SUE	45 days	Wed 3/1/17	Tue 5/2/17	
4	Survey / SUE Data Collection	45 days	Wed 3/1/17	Tue 5/2/17	2
5	Route & Design Studies	153 days	Wed 3/1/17	Fri 9/29/17	
6	Data Collection	30 days	Wed 3/1/17	Tue 4/11/17	2
7	Public Meeting No. 1	0 days	Tue 5/23/17	Tue 5/23/17	6FS+6 wks
8	Preliminary Alternatives Analysis	85 days	Mon 6/5/17	Fri 9/29/17	16FF
9	Traffic Study	75 days	Wed 3/1/17	Tue 6/13/17	
10	Traffic Count Collection	30 days	Wed 3/1/17	Tue 4/11/17	2
11	Develop Traffic Projections	45 days	Wed 4/12/17	Tue 6/13/17	10
12	Environmental Study	153 days	Wed 3/1/17	Fri 9/29/17	
13	Obtain Right of Entry	30 days	Wed 3/1/17	Tue 4/11/17	2
14	Conduct Field Investigation	20 days	Wed 4/12/17	Tue 5/9/17	13
15	Complete Environmental Constraints Analys	103 days	Wed 5/10/17	Fri 9/29/17	14



Project: US 183; Williamson/Burnet Co. Line to FM 3405
Date: Tue 2/28/17

Task — Milestone — Project Summary
Critical Task — Summary

Attachment D - Fee Schedule
Transportation Corridor F
Summary

Highway: US 183: Williamson / Burnet Co. Line to FM 3405
County: Williamson
PRIME: CP&Y, Inc.

Summary Table: Williamson / Burnet Co. Line to FM 3405

		TOTAL PROJECT									TOTAL
TASKS	Description	CP&Y, Inc.	Alliance Transportation Group	Kimley Horn	Rifeline	Blue	SAM	Kent Obrien	Cambrian	Horizon	
1	PROJECT MANAGEMENT	$ 77,651.21	$ 5,365.00	$ 10,234.48	$ 12,534.00	$ 10,284.00	$ 1,585.00	$ 601.92	$ -	$ -	$ 118,255.61
2	ROUTE AND DESIGN STUDIES	$ 278,519.43	$ -	$ 78,492.22	$ 16,610.00	$ 16,362.50	$ -	$ -	$ -	$ -	$ 389,984.15
3	TRAFFIC STUDIES	$ 27,901.42	$ 38,719.00	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 66,620.42
4	PUBLIC INVOLVEMENT	$ 66,326.01	$ -	$ -	$ 17,120.00	$ 17,880.00	$ -	$ 720.16	$ -	$ -	$ 102,046.17
5	RIGHT OF WAY (ROW) MAPPING	$ 3,645.24	$ -	$ -	$ -	$ -	$ 18,450.00	$ -	$ -	$ -	$ 22,095.24
6	SURVEYING	$ 7,290.48	$ -	$ -	$ -	$ -	$ 42,210.00	$ -	$ -	$ -	$ 49,500.48
7	SCHEMATIC DEVELOPMENT	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
8	DRAINAGE STUDY	$ 14,490.06	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,490.06
9	ENVIRONMENTAL SERVICES	$ 178,421.85	$ -	$ -	$ -	$ -	$ -	$ -	$ 12,852.08	$ 3,534.60	$ 194,808.53
	LABOR SUBTOTALS	**$ 654,245.70**	**$ 44,084.00**	**$ 88,726.70**	**$ 46,264.00**	**$ 44,526.50**	**$ 62,245.00**	**$ 1,322.08**	**$ 12,852.08**	**$ 3,534.60**	**$ 957,800.66**
	Other Direct Expenses	$ 4,800.50	$ 1,145.00	$ 594.34	$ 15,638.00	$ 4,315.25	$ 4,831.50	$ -	$ -	$ 195.00	$ 31,519.59
	ODE SUBTOTALS	**$ 4,800.50**	**$ 1,145.00**	**$ 594.34**	**$ 15,638.00**	**$ 4,315.25**	**$ 4,831.50**	**$ -**	**$ -**	**$ 195.00**	**$ 31,519.59**
	PROVIDER SUBTOTALS	**$ 659,046.20**	**$ 45,229.00**	**$ 89,321.04**	**$ 61,902.00**	**$ 48,841.75**	**$ 67,076.50**	**$ 1,322.08**	**$ 12,852.08**	**$ 3,729.60**	**$ 989,320.25**
Percentage		66.6%	4.6%	9.0%	6.3%	4.9%	6.8%	0.1%	1.3%	0.4%	
											$ 989,320.25

Prime Provider: CP&Y, Inc.
US 183
SPECIFIED RATE

			Senior Project Manager	Quality Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	Environmental Manager	Senior Environmental Planner	Environmental Planner IV	Environmental Planner III	Senior Environmental Scientist	Environmental Scientist IV	Environmental Scientist III	Environmental Scientist I/II	Senior Architectural Historian	Architectural Historian	Admin/ Clerical	Senior GIS Operator	GIS Operator	TOTAL HRS	TOTAL LABOR HRS & COSTS
1. PROJECT MANAGEMENT																										
1	a																									
	b	**MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS**																								
		i Monthly Progress Reports (5 months)	3																					3	$ 750.48
		ii Monthly Invoices (5 months)	3		6																18			25	$ 3,836.92
	c	**QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:**																								
		i Prepare QAQC Plan	4	4		12																		20	$ 3,794.88
		ii Prepare QAQC package per deliverable (1 constraints, 3 schematics, Tech Reports)	2	2				4																8	$ 1,287.04
	d	**PROJECT COORDINATION & ADMINISTRATION**																								
		i Prepare and maintain project record	3									10		10							12			35	$ 5,331.40
		ii Correspondence and coordination	4		4		24																	32	$ 5,354.16
		iii Manage project	24			24																		48	$ 10,292.40
	e	**PROGRESS/COORDINATION MEETINGS**																								
		i Prepare for and attend kick-off meeting	4		6		8				4													22	$ 4,380.00
		ii Prepare for and attend up to 10 coordination meetings	20		10		10	10			10													60	$ 11,988.30
		iii Prepare agendas	10			5					5													20	$ 4,546.40
		iv Prepare meeting minutes	5		3		15				5													28	$ 5,230.89
		v Conduct internal coordination meetings	15		15		15	15			15													75	$ 14,230.05
	f	**PROJECT SCHEDULE**																								
		i Develop project schedule	4		4						4													12	$ 2,768.04
		ii Maintain project schedule	6		3	6					3													18	$ 3,698.65
HOURS SUB-TOTALS			107	6	51	47	72	29	0	0	46	10	0	10	0	0	0	0	0	0	28	0	0		406
CONTRACT RATE PER HOUR			$ 250.16	$ 162.44	$ 211.18	$ 178.69	$ 148.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS			$ 26,767.12	$ 974.64	$ 10,770.18	$ 8,396.43	$ 10,526.40	$ 3,203.34	$ -	$ -	$ 10,610.82	$ 2,176.80	$ -	$ 1,039.80	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,183.88	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS			26.4%	1.5%	12.6%	11.6%	17.7%	7.1%	0.0%	0.0%	11.3%	2.5%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	6.9%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			34.5%	1.3%	13.9%	10.8%	13.6%	4.1%	0.0%	0.0%	13.7%	2.8%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.1%	0.0%	0.0%		
SUBTOTAL			$ 26,767.12	$ 974.64	$ 10,770.18	$ 8,396.43	$ 10,526.40	$ 3,203.34	$ -	$ -	$ 10,610.82	$ 2,176.80	$ -	$ 1,039.80	$ -	$ -	$ -	$ -	$ -	$ -	$ 3,183.88	$ -	$ -		**$77,661.21**
2. ROUTE AND DESIGN STUDIES																										
2	a	**DATA COLLECTION**																								
		i Perform record search																						0	$ -
		ii as-builts, construction plans, right of way maps			4		4	40																48	$ 5,847.92
		iii automated road inventory sheets, PMIS data	4			4		24																32	$ 4,388.44
		iv environmental reports, studies, future land use												16	8									24	$ 2,982.88
		v floodplain data, maps and models, drainage reports				2	2	16																20	$ 2,417.14
		vi Gather existing agreements					8							8										16	$ 2,001.28
		vii Conduct field investigations and maintain photo log	10		8	8	24	24						40		40								154	$ 21,656.80
		viii Develop and maintain property ownership information	4																			8	25	37	$ 4,187.82
		ix Review and maintain collected data	5		3		6																	14	$ 2,781.54
2	b	**STAKEHOLDER COORDINATION**																								
		i Prepare for and attend meetings (10 meetings)	13		13		13	20			16												10	65	$ 14,740.14
		ii Coordinate with local agencies	8			12					10													30	$ 6,452.28
		iii Conduct 1 neighborhood meeting																						0	$ -
		a Schedule, coordinate logistics for and prepare materials	1			4						6											4	15	$ 2,647.88
		b Review and provide feedback on handouts, presentations, exhibits and maps	2									6												8	$ 1,808.40
		c Attend meeting and provide summary	4									8												12	$ 2,742.08
		iv Provide ongoing stakeholder coordination	8									10												18	$ 4,178.08
		v Maintain stakeholder comments and inquiries log	4									10												14	$ 3,177.44
2	c	**ALTERNATIVES DEVELOPMENT AND EVALUATION**																								
		i Develop design criteria and create DSR	1		1	5	10																	17	$ 2,818.79
		ii Develop evaluation criteria	8		10	10					10	8												46	$ 9,948.12
		iii Prepare typical section	2		4		6	12	20															44	$ 6,408.76
		iv Develop horizontal alignments (4 alternatives)	16		10	40	40	60																166	$ 25,737.56
		v Develop vertical alignments	4		10	24	36	40																114	$ 17,082.60
		vi Develop preliminary ROW requirements for each alternative	4			6	10	8																28	$ 4,418.48
		vii Review and summarize major utilities			2		10	18														4	6	40	$ 4,821.32
		viii Develop constraint matrix	8		6	8	32					20		40		40			8	18				178	$ 26,309.40
		ix Develop constraints map			4	16	24	40	60															144	$ 20,207.96
		x Prepare engineers opinion of probable cost	4		4	8	24	24	24															88	$ 12,865.52
		xi Refine alignments based on public involvement	2		4	8	24	60	24															122	$ 16,341.76
		xii Document and recommend alternative	8		8	8					16	32	16	12								16	32	148	$ 23,879.32
2	d	**Corridor Study (CR 287 and CR 221)**																								
		i Develop evaluation criteria	4		4						4	8												20	$ 4,509.48
		ii Prepare typical section	2			4																		6	$ 1,218.08
		iii Develop horizontal and vertical alignments	1			8																		9	$ 1,679.68
		iv Develop preliminary ROW requirements for each alternative				8																		8	$ 1,429.52
		v Review and summarize major utilities	1			8																		9	$ 1,679.68
		vi Prepare engineers opinion of probable cost	2			8																		10	$ 1,929.84
		vii Refine alignments based on public involvement	4			8					8											4	8	32	$ 5,445.12
		ix Document and recommend alternative	4			12					4	12										4	8	44	$ 7,840.36
HOURS SUB-TOTALS			139	0	93	219	273	384	128	0	68	120	16	116	8	80	0	0	8	16	0	36	95		1798
CONTRACT RATE PER HOUR			$ 250.16	$ 162.44	$ 211.18	$ 178.69	$ 148.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS			$ 34,522.08	$ -	$ 19,639.74	$ 39,133.11	$ 39,912.60	$ 42,418.64	$ 18,297.60	$ -	$ 15,685.56	$ 26,121.60	$ 2,599.04	$ 12,059.36	$ 1,299.52	$ 11,436.00	$ -	$ -	$ 1,091.60	$ 1,611.52	$ -	$ 3,742.56	$ 8,950.90		
% DISTRIBUTION OF STAFF HOURS			7.7%	0.0%	5.2%	12.2%	15.2%	21.4%	7.1%	0.0%	3.8%	6.7%	0.9%	6.5%	0.4%	4.4%	0.0%	0.0%	0.4%	0.9%	0.0%	2.0%	5.3%		
% DISTRIBUTION OF STAFF BUDGETS			12.4%	0.0%	7.1%	14.1%	14.3%	15.2%	6.6%	0.0%	5.6%	9.4%	0.9%	4.3%	0.5%	4.1%	0.0%	0.0%	0.4%	0.6%	0.0%	1.3%	3.2%		
SUBTOTAL			$ 34,522.08	$ -	$ 19,639.74	$ 39,133.11	$ 39,912.60	$ 42,418.64	$ 18,297.60	$ -	$ 15,685.56	$ 26,121.60	$ 2,599.04	$ 12,059.36	$ 1,299.52	$ 11,436.00	$ -	$ -	$ 1,091.60	$ 1,611.52	$ -	$ 3,742.56	$ 8,950.90		**$278,519.43**
3. TRAFFIC STUDIES																										
3	a	**TRAFFIC PROJECTIONS**																								
		i Run TDM models of the Corridor (2 Phases)	2			8	8														2			18	$ 2,969.48
		ii Develop Traffic Projections of the Corridor (2 Phases)	2			8	4														2			16	$ 2,742.08
3	b	**ANALYZE FUTURE CONDITIONS (2040)**																								
		i Synchro Analyses (7 intersections, 2 Phases)	2			8	18														2			28	$ 4,498.48
		ii HCM Freeway Analysis (1 Phase)	2																		2			4	$ 727.74
		iii Vissim Microsimulation Analysis	2			8															2			12	$ 2,157.28

Prime Provider: CP&Y, Inc.
US 183
SPECIFIED RATE

			Senior Project Manager	Quality Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	Environmental Manager	Senior Environmental Planner	Environmental Planner IV	Environmental Planner III	Senior Environmental Scientist	Environmental Scientist IV	Environmental Scientist III	Environmental Scientist II	Senior Architectural Historian	Architectural Historian	Admin/ Clerical	Senior GIS Operator	GIS Operator	TOTAL HRS	TOTAL LABOR HRS & COSTS
3	c	DATA COLLECTION																							
	i	Turning Movement Count Data	2			8															2			12	$ 2,157.26
	ii	Travel Time Data	2			8															2			12	$ 2,157.26
	iii	Field Observations	2																		2			4	$ 727.74
3	d	CRASH ANALYSIS																							
	i	Crash Analyses	2			8															2			12	$ 2,157.26
3	e	COORDINATION MEETINGS																							
	i	Coordination Meetings (up to 2)	2			8	6														2			18	$ 3,034.46
3	f	DELIVERABLES																							
	i	Draft Traffic Operations Memo	2		4	4															2			12	$ 2,287.22
	ii	Final Traffic Operations Memo	2		4	4															2			12	$ 2,287.22
HOURS SUB-TOTALS			24	0	8	70	34	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0	0		160
CONTRACT RATE PER HOUR			$ 250.16	$ 162.44	$ 211.18	$ 178.69	$ 146.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS			$ 6,003.84	$ -	$ 1,689.44	$ 12,508.30	$ 4,970.80	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,729.04	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS			5.9%	0.0%	2.0%	17.2%	8.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.9%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			21.5%	0.0%	6.1%	44.8%	17.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.8%	0.0%	0.0%		
SUBTOTAL			$ 6,003.84	$ -	$ 1,689.44	$ 12,508.30	$ 4,970.80	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,729.04	$ -	$ -		$27,901.42
4. PUBLIC INVOLVEMENT																									
4	a	PROJECT DATABASE																							
	i	Develop and maintain project database	3								6												16	25	$ 3,642.02
4	b	COMMUNICATIONS MATERIALS AND TOOLS																							
	i	Develop Frequently Asked Questions	4		4						4	4	8	8										32	$ 5,789.98
	ii	Develop Website copy	2		4						2	2										4	8	22	$ 3,411.34
	iii	Develop copy for up to 6 eNewsletters/eBlasts	2		2						1	3										2	4	14	$ 2,391.19
	iv	Develop copy and layout/design for up to 2 fact sheets	1		2						2	2										2	8	17	$ 2,530.90
4	c	PUBLIC MEETINGS/OPEN HOUSES (3)																							
	i	Develop and distribute a direct mail piece or flyer	1		1	3					2	2									3			12	$ 2,235.24
	ii	Plan, schedule and attend 1 public meeting																						0	$ -
		Develop invitations/advertisements/invitation lists	2		1	2					2	2												9	$ 1,985.58
		Coordinate meeting announcements	1		1							4		8										12	$ 1,955.82
		Coordinate meeting logistics	4		4						4													12	$ 2,788.04
		Provide experienced meeting facilitator and support staff to attend	6		6	6					6		6											30	$ 6,198.84
		Prepare/review handouts and exhibits	8		4	8	12				4	12		16								15	27	104	$ 15,123.54
		Develop public surveys and summarize results	2		3							2												7	$ 1,589.22
		Participate in meeting rehearsals	4		4							4												12	$ 2,716.08
		Prepare public meeting summaries and responses to any comments	4			8						40		28										80	$ 14,048.24
		Coordinate court reporter and translators																						0	$ -
HOURS SUB-TOTALS			44	0	36	27	12	0	0	0	33	77	14	58	0	0	0	0	0	0	3	21	63		386
CONTRACT RATE PER HOUR			$ 250.16	$ 162.44	$ 211.18	$ 178.69	$ 146.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS			$ 11,007.04	$ -	$ 7,602.48	$ 4,824.63	$ 1,754.40	$ -	$ -	$ -	$ 7,612.11	$ 16,761.36	$ 2,274.16	$ 6,029.68	$ -	$ -	$ -	$ -	$ -	$ -	$ 341.13	$ 2,183.16	$ 5,935.86		
% DISTRIBUTION OF STAFF HOURS			11.3%	0.0%	9.3%	7.0%	3.1%	0.0%	0.0%	0.0%	8.5%	19.8%	3.6%	14.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	5.4%	16.2%		
% DISTRIBUTION OF STAFF BUDGETS			18.6%	0.0%	11.5%	7.3%	2.6%	0.0%	0.0%	0.0%	11.5%	25.3%	3.4%	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%	3.3%	8.9%		
SUBTOTAL			$ 11,007.04	$ -	$ 7,602.48	$ 4,824.63	$ 1,754.40	$ -	$ -	$ -	$ 7,612.11	$ 16,761.36	$ 2,274.16	$ 6,029.68	$ -	$ -	$ -	$ -	$ -	$ -	$ 341.13	$ 2,183.16	$ 5,935.86		$66,326.01
6. RIGHT OF WAY (ROW) MAPPING																									
6	a	ROW Map																							
	i	Research and compile deed/plat records	2			4																		6	$ 1,215.08
	ii	Recover right-of-way monumentation	2			4																		6	$ 1,215.08
	iii	Draft preliminary ROW maps of impacted parcels	2			4																		6	$ 1,215.08
HOURS SUB-TOTALS			6	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		18
CONTRACT RATE PER HOUR			$ 250.16	$ 162.44	$ 211.18	$ 178.69	$ 146.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS			$ 1,500.96	$ -	$ -	$ 2,144.28	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS			33.3%	0.0%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			41.2%	0.0%	0.0%	58.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
SUBTOTAL			$ 1,500.96	$ -	$ -	$ 2,144.28	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$3,645.24
8. SURVEYING																									
8	a	FIELD SURVEYING																							
	i	Recover existing horizontal and vertical control	4			8																		12	$ 2,430.16
	ii	Rectify County provided LiDAR and aerials. Establish project surface adjustment factor	4			8																		12	$ 2,430.16
	iii	SUE QL-D	4			8																		12	$ 2,430.16
HOURS SUB-TOTALS			12	0	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		36
CONTRACT RATE PER HOUR			$ 250.16	$ 162.44	$ 211.18	$ 178.69	$ 146.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS			$ 3,001.92	$ -	$ -	$ 4,288.56	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS			33.3%	0.0%	0.0%	66.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			41.2%	0.0%	0.0%	58.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
SUBTOTAL			$ 3,001.92	$ -	$ -	$ 4,288.56	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$7,290.48
7. SCHEMATIC DEVELOPMENT																									
7	a	SCHEMATIC (recommended alternative)																							
	i	Further develop design criteria																						0	$ -
	ii	Further develop horizontal alignments																						0	$ -
	iii	Further develop vertical alignments																						0	$ -
	iv	Further typical sections																						0	$ -
	v	Establish ramp access locations																						0	$ -
		Develop preliminary cross sections at 100' intervals																						0	$ -
	vi	Determine retaining wall and bridge limits																						0	$ -
	vii	Conceptual traffic control plan																						0	$ -
	viii	Develop proposed ROW limits																						0	$ -
	ix	Develop proposed drainage easements																						0	$ -
	x	Develop proposed control of access lines																						0	$ -
	xi	Develop interchange layouts for major cross streets (coordination)																						0	$ -
	xii	Develop pavement edges for selected alternative																						0	$ -

Prime Provider: CP&Y, Inc.
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SPECIFIED RATE

		Senior Project Manager	Quality Manager	Senior Engineer	Project Engineer	Design Engineer	Engineer-In-Training	Senior Engineer Tech	Engineer Tech	Environmental Manager	Senior Environmental Planner	Environmental Planner IV	Environmental Planner VII	Senior Environmental Scientist	Environmental Scientist IV	Environmental Scientist III	Environmental Scientist I/II	Senior Architectural Historian	Architectural Historian	Admin/ Clerical	Senior GIS Operator	GIS Operator	TOTAL HRS	TOTAL LABOR HRS & COSTS
xiii	Develop striping																						0	$ -
xiv	Identify design exceptions or waivers																						0	$ -
xv	Prepare opinion of probable cost																						0	$ -
xvi	Prepare draft schematic plot																						0	$ -
xvii	Prepare final schematic plot																						0	$ -
HOURS SUB-TOTALS		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0
CONTRACT RATE PER HOUR		$ 250.18	$ 162.44	$ 211.18	$ 178.69	$ 146.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
% DISTRIBUTION OF STAFF BUDGETS		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
SUBTOTAL		$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$0.00
8. DRAINAGE STUDY																								
a	HYDROLOGIC/HYDRAULIC MODELING																						0	$ -
i	Delineate external drainage areas			4	8	10	24		16														62	$ 7,996.80
ii	Delineate internal drainage areas																						0	$ -
iii	Develop external drainage models (2 streams, 15 cross culverts)		4	4	6	12	16		4														46	$ 6,491.26
iv	Develop internal drainage models																						0	$ -
v	Develop existing channel cross sections																						0	$ -
vi	Prepare exhibits																						0	$ -
b	FEMA COORDINATION																						0	$ -
i	Coordinate with local floodplain administrator																						0	$ -
c	IMPACT AND MITIGATION ANALYSIS																						0	$ -
i	Develop impact analysis																						0	$ -
HOURS SUB-TOTALS		0	4	8	14	22	40	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0		108
CONTRACT RATE PER HOUR		$ 250.18	$ 162.44	$ 211.18	$ 178.69	$ 146.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS		$ -	$ 649.76	$ 1,689.44	$ 2,501.66	$ 3,216.40	$ 4,418.40	$ -	$ 2,014.40	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS		0.0%	3.7%	7.4%	13.0%	20.4%	37.0%	0.0%	18.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS		0.0%	4.5%	11.7%	17.3%	22.2%	30.5%	0.0%	13.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%		
SUBTOTAL		$ -	$ 649.76	$ 1,689.44	$ 2,501.66	$ 3,216.40	$ 4,418.40	$ -	$ 2,014.40	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$14,490.06
9. ENVIRONMENTAL SERVICES																								
a	ENVIRONMENTAL CONSTRAINTS ANALYSIS																							
i	collect environmental constraints data										24		24										48	$ 7,719.36
ii	Prepare preliminary environmental constraints map	4									20		20		20				8	16		40	208	$ 24,691.56
iii	Develop and send right of entry letters	4									16											20	80	$ 10,331.52
iv	conduct field reconnaissance									16	16				16	16			16				80	$ 13,463.36
v	Prepare final environmental constraints map	4								8	8												20	$ 4,587.44
vi	Identify potential section 4(f) and 6(f) properties										12	12									2	4	30	$ 5,146.24
b	INTERSECTING ARTERIAL CONSTRAINTS MAPPING																							
i	prepare draft constraints map	2									16	16	16						8	8		8	106	$ 13,989.68
ii	ground truth constraints map										24				16	16			16				72	$ 11,514.08
iii	prepare final preliminary constraints map	2									8	8	8		8	8			4		4	16	66	$ 8,995.40
iv	prepare final constraints map	2									4	4	4		4	4			2		4	8	36	$ 4,905.78
v	preform fatal flaw analysis	4									24	16	16						8				68	$ 11,578.96
c	RESOURCE-SPECIFIC EVALUATIONS																							
i	Community Resources - Potential																							
a	Land Use and Public Facilities										2	2	8								2	4	18	$ 2,176.72
b	Right-of-Way and Relocation Impacts										4	4	16								2	4	30	$ 3,788.64
c	Environmental Justice										8	8	24								2	4	46	$ 6,120.80
d	Noise Receptors										2	4									2	8	16	$ 2,046.80
ii	Cultural Resources																						0	$ -
a	Historic Resources																						0	$ -
ai	Conduct Reconnaissance Survey	2							4									32	32				70	$ 9,012.44
aii	Prepare Reconnaissance Survey Report																						0	$ -
bi	Conduct a Class I archeological inventory	2							4													4	10	$ 1,799.66
iii	Ecological field survey										8	8	8	8									24	$ 3,879.12
a	Vegetation and Wildlife	1									8	8	8	8							1	4	30	$ 4,810.12
b	Threatened and Endangered Species	1									24		24										49	$ 7,989.52
bi	document federal and state endangered species	1									8	8	8	8							1	4	30	$ 4,810.12
bii	Conduct Karst Survey	2							2						2								6	$ 1,247.56
biii	Summarize Karst Survey	1							2						2						4	16	25	$ 2,920.76
c	Delineate wetlands																						0	$ -
d	Delineate floodplain impacts	1												5	5								11	$ 1,777.11
e	Identify permits																						0	$ -
f	Hazardous material search	1												10	10	10					2	8	41	$ 5,402.84
g	Update final environmental constraints map	2							4		4										8	12	30	$ 4,256.04
h	Prepare final technical memorandums																						0	$ -
HOURS SUB-TOTALS		36	0	0	0	0	0	0	0	40	234	92	176	33	83	54	0	94	56	0	102	348		1250
CONTRACT RATE PER HOUR		$ 250.18	$ 162.44	$ 211.18	$ 178.69	$ 146.20	$ 110.46	$ 142.95	$ 100.72	$ 230.67	$ 217.68	$ 162.44	$ 103.98	$ 162.44	$ 142.95	$ 113.71	$ 103.98	$ 136.45	$ 100.72	$ 113.71	$ 103.98	$ 94.22		
TOTAL LABOR COSTS		$ 9,005.76	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,226.80	$ 50,937.12	$ 14,944.48	$ 18,304.88	$ 5,360.52	$ 11,864.85	$ 6,140.34	$ -	$ 12,826.30	$ 5,640.32	$ -	$ 10,603.92	$ 23,368.56		
% DISTRIBUTION OF STAFF HOURS		2.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.2%	18.7%	7.4%	14.2%	2.6%	6.6%	4.3%	0.0%	7.5%	4.5%	0.0%	8.2%	19.8%		
% DISTRIBUTION OF STAFF BUDGETS		2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.2%	28.5%	8.4%	10.4%	3.0%	6.6%	3.4%	0.0%	7.2%	3.2%	0.0%	5.9%	13.1%		
SUBTOTAL		$ 9,005.76	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 9,226.80	$ 50,937.12	$ 14,944.48	$ 18,304.88	$ 5,360.52	$ 11,864.85	$ 6,140.34	$ -	$ 12,826.30	$ 5,640.32	$ -	$ 10,603.92	$ 23,368.56		$178,421.85
Total Project Hours		387	10	198	413	413	453	128	20	187	441	122	382	41	183	54	0	102	72	55	159	408		4184
% DISTRIBUTION OF STAFF HOURS		8.6%	0.2%	4.7%	9.9%	9.9%	10.9%	3.1%	0.5%	4.5%	10.6%	2.9%	8.7%	1.0%	3.9%	1.3%	0.0%	2.4%	1.7%	1.3%	3.8%	9.8%		
Project Totals		$91,808.72	$1,624.40	$41,391.28	$73,798.97	$60,380.60	$50,038.36	$18,297.60	$2,014.40	$43,135.29	$95,998.66	$19,817.68	$37,633.52	$8,660.04	$23,300.85	$8,140.34	$0.00	$13,917.90	$7,251.84	$6,254.05	$16,529.64	$38,253.32		$654,248.79
Total Project % Distribution of Staff Hours		9%	0%	5%	10%	10%	11%	3%	0%	4%	11%	3%	9%	1%	4%	1%	0%	2%	2%	1%	4%	10%		
Project Totals																								$654,245.70

Sub Provider: Alliance Transportation Group, Inc.

US 183

SPECIFIED RATE

	Project Principal	Sr Project Manager	Senior Engineer	Project Engineer	EIT	Sr. Eng. Tech	Engineer Technician	Planning Director	Sr Travel Demand Mod.	Travel Dem. Modeler III	Travel Dem. Modeler II	Project Administrator	Clerical	TOTAL HRS	TOTAL LABOR HRS. & COSTS
1. PROJECT MANAGEMENT															
1 a															
b **MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS**															
i Monthly Progress Reports (6 months)	1	2	3											6	$ 1,317.00
ii Monthly Invoices (6 months)				3								3		6	$ 744.00
c **QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:**															
e **PROGRESS/COORDINATION MEETINGS**															
v Internal coordination meetings (up to 4)		4	4	8	4									20	$ 3,304.00
HOURS SUB-TOTALS	1	6	7	11	4	0	0	0	0	0	0	3	0		32
CONTRACT RATE PER HOUR	$ 250.00	$ 244.00	$ 193.00	$ 144.00	$ 101.00	$ 133.00	$ 90.00	$ 230.00	$ 182.00	$ 137.00	$ 117.00	$ 104.00	$ 65.00		
TOTAL LABOR COSTS	$ 250.00	$ 1,464.00	$ 1,351.00	$ 1,584.00	$ 404.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 312.00	$ -		
% DISTRIBUTION OF STAFF HOURS	3.1%	18.8%	21.9%	34.4%	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	9.4%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS	4.7%	27.3%	25.2%	29.5%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.8%	0.0%		
SUBTOTAL	$ 250.00	$ 1,464.00	$ 1,351.00	$ 1,584.00	$ 404.00	$ -	$ -	$ -	$ -	$ -	$ -	$ 312.00	$ -		**$5,365.00**
3. TRAFFIC STUDIES															
3 a **TRAFFIC PROJECTIONS**															
i Run TDM models of the Corridor (2 Phases)	2	3	3	6				2	16	48	24			104	$ 15,431.00
ii Develop Traffic Projections of the Corridor (2 Phases)	2	3	8	16	32	16	16	2	4	4	4			107	$ 14,084.00
3 b **ANALYZE FUTURE CONDITIONS (2040)**														0	$ -
i Synchro Analysis (7 intersections, 2 Phases)														0	$ -
ii HCM Freeway Analysis (1 Phase)														0	$ -
iii Vissim Microsimulation Analysis														0	$ -
3 c **DATA COLLECTION**															
i Turning Movement Count Data														0	$ -
ii Travel Time Data														0	$ -
iii Field Observations	2	2	4	8	16									32	$ 4,528.00
3 d **CRASH ANALYSIS**															
i Crash Analysis		1	2	4	16									23	$ 2,822.00
3 e **COORDINATION MEETINGS**															
i Coordination Meetings (up to 1)		2	2	4	4									12	$ 1,854.00
3 f **DELIVERABLES**															
i Draft Traffic Operations Memo														0	$ -
ii Final Traffic Operations Memo														0	$ -
HOURS SUB-TOTALS	6	11	19	38	68	16	16	4	20	52	28	0	0		278
CONTRACT RATE PER HOUR	$ 250.00	$ 244.00	$ 193.00	$ 144.00	$ 101.00	$ 133.00	$ 90.00	$ 230.00	$ 182.00	$ 137.00	$ 117.00	$ 104.00	$ 65.00		
TOTAL LABOR COSTS	$ 1,500.00	$ 2,684.00	$ 3,667.00	$ 5,472.00	$ 6,868.00	$ 2,128.00	$ 1,440.00	$ 920.00	$ 3,640.00	$ 7,124.00	$ 3,276.00	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS	2.2%	4.0%	6.8%	13.7%	24.5%	5.8%	5.8%	1.4%	7.2%	18.7%	10.1%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS	3.9%	6.9%	9.5%	14.1%	17.7%	5.5%	3.7%	2.4%	9.4%	18.4%	8.5%	0.0%	0.0%		
SUBTOTAL	$ 1,500.00	$ 2,684.00	$ 3,667.00	$ 5,472.00	$ 6,868.00	$ 2,128.00	$ 1,440.00	$ 920.00	$ 3,640.00	$ 7,124.00	$ 3,276.00	$ -	$ -		**$38,719.00**
Total Project Hours	7	17	26	49	72	16	16	4	20	52	28	3	0		310
% DISTRIBUTION OF STAFF HOURS	2.3%	5.5%	8.4%	15.8%	23.2%	5.2%	5.2%	1.3%	6.5%	16.8%	9.0%	1.0%	0.0%		
Project Totals	$1,750.00	$4,148.00	$5,018.00	$7,056.00	$7,272.00	$2,128.00	$1,440.00	$920.00	$3,640.00	$7,124.00	$3,276.00	$312.00	$0.00		**$44,084.00**
Total Project % Distribution of Staff Hours	2%	5%	8%	16%	23%	5%	5%	1%	6%	17%	9%	1%	0%		
Project Totals															**$44,084.00**

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Kimley-Horn Associates, Inc.

Sub Provider: Kimley-Horn & Associates, Inc.

US 183

SPECIFIED RATE

			Senior Engineer I	Senior Engineer II	Professional	Analyst	Senior Designer	CAD Technician	Senior Support Staff	Support Staff	TOTAL HRS.	TOTAL LABOR HRS. & COSTS
1. PROJECT MANAGEMENT												
1	a											
	b	**MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS**										
	i	Monthly Progress Reports	1	4							5	$ 933.18
	ii	Monthly Invoices	1	2						4	7	$ 917.70
	c	**QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:**										
	i	Prepare QAQC package per deliverable	1	3							4	$ 756.84
	d	**PROJECT COORDINATION & ADMINISTRATION**										
	i	Prepare and maintain project record	1	1							2	$ 404.16
	ii	Correspondence and coordination	1	3							4	$ 756.84
	iii	Manage project	3	5							8	$ 1,565.16
	e	**PROGRESS/COORDINATION MEETINGS**										
	i	Prepare for and attend kick-off meeting	2	2		2					6	$ 1,043.02
	ii	Prepare for and attend up to 3 coordination meetings	3	3							6	$ 1,212.48
	iv	Prepare meeting minutes									0	$ -
	v	Weekly Coordination Calls		15							15	$ 2,645.10
HOURS SUB-TOTALS			13	38	0	2	0	0	0	4		57
CONTRACT RATE PER HOUR			$ 227.82	$ 176.34	$ 143.69	$ 117.35	$ 135.05	$ 111.86	$ 104.12	$ 84.30		
TOTAL LABOR COSTS			$ 2,961.66	$ 6,700.92	$ -	$ 234.70	$ -	$ -	$ -	$ 337.20		
% DISTRIBUTION OF STAFF HOURS			22.8%	66.7%	0.0%	3.5%	0.0%	0.0%	0.0%	7.0%		
% DISTRIBUTION OF STAFF BUDGETS			28.9%	65.5%	0.0%	2.3%	0.0%	0.0%	0.0%	3.3%		
SUBTOTAL			$ 2,961.66	$ 6,700.92	$ -	$ 234.70	$ -	$ -	$ -	$ 337.20		$ 10,234.48
2. ROUTE AND DESIGN STUDIES												
2	a	**DATA COLLECTION**										
	i	Conduct field investigations and maintain photo log	4	4		4					12	$ 2,086.04
	ii	Review and maintain collected data		4		4					8	$ 1,174.76
2	b	**STAKEHOLDER COORDINATION**										
	i	Prepare for and attend meetings	8	8							16	$ 3,233.28
	ii	Coordinate with local agencies	4	4							8	$ 1,616.64
2	d	**Corridor Study (CR 221 and Connection to Ronald Reagan)**										
	i	Develop evaluation criteria	2	2	4	8					16	$ 2,321.88
	ii	Prepare typical section	2	4	8	24					38	$ 5,126.92
	iii	Develop horizontal and vertical alignments	1	8	24	80					113	$ 14,475.10
	iv	Develop preliminary ROW requirements for each alternative	2	4	8	24					38	$ 5,126.92
	v	Review and summarize major utilities	2	4	4	16					26	$ 3,613.36
	vi	Prepare scroll plots	4	16	36	80					136	$ 18,293.56
	vii	Prepare engineers opinion of probable cost	2	4	8	24					38	$ 5,126.92
	viii	Refine alignments based on public involvement	2	8	16	40					66	$ 8,859.40
	ix	Document and recommend alternative	4	8	16	24					52	$ 7,437.44
HOURS SUB-TOTALS			37	78	124	328	0	0	0	0		567
CONTRACT RATE PER HOUR			$ 227.82	$ 176.34	$ 143.69	$ 117.35	$ 135.05	$ 111.86	$ 104.12	$ 84.30		
TOTAL LABOR COSTS			$ 8,429.34	$ 13,754.52	$ 17,817.56	$ 38,490.80	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS			6.5%	13.8%	21.9%	57.8%	0.0%	0.0%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			10.7%	17.5%	22.7%	49.0%	0.0%	0.0%	0.0%	0.0%		
SUBTOTAL			$ 8,429.34	$ 13,754.52	$ 17,817.56	$ 38,490.80	$ -	$ -	$ -	$ -		$78,492.22
7. SCHEMATIC DEVELOPMENT												
7	a	**SCHEMATIC (recommended alternative) (Interchange Design)**										
	i	Further develop horizontal and veridical alignments									0	$ -
	v	Develop proposed ROW limits									0	$ -
	vii	Develop proposed control of access lines									0	$ -
	viii	Develop interchange layouts for major cross streets (Assume 5)									0	$ -

Sub Provider: Kimley-Horn & Associates, Inc.

US 183

SPECIFIED RATE

	Senior Engineer I	Senior Engineer II	Professional	Analyst	Senior Designer	CAD Technician	Senior Support Staff	Support Staff	TOTAL HRS.	TOTAL LABOR HRS & COSTS
x Develop striping									0	$ -
xii Prepare opinion of probable cost									0	$ -
HOURS SUB-TOTALS	0	0	0	0	0	0	0	0		0
CONTRACT RATE PER HOUR	$ 227.82	$ 176.34	$ 143.69	$ 117.35	$ 135.05	$ 111.86	$ 104.12	$ 84.30		
TOTAL LABOR COSTS	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
% DISTRIBUTION OF STAFF BUDGETS	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		
SUBTOTAL	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -		$0.00
Total Project Hours	50	116	124	330	0	0	0	4		624
% DISTRIBUTION OF STAFF HOURS	8.0%	18.6%	19.9%	52.9%	0.0%	0.0%	0.0%	0.6%		
Project Totals	$11,391.00	$20,455.44	$17,817.56	$38,725.50	$0.00	$0.00	$0.00	$337.20		$88,726.70
Total Project % Distribution of Staff Hours	8%	19%	20%	53%	0%	0%	0%	1%		
Project Totals										$88,726.70

Sub Provider: Rifeline, LLC

US 183

SPECIFIED RATE

			President (Rifeline)	Vice-President (Rifeline)	Admin./Clerical (Rifeline)	TOTAL HRS.	TOTAL LABOR HRS. & COSTS	
1. PROJECT MANAGEMENT								
1	a							
	b	**MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS**						
	i	Monthly Progress Reports		6		6	$	1,080.00
	ii	Monthly Invoices			3	3	$	174.00
	d	**PROJECT COORDINATION & ADMINISTRATION**						
	iii	Manage project (preparing responses to inquiries)	3	6		9	$	1,680.00
	e	**PROGRESS/COORDINATION MEETINGS**						
	i	Prepare for and attend kick-off meeting	3	3		6	$	1,140.00
	ii	Prepare for and attend up to 8 coordination meetings	12			12	$	2,400.00
	v	Participate in up to 4 Internal coordination meetings	6	12		18	$	3,360.00
	vi	Participate in Internal coordination calls (scrums)		15		15	$	2,700.00
HOURS SUB-TOTALS			24	42	3		69	
CONTRACT RATE PER HOUR			$ 200.00	$ 180.00	$ 58.00			
TOTAL LABOR COSTS			$ 4,800.00	$ 7,560.00	$ 174.00			
% DISTRIBUTION OF STAFF HOURS			34.8%	60.9%	4.3%			
% DISTRIBUTION OF STAFF BUDGETS			38.3%	60.3%	1.4%			
SUBTOTAL			$ 4,800.00	$ 7,560.00	$ 174.00			**$12,534.00**
2. ROUTE AND DESIGN STUDIES								
2	b	**STAKEHOLDER COORDINATION (20 Meetings Assumed)**						
	i	Prepare for and attend 10 meetings with Affected Property Owners (MAPOs)	15			15	$	3,000.00
		Schedule, coordinate logistics for and prepare materials for meetings		8		8	$	1,440.00
		Review and provide feedback on handouts, presentations, exhibits and maps	2			2	$	400.00
	ii	Coordinate with local agencies	9			9	$	1,800.00
	iii	Conduct 1 neighborhood meeting	3			3	$	600.00
		Schedule, coordinate logistics for and prepare materials		1.5		1.5	$	270.00
		Review and provide feedback on handouts, presentations, exhibits and maps	0.5			0.5	$	100.00
	iv	Provide ongoing stakeholder coordination	45			45	$	9,000.00
HOURS SUB-TOTALS			74.5	9.5	0		84	
CONTRACT RATE PER HOUR			$ 200.00	$ 180.00	$ 58.00			
TOTAL LABOR COSTS			$ 14,900.00	$ 1,710.00	$ -			
% DISTRIBUTION OF STAFF HOURS			88.7%	11.3%	0.0%			
% DISTRIBUTION OF STAFF BUDGETS			89.7%	10.3%	0.0%			
SUBTOTAL			$ 14,900.00	$ 1,710.00	$ -			**$16,610.00**
4. PUBLIC INVOLVEMENT								
4	a	**PROJECT DATABASE**						
	i	Develop and maintain project database	2	6		8	$	1,480.00
4	b	**COMMUNICATIONS MATERIALS AND TOOLS**						

Sub Provider: Rifeline, LLC

US 183

SPECIFIED RATE

			President (Rifeline)	Vice-President (Rifeline)	Admin./Clerical (Rifeline)	TOTAL HRS.	TOTAL LABOR HRS. & COSTS
	i	Develop Frequently Asked Questions	2	5		7	$ 1,300.00
	ii	Develop Website copy	1	3		4	$ 740.00
	iii	Develop copy for up to 6 eNewsletters/eBlasts	1	4		5	$ 920.00
	iv	Develop copy and layout/design for up to 2 fact sheets	1	3		4	$ 740.00
4	c	**PUBLIC MEETINGS/OPEN HOUSES (3)**					
	i	Develop and distribute a direct mail piece or flyer	1	4		5	$ 920.00
	ii	Plan, schedule and attend 3 public meetings				0	$ -
		Develop invitations/advertisements/invitation lists	1	3		4	$ 740.00
		Coordinate meeting announcements	2	6		8	$ 1,480.00
		Coordinate meeting logistics		7		7	$ 1,260.00
		Provide experienced meeting facilitator and support staff to attend	7	7		14	$ 2,660.00
		Prepare/review handouts and exhibits	3	3		6	$ 1,140.00
		Develop public surveys and summarize results	2	4		6	$ 1,120.00
		Participate in meeting rehearsals	4	6		10	$ 1,880.00
		Prepare public meeting summaries and responses to any comments	1	3		4	$ 740.00
HOURS SUB-TOTALS			28	64	0		92
CONTRACT RATE PER HOUR			$ 200.00	$ 180.00	$ 58.00		
TOTAL LABOR COSTS			$ 5,600.00	$ 11,520.00	$ -		
% DISTRIBUTION OF STAFF HOURS			30.4%	69.6%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			32.7%	67.3%	0.0%		
SUBTOTAL			$ 5,600.00	$ 11,520.00	$ -		**$17,120.00**
Total Project Hours			126.5	115.5	3		245
% DISTRIBUTION OF STAFF HOURS			51.6%	47.1%	1.2%		
Project Totals			$25,300.00	$20,790.00	$174.00		**$46,264.00**
Total Project % Distribution of Staff Hours			52%	47%	1%		
Project Totals							**$46,264.00**

Sub Provider: Buie & Co.

US 183

SPECIFIED RATE

			Principal (Buie & Co.)	Account Manager (Buie & Co.)	Graphic Designer (Buie & Co.)	Account Coordinator (Buie & Co.)	Admin. (Buie & Co.)	TOTAL HRS.	TOTAL LABOR HRS. & COSTS
1. PROJECT MANAGEMENT									
1	**a**								
	b	**MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS**							
	i	Monthly Progress Reports		6				6	$ 840.00
	ii	Monthly Invoices					3	3	$ 174.00
	d	**PROJECT COORDINATION & ADMINISTRATION**							
	iii	Manage project (preparing responses to inquiries)	3	6				9	$ 1,395.00
	e	**PROGRESS/COORDINATION MEETINGS**							
	i	Prepare for and attend kick-off meeting	3	3				6	$ 975.00
	ii	Prepare for and attend up to 8 coordination meetings	11					11	$ 2,035.00
	v	Participate in up to 4 Internal coordination meetings	6	7				13	$ 2,090.00
	vi	Participate in Internal coordination calls (scrums)	15					15	$ 2,775.00
	f	**PROJECT SCHEDULE**							
	i	Develop project schedule						0	$ -
	ii	Maintain project schedule						0	$ -
HOURS SUB-TOTALS			38	22	0	0	3		63
CONTRACT RATE PER HOUR			$ 185.00	$ 140.00	$ 125.00	$ 120.00	$ 58.00		
TOTAL LABOR COSTS			$ 7,030.00	$ 3,080.00	$ -	$ -	$ 174.00		
% DISTRIBUTION OF STAFF HOURS			60.3%	34.9%	0.0%	0.0%	4.8%		
% DISTRIBUTION OF STAFF BUDGETS			68.4%	29.9%	0.0%	0.0%	1.7%		
SUBTOTAL			$ 7,030.00	$ 3,080.00	$ -	$ -	$ 174.00		**$10,284.00**
2. ROUTE AND DESIGN STUDIES									
2	**b**	**STAKEHOLDER COORDINATION (10 Meetings Assumed)**							
	i	Prepare for and attend 10 meetings with Affected Property Owners (MAPOs)	15					15	$ 2,775.00
		Schedule, coordinate logistics for and prepare materials for meetings				8		8	$ 960.00
		Review and provide feedback on handouts, presentations, exhibits and maps	2					2	$ 370.00
	ii	Coordinate with local agencies	9					9	$ 1,665.00
	iii	Conduct 1 neighborhood meeting	3					3	$ 555.00
		Schedule, coordinate logistics for and prepare materials				1.5		1.5	$ 180.00
		Review and provide feedback on handouts, presentations, exhibits and maps	0.5					0.5	$ 92.50
	iv	Provide ongoing stakeholder coordination	45					45	$ 8,325.00
	v	Maintain stakeholder comments and inquiries log				12		12	$ 1,440.00
HOURS SUB-TOTALS			74.5	0	0	21.5	0		96
CONTRACT RATE PER HOUR			$ 185.00	$ 140.00	$ 125.00	$ 120.00	$ 58.00		
TOTAL LABOR COSTS			$ 13,782.50	$ -	$ -	$ 2,580.00	$ -		
% DISTRIBUTION OF STAFF HOURS			77.6%	0.0%	0.0%	22.4%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			84.2%	0.0%	0.0%	15.8%	0.0%		
SUBTOTAL			$ 13,782.50	$ -	$ -	$ 2,580.00	$ -		**$16,362.50**
4. PUBLIC INVOLVEMENT									
4	**a**	**PROJECT DATABASE**							
	i	Develop and maintain project database	2			12		14	$ 1,810.00
4	**b**	**COMMUNICATIONS MATERIALS AND TOOLS**							
	i	Develop Frequently Asked Questions	5					5	$ 925.00

Sub Provider: Buie & Co.

US 183

SPECIFIED RATE

			Principal (Buie & Co.)	Account Manager (Buie & Co.)	Graphic Designer (Buie & Co.)	Account Coordinator (Buie & Co.)	Admin (Buie & Co.)	TOTAL HRS	TOTAL LABOR HRS & COSTS
	ii	Develop Website copy	1	5				6	$ 885.00
	iii	Develop copy for up to 6 eNewsletters/eBlasts	1	3				4	$ 605.00
	iv	Develop copy and layout/design for up to 2 fact sheets	1	3	4			8	$ 1,105.00
4	c	**PUBLIC MEETINGS/OPEN HOUSES (3)**							
	i	Develop and distribute a direct mail piece or flyer	1		3	8		12	$ 1,520.00
	ii	Plan, schedule and attend 1 public meeting						0	$ -
		Develop invitations/advertisements/invitation lists	1			6		7	$ 905.00
		Coordinate meeting announcements	2	6		6		14	$ 1,930.00
		Coordinate meeting logistics				5		5	$ 600.00
		Provide experienced meeting facilitator and support staff to attend	8			8		16	$ 2,440.00
		Prepare/review handouts and exhibits	3					3	$ 555.00
		Develop public surveys and summarize results	2			3		5	$ 730.00
		Participate in meeting rehearsals	5	6		6		17	$ 2,485.00
		Prepare public meeting summaries and responses to any comments	1	6				7	$ 1,025.00
		Coordinate court reporter and translators				3		3	$ 360.00
HOURS SUB-TOTALS			33	29	7	57	0		126
CONTRACT RATE PER HOUR			$ 185.00	$ 140.00	$ 125.00	$ 120.00	$ 58.00		
TOTAL LABOR COSTS			$ 6,105.00	$ 4,060.00	$ 875.00	$ 6,840.00	$ -		
% DISTRIBUTION OF STAFF HOURS			26.2%	23.0%	5.6%	45.2%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			34.1%	22.7%	4.9%	38.3%	0.0%		
SUBTOTAL			$ 6,105.00	$ 4,060.00	$ 875.00	$ 6,840.00	$ -		**$17,880.00**
Total Project Hours			145.5	51	7	78.5	3		285
% DISTRIBUTION OF STAFF HOURS			51.1%	17.9%	2.5%	27.5%	1.1%		
Project Totals			$26,917.50	$7,140.00	$875.00	$9,420.00	$174.00		**$44,526.50**
Total Project % Distribution of Staff Hours			51%	18%	2%	28%	1%		
Project Totals									**$44,526.50**

Sub Provider: Surveying And Mapping, LLC
US 183
SPECIFIED RATE

	Senior Project Manager	Project Manager	Senior Survey Technician	Survey Technician	Admin/Clerical	Two (2) Person Survey Crew	Three (3) Person Survey Crew	SUE Project Manager	Senior Utility Coordinator	Senior SUE Engineering Tech	TOTAL HRS	TOTAL LABOR HRS & COSTS
1. PROJECT MANAGEMENT												
1 a												
b **MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS**												
i Monthly Progress Reports	9										9	$ 1,305.00
ii Monthly Invoices					4						4	$ 280.00
HOURS SUB-TOTALS	9	0	0	0	4	0	0	0	0	0		13
CONTRACT RATE PER HOUR	$ 145.00	$ 125.00	$ 96.00	$ 88.00	$ 70.00	$ 130.00	$ 160.00	$ 149.00	$ 123.00	$ 96.00		
TOTAL LABOR COSTS	$ 1,305.00	$ -	$ -	$ -	$ 280.00	$ -	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS	69.2%	0.0%	0.0%	0.0%	30.8%	0.0%	0.0%	0.0%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS	82.3%	0.0%	0.0%	0.0%	17.7%	0.0%	0.0%	0.0%	0.0%	0.0%		
SUBTOTAL	$ 1,305.00	$ -	$ -	$ -	$ 280.00	$ -	$ -	$ -	$ -	$ -		**$1,585.00**
5. RIGHT OF WAY (ROW) MAPPING												
5 a **ROW Map**												
i Develop ROW Delineation Basemap	2	1	32	24							59	$ 5,599.00
ii Recover right-of-way monumentation	2	1	4	4		90					101	$ 12,851.00
HOURS SUB-TOTALS	4	2	36	28	0	90	0	0	0	0		160
CONTRACT RATE PER HOUR	$ 145.00	$ 125.00	$ 96.00	$ 88.00	$ 70.00	$ 130.00	$ 160.00	$ 149.00	$ 123.00	$ 96.00		
TOTAL LABOR COSTS	$ 580.00	$ 250.00	$ 3,456.00	$ 2,464.00	$ -	$ 11,700.00	$ -	$ -	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS	2.5%	1.3%	22.5%	17.5%	0.0%	56.3%	0.0%	0.0%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS	3.1%	1.4%	18.7%	13.4%	0.0%	63.4%	0.0%	0.0%	0.0%	0.0%		
SUBTOTAL	$ 580.00	$ 250.00	$ 3,456.00	$ 2,464.00	$ -	$ 11,700.00	$ -	$ -	$ -	$ -		**$18,450.00**
6. SURVERYING												
6 a **FIELD SURVEYING**												
i Recover existing horizontal and vertical control	2	2	16	24		50	90				184	$ 25,088.00
ii Rectify County provided LiDAR and aerials. Establish project surface adjustment factor	8	6	24	24		30					92	$ 10,226.00
iii SUE QL-D								4	20	40	64	$ 6,896.00
HOURS SUB-TOTALS	10	8	40	48	0	80	90	4	20	40		340
CONTRACT RATE PER HOUR	$ 145.00	$ 125.00	$ 96.00	$ 88.00	$ 70.00	$ 130.00	$ 160.00	$ 149.00	$ 123.00	$ 96.00		
TOTAL LABOR COSTS	$ 1,450.00	$ 1,000.00	$ 3,840.00	$ 4,224.00	$ -	$ 10,400.00	$ 14,400.00	$ 596.00	$ 2,460.00	$ 3,840.00		
% DISTRIBUTION OF STAFF HOURS	2.9%	2.4%	11.8%	14.1%	0.0%	23.5%	26.5%	1.2%	5.9%	11.8%		
% DISTRIBUTION OF STAFF BUDGETS	3.4%	2.4%	9.1%	10.0%	0.0%	24.6%	34.1%	1.4%	5.8%	9.1%		
SUBTOTAL	$ 1,450.00	$ 1,000.00	$ 3,840.00	$ 4,224.00	$ -	$ 10,400.00	$ 14,400.00	$ 596.00	$ 2,460.00	$ 3,840.00		**$42,210.00**
Total Project Hours	23	10	76	76	4	170	90	4	20	40		**513**
% DISTRIBUTION OF STAFF HOURS	4.5%	1.9%	14.8%	14.8%	0.8%	33.1%	17.5%	0.8%	3.9%	7.8%		
Project Totals	$3,335.00	$1,250.00	$7,296.00	$6,688.00	$280.00	$22,100.00	$14,400.00	$596.00	$2,460.00	$3,840.00		**$62,245.00**
Total Project % Distribution of Staff Hours	4%	2%	15%	15%	1%	33%	18%	1%	4%	8%		
Project Totals												**$62,245.00**

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - O'Brien Engineering Services, LLC

Sub Provider: O'Brien Engineering Services, LLC

US 183

SPECIFIED RATE

			Quality Manager	Project Engineer	Admin/ Clerical	TOTAL HRS.	TOTAL LABOR HRS. & COSTS
1. PROJECT MANAGEMENT							
1	**a**						
	c	**QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:**					
	i	Prepare QAQC Plan	3		1	4	$ 601.92
	iv	Prepare QAQC oversight				0	$ -
		QA ~ Schematic Document (3 separate reviews)(4 rolls)				0	$ -
		QA ~ Design (3 separate reviews)				0	$ -
		QA ~ checklist & comment forms (3 each)				0	$ -
HOURS SUB-TOTALS			3	0	1		4
CONTRACT RATE PER HOUR			$ 180.04	$ 139.73	$ 61.80		
TOTAL LABOR COSTS			$ 540.12	$ -	$ 61.80		
% DISTRIBUTION OF STAFF HOURS			75.0%	0.0%	25.0%		
% DISTRIBUTION OF STAFF BUDGETS			89.7%	0.0%	10.3%		
SUBTOTAL			$ 540.12	$ -	$ 61.80		**$601.92**
4. PUBLIC INVOLVEMENT							
4	**b**	**PUBLIC MEETING/OPEN HOUSE**					
	i	prepare educational handouts (map, FAQ, purpose and need)	2			2	$ 360.08
	iii	Plan, schedule and attend 3 public meetings	1			1	$ 180.04
	iv	Prepare public meeting material	1			1	$ 180.04
HOURS SUB-TOTALS			4	0	0		4
CONTRACT RATE PER HOUR			$ 180.04	$ 139.73	$ 61.80		
TOTAL LABOR COSTS			$ 720.16	$ -	$ -		
% DISTRIBUTION OF STAFF HOURS			100.0%	0.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS			100.0%	0.0%	0.0%		
SUBTOTAL			$ 720.16	$ -	$ -		**$720.16**
Total Project Hours			7	0	1		8
% DISTRIBUTION OF STAFF HOURS			87.5%	0.0%	12.5%		
Project Totals			$1,260.28	$0.00	$61.80		**$1,322.08**
Total Project % Distribution of Staff Hours			88%	0%	13%		
Project Totals							**$1,322.08**

Sub Provider: Cambrian Environmental

US 183

SPECIFIED RATE

	Senior Environmental Scientist	Environmental Scientist IV	Environmental Scientist III	Environmental Scientist I/II	TOTAL HRS.	TOTAL LABOR HRS. & COSTS
9. ENVIRONMENTAL SERVICES						
9 a ENVIRONMENTAL CONSTRAINTS ANALYSIS						
vii Ecological field survey					0	$ -
b Threatened and Endangered Species	16				16	$ 2,582.24
bii Conduct Karst Survey	24	32		48	104	$ 10,269.84
HOURS SUB-TOTALS	40	32	0	48		120
CONTRACT RATE PER HOUR	$ 161.39	$ 117.66	$ -	$ 54.82		
TOTAL LABOR COSTS	$ 6,455.60	$ 3,765.12	$ -	$ 2,631.36		
% DISTRIBUTION OF STAFF HOURS	33.3%	26.7%	0.0%	40.0%		
% DISTRIBUTION OF STAFF BUDGETS	50.2%	29.3%	0.0%	20.5%		
SUBTOTAL	$ 6,455.60	$ 3,765.12	$ -	$ 2,631.36		**$12,852.08**
Total Project Hours	40	32	0	48		120
% DISTRIBUTION OF STAFF HOURS	33.3%	26.7%	0.0%	40.0%		
Project Totals	$6,455.60	$3,765.12	$0.00	$2,631.36		**$12,852.08**
Total Project % Distribution of Staff Hours	33%	27%	0%	40%		
Project Totals						**$12,852.08**

Sub Provider: Horizon Environmental Services, Inc.

US 183

SPECIFIED RATE

	Principal	Senior Project Manager	Quality Manager	Senior Archeologist	GIS Technician	Environmental Manager	TOTAL HRS	TOTAL LABOR HRS & COSTS
9. ENVIRONMENTAL SERVICES								
9 a ENVIRONMENTAL CONSTRAINTS ANALYSIS								
vi Cultural Resources							0	$ -
b Archeology (desktop archival research & high-probability area map)				12	12		24	$ 2,120.76
9 b INTERSECTING ARTERIAL CONSTRAINTS MAPPING								
i prepare draft constraints map				8	8		16	$ 1,413.84
HOURS SUB-TOTALS	0	0	0	20	20	0		40
CONTRACT RATE PER HOUR	$ 1.00	$ 1.00	$ 1.00	$ 105.89	$ 70.84	$ 1.00		
TOTAL LABOR COSTS	$ -	$ -	$ -	$ 2,117.80	$ 1,416.80	$ -		
% DISTRIBUTION OF STAFF HOURS	0.0%	0.0%	0.0%	50.0%	50.0%	0.0%		
% DISTRIBUTION OF STAFF BUDGETS	0.0%	0.0%	0.0%	59.9%	40.1%	0.0%		
SUBTOTAL	$ -	$ -	$ -	$ 2,117.80	$ 1,416.80	$ -		**$3,534.60**
Total Project Hours	0	0	0	20	20	0		40
% DISTRIBUTION OF STAFF HOURS	0.0%	0.0%	0.0%	50.0%	50.0%	0.0%		
Project Totals	$0.00	$0.00	$0.00	$2,117.80	$1,416.80	$0.00		**$3,534.60**
Total Project % Distribution of Staff Hours	0%	0%	0%	50%	50%	0%		
Project Totals								**$3,534.60**

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - CP&Y, Inc.

Prime Provider: CP&Y, Inc.
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Lodging/Hotel (Taxes / fees not included)		day/person	$126.00	Current State Rate	$0.00
Lodging/Hotel - Taxes and fees		day/person		$30.00	$0.00
Meals (Excluding alcohol & tips) (Overnight stay required)		day/person	$48.00	Current State Rate	$0.00
Mileage	1200	mile	$0.575	Current State Rate	$690.00
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)		day		$70.00	$0.00
Toll Charges	20	each		$5.00	$100.00
Air Travel		Rd Trip/person	$300.00	Coach Fare	$0.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)		each	$50.00	Current Airline Rate	$0.00
Parking		day		$20.00	$0.00
Rental Car Fuel		gallon		$3.00	$0.00
Taxi/Cab Fare		each / person		$35.00	$0.00
Shipping/Postage					
Postage & shipping (metered/bulk)		month		$150.00	$0.00
Materials and Shipping		per package		$35.00	$0.00
Standard Postage	150	letter	$0.47	Current Postal	$70.50
Overnight Mail - letter size		each	$22.95	Current Postal	$0.00
Overnight Mail - oversized box	3	each		$40.00	$120.00
Courier Services	3	each		$40.00	$120.00
Certified Letter Return Receipt	50	each	$4.20	Current Postal	$210.00
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")		each	$0.10		$0.00
Photocopies B/W (11" X 17")		each	$0.20		$0.00
Photocopies Color (8 1/2" X 11")		each	$0.75		$0.00
Photocopies Color (11" X 17")	100	each	$1.25		$125.00
Digital Ortho Plotting	272	sheet	$2.50		$680.00
Plots (B/W on Bond)		square foot	$1.00		$0.00
Plots (Color on Bond)		square foot	$2.00		$0.00
Plots (Color on Photographic Paper)		square foot	$5.50		$0.00
Color Graphics on Foam Board	80	square foot	$5.50		$440.00
Presentation Boards up to 48" X 60" Color Mounted		each	$75.00		$0.00
Outside Printing - Reports (Includes labor and supplies)		each report		$50.00	$0.00
Report Binding and Tabbing (Includes labor and supplies)		each		$10.00	$0.00
Reproduction of CD/DVD		each		$3.00	$0.00
CDs/DVDs		each	$2.00		$0.00
Cardstock Color (8 1/2" x 11")		each	$2.00		$0.00
Notebooks		each	$5.00		$0.00
4" X 6" Digital Color Print		picture	$0.50		$0.00
Planning / Environmental					
Historical Aerial Images (Photographs, Negatives, Maps)	2	each		$100.00	$200.00
Aerial Photographs (1" = 500' scale)		each		$50.00	$0.00
Tx Parks & Wildlife Data Request Fees	1	each		$45.00	$45.00
Maps and Map Records		each		$2.00	$0.00
Environmental Database search	1	per project		$2,000.00	$2,000.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)		day		$51.00	$0.00
TARL Curation Fee		site		$64.00	$0.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)		Per Parcel		$24.00	$0.00
Noise Meter Rental		per day		$80.00	$0.00
Surveying					
GPS Receiver (rates applied to actual time GPS units are in use)		hour		$25.00	$0.00
Other Direct Expense Total					$4,800.50

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Alliance Transportion Group, Inc.

Sub Provider: Alliance Transportation Group, Inc.
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Lodging/Hotel (Taxes / fees not included)		day/person	$126.00	Current State Rate	$0.00
Lodging/Hotel - Taxes and fees		day/person		$30.00	$0.00
Meals (Excluding alcohol & tips) (Overnight stay required)		day/person	$48.00	Current State Rate	$0.00
Mileage	300	mile	$0.575	Current State Rate	$172.50
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)		day		$70.00	$0.00
Toll Charges	4	each		$5.00	$20.00
Air Travel		Rd Trip/person	$300.00	Coach Fare	$0.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)		each	$50.00	Current Airline Rate	$0.00
Parking	1	day		$20.00	$20.00
Rental Car Fuel		gallon		$3.00	$0.00
Taxi/Cab Fare		each / person		$35.00	$0.00
Shipping/Postage					
Postage & shipping (metered/bulk)		month		$150.00	$0.00
Materials and Shipping		per package		$35.00	$0.00
Standard Postage		letter	$0.47	Current Postal	$0.00
Overnight Mail - letter size		each	$22.95	Current Postal	$0.00
Overnight Mail - oversized box		each		$40.00	$0.00
Courier Services	3	each		$40.00	$120.00
Certified Letter Return Receipt		each	$4.20	Current Postal	$0.00
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")	750	each	$0.10		$75.00
Photocopies B/W (11" X 17")	250	each	$0.20		$50.00
Photocopies Color (8 1/2" X 11")	500	each	$0.75		$375.00
Photocopies Color (11" X 17")	250	each	$1.25		$312.50
Digital Ortho Plotting		sheet	$2.50		$0.00
Plots (B/W on Bond)		square foot	$1.00		$0.00
Plots (Color on Bond)		square foot	$2.00		$0.00
Plots (Color on Photographic Paper)		square foot	$5.50		$0.00
Color Graphics on Foam Board		square foot	$5.50		$0.00
Presentation Boards up to 48" X 60" Color Mounted		each	$75.00		$0.00
Outside Printing - Reports (Includes labor and supplies)		each report		$50.00	$0.00
Report Binding and Tabbing (Includes labor and supplies)		each		$10.00	$0.00
Reproduction of CD/DVD		each		$3.00	$0.00
CDs/DVDs		each	$2.00		$0.00
Cardstock Color (8 1/2" x 11")		each	$2.00		$0.00
Notebooks		each	$5.00		$0.00
4" X 6" Digital Color Print		picture	$0.50		$0.00
Planning / Environmental					
Historical Aerial Images (Photographs, Negatives, Maps)		each		$100.00	$0.00
Aerial Photographs (1" = 500' scale)		each		$50.00	$0.00
Tx Parks & Wildlife Data Request Fees		each		$45.00	$0.00
Maps and Map Records		each		$2.00	$0.00
Environmental Database search		per project		$500.00	$0.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)		day		$51.00	$0.00
TARL Curation Fee		site		$64.00	$0.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)		Per Parcel		$24.00	$0.00
Noise Meter Rental		per day		$80.00	$0.00
Surveying					
GPS Receiver (rates applied to actual time GPS units are in use)		hour		$25.00	$0.00
Data Collection					
2-hour turning movement counts (7 ints x 2 peaks)		each	$350.00		$0.00
Travel Time runs (AM and PM 2-hour peaks)		hour	$55.00		$0.00
Other Direct Expense Total					$1,145.00

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Kimley-Horn Associates, Inc.

Sub Provider: Kimley-Horn & Associates, Inc.
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Lodging/Hotel (Taxes / fees not included)		day/person	$126.00	Current State Rate	$0.00
Lodging/Hotel - Taxes and fees		day/person		$30.00	$0.00
Meals (Excluding alcohol & tips) (Overnight stay required)		day/person	$48.00	Current State Rate	$0.00
Mileage	400	mile	$0.575	Current State Rate	$230.00
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)		day		$70.00	$0.00
Toll Charges		each		$5.00	$0.00
Air Travel		Rd Trip/person	$300.00	Coach Fare	$0.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)		each	$50.00	Current Airline Rate	$0.00
Parking		day		$20.00	$0.00
Rental Car Fuel		gallon		$3.00	$0.00
Taxi/Cab Fare		each / person		$35.00	$0.00
Shipping/Postage					
Postage & shipping (metered/bulk)		month		$150.00	$0.00
Materials and Shipping		per package		$35.00	$0.00
Standard Postage	2	letter	$0.47	Current Postal	$0.94
Overnight Mail - letter size	2	each	$22.95	Current Postal	$45.90
Overnight Mail - oversized box	2	each		$40.00	$80.00
Courier Services	2	each		$40.00	$80.00
Certified Letter Return Receipt		each	$4.20	Current Postal	$0.00
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")	100	each	$0.10		$10.00
Photocopies B/W (11" X 17")	50	each	$0.20		$10.00
Photocopies Color (8 1/2" X 11")	100	each	$0.75		$75.00
Photocopies Color (11" X 17")	50	each	$1.25		$62.50
Digital Ortho Plotting		sheet	$2.50		$0.00
Plots (B/W on Bond)		square foot	$1.00		$0.00
Plots (Color on Bond)		square foot	$2.00		$0.00
Plots (Color on Photographic Paper)		square foot	$5.50		$0.00
Color Graphics on Foam Board		square foot	$5.50		$0.00
Presentation Boards up to 48" X 60" Color Mounted		each	$75.00		$0.00
Outside Printing - Reports (Includes labor and supplies)		each report		$50.00	$0.00
Report Binding and Tabbing (Includes labor and supplies)		each		$10.00	$0.00
Reproduction of CD/DVD		each		$3.00	$0.00
CDs/DVDs		each	$2.00		$0.00
Cardstock Color (8 1/2" x 11")		each	$2.00		$0.00
Notebooks		each	$5.00		$0.00
4" X 6" Digital Color Print		picture	$0.50		$0.00
Planning / Environmental					
Historical Aerial Images (Photographs, Negatives, Maps)		each		$100.00	$0.00
Aerial Photographs (1" = 500' scale)		each		$50.00	$0.00
Tx Parks & Wildlife Data Request Fees		each		$45.00	$0.00
Maps and Map Records		each		$2.00	$0.00
Environmental Database search		per project		$500.00	$0.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)		day		$51.00	$0.00
TARL Curation Fee		site		$64.00	$0.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)		Per Parcel		$24.00	$0.00
Noise Meter Rental		per day		$80.00	$0.00
Surveying					
GPS Receiver (rates applied to actual time GPS units are in use)		hour		$25.00	$0.00
Other Direct Expense Total					$594.34

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Rifeline, LLC

Sub Provider: Rifeline, LLC
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Mileage	3000	mile	$0.575	Current State Rate	$1,725.00
Parking	4	day		$20.00	$80.00
Shipping/Postage	60				
Standard Postage	150	letter	$0.47	Current Postal	$70.50
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")	2000	each	$0.10		$200.00
Photocopies Color (8 1/2" X 11")	2500	each	$0.75		$1,875.00
Newspaper Advertisements	5	per ad	$2,000.00		$10,000.00
Public Meeting Refreshments	0	per event	$20.00		$0.00
Public Meeting Supplies	0	per event	$20.00		$0.00
Court Reporter	0	per day	$500.00		$0.00
Translator	0	per event	$400.00		$0.00
Facility Rental	0	per event	$400.00		$0.00
Custodian	0	per hour	$50.00		$0.00
Audio-Visual Equipment Rental	0	per event	$400.00		$0.00
Meeting Signage	0	per unit	$50.00		$0.00
Postcard (mail) or Flyer (hand deliver) - Printing + Postage or Flyering Services	1,350	piece	$1.25		$1,687.50
Notebooks		each	$5.00		$0.00
Other Direct Expense Total					$15,638.00

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Buie & Co.

Sub Provider: Buie & Co.
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Mileage	3000	mile	$0.575	Current State Rate	$1,725.00
Parking	5	day		$20.00	$100.00
Shipping/Postage					
Standard Postage	75	letter	$0.47	Current Postal	$35.25
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")	1000	each	$0.10		$100.00
Photocopies B/W (11" X 17")	1000	each	$0.20		$200.00
Newspaper Advertisements	0	per ad	$2,000.00		$0.00
Public Meeting Refreshments	1	per event	$20.00		$20.00
Public Meeting Supplies	1	per event	$20.00		$20.00
Court Reporter	1	per day	$500.00		$500.00
Translator	1	per event	$400.00		$400.00
Facility Rental	1	per event	$400.00		$400.00
Custodian	5	per hour	$50.00		$250.00
Audio-Visual Equipment Rental	1	per event	$400.00		$400.00
Meeting Signage	3	per unit	$50.00		$150.00
Postcard (mail) or Flyer (hand deliver) - Printing + Postage or Flyering Services	0	piece	$1.25		$0.00
Notebooks	3	each	$5.00		$15.00
Other Direct Expense Total					$4,315.25

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Surveying And Mapping, LLC

Sub Provider: Surveying And Mapping, LLC
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Lodging/Hotel (Taxes / fees not included)		day/person	$126.00	Current State Rate	$0.00
Lodging/Hotel - Taxes and fees		day/person		$30.00	$0.00
Meals (Excluding alcohol & tips) (Overnight stay required)		day/person	$48.00	Current State Rate	$0.00
Mileage	1820	mile	$0.575	Current State Rate	$1,046.50
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)		day		$70.00	$0.00
Toll Charges		each		$5.00	$0.00
Air Travel		Rd Trip/person	$300.00	Coach Fare	$0.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)		each	$50.00	Current Airline Rate	$0.00
Parking		day		$20.00	$0.00
Rental Car Fuel		gallon		$3.00	$0.00
Taxi/Cab Fare		each / person		$35.00	$0.00
Shipping/Postage					
Postage & shipping (metered/bulk)		month		$150.00	$0.00
Materials and Shipping	1	per package		$35.00	$35.00
Standard Postage		letter	$0.47	Current Postal	$0.00
Overnight Mail - letter size		each	$22.95	Current Postal	$0.00
Overnight Mail - oversized box		each		$40.00	$0.00
Courier Services		each		$40.00	$0.00
Certified Letter Return Receipt		each	$4.20	Current Postal	$0.00
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")		each	$0.10		$0.00
Photocopies B/W (11" X 17")		each	$0.20		$0.00
Photocopies Color (8 1/2" X 11")		each	$0.75		$0.00
Photocopies Color (11" X 17")		each	$1.25		$0.00
Digital Ortho Plotting		sheet	$2.50		$0.00
Plots (B/W on Bond)		square foot	$1.00		$0.00
Plots (Color on Bond)		square foot	$2.00		$0.00
Plots (Color on Photographic Paper)		square foot	$5.50		$0.00
Color Graphics on Foam Board		square foot	$5.50		$0.00
Presentation Boards up to 48" X 60" Color Mounted		each	$75.00		$0.00
Outside Printing - Reports (Includes labor and supplies)		each report		$50.00	$0.00
Report Binding and Tabbing (Includes labor and supplies)		each		$10.00	$0.00
Reproduction of CD/DVD		each		$3.00	$0.00
CDs/DVDs		each	$2.00		$0.00
Cardstock Color (8 1/2" x 11")		each	$2.00		$0.00
Notebooks		each	$5.00		$0.00
4" X 6" Digital Color Print		picture	$0.50		$0.00
Planning / Environmental					
Historical Aerial Images (Photographs, Negatives, Maps)		each		$100.00	$0.00
Aerial Photographs (1" = 500' scale)		each		$50.00	$0.00
Tx Parks & Wildlife Data Request Fees		each		$45.00	$0.00
Maps and Map Records		each		$2.00	$0.00
Environmental Database search		per project		$500.00	$0.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc)		day		$51.00	$0.00
TARL Curation Fee		site		$64.00	$0.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)		Per Parcel		$24.00	$0.00
Noise Meter Rental		per day		$80.00	$0.00
Surveying					
GPS Receiver (rates applied to actual time GPS units are in use)	150	hour		$25.00	$3,750.00
Other Direct Expense Total					$4,831.50

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - O'Brien Engineering Services, LLC

Sub Provider: O'Brien Engineering Services, LLC
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Lodging/Hotel (Taxes / fees not included)		day/person	$126.00	Current State Rate	$0.00
Lodging/Hotel - Taxes and fees		day/person		$30.00	$0.00
Meals (Excluding alcohol & tips) (Overnight stay required)		day/person	$48.00	Current State Rate	$0.00
Mileage		mile	$0.575	Current State Rate	$0.00
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)		day		$70.00	$0.00
Toll Charges		each		$5.00	$0.00
Air Travel		Rd Trip/person	$300.00	Coach Fare	$0.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)		each	$50.00	Current Airline Rate	$0.00
Parking		day		$20.00	$0.00
Rental Car Fuel		gallon		$3.00	$0.00
Taxi/Cab Fare		each / person		$35.00	$0.00
Shipping/Postage					
Postage & shipping (metered/bulk)		month		$150.00	$0.00
Materials and Shipping		per package		$35.00	$0.00
Standard Postage		letter	$0.47	Current Postal	$0.00
Overnight Mail - letter size		each	$22.95	Current Postal	$0.00
Overnight Mail - oversized box		each		$40.00	$0.00
Courier Services		each		$40.00	$0.00
Certified Letter Return Receipt		each	$4.20	Current Postal	$0.00
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")		each	$0.10		$0.00
Photocopies B/W (11" X 17")		each	$0.20		$0.00
Photocopies Color (8 1/2" X 11")		each	$0.75		$0.00
Photocopies Color (11" X 17")		each	$1.25		$0.00
Digital Ortho Plotting		sheet	$2.50		$0.00
Plots (B/W on Bond)		square foot	$1.00		$0.00
Plots (Color on Bond)		square foot	$2.00		$0.00
Plots (Color on Photographic Paper)		square foot	$5.50		$0.00
Color Graphics on Foam Board		square foot	$5.50		$0.00
Presentation Boards up to 48" X 60" Color Mounted		each	$75.00		$0.00
Outside Printing - Reports (Includes labor and supplies)		each report		$50.00	$0.00
Report Binding and Tabbing (Includes labor and supplies)		each		$10.00	$0.00
Reproduction of CD/DVD		each		$3.00	$0.00
CDs/DVDs		each	$2.00		$0.00
Cardstock Color (8 1/2" x 11")		each	$2.00		$0.00
Notebooks		each	$5.00		$0.00
4" X 6" Digital Color Print		picture	$0.50		$0.00
Planning / Environmental					
Historical Aerial Images (Photographs, Negatives, Maps)		each		$100.00	$0.00
Aerial Photographs (1" = 500' scale)		each		$50.00	$0.00
Tx Parks & Wildlife Data Request Fees		each		$45.00	$0.00
Maps and Map Records		each		$2.00	$0.00
Environmental Database search		per project		$500.00	$0.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)		day		$51.00	$0.00
TARL Curation Fee		site		$64.00	$0.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)		Per Parcel		$24.00	$0.00
Noise Meter Rental		per day		$80.00	$0.00
Surveying					
GPS Receiver (rates applied to actual time GPS units are in use)		hour		$25.00	$0.00
Other Direct Expense Total					$0.00

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Cambrian Environmental

Sub Provider: Cambrian Environmental
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Lodging/Hotel (Taxes / fees not included)		day/person	$126.00	Current State Rate	$0.00
Lodging/Hotel - Taxes and fees		day/person		$30.00	$0.00
Meals (Excluding alcohol & tips) (Overnight stay required)		day/person	$48.00	Current State Rate	$0.00
Mileage		mile	$0.575	Current State Rate	$0.00
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)		day		$70.00	$0.00
Toll Charges		each		$5.00	$0.00
Air Travel		Rd Trip/person	$300.00	Coach Fare	$0.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)		each	$50.00	Current Airline Rate	$0.00
Parking		day		$20.00	$0.00
Rental Car Fuel		gallon		$3.00	$0.00
Taxi/Cab Fare		each / person		$35.00	$0.00
Shipping/Postage					
Postage & shipping (metered/bulk)		month		$150.00	$0.00
Materials and Shipping		per package		$35.00	$0.00
Standard Postage		letter	$0.47	Current Postal	$0.00
Overnight Mail - letter size		each	$22.95	Current Postal	$0.00
Overnight Mail - oversized box		each		$40.00	$0.00
Courier Services		each		$40.00	$0.00
Certified Letter Return Receipt		each	$4.20	Current Postal	$0.00
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")		each	$0.10		$0.00
Photocopies B/W (11" X 17")		each	$0.20		$0.00
Photocopies Color (8 1/2" X 11")		each	$0.75		$0.00
Photocopies Color (11" X 17")		each	$1.25		$0.00
Digital Ortho Plotting		sheet	$2.50		$0.00
Plots (B/W on Bond)		square foot	$1.00		$0.00
Plots (Color on Bond)		square foot	$2.00		$0.00
Plots (Color on Photographic Paper)		square foot	$5.50		$0.00
Color Graphics on Foam Board		square foot	$5.50		$0.00
Presentation Boards up to 48" X 60" Color Mounted		each	$75.00		$0.00
Outside Printing - Reports (Includes labor and supplies)		each report		$50.00	$0.00
Report Binding and Tabbing (Includes labor and supplies)		each		$10.00	$0.00
Reproduction of CD/DVD		each		$3.00	$0.00
CDs/DVDs		each	$2.00		$0.00
Cardstock Color (8 1/2" x 11")		each	$2.00		$0.00
Notebooks		each	$5.00		$0.00
4" X 6" Digital Color Print		picture	$0.50		$0.00
Planning / Environmental					
Historical Aerial Images (Photographs, Negatives, Maps)		each		$100.00	$0.00
Aerial Photographs (1" = 500' scale)		each		$50.00	$0.00
Tx Parks & Wildlife Data Request Fees		each		$45.00	$0.00
Maps and Map Records		each		$2.00	$0.00
Environmental Database search		per project		$500.00	$0.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)		day		$51.00	$0.00
TARL Curation Fee		site		$64.00	$0.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)		Per Parcel		$24.00	$0.00
Noise Meter Rental		per day		$80.00	$0.00
Surveying					
GPS Receiver (rates applied to actual time GPS units are in use)		hour		$25.00	$0.00
Other Direct Expense Total					$0.00

Attachment D - Fee Schedule
Transportation Corridor F
Firm Name - Horizon Environmental Services, Inc.

Sub Provider: Horizon Environmental Services, Inc.
US 183

Other Direct Expenses	QUANTITY	Unit	Fixed Cost	Maximum Cost	TOTAL
Lodging/Hotel (Taxes / fees not included)		day/person	$126.00	Current State Rate	$0.00
Lodging/Hotel - Taxes and fees		day/person		$30.00	$0.00
Meals (Excluding alcohol & tips) (Overnight stay required)		day/person	$48.00	Current State Rate	$0.00
Mileage		mile	$0.575	Current State Rate	$0.00
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)		day		$70.00	$0.00
Toll Charges		each		$5.00	$0.00
Air Travel		Rd Trip/person	$300.00	Coach Fare	$0.00
Oversize, special handling or extra baggage airline fees (with advance coordination with TxDOT)		each	$50.00	Current Airline Rate	$0.00
Parking		day		$20.00	$0.00
Rental Car Fuel		gallon		$3.00	$0.00
Taxi/Cab Fare		each / person		$35.00	$0.00
Shipping/Postage					
Postage & shipping (metered/bulk)		month		$150.00	$0.00
Materials and Shipping		per package		$35.00	$0.00
Standard Postage		letter	$0.47	Current Postal	$0.00
Overnight Mail - letter size		each	$22.95	Current Postal	$0.00
Overnight Mail - oversized box		each		$40.00	$0.00
Courier Services		each		$40.00	$0.00
Certified Letter Return Receipt		each	$4.20	Current Postal	$0.00
Copying / Printing / Reproduction / Photo					
Photocopies B/W (8 1/2" X 11")		each	$0.10		$0.00
Photocopies B/W (11" X 17")		each	$0.20		$0.00
Photocopies Color (8 1/2" X 11")		each	$0.75		$0.00
Photocopies Color (11" X 17")		each	$1.25		$0.00
Digital Ortho Plotting		sheet	$2.50		$0.00
Plots (B/W on Bond)		square foot	$1.00		$0.00
Plots (Color on Bond)		square foot	$2.00		$0.00
Plots (Color on Photographic Paper)		square foot	$5.50		$0.00
Color Graphics on Foam Board		square foot	$5.50		$0.00
Presentation Boards up to 46" X 60" Color Mounted		each	$75.00		$0.00
Outside Printing - Reports (Includes labor and supplies)		each report		$50.00	$0.00
Report Binding and Tabbing (Includes labor and supplies)		each		$10.00	$0.00
Reproduction of CD/DVD		each		$3.00	$0.00
CDs/DVDs		each	$2.00		$0.00
Cardstock Color (8 1/2" x 11")		each	$2.00		$0.00
Notebooks		each	$5.00		$0.00
4" X 6" Digital Color Print		picture	$0.50		$0.00
Planning / Environmental					
Historical Aerial Images (Photographs, Negatives, Maps)		each		$100.00	$0.00
Aerial Photographs (1" = 500' scale)		each		$50.00	$0.00
Tx Parks & Wildlife Data Request Fees		each		$45.00	$0.00
Maps and Map Records		each		$2.00	$0.00
Environmental Database search	1	per project		$195.00	$195.00
Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)		day		$51.00	$0.00
TARL Curation Fee		site		$64.00	$0.00
Property Record Fees (Courthouse and Courthouse Direct Record Fees)		Per Parcel		$24.00	$0.00
Noise Meter Rental		per day		$80.00	$0.00
Surveying					
GPS Receiver (rates applied to actual time GPS units are in use)		hour		$25.00	$0.00
Other Direct Expense Total					$195.00

Commissioners Court - Regular Session **23.**

Meeting Date: 03/07/2017

Kennedy Consulting Inc Corridor A1 Contract

Submitted By: Marie Walters, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a contract for Corridor A1 between Williamson County and Kennedy Consulting, Inc. relating to the LTP Corridor Study.

Background

The compensation cap for this contract is $4,500,000.00 with Work Authorization #1 being for $909,762.52 which falls within the approved $4M for FY2017 P456 LTP Corridor Study.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

KCI-contract-CorridorA1

KCI-WA1-CorridorA1

Form Review

Inbox	Reviewed By	Date
Hal Hawes	Hal Hawes	03/02/2017 10:53 AM
County Judge Exec Asst.	Wendy Coco	03/03/2017 04:08 PM
Form Started By: Marie Walters		Started On: 03/01/2017 06:14 PM
Final Approval Date: 03/03/2017		

RECEIVED
FEB 24 2017
BY: PSI

WILLIAMSON COUNTY
CONTRACT FOR ENGINEERING SERVICES

FIRM: **Kennedy Consulting, Inc. ("Engineer")**
ADDRESS: **205 E. University Avenue, Suite 450, Georgetown, TX 78626**
PROJECT: **Transportation Corridor A-1 ("Project")**

THE STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

THIS CONTRACT FOR ENGINEERING SERVICES ("Contract") is made and entered into, effective as the date of the last party's execution hereinbelow, by and between Williamson County, Texas, a political subdivision of the State of Texas, whose offices are located at 710 Main Street, Suite 101, Georgetown, Texas, 78626 (hereinafter referred to as "County"), and Engineer, and such Contract is for the purpose of contracting for professional engineering services.

RECITALS:

WHEREAS, V.T.C.A., Government Code §2254.002(2)(A)(vii) under Subchapter A entitled "Professional Services Procurement Act" provides for the procurement by counties of services of professional engineers; and

WHEREAS, County and Engineer desire to contract for such professional engineering services; and

WHEREAS, County and Engineer wish to document their agreement concerning the requirements and respective obligations of the parties;

NOW, THEREFORE, WITNESSETH:

That for and in consideration of the mutual promises contained herein and other good and valuable considerations, and the covenants and agreements hereinafter contained to be kept and performed by the respective parties hereto, it is agreed as follows:

ARTICLE 1
CONTRACT DOCUMENTS AND APPLICABLE PROJECT DOCUMENTS

A. Contract Documents. The Contract Documents consist of this Contract, any exhibits attached hereto (which exhibits are hereby incorporated into and made a part of this Contract), any fully executed Work Authorizations; any fully executed Supplemental Work Authorizations and all fully executed Contract Amendments (as defined herein in Article 14) which are subsequently issued. These form the entire contract, and all are as fully a part of this Contract as if attached to this Contract or repeated herein.

B. Project Documents. In addition to any other pertinent and necessary Project documents, the following documents shall be used in the development of the Project:

A. TxDOT 2011 Texas Manual of Uniform Traffic Control Devices for Streets and Highways, including latest revisions
B. Texas Department of Transportation's Standard Specifications for Construction of Highways, Streets, and Bridges, 2014 (English units)
C. National Environmental Policy Act (NEPA)
D. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, Effective April 4, 1994, including latest revisions
E. Americans with Disabilities Act (ADA) Regulations
F. U.S. Army Corps Regulations
G. International Building Code, current edition as updated
H. Williamson County Design Criteria & Project Development Manual, latest edition
I. Williamson County Multi-Corridor Transportation Plan Project Level Environmental Review and Compliance Protocol, latest edition
J. Williamson County Protocol for Sustainable Roadsides, latest edition
K. TxDOT Bridge Design Manual - LRFD, latest edition
L. TxDOT Geotechnical Manual, latest edition

ARTICLE 2
NON-COLLUSION; DEBARMENT; AND FINANCIAL INTEREST PROHIBITED

A. Non-collusion. Engineer warrants that he/she/it has not employed or retained any company or persons, other than a bona fide employee working solely for Engineer, to solicit or secure this Contract, and that he/she/it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, County reserves and shall have the right to annul this Contract without liability or, in its discretion and at its sole election, to deduct from the contract price or compensation, or to otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

B. Debarment Certification. Engineer must sign the Debarment Certification

enclosed herewith as **Exhibit A**.

C. Financial Interest Prohibited. Engineer covenants and represents that Engineer, his/her/its officers, employees, agents, consultants and subcontractors will have no financial interest, direct or indirect, in the purchase or sale of any product, materials or equipment that will be recommended or required for the construction of the Project.

ARTICLE 3
ENGINEERING SERVICES

Engineer shall perform Engineering Services as identified in **Exhibit B** entitled "Engineering Services."

County will prepare and issue Work Authorizations, in substantially the same form identified and attached hereto as **Exhibit C** and entitled "Work Authorization No. ____", to authorize the Engineer to perform one or more tasks of the Engineering Services. Each Work Authorization will include a description of the work to be performed, a description of the tasks and milestones, a work schedule for the tasks, definite review times by County and Engineer of all Engineering Services and a fee amount agreed upon by the County and Engineer. The amount payable for a Work Authorization shall be supported by the estimated cost of each work task as described in the Work Authorization. The Work Authorization will not waive the Engineer's responsibilities and obligations established in this Contract. The executed Work Authorizations shall become part of this Contract.

All work must be completed on or before the date specified in the Work Authorization. The Engineer shall promptly notify the County of any event which will affect completion of the Work Authorization, although such notification shall not relieve the Engineer from costs or liabilities resulting from delays in completion of the Work Authorization. Should the review times or Engineering Services take longer than shown on the Work Authorization, through no fault of Engineer, Engineer may submit a timely written request for additional time, which shall be subject to the approval of the County. Any changes in a Work Authorization shall be enacted by a written Supplemental Work Authorization before additional costs may be incurred. Any Supplemental Work Authorization must be executed by both parties within the period specified in the Work Authorization.

ARTICLE 4
CONTRACT TERM

A. Term. The Engineer is expected to complete the Engineering Services described herein in accordance with the above described Work Authorizations or any Supplemental Work Authorization related thereto. If Engineer does not perform the Engineering Services in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall have the right to terminate this Contract as set forth below in Article 20. So long as the County elects not to terminate this Contract, it shall continue from day to day until such time as the Engineering Services are completed in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto. Any Engineering Services performed or

costs incurred after the date of termination shall not be eligible for reimbursement. Engineer shall notify County in writing as soon as possible if he/she/it determines, or reasonably anticipates, that the Engineering Services will not be completed in accordance with an applicable Work Authorization or any Supplemental Work Authorization related thereto.

B. Work Authorizations. Engineer acknowledges that each Work Authorization is of critical importance, and agrees to undertake all reasonably necessary efforts to expedite the performance of Engineering Services required herein so that construction of the Project will be commenced and completed as scheduled. In this regard, and subject to adjustments in a particular Work Authorization, as provided in Article 3 herein, Engineer shall proceed with sufficient qualified personnel and consultants necessary to fully and timely accomplish all Engineering Services required under this Contract in a professional manner.

C. Commencement of Engineering Services. After execution of this Contract, Engineer shall not proceed with Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and has been notified in writing by the County to proceed, as provided in Article 8.

ARTICLE 5
COMPENSATION AND EXPENSES

County shall pay and Engineer agrees to accept up to the amount shown below as full compensation for the Engineering Services performed and to be performed under this Contract. The basis of compensation for the services of principals and employees engaged in the performance of the Engineering Services shall be based on the Rate Schedule set forth in the attached **Exhibit D**.

The maximum amount payable under this Contract, without modification, is **Four Million Five Hundred Thousand Dollars ($ 4,500,000.00)** (the "Compensation Cap"), provided that any amounts paid or payable shall be solely pursuant to a validly issued Work Authorization or any Supplemental Work Authorization related thereto. In no event may the aggregate amount of compensation authorized under Work Authorizations and Supplemental Work Authorizations exceed the Compensation Cap. The Compensation Cap shall be revised equitably only by written Contract Amendments executed by both parties in the event of a change the overall scope of the Engineering Services set forth in **Exhibit B**, as authorized by County.

The Compensation Cap is based upon all labor and non-labor costs estimated to be required in the performance of the Engineering Services provided for under this Contract. Should the actual costs of all labor and non-labor costs rendered under this Contract be less than the above stated Compensation Cap, then Engineer shall receive compensation for only actual fees and costs of the Engineering Services actually rendered and incurred, which may be less than the above stated Compensation Cap.

The Compensation Cap herein referenced may be adjusted for Additional Engineering Services requested and performed only if approved by a written Contract Amendment signed by both parties.

Engineer shall prepare and submit to County monthly progress reports in sufficient detail to support the progress of the Engineering Services and to support invoices requesting monthly payment. The format for such monthly progress reports and invoices must be in a format acceptable to County. Satisfactory progress of Engineering Services shall be an absolute condition of payment.

Engineer shall be reimbursed for actual non-labor and subcontract expenses incurred in the performance of the services under this Contract in accordance with the Williamson County Vendor Reimbursement Policy set forth under **Exhibit E**. Invoices requesting reimbursement for costs and expenditures related to the Project (reimbursables) must be accompanied by copies of the provider's invoice and comply with the Williamson County Vendor Reimbursement Policy. The copies of the provider's invoice must evidence the actual costs billed to Engineer without mark-up.

ARTICLE 6
METHOD OF PAYMENT

Payments to Engineer shall be made while Engineering Services are in progress. A monthly progress report, as referenced in Article 5 above (in a form acceptable to the County), shall be submitted to Williamson County Department of Infrastructure, to the attention of the Sr. Director of Infrastructure. Such progress report shall provide a summary of the work accomplished during the billing period for each Work Authorization task with an estimated percentage of completion for the task.

Simultaneous with submission of such progress report, Engineer shall prepare and submit one (1) original of a certified invoice to the Director of Road & Bridge in a form acceptable to the County Auditor. All invoices submitted to County must, at a minimum, be accompanied by an original complete packet of supporting documentation and time sheets detailing hours worked by staff persons with a description of the work performed by such persons. For Additional Engineering Services performed pursuant to this Contract, a separate invoice or itemization of the Additional Engineering Services must be presented with the same aforementioned requirements.

Payments shall be made by County based upon Engineering Services actually provided and performed.[a] Upon timely receipt and approval of each statement, County shall make a good faith effort to pay the amount which is due and payable within thirty (30) days of the County Auditor's receipt. County reserves the right to reasonably withhold payment pending verification of satisfactory Engineering Services performed. Engineer has the responsibility to submit proof to County, adequate and sufficient in its determination, that tasks of an applicable Work Authorization or any Supplemental Work Authorization related thereto were completed.

The certified statements shall show the total amount earned to the date of submission and shall show the amount due and payable as of the date of the current statement. Final payment does not relieve Engineer of the responsibility of correcting any errors and/or omissions resulting from his/her/its negligence.

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[a] *See also,* Art. 32(P) "Termination of Work Authorization".

Upon submittal of the initial invoice, Engineer shall provide the County Auditor with an Internal Revenue Form W-9, Request for Taxpayer Identification Number and Certification that is complete in compliance with the Internal Revenue Code, its rules and regulations.

ARTICLE 7
PROMPT PAYMENT POLICY

In accordance with Chapter 2251, V.T.C.A., Texas Government Code, payment to Engineer will be made within thirty (30) days of the day on which the performance of services was complete, or within thirty (30) days of the day on which the County Auditor receives a correct invoice for services, whichever is later.

Engineer may charge a late fee (fee shall not be greater than that which is permitted by Texas law) for payments not made in accordance with this prompt payment policy; however, this policy does not apply in the event:

A. There is a bona fide dispute between County and Engineer concerning the supplies, materials, or equipment delivered or the services performed that causes the payment to be late; or

B. The terms of a federal contract, grant, regulation, or statute prevent County from making a timely payment with federal funds; or

C. There is a bona fide dispute between Engineer and a subcontractor/subconsultant or between a subcontractor/subconsultant and its supplier concerning supplies, materials, or equipment delivered or the Engineering Services performed which causes the payment to be late; or

D. The invoice is not submitted to Williamson County[b] in strict accordance with instructions, if any, on the purchase order, or this Contract or other such contractual agreement.

The County Auditor shall document to Engineer the issues related to disputed invoices within ten (10) calendar days of receipt of such invoice. Any non-disputed invoices shall be considered correct and payable per the terms of Chapter 2251, V.T.C.A., Texas Government Code.

ARTICLE 8
COMMENCEMENT OF ENGINEERING SERVICES

The Engineer shall not proceed with any task of the Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and instructed, in writing by the County, to proceed with the applicable Engineering Services. The County shall not be responsible for work performed or costs incurred by Engineer related to any task for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties. Engineer shall not be required to perform any work for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties.

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[b] *See* Art. 6, *supra*.

ARTICLE 9
PROJECT TEAM

County's Designated Representative for purposes of this Contract is as follows:

Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

County shall have the right, from time to time, to change the County's Designated Representative by giving Engineer written notice thereof. With respect to any action, decision or determination which is to be taken or made by County under this Contract, the County's Designated Representative may take such action or make such decision or determination or shall notify Engineer in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the County's Designated Representative on behalf of County shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the County's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the County's Designated Representative shall be binding on County; *provided, however,* the County's Designated Representative shall not have any right to modify, amend or terminate this Contract, an Executed Work Authorization, an executed Supplemental Work Authorization or executed Contract Amendment. County's Designated Representative shall not have any authority to execute a Contract Amendment, Work Authorization or any Supplemental Work Authorization unless otherwise granted such authority by the Williamson County Commissioners Court.

Engineer's Designated Representative for purposes of this Contract is as follows:

Rafael Cruz-Rodriguez, PE
Sr. Project Manager
205 E. University Avenue, Suite 450
Georgetown, TX 78626

Engineer shall have the right, from time to time, to change the Engineer's Designated Representative by giving County written notice thereof. With respect to any action, decision or determination which is to be taken or made by Engineer under this Contract, the Engineer's Designated Representative may take such action or make such decision or determination or shall notify County in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the Engineer's Designated Representative on behalf of Engineer shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the Engineer's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by

the Engineer's Designated Representative shall be binding on Engineer. Engineer's Designated Representative shall have the right to modify, amend and execute Work Authorizations, Supplemental Work Authorizations and Contract Amendments on behalf of Engineer.

ARTICLE 10
PROGRESS EVALUATION

Engineer shall, from time to time during the progress of the Engineering Services, confer with County at County's election. Engineer shall prepare and present such information as may be pertinent and necessary, or as may be reasonably requested by County, in order for County to evaluate features of the Engineering Services. At the request of County or Engineer, conferences shall be provided at Engineer's office, the offices of County, or at other locations designated by County. When requested by County, such conferences shall also include evaluation of the Engineering Services. County may, from time to time, require Engineer to appear and provide information to the Williamson County Commissioners Court.

Should County determine that the progress in Engineering Services does not satisfy an applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall review same with Engineer to determine corrective action required.

Engineer shall promptly advise County in writing of events which have or may have a significant impact upon the progress of the Engineering Services, including but not limited to the following:

A. Problems, delays, adverse conditions which may materially affect the ability to meet the objectives of an applicable Work Authorization or any Supplemental Work Authorization related thereto, or preclude the attainment of Project Engineering Services units by established time periods; and such disclosure shall be accompanied by statement of actions taken or contemplated, and County assistance needed to resolve the situation, if any; and

B. Favorable developments or events which enable meeting goals sooner than anticipated in relation to an applicable Work Authorization's or any Supplemental Work Authorization related thereto.

ARTICLE 11
SUSPENSION

Should County desire to suspend the Engineering Services, but not to terminate this Contract, then such suspension may be effected by County giving Engineer thirty (30) calendar days' verbal notification followed by written confirmation to that effect. Such thirty-day notice may be waived in writing by agreement and signature of both parties. The Engineering Services may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from County to resume the Engineering Services. Such sixty-day (60) notice may be waived in writing by agreement and signature of both parties. If this Contract is suspended for more than thirty (30) days, Engineer shall have the option of terminating this Contract and, in the event, Engineer shall be compensated for all Engineering Services performed and reimbursable expenses incurred, provided such Engineering Services and reimbursable expenses have been previously authorized and approved by County, to the effective date of suspension.

If County suspends the Engineering Services, the contract period as determined in Article 4, and the Work Authorization or any Supplemental Work Authorization related thereto, shall be extended for a time period equal to the suspension period.

County assumes no liability for Engineering Services performed or costs incurred prior to the date authorized by County for Engineer to begin Engineering Services, and/or during periods when Engineering Services is suspended, and/or subsequent to the completion date.

ARTICLE 12
ADDITIONAL ENGINEERING SERVICES

If Engineer forms a reasonable opinion that any work he/she/it has been directed to perform is beyond the overall scope of this Contract, as set forth in **Exhibit B,** and as such constitutes extra work ("Additional Engineering Services"), he/she/it shall promptly notify County in writing. In the event County finds that such work does constitute Additional Engineering Services, County shall so advise Engineer and a written Contract Amendment will be executed between the parties as provided in Article 14. Any increase to the Compensation Cap due to Additional Engineering Services must be set forth in such Contract Amendment. Engineer shall not perform any proposed Additional Engineering Services nor incur any additional costs prior to the execution, by both parties, of a written Contract Amendment. Following the execution of a Contract Amendment that provides for Additional Engineering Services, a written Work Authorization, which sets forth the Additional Engineering Services to be performed, must be executed by the parties. County shall not be responsible for actions by Engineer nor for any costs incurred by Engineer relating to Additional Engineering Services not directly associated with the performance of the Engineering Services authorized in this Contract, by a fully executed Work Authorization or a fully executed Contract Amendment thereto.

ARTICLE 13
CHANGES IN COMPLETED ENGINEERING SERVICES

If County deems it necessary to request changes to previously satisfactorily completed

Engineering Services or parts thereof which involve changes to the original Engineering Services or character of Engineering Services under this Contract, then Engineer shall make such revisions as requested and as directed by County. Such revisions shall be considered as Additional Engineering Services and paid for as specified under Article 12.

Engineer shall make revisions to Engineering Services authorized hereunder as are necessary to correct errors appearing therein, when required to do so by County. No additional compensation shall be due for such Engineering Services.

ARTICLE 14
CONTRACT AMENDMENTS

The terms set out in this Contract may be modified by a written fully executed Contract Amendment. Changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization. To the extent that such changes or modifications to a Work Authorization do not also require modifications to the terms of this Contract (i.e. changes to the overall scope of Engineering Services set forth in **Exhibit B**, modification of the Compensation Cap, etc.) a Contract Amendment will not be required.

ARTICLE 15
USE OF DOCUMENTS

All documents, including but not limited to drawings, specifications and data or programs stored electronically, (hereinafter referred to as "Engineering Work Products") prepared by Engineer and its subcontractors/subconsultants are related exclusively to the services described in this Contract and are intended to be used with respect to this Project. However, it is expressly understood and agreed by and between the parties hereto that all of Engineer's designs under this Contract (including but not limited to tracings, drawings, estimates, specifications, investigations, studies and other documents, completed or partially completed), shall be the property of County to be thereafter used in any lawful manner as County elects. Any such subsequent use made of documents by County shall be at County's sole risk and without liability to Engineer.

By execution of this Contract and in confirmation of the fee for services to be paid under this Contract, Engineer hereby conveys, transfers and assigns to County all rights under the Federal Copyright Act of 1976 (or any successor copyright statute), as amended, all common law copyrights and all other intellectual property rights acknowledged by law in the Project Designs and work product developed under this Contract. Copies may be retained by Engineer. Engineer shall be liable to County for any loss or damage to any such documents while they are in the possession of or while being worked upon by Engineer or anyone connected with Engineer, including agents, employees, Engineers or subcontractors/subconsultants. All documents so lost or damaged shall be replaced or restored by Engineer without cost to County.

Upon execution of this Contract, Engineer grants to County permission to reproduce Engineer's work and documents for purposes of constructing, using and maintaining the Project, provided that County shall comply with its obligations, including prompt payment of all sums when due, under this Contract. Engineer shall obtain similar permission from Engineer's

subcontractors/subconsultants consistent with this Contract. If and upon the date Engineer is adjudged in default of this Contract, County is permitted to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the work and documents for the purposes of completing, using and maintaining the Project.

County shall not assign, delegate, sublicense, pledge or otherwise transfer any permission granted herein to another party without the prior written consent of Engineer. However, County shall be permitted to authorize the contractor, subcontractors and material or equipment suppliers to reproduce applicable portions of the Engineering Work Products appropriate to and for use in the execution of the Work. Submission or distribution of Engineering Work Products to meet official regulatory requirements or for similar purposes in connection with the Project is permitted. Any unauthorized use of the Engineering Work Products shall be at County's sole risk and without liability to Engineer and its Engineers.

Prior to Engineer providing to County any Engineering Work Products in electronic form or County providing to Engineer any electronic data for incorporation into the Engineering Work Products, County and Engineer shall by separate written contract set forth the specific conditions governing the format of such Engineering Work Products or electronic data, including any special limitations not otherwise provided in this Contract. Any electronic files are provided by Engineer for the convenience of County, and use of them is at County's sole risk. In the case of any defects in electronic files or any discrepancies between them and any hardcopy of the same documents prepared by Engineer, the hardcopy shall prevail. Only printed copies of documents conveyed by Engineer shall be relied upon.

Engineer shall have no liability for changes made to the drawings by other engineers subsequent to the completion of the Project. Any such change shall be sealed by the engineer making that change and shall be appropriately marked to reflect what was changed or modified.

ARTICLE 16
PERSONNEL, EQUIPMENT AND MATERIAL

Engineer shall furnish and maintain, at its own expense, quarters for the performance of all Engineering Services, and adequate and sufficient personnel and equipment to perform the Engineering Services as required. All employees of Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Engineer who, in the reasonable opinion of County, is incompetent or whose conduct becomes detrimental to the Engineering Services shall immediately be removed from association with the Project when so instructed by County. Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the Engineering Services required under this Contract, or will obtain such personnel from sources other than County. Engineer may not change the Project Manager without prior written consent of County.

ARTICLE 17
SUBCONTRACTING

Engineer shall not assign, subcontract or transfer any portion of the Engineering Services under this Contract without prior written approval from County. All subcontracts shall include the provisions required in this Contract. No subcontract shall relieve Engineer of any responsibilities under this Contract.

ARTICLE 18
REVIEW OF ENGINEERING SERVICES

Engineer's Engineering Services will be reviewed by County under its applicable technical requirements and procedures.

A. Completion. Reports, plans, specifications, and supporting documents shall be submitted by Engineer on or before the dates specified in the applicable Work Authorization or Supplemental Work Authorization related thereto. Upon receipt of same, the submission shall be checked for completion. "Completion" or "Complete" shall be defined as all of the required items, as set out in the applicable Work Authorization, have been included in compliance with the requirements of this Contract. The completeness of any Engineering Services submitted to County shall be determined by County within thirty (30) days of such submittal and County shall notify Engineer in writing within such thirty (30) day period if such Engineering Services have been found to be incomplete. If the submission is Complete, County shall notify Engineer and County's technical review process will begin.

If the submission is not Complete, County shall notify Engineer, who shall perform such professional services as are required to complete the Engineering Services and resubmit it to County. This process shall be repeated until a submission is Complete.

B. Acceptance. County shall review the completed Engineering Services for compliance with this Contract. If necessary, the completed Engineering Services shall be returned to Engineer, who shall perform any required Engineering Services and resubmit it to County. This process shall be repeated until the Engineering Services are Accepted. "Acceptance" or "Accepted" shall mean that in the County's reasonable opinion, substantial compliance with the requirements of this Contract has been achieved.

C. Final Approval. After Acceptance, Engineer shall perform any required modifications, changes, alterations, corrections, redesigns, and additional work necessary to receive Final Approval by the County. "Final Approval" in this sense shall mean formal recognition that the Engineering Services have been fully carried out.

D. Errors and Omissions. After Final Approval, Engineer shall, without additional compensation, perform any work required as a result of Engineer's development of the work which is found to be in error or omission due to Engineer's negligence. However, any work required or occasioned for the convenience of County after Final Approval shall be paid for as Additional Engineering Services.

E. Disputes Over Classifications. In the event of any dispute over the classification of Engineer's Engineering Services as Complete, Accepted, or having attained Final Approved under this Contract, the decision of the County shall be final and binding on Engineer, subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

F. County's Reliance on Engineer. ENGINEER'S DUTIES AS SET FORTH HEREIN SHALL AT NO TIME BE IN ANY WAY DIMINISHED BY REASON OF ANY REVIEW, EVALUATION OR APPROVAL BY THE COUNTY NOR SHALL THE ENGINEER BE RELEASED FROM ANY LIABILITY BY REASON OF SUCH REVIEW, EVALUATION OR APPROVAL BY THE COUNTY, IT BEING UNDERSTOOD THAT THE COUNTY AT ALL TIMES IS ULTIMATELY RELYING UPON THE ENGINEER'S SKILL, ABILITY AND KNOWLEDGE IN PERFORMING THE ENGINEERING SERVICES REQUIRED HEREUNDER.

ARTICLE 19
VIOLATION OF CONTRACT TERMS/BREACH OF CONTRACT

Violation of contract terms or breach of contract by Engineer shall be grounds for termination of this Contract, and any increased costs arising from Engineer's default, breach of contract, or violation of contract terms shall be paid by Engineer.

ARTICLE 20
TERMINATION

This Contract may be terminated as set forth below.

- **A.** By mutual agreement and consent, in writing, of both parties.
- **B.** By County, by notice in writing to Engineer, as a consequence of failure by Engineer to perform the Engineering Services set forth herein in a satisfactory manner.
- **C.** By either party, upon the failure of the other party to fulfill its obligations as set forth herein.
- **D.** By County, for reasons of its own and not subject to the mutual consent of Engineer, upon not less than thirty (30) days' written notice to Engineer.
- **E.** By satisfactory completion of all Engineering Services and obligations described herein.

Should County terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination plus reimbursable expenses incurred shall thereafter be paid to Engineer. In determining the value of the Engineering Services performed by Engineer prior to termination, County shall be the sole judge. Compensation for Engineering Services at termination will be based on a percentage of the Engineering Services completed at that time. Should County terminate this Contract under Subsection (D) immediately above, then the amount charged during the thirty-day notice period shall not exceed the amount charged during the preceding thirty (30) days.

If Engineer defaults in the performance of this Contract or if County terminates this Contract for fault on the part of Engineer, then County shall give consideration to the actual costs incurred by Engineer in performing the Engineering Services to the date of default, the amount of Engineering Services required which was satisfactorily completed to date of default, the value of the Engineering Services which are usable to County, the cost to County of employing another firm to complete the Engineering Services required and the time required to do so, and other factors which affect the value to County of the Engineering Services performed at the time of default.

The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of County under this Contract. If the termination of this Contract is due to the failure of Engineer to fulfill his/her/its contractual obligations, then County may take over the Project and prosecute the Engineering Services to completion. In such case, Engineer shall be liable to County for any additional and reasonable costs incurred by County.

Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurements made by Engineer in support of the Engineering Services under this Contract.

ARTICLE 21
COMPLIANCE WITH LAWS

A. Compliance. Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including without limitation, minimum/maximum salary and wage statutes and regulations, and licensing laws and regulations. Engineer shall furnish County with satisfactory proof of his/her/its compliance.

Engineer shall further obtain all permits and licenses required in the performance of the Engineering Services contracted for herein.

B. Taxes. Engineer will pay all taxes, if any, required by law arising by virtue of the Engineering Services performed hereunder. County is qualified for exemption pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise, and Use Tax Act.

ARTICLE 22
INDEMNIFICATION

ENGINEER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM AN NEGLIGENT ACT OR OMISSION, NEGLIGENCE, OR INTENTIONAL TORT COMMITTED BY ENGINEER,

ENGINEER'S EMPLOYEES, AGENTS, OR ANY OTHER PERSON OR ENTITY UNDER CONTRACT WITH ENGINEER INCLUDING, WITHOUT LIMITATION, ENGINEER'S SUBCONSULTANTS, OR ANY OTHER ENTITY OVER WHICH ENGINEER EXERCISES CONTROL.

ENGINEER FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM ENGINEER'S FAILURE TO PAY ENGINEER'S EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY ENGINEER.

ENGINEER FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM THE INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY ENGINEER IN THE PERFORMANCE OF THIS CONTRACT.

THE LIMITS OF INSURANCE REQUIRED IN THIS CONTRACT AND/OR THE CONTRACT DOCUMENTS SHALL NOT LIMIT ENGINEER'S OBLIGATIONS UNDER THIS SECTION. THE TERMS AND CONDITIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THE CONTRACT AND/OR CONTRACT DOCUMENTS OR THE SUSPENSION OF THE WORK HEREUNDER. TO THE EXTENT THAT ANY LIABILITIES, PENALTIES, DEMANDS, CLAIMS, LAWSUITS, LOSSES, DAMAGES, COSTS AND EXPENSES ARE CAUSED IN PART BY THE ACTS OF THE COUNTY OR THIRD PARTIES FOR WHOM ENGINEER IS NOT LEGALLY LIABLE, ENGINEER'S OBLIGATIONS SHALL BE IN PROPORTION TO ENGINEER'S FAULT. THE OBLIGATIONS HEREIN SHALL ALSO EXTEND TO ANY ACTIONS BY THE COUNTY TO ENFORCE THIS INDEMNITY OBLIGATION.

IN THE EVENT THAT CONTRACTORS INITIATE LITIGATION AGAINST THE COUNTY IN WHICH THE CONTRACTOR ALLEGES DAMAGES AS A RESULT OF ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, INCLUDING, BUT NOT LIMITED TO, DEFECTS, ERRORS, OR OMISSIONS, THEN THE COUNTY SHALL HAVE THE RIGHT TO JOIN ENGINEER IN ANY SUCH PROCEEDINGS AT THE COUNTY'S COST. ENGINEER SHALL ALSO HOLD THE COUNTY HARMLESS AND INDEMNIFY THE COUNTY TO THE EXTENT THAT ENGINEER, ANY OF ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, CAUSED SUCH DAMAGES TO CONTRACTOR, INCLUDING ANY AND ALL COSTS AND ATTORNEYS' FEES INCURRED BY THE COUNTY IN CONNECTION WITH THE DEFENSE OF ANY CLAIMS WHERE ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, ARE ADJUDICATED AT FAULT.

ARTICLE 23

ENGINEER'S RESPONSIBILITIES

Engineer shall be responsible for the accuracy of his/her/its Engineering Services and shall promptly make necessary revisions or corrections to its work product resulting from errors, omissions, or negligent acts, and same shall be done without compensation. County shall determine Engineer's responsibilities for all questions arising from design errors and/or omissions, subject to the dispute resolution provisions of Article 33. Engineer shall not be relieved of responsibility for subsequent correction of any such errors or omissions in its work product, or for clarification of any ambiguities until after the construction phase of the Project has been completed.

ARTICLE 24
ENGINEER'S SEAL

The responsible engineer shall sign, seal and date all appropriate engineering submissions to County in accordance with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

ARTICLE 25
INSURANCE

Engineer must comply with the following insurance requirements at all times during this Contract:

A. Coverage Limits. Engineer, at Engineer's sole cost, shall purchase and maintain during the entire term while this Contract is in effect the following insurance:

1. Worker's Compensation in accordance with statutory requirements.
2. Commercial General Liability Insurance with a combined minimum Bodily Injury and Property Damage limits of $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.
3. Automobile Liability Insurance for all owned, non-owned, and hired vehicles with combined minimum limits for Bodily Injury and Property Damage limits of $500,000.00 per occurrence and $1,000,000.00 in the aggregate.
4. Professional Liability Errors and Omissions Insurance in the amount of $2,000,000.00 per claim.

B. Additional Insureds; Waiver of Subrogation. County, its directors, officers and employees shall be added as additional insureds under policies listed under (2) and (3) above, and on those policies where County, its directors, officers and employees are additional insureds, such insurance shall be primary and any insurance maintained by County shall be excess and not contribute with it. Such policies shall also include waivers of subrogation in favor of County.

C. Premiums and Deductible. Engineer shall be responsible for payment of premiums for all of the insurance coverages required under this section. Engineer further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all

matters for which the Engineer is responsible hereunder, Engineer shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over $50,000 in the Engineer's insurance must be declared and approved in writing by County in advance.

D. Commencement of Work. Engineer shall not commence any field work under this Contract until he/she/it has obtained all required insurance and such insurance has been approved by County. As further set out below, Engineer shall not allow any subcontractor/subconsultant(s) to commence work to be performed in connection with this Contract until all required insurance has been obtained and approved and such approval shall not be unreasonably withheld. Approval of the insurance by County shall not relieve or decrease the liability of Engineer hereunder.

E. Insurance Company Rating. The required insurance must be written by a company approved to do business in the State or Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued.

F. Certification of Coverage. Engineer shall furnish County with a certification of coverage issued by the insurer. Engineer shall not cause any insurance to be canceled nor permit any insurance to lapse. **In addition to any other notification requires set forth hereunder, Engineer shall also notify County, within twenty-four (24) hours of receipt, of any notices of expiration, cancellation, non-renewal, or material change in coverage it receives from its insurer.**

G. No Arbitration. It is the intention of the County and agreed to and hereby acknowledged by the Engineer, that no provision of this Contract shall be construed to require the County to submit to mandatory arbitration in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder or as may be required by law or a court of law with jurisdiction over the provisions of this Contract.

H. Subcontractor/Subconsultant's Insurance. Without limiting any of the other obligations or liabilities of Engineer, Engineer shall require each subcontractor/subconsultant performing work under this Contract (to the extent a subcontractor/subconsultant is allowed by County) to maintain during the term of this Contract, at the subcontractor/subconsultant's own expense, the same stipulated minimum insurance required in this Article above, including the required provisions and additional policy conditions as shown below in this Article.

Engineer shall obtain and monitor the certificates of insurance from each subcontractor/subconsultant in order to assure compliance with the insurance requirements. Engineer must retain the certificates of insurance for the duration of this Contract, and shall have the responsibility of enforcing these insurance requirements among its subcontractor/subconsultants. County shall be entitled, upon request and without expense, to receive copies of these certificates of insurance.

I. Insurance Policy Endorsements. Each insurance policy shall include the following conditions by endorsement to the policy:

1. County shall be notified thirty (30) days prior to the expiration, cancellation, non-renewal or any material change in coverage, and such notice thereof shall be given to County by certified mail to:

   Williamson County Auditor
   c/o: Pam Navarrette
   710 Main Street, Suite 301
   Georgetown, Texas 78626

   ✓ pk 2/27/2017

   With copy to: Williamson County Dept. of Infrastructure
   Attn: Director of Road & Bridge
   3151 SE Inner Loop, Suite B
   Georgetown, Texas 78626

2. The policy clause "Other Insurance" shall not apply to any insurance coverage currently held by County, to any such future coverage, or to County's Self-Insured Retentions of whatever nature.

J. Cost of Insurance. The cost of all insurance required herein to be secured and maintained by Engineer shall be borne solely by Engineer, with certificates of insurance evidencing such minimum coverage in force to be filed with County. Such Certificates of Insurance are evidenced as **Exhibit F** herein entitled "Certificates of Insurance."

ARTICLE 26
COPYRIGHTS

County shall have the royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use, any reports developed by Engineer for governmental purposes.

ARTICLE 27
SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and inure to the benefit of the parties hereto, their successors, lawful assigns, and legal representatives. Engineer may not assign, sublet or transfer any interest in this Contract, in whole or in part, by operation of law or otherwise, without obtaining the prior written consent of County.

ARTICLE 28
SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

ARTICLE 29
PRIOR AGREEMENTS SUPERSEDED

This Contract constitutes the sole agreement of the parties hereto, and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein. This Contract may only be amended or supplemented by mutual agreement of the parties hereto in writing.

ARTICLE 30
ENGINEER'S ACCOUNTING RECORDS

Engineer agrees to maintain, for a period of three (3) years after final payment under this Contract, detailed records identifying each individual performing the Engineering Services, the date or dates the services were performed, the applicable hourly rates, the total amount billed for each individual and the total amount billed for all persons, records of reimbursable costs and expenses of other providers and provide such other details as may be requested by the County Auditor for verification purposes. Engineer agrees that County or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any and all books, documents, papers and records of Engineer which are directly pertinent to the services to be performed under this Contract for the purposes of making audits, examinations, excerpts, and transcriptions. Engineer further agrees that County shall have access during normal working hours to all necessary Engineer facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. County shall give Engineer reasonable advance notice of intended audits.

ARTICLE 31
NOTICES

All notices to either party by the other required under this Contract shall be personally delivered or mailed to such party at the following respective addresses:

County: Williamson County Judge
710 Main Street, Suite 101
Georgetown, Texas 78626

✓ DH
2/27/2017

With copy to: Williamson County Dept. of Infrastructure

Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

OK
2/29/2024

and to: Office of General Counsel
Williamson County
710 Main Street, Suite 102
Georgetown, Texas 78626

Engineer: Rafael Cruz-Rodriguez, PE
Sr. Project Manager
205 E. University Avenue, Suite 450
Georgetown, TX 78626

ARTICLE 32
GENERAL PROVISIONS

A. Time is of the Essence. Subject to Article 3 hereof, Engineer understands and agrees that time is of the essence and that any failure of Engineer to complete the Engineering Services for each phase of this Contract within the agreed work schedule set out in the applicable Work Authorization may constitute a material breach of this Contract. Engineer shall be fully responsible for his/her/its delays or for failures to use his/her/its reasonable efforts in accordance with the terms of this Contract and the Engineer's standard of performance as defined herein. Where damage is caused to County due to Engineer's negligent failure to perform County may accordingly withhold, to the extent of such damage, Engineer's payments hereunder without waiver of any of County's additional legal rights or remedies.

B. Force Majeure. Neither County nor Engineer shall be deemed in violation of this Contract if prevented from performing any of their obligations hereunder by reasons for which they are not responsible or circumstances beyond their control. However, notice of such impediment or delay in performance must be timely given, and all reasonable efforts undertaken to mitigate its effects.

C. Enforcement and Venue. This Contract shall be enforceable in Georgetown, Williamson County, Texas, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for same shall lie in Williamson County, Texas. This Contract shall be governed by and construed in accordance with the laws and court decisions of the State of Texas excluding, however, its choice of law rules.

D. Standard of Performance. The standard of care for all professional engineering, consulting and related services performed or furnished by Engineer and its employees under this Contract will be the care and skill ordinarily used by members of Engineer's profession practicing under the same or similar circumstances at the same time and in the same locality.

E. Opinion of Probable Cost. Any opinions of probable Project cost or probable construction cost provided by Engineer are made on the basis of information available to Engineer and on the basis of Engineer's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, Engineer does not guarantee that proposals, bids or actual Project or construction cost will not vary from opinions of probable cost Engineer prepares.

F. Opinions and Determinations. Where the terms of this Contract provide for action to be based upon opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

G. Reports of Accidents. Within 24 hours after Engineer becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Engineer), whether or not it results from or involves any action or failure to act by the Engineer or any employee or agent of the Engineer and which arises in any manner from the performance of this Contract, the Engineer shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Engineer, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Engineer's performance of work under this Contract.

H. Gender, Number and Headings. Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Contract.

I. Construction. Each party hereto acknowledges that it and its counsel have reviewed this Contract and that the normal rules of construction are not applicable and there will be no presumption that any ambiguities will be resolved against the drafting party in the interpretation of this Contract.

J. Independent Contractor Relationship. Both parties hereto, in the performance of this Contract, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

K. No Waiver of Immunities. Nothing in this Contract shall be deemed to waive, modify or amend any legal defense available at law or in equity to County, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United

States.

L. Texas Public Information Act. To the extent, if any, that any provision in this Contract is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that County, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to County as to whether or not the same are available to the public. It is further understood that County's officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

M. Governing Terms and Conditions. If there is an irreconcilable conflict between the terms and conditions set forth in this Contract or any Contract Amendment and the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract, the terms and conditions set forth in this Contract or any Contract Amendment shall control over the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract.

N. Meaning of Day. For purposes of this Contract, all references to a "day" or "days" shall mean a calendar day or calendar days.

O. Appropriation of Funds by County. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Contract. Engineer understands and agrees that County's payment of amounts under this Contract is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

P. Termination of Work Authorization. Should it be determined that the progress in the production of Engineer's services and work does not satisfy the requirements of the approved Work Authorization as provided by Exhibit "C", attached hereto, the County shall review the approved Work Authorization with the Engineer to determine the corrective action needed, including potential termination of such Work Authorization by Williamson County. Additionally, if an approved Work Authorization has not been completed by the end of the applicable County fiscal year under this contract and the Williamson County Commissioners Court does not provide for funding through its budgetary oversight for the subsequent County fiscal year, Williamson County reserves the right to terminate such Work Authorization at its discretion.

ARTICLE 33
DISPUTE RESOLUTION

Except as otherwise specifically set forth herein, County and Engineer shall work together in good faith to resolve any controversy, dispute or claim between them which arises out of or relates to this Contract, whether stated in tort, contract, statute, claim for benefits, bad faith, professional liability or otherwise ("Claim"). If the parties are unable to resolve the Claim within thirty (30) days following the date in which one party sent written notice of the Claim to the other party, and if a party wishes to pursue the Claim, such Claim shall be addressed through non-binding mediation. A single mediator engaged in the practice of law, who is knowledgeable about subject matter of this Contract, shall be selected by agreement of the parties and serve as the mediator. Any mediation under this Contract shall be conducted in Williamson County, Texas. The mediator's fees shall be borne equally between the parties. Such non-binding mediation is a condition precedent to seeking redress in a court of competent jurisdiction, but this provision shall not preclude either party from filing a lawsuit in a court of competent jurisdiction prior to completing a mediation if necessary to preserve the statute of limitations, in which case such lawsuit shall be stayed pending completion of the mediation process contemplated herein. This provision shall survive the termination of the Contract.

ARTICLE 34
EQUAL OPPORTUNITY IN EMPLOYMENT

During the performance of this Contract and to the extent the Project is a federally funded project, Engineer, for itself, its assignees and successors in interest agrees as follows:

A. Compliance with Regulations. The Engineer shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

B. Nondiscrimination. The Engineer, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors/subconsultants, including procurements of materials and leases of equipment. The Engineer shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor/subconsultant or supplier shall be notified by the Engineer of the Engineer's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports. The Engineer shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by

the County (referred to in this Article as the "Recipient") or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the Engineer shall so certify to the Recipient, or the Texas Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

E. **Sanctions for Noncompliance.** In the event of the Engineer's noncompliance with the nondiscrimination provisions of this contract, the Recipient shall impose such contract sanctions as it or the Texas Department of Transportation may determine to be appropriate, including, but not limited to:

1. withholding of payments to the Engineer under the contract until the Engineer complies, and/or;
2. cancellation, termination or suspension of the Contract, in whole or in part.

F. **Incorporation of Provisions.** The Engineer shall include the provisions of Subsections (A) through (F) above in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Engineer shall take such action with respect to any subcontract or procurement as the Recipient or the Texas Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor/subconsultant or supplier as a result of such direction, the Engineer may request the Recipient to enter into such litigation to protect the interests of the Recipient, and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

SIGNATORY WARRANTY

The undersigned signatory for Engineer hereby represents and warrants that the signatory is an officer of the organization for which he/she has executed this Contract and that he/she has full and complete authority to enter into this Contract on behalf of the firm. The above-stated representations and warranties are made for the purpose of inducing County to enter into this Contract.

IN WITNESS WHEREOF, County has caused this Contract to be signed in its name by its duly authorized County Judge, as has Engineer, signing by and through its duly authorized representative(s), thereby binding the parties hereto, their successors, assigns and representatives for the faithful and full performance of the terms and provisions hereof, to be effective as of the date of the last party's execution below. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND, TERMINATE OR MODIFY THIS CONTRACT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

COUNTY

OK
2/22/2017

WILLIAMSON COUNTY, TEXAS

By: _____
Dan A. Gattis, County Judge

Date: _____ ____, 20____

ENGINEER

Kennedy Consulting, Inc.

By J. Kevin Kennedy

Printed Name: J. Kevin Kennedy, PE

Title: President

Date: 2-20 ____, 2017

SUBSCRIBED and sworn to before me the undersigned authority by J. Kevin Kennedy _____ the President of **ENGINEER**, on behalf of said firm.

Sheryl Ann Bonnet
Notary Public in and for the
State of Texas

SHERYL ANN BONNET
Notary Public, State of Texas
My Commission Expires
September 06, 2019

My commission expires: 9-6-2019

LIST OF EXHIBITS ATTACHED

(1) **Exhibit A** Debarment Certification

(2) **Exhibit B** Engineering Services

(3) **Exhibit C** Work Authorization

(4) **Exhibit D** Rate Schedule

(5) **Exhibit E** Williamson County Vendor Reimbursement Policy

(6) **Exhibit F** Certificates of Insurance

EXHIBIT A
DEBARMENT CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Engineer and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public* transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity* with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions* terminated for cause or default; and

(e) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

Kennedy Consulting, Inc.
Name of Firm

Rafael Cruz-Rodriguez
Signature of Certifying Official

Rafael Cruz-Rodriguez
Printed Name of Certifying Official

Vice President
Title of Certifying Official

February 17, 2017
Date

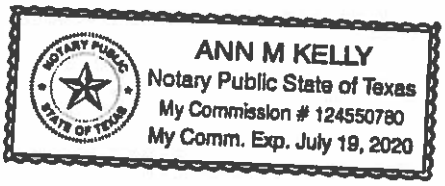
(2) Where the PROVIDER is unable to certify to any of the statements in this certification, such PROVIDER shall attach an explanation to this certification.

* federal, state, or local

SUBSCRIBED and sworn to before me the undersigned authority by the State of Texas the 17th of February 2017, on behalf of said firm.

Ann M Kelly

Notary Public in and for the
State of Texas



My commission expires: July 19, 2020

EXHIBIT B

ENGINEERING SERVICES

General Work Description: Provide engineering services and planning to develop Transportation Corridor A-1 as shown on the attached map.

The Engineer may perform any or all of the following tasks listed below, as described in detail in each Work Authorization:

TASK 1 - PROJECT MANAGEMENT

TASK 2 - ROUTE AND DESIGN STUDIES

TASK 3 - PUBLIC INVOLVEMENT

TASK 4 - SURVEYING

TASK 5 - ROW MAPPING

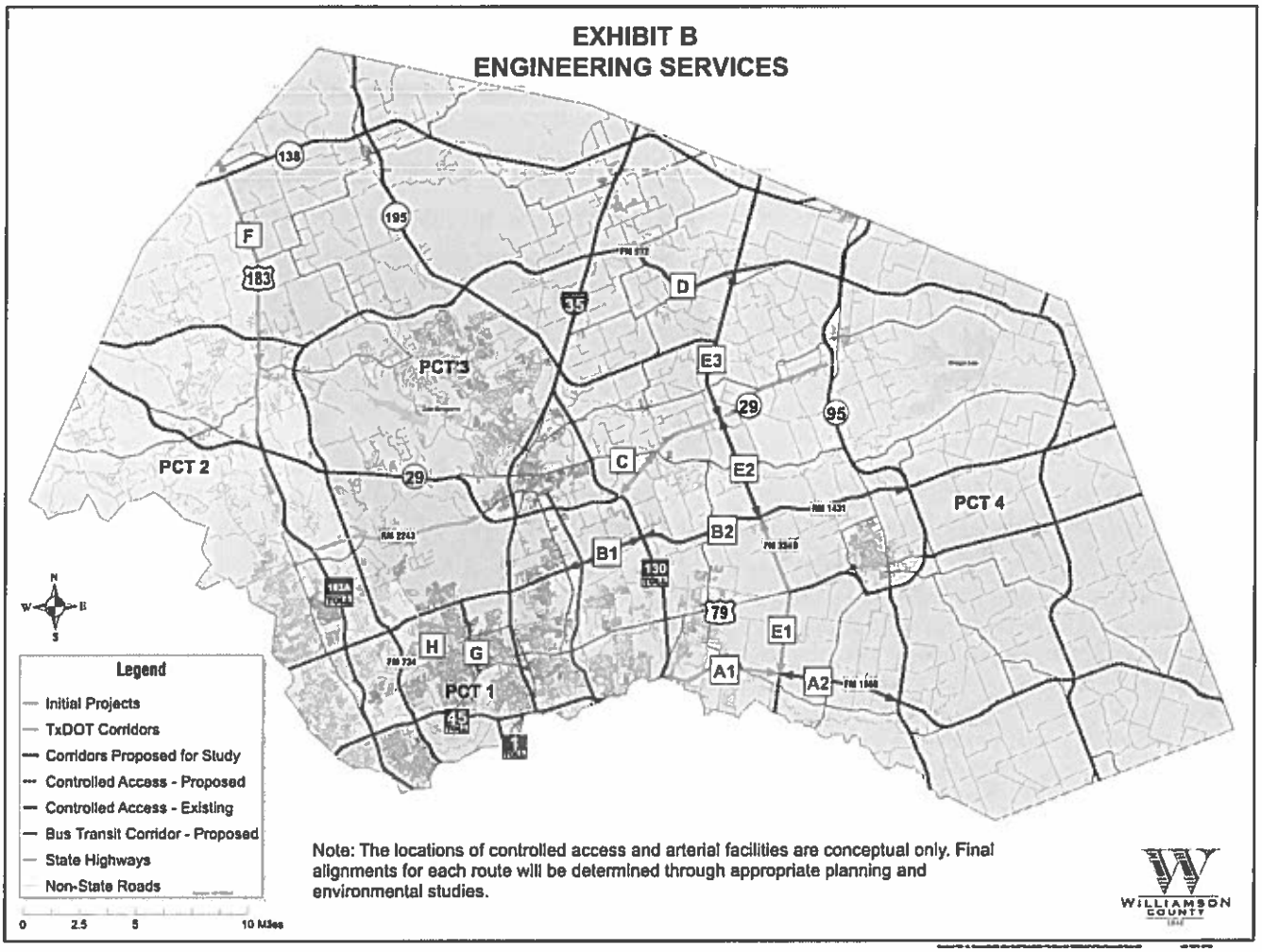
TASK 6 - ENVIRONMENTAL STUDIES & DOCUMENTS

TASK 7 - GEOTECHNICAL SERVICES

TASK 8 - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

TASK 9 - CONSTRUCTION PHASE SERVICES

EXHIBIT B
ENGINEERING SERVICES



Note: The locations of controlled access and arterial facilities are conceptual only. Final alignments for each route will be determined through appropriate planning and environmental studies.

WILLIAMSON COUNTY

EXHIBIT C

WORK AUTHORIZATION

(To Be Completed and Executed After Contract Execution)

WORK AUTHORIZATION NO. _____
PROJECT: _____

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ ____, 20____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and _____ (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is _____.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on _____ ____, 20_____. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:	COUNTY:
Kennedy Consulting, Inc.	Williamson County, Texas
By:_____	By:_____
Signature	Signature
J. Kevin Kennedy	_____
Printed Name	Printed Name
President	_____
Title	Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

EXHIBIT D

RATE SCHEDULE

CPI Rate Adjustments: Rates will remain firm for the initial first year of the Contract and such rates shall be deemed the "Initial Base Rates". Engineer must request rate adjustments, in writing, at least thirty (30) days prior to each annual anniversary date of the Contract and any rate changes will take effect on the first day following the prior year. If Engineer fails to request a CPI rate adjustment, as set forth herein, the adjustment will be effective thirty (30) days after the County receives Engineer's written request. No retroactive rate adjustments will be allowed.

Price adjustments will be made in accordance with changes in the U.S. Department of Labor Consumer Price Index (CPI-U) for All Urban Consumers, All Items, South Region (Base 1982-84 = 100).

The rate adjustment will be determined by multiplying the Initial Base Rates by a fraction, the numerator of which is the index number for most recently released index before each annual anniversary date of the Contract and the denominator of which is the index number for the first month of the Contract (the index number for the month in which the Contract was originally executed). If the products are greater than the Initial Base Rates, County will pay the greater amounts as the rates during the successive year until the next rate adjustment. Rates for each successive year will never be less than the Initial Base Rates.

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

Kennedy Consulting, Inc.

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Project Director	$225.00
Sr. Project Manager	$220.00
Senior Professional 2	$200.00
Senior Professional 1	$175.00
Professional 2 / Sr. Engineering Technician	$150.00
Professional 1 / Engineering Technician	$115.00
Admin / Clerical	$ 65.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

Alliance Transportation Group, Inc.

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Project Principal	$250.00
Senior Project Engineer	$244.00
Senior Engineer	$193.00
Project Engineer	$144.00
Engineer-in-Training (EIT)	$101.00
Senior Engineering Technician	$133.00
Engineering Technician	$90.00
Planning Director	$230.00
Senior Travel Demand Modeler	$182.00
Travel Demand Modeler III	$137.00
Travel Demand Modeler II	$117.00
Senior Planner	$162.00
Planner II	$125.00
Planner I	$85.00
Project Administrator	$104.00
Clerical	$65.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

Buie & Co. Public Relations

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Principal	$185.00
Account Manager	$140.00
Graphic Designer	$125.00
Account Coordinator	$120.00
Administrative	$58.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

Cox McLain Environmental Consulting, Inc.

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Sr. Environmental Scientist II	$150.00
Sr. Environmental Scientist I	$130.00
Environmental Professional II	$110.00
Environmental Professional I	$ 95.00
Environmental Staff III	$ 85.00
Environmental Staff II	$ 75.00
Environmental Staff I	$ 65.00
Environmental Tech II	$ 55.00
Environmental Tech I	$ 45.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

Cobb, Fendley & Associates, Inc.

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Senior Engineer	$235.00
Project Engineer	$125.00
Senior Tech	$135.00
Tech	$110.00
Senior Utility Specialist	$150.00
Utility Specialist	$125.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

HVJ, Inc.

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Senior Project Manager	$ 175.00
Project Engineer	$ 125.00
Staff Engineer	$ 100.00
Senior Technician	$ 60.00
Technician	$ 55.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

P.E. Structural Consultants, Inc.

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Principal Engineer	$ 200.00
Senior QC Engineer	$ 165.00
Senior Project Manager	$ 155.00
Senior Engineer	$ 145.00
Project Engineer	$ 120.00
Design Engineer	$ 105.00
Engineer-in-Training II	$ 95.00
Engineer-in-Training	$ 87.00
Graduate Engineer	$ 70.00
Senior CAD Manager	$ 120.00
CAD Technician	$ 85.00
Junior CAD Technician	$ 70.00
Admin/Clerical	$ 60.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

Rifeline

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
President	$200.00
Vice President	$180.00
Sr. Public Affairs Manager	$180.00
Director of Communications and Strategy	$170.00
Public Involvement Manager	$160.00
Community Outreach Manager	$150.00
Community Outreach Coordinator	$120.00
Admin/Clerical	$58.00

Exhibit D -Rate Schedule
TRANSPORTATION CORRIDOR A-1

Surveying and Mapping, LLC

Labor/Staff Classification	FY 2017 Fully Burdened Labor Rates Per Hour
Principal	$170.00
Senior Project Manager	$145.00
Project Manager	$125.00
Senior Survey Technician	$96.00
Survey Technician	$88.00
Administrator/Clerical Support	$70.00
Two (2) Person Survey Field Crew	$130.00
Three (3) Person Survey Field Crew	$160.00
Additional Rodperson, Chainperson, Flagperson	$32.00
One (1) Person Survey Field Crew with Receiver or Robotic total station	$105.00
Project Coordinator – Mobile LiDAR	$120.70
Mobile LiDAR Processing Technician	$96.56
Project Coordinator - AM	$131.67
Certified Photogrametrist	$108.26
Analytical Triangulation Specialist	$85.35
Aerial Mapping Technician	$86.32
Orthophoto Specialist	$86.32
Mapping Editor (includes QA/QC, Finishing & Finalization)	$75.34
Aerial Office Technician	$73.15
Project Coordinator - AP	$115.02
Aerial Processing Technician	$84.82
Project Coordinator - FWAL	$110.37
Airborne LiDAR Processing Technician	$86.29
Project Coordinator - HAL	$110.46
Helicopter LiDAR Processing Technician	$107.71

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
Kennedy Consulting, Inc.

DESCRIPTION	UNIT	UNIT COST
In-house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50
In-house Plots (B/W on Bond)	SF	$0.75
In-house Plots (Color on Bond)	SF	$1.75
In-house Large Format Plotting	SF	$2.50
In-house Mounting of Large Exhibits	SF	$10.00

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
Alliance Transportation Group, Inc.

DESCRIPTION	UNIT	UNIT COST
In-house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50
24 Hour Counts (4)	Each	$135.00
2-Hour Turning Movement Counts (2)	Each	$650.00

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
BUIE & Co. Public Relations

DESCRIPTION	UNIT	UNIT COST
In- house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
Cox McLain Environmental Consulting, Inc.

DESCRIPTION	UNIT	UNIT COST
In-house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50
Hazardous Materials Database Search	Per Search	$550.00
Environmental Database Search	Per Mile	$250.00

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
Cobb Fendley & Associates, Inc.

DESCRIPTION	UNIT	UNIT COST
In-house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50
In-house Plots (B/W on Bond)	SF	$0.75
In-house Plots (Color on Bond)	SF	$1.75

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
HVJ, Inc.

DESCRIPTION	UNIT	UNIT COST
In-house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50
In-house Plots (B/W on Bond)	SF	$0.75
In-house Plots (Color on Bond)	SF	$1.75
Drill Rig Minimum Charge	Each	$900.00
Undisturbed sample boring w/3" Shelby tube	LF	$22.50
Add for Rock Coring (rock coring cost - soft & hard rock) 0'-25' Depth	LF	$22.50
Texas Cone Penetration Test	Each	$25.00
Standard Penetration Test	Each	$22.50
Grout Backfill	LF	$5.00
Moisture Content Test	Each	$18.00
Hydrometer Analysis Test	Each	$200.00
Atterberg Limits Test	Each	$75.00
Unconfined Compressive Strength Test	Each	$65.00
Texas Triaxial Test	Each	$1,750.00
Percent Passing No. 200 Sieve Test	Each	$35.00
Sulfate Testing	Each	$75.00
Soil PH Testing	Each	$200.00
Consolidation Test	Each	$350.00
Swell Test	Each	$300.00
Mobilization/Demobilization for Falling Weight	Each	$400.00
FWD Equipment	Day	$ 2,600.00

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
P.E. Structural Consultants, Inc.

DESCRIPTION	UNIT	UNIT COST
In-house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50
In-house Plots (B/W on Bond)	SF	$0.75
In-house Plots (Color on Bond)	SF	$1.75
In-house Large Format Plotting	SF	$2.50
In-house Mounting of Large Exhibits	SF	$10.00

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
Rifeline, LLC

DESCRIPTION	UNIT	UNIT COST
In- house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50

Exhibit D -Rate Schedule
Direct Expenses
TRANSPORTATION CORRIDOR A-1
Surveying And Mapping, Inc.

DESCRIPTION	UNIT	UNIT COST
In-house Photocopies B/W (8 1/2" X 11")	Per Page	$0.16
In-house Photocopies Color (8 1/2" X 11")	Per Page	$0.75
In-house Photocopies B/W (11" X 17")	Per Page	$0.32
In-house Photocopies Color (11" X 17")	Per Page	$1.50
In-house Plots (B/W on Bond)	SF	$0.75
In-house Plots (Color on Bond)	SF	$1.75
In-house Large Format Plotting	SF	$2.50
In-house Mounting of Large Exhibits	SF	$10.00
In-house Traffic Control	Day	$1,500.00
GPS Receiver	Hour	$25.00
Terrestrial Laser Scanner	Hour	$80.00
LiDAR Workstation	Hour	$25.00
Helicopter Rate	Hour	$1,650.00
Aerial Lidar System	Day	$6,500.00
Digital Imagery Processing	Each	$20.00
LiDAR Mobile Mapping System	day	$6,000.00
Aerial Photography Flight Crew Fixed Wing Aircraft	hour	$180.00
LiDAR Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator)	hour	$192.00
Helicopter Flight Crew (Includes Pilot and LiDAR Operator)	hour	$190.00
AP Transit Miles	mile	$5.90
AP Project Flight Miles	mile	$20.00
AP ABGPS Processing	project	2,250.00
FWAL Transit Miles	mile	$6.00
FWAL Project Flight Miles	mile	$20.00
B&W processing (film, development, scanning)	each	$16.00
CIR processing (film, development, scanning)	each	$23.00
Color processing (film, development, scanning)	each	$26.00
Digital Image Processing	each	$20.00

EXHIBIT E

Williamson County
Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy ("Policy") is to provide clear guidelines to vendors on Williamson County's expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. **Invoices and Affidavits**
   - 1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.
   - 1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.
   - 1.3 Upon County's request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. **Travel Reimbursement**

2.1 The County will only cover costs associated with travel on vendors outside a 50 mile radius from Williamson County, Texas.

2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.

2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.

2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).

2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.

2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.

2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.

2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).

2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.

2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.

2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. **Meals**
   - 3.1 Meal reimbursements are limited to a maximum of $50.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of $20.00 per day. The travel must be outside the Williamson County, Texas line by a 50 mile radius.
   - 3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.
   - 3.3 Meals are reimbursable only for vendors who do not have the necessary personnel located within a 50 mile radius of Williamson County, Texas that are capable of carrying the vendor's obligations to County. Meals will not be reimbursed to vendors who are located within a 50 mile radius of Williamson County, Texas.
   - 3.4 County will not reimburse for alcoholic beverages.
   - 3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance
   - 3.6 No meals purchased for entertainment purposes will be allowed.
   - 3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. **Lodging**
   - 4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.
   - 4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.
   - 4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. **Airfare**
   - 5.1 The County will only reimburse up to a coach price fare for air travel.
   - 5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. early bird check in, seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)
   - 5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.

5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.

5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.

6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.

6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.

6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.

6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.

6.6 Insurance purchased when renting vehicle may also be reimbursed.

6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.

7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:

7.2.1.1 Date

7.2.1.2 Destination

7.2.1.3 Purpose

7.2.1.4 Name of traveler(s)

7.2.1.5 Correspondence that verifies business purpose of the expense

7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.

7.4 Mileage will be reimbursed on the basis of the most commonly used route.

7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.

7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.

7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of Williamson County, Texas by at least a 50 mile radius.

7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.

7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).

7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.

7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Nonreimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

10.1 Alcoholic beverages/tobacco products
10.2 Personal phone calls
10.3 Laundry service
10.4 Valet service (excludes hotel valet)
10.5 Movie rentals
10.6 Damage to personal items
10.7 Flowers/plants
10.8 Greeting cards
10.9 Fines and/or penalties
10.10 Entertainment, personal clothing, personal sundries and services
10.11 Transportation/mileage to places of entertainment or similar personal activities
10.12 Upgrades to airfare, hotel and/or car rental

10.13 Airport parking above the most affordable rate available
10.14 Excessive weight baggage fees or cost associated with more than two airline bags
10.15 Auto repairs
10.16 Babysitter fees, kennel costs, pet or house-sitting fees
10.17 Saunas, massages or exercise facilities
10.18 Credit card delinquency fees or service fees
10.19 Doctor bills, prescription and other medical services
10.20 Hand tools
10.21 Safety Equipment (hard hats, safety vests, etc.)
10.22 Office Supplies
10.23 Lifetime memberships to any association
10.24 Donations to other entities
10.25 Any items that could be construed as campaigning
10.26 Community outreach items exceeding $2 per item
10.27 Sales tax on goods purchased
10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

EXHIBIT F

CERTIFICATES OF INSURANCE

ATTACHED BEHIND THIS PAGE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 2/8/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Arthur J. Gallagher Risk Management Services, Inc. 11311 McCormick Road, Ste 450 Hunt Valley MD 21031-8622	**CONTACT NAME:** **PHONE (A/C, No, Ext):** 443-798-7499 **FAX (A/C, No):** 443-798-7290 **E-MAIL ADDRESS:** certificates@thecrsteam.com
	INSURER(S) AFFORDING COVERAGE — **NAIC #** **INSURER A :** Zurich American Insurance Company — 16535 **INSURER B :** Continental Casualty Ins Co — 20443 **INSURER C :** **INSURER D :** **INSURER E :** **INSURER F :**
INSURED 37715 Kennedy Consulting, Inc. 205 E. University Ave. Suite 450 Georgetown TX 78626	

COVERAGES **CERTIFICATE NUMBER:** 2109005823 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			GLO 0171374-02	9/1/2016	9/1/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$2,000,000 $300,000 $5,000 $2,000,000 $4,000,000 $4,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY X HIRED AUTOS ONLY SCHEDULED AUTOS X NON-OWNED AUTOS ONLY			BAP 0171375-02	9/1/2016	9/1/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$2,000,000 $ $ $
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			6011444526	9/1/2016	9/1/2017	EACH OCCURRENCE AGGREGATE $	$10,000,000 $10,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N: N N/A If yes, describe under DESCRIPTION OF OPERATIONS below			WC 0171378-03	9/1/2016	9/1/2017	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

Sample Insurance Certificate

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Dennis Durand

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JOHNMIR-02 KCOLLINS

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 02/08/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Ames & Gough 8300 Greensboro Drive Suite 980 McLean, VA 22102	CONTACT NAME: PHONE (A/C, No, Ext): (703) 827-2277 FAX (A/C, No): (703) 827-2279 E-MAIL ADDRESS: admin@amesgough.com
INSURED Kennedy Consulting, Inc. 205 E. University Ave., Suite 450 Georgetown, TX 78626	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : Lexington Insurance Company A, XV — 19437 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ (Mandatory in NH)	N / A					E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
A	Professional Liab.			020720868	12/01/2016	12/01/2017	Per Claim/Aggregate	10,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

EVIDENCE OF COVERAGE

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Frances J Ridley

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CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-171229

Date Filed:
02/24/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
Kennedy Consulting, Inc.
Georgetown, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Williamson County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
Transportation Corridor A-1
Engineering Services for Transportation Corridor A-1 in Williamson County, Texas

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Aungst, Kurt	McKinney, TX United States	X	
Kennedy, Kevin	Georgetown, TX United States	X	
Smulovitz, Richard	Sparks, MD United States	X	
Cheng, Daniel	Sparks, MD United States	X	
Moeller, John	Sparks, MD United States	X	
Johnson, Mirmiran & Thompson, Inc.,	Sparks, MD United States	X	

5 Check only if there is NO Interested Party. ☐

6 AFFIDAVIT

ANN M KELLY
Notary Public State of Texas
My Commission # 124550780
My Comm. Exp. July 19, 2020

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

Rafael Cruz Rodriguez
Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said Rafael Cruz-Rodriguez, this the 24th day of February, 20 17, to certify which, witness my hand and seal of office.

Ann M Kelly	Ann M Kelly	Marketing/Admin Coor.
Signature of officer administering oath	Printed name of officer administering oath	Title of officer administering oath

RECEIVED
MAR 01 2017
BY: PST

WORK AUTHORIZATION NO. 1

PROJECT: TRANSPORTATION CORRIDOR A-1

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **Kennedy Consulting, Inc.** (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is **$909,762.52.**

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **December 31, 2017**. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 2017.

ENGINEER:	COUNTY:
Kennedy Consulting, Inc.	Williamson County, Texas
By: Rafael Cruz Rodriguez Signature	By: _____ Signature
Rafael Cruz-Rodriguez Printed Name	_____ Printed Name
Vice President Title	_____ Title

LIST OF ATTACHMENTS

OK 3/1/2017

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

ATTACHMENT A
SERVICES TO BE PROVIDED BY THE COUNTY
PRELIMINARY ENGINEERING FOR Transportation Corridor A-1

In general, Williamson County and its representatives to their best efforts will render services as follows:

1. Name, business address and phone number of County's project manager.

2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.

3. Obtain Rights of Entry from landowners that are unwilling to grant access to the Engineer.

4. Provide available survey information in electronic format.

5. Provide available appropriate County data on file, plans and specifications that are deemed pertinent to the completion of the work required by the scope of services (including previous hydraulic studies, models, previous reports and studies, available existing traffic counts, and design year traffic projections).

6. Provide available criteria and full information as to the client's requirements for the project. Provide examples of acceptable format for the required deliverables.

7. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.

8. Submittal of documentation to regulatory agencies for review and comment, when specified.

9. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.

10. Post and maintain project information for public consumption on the County website.

11. Assist with Coordination between the Engineer and the County's other subconsultants.

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
PRELIMINARY ENGINEERING FOR Transportation Corridor A-1

PROJECT DESCRIPTION

Existing Facility

The west terminus (SH 130) of the existing Transportation Corridor A-1 is in the general vicinity of CR 138, but will be finalized during the project development process. After the first mile, which may be located along CR 138, the project would be on new location, therefore, there is no existing facility. It is anticipated the facility would cross Brushy Creek and Cottonwood Creek. The anticipated end terminus on the east is FM 3349 or a nearby location, where Corridor E-1 would be located.

Proposed Facility

The proposed corridor would include two mainlanes in each direction, and three lanes frontage roads in each direction, mostly on new location. Starting at the west terminus (SH 130), the project displays urban characteristics. Through this section, the project utilizes CR 138 alignment. After the first mile, the alignment would be defined by minimizing, avoiding or mitigating human and environmental impacts. After the first mile, the project displays rural characteristics. The drainage for the first mile from the west terminus is anticipated to be storm sewer design. After that point, the drainage will be open channel design. The anticipated right of way (ROW) is 350 feet, but could be less at locations where constraints exist, in order to minimize impacts to natural, cultural and human environment. There are various waterway crossings that would require analysis and structural design. There are no Railroad Crossings.

Design Criteria

All tasks must follow the requirements of current TxDOT design criteria for access controlled facilities.

TASK 1. PROJECT MANAGEMENT

a. GENERAL PROJECT MANAGEMENT

Shall designate one Licensed Professional Engineer (Texas) to be responsible for the project management and all communications with the County and its representatives.

- Prepare Subconsultant Agreements for Route Studies

b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLING

- Submit monthly progress status reports to the GEC. Progress reports will include: tasks completed, tasks/objectives that are planned for the upcoming periods, lists or descriptions of items or decisions needed

from the County and its representatives. Subconsultant progress will be incorporated into the monthly progress report. A copy of the monthly progress report will be uploaded to ProjectWise. (Assume 6 Months duration for Route Studies Development).

- Prepare correspondence, invoices, and progress reports monthly in accordance with current County requirements. (Assume 6 Months duration for Route Studies Development).

- Subconsultant Management – Route Studies (Assume 6 Months)

c. QUALITY ASSURANCE / QUALITY CONTROL (QA/QC) PLAN

- Prepare a project specific QA/QC plan and submit to the County within thirty (30) days of notice to proceed. (One plan for the Route Studies development).

- For each deliverable, provide evidence of their internal review and mark-up of that deliverable as preparation for submittal and in accordance with submitted project specific QA/QC plan.

- Provide continuous QA/QC throughout the duration of the scheduled services included herein to appraise both technical and business performance and provide direction for project activities.

d. PROJECT COORDINATION AND ADMINISTRATION

- Prepare and maintain routine project record keeping including records of meetings. (Assume 6 Months for Route Studies development).

- Correspondence and coordination will be handled through & with the concurrence of the GEC. (Assume 6 Months for Route Studies development).

- Manage project activities (including documenting emails, phone and conference calls, maintain project files for the length of the project, meeting agendas, meeting minutes, and schedule meetings), direct Engineer's team/staff, correspond with the County and its representatives, and assist the County and its representatives in preparing responses to project-related inquiries. (Assume 6 Months for Route Studies development).

- Maintain a log of all stakeholder comments and inquiries received via phone, email, web form and written comments submitted at public meetings. Include stakeholder contact information and any responses provided.

e. PROGRESS / COORDINATION MEETINGS (7 meetings total assumed [6 external meetings /conference calls; 1 Kickoff Route Studies])

- Attend kickoff meetings (1 meeting for Route Studies development) and coordination/progress meetings (6 meetings assumed for Route Studies development) with the County and its representatives and stakeholders, as necessary to communicate development of the project and design issues.

- Prepare agenda and sign-in sheets for external coordination/progress meetings (one per meeting).

- Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting.

- Conduct and participate in internal coordination meetings/calls as required to advance the development of the project. (For Route Studies, assume 9 hours per month each).

f. PROJECT SCHEDULE

- Maintain a project schedule indicating tasks, subtasks, critical dates, milestones, and deliverables. (Update as needed).

g. DELIVERABLES

- Monthly Invoices and Progress Reports

- Project Specific QA/QC Plan

- Meeting Minutes, Sign-In Sheets, and Agendas

- Project Schedule

TASK 2. <u>ROUTE AND DESIGN STUDIES</u>

a. DATA COLLECTION

- Perform record research and obtaining existing information, including but not limited to: as-built plans, construction plans, ROW maps,

environmental reports, studies, future land use maps, floodplain data, floodplain and drainage models and analyses. Obtain construction plans for projects within the project limits and abutting TxDOT and County Roads. Obtain drainage studies, reports, and mapping for the project area, including reports for developments affecting the drainage area. Environmental data collection will address land use and community impacts, ecological resources including biological and water resources, and cultural resources including historic and archeological resources. Specific considerations are listed in the fee estimate.

- Conduct a field investigation of the proposed roadway alignment and the surrounding area to determine field conditions including photographic record of notable existing features.

- Review the data collected and organize the information.

- Complete a constraints matrix to evaluate up to three alternatives within the route study phase.

b. STAKEHOLDER COORDINATION

- Prepare and Conduct Meetings with Affected Property Owners (MAPO) (20 meetings assumed).

    1. Schedule, coordinate logistics for meetings. Prepare materials (agendas, sign-in sheets, meeting minutes, discussion topics, presentations, overall exhibits, and maps)

    2. Review and provide feedback on handouts, presentations, exhibits, and maps of the project limits for stakeholder coordination meetings.

- Coordinate with affected local agencies, County's consultants, and affected property owners. Includes preparing/reviewing presentations and other communication materials for elected official briefings.

c. CONSTRAINTS MAP (a corridor accommodating three (3) preliminary alignments assumed):

- Establish Project Design Criteria

- Develop Evaluation Criteria to assist in evaluating route alignment alternatives.
- Establish Overall Study Area
- Establish Range of Reasonable Alternatives
- Develop Conceptual Alternatives (3 total)
- Develop a constraints map and technical memorandum that includes environmental concerns, known constraints (structures, floodplain, environmental considerations listed above (Section 2 a), aerial photography, contour information, utility information, based on research of public databases and sources and details screening measures and decision practices for eliminating non-viable corridors.
- Estimate traffic projections for the ultimate roadway.

1. TRAFFIC PROJECTIONS

   i. Based on the traffic data collected and the regional travel demand model (TDM), the Engineer shall develop a 2040 roadway level traffic forecast. The 2040 TDM model will be executed utilizing the official demographics forecast packaged with the model. The model forecast will be used in conjunction with traffic data collected for this project to develop 2040 AM and PM Peak hour volumes for five major intersections along Corridor A-1 (SH 130 SBFR, SH 130 NBFR, CR 137, CR 134/FM 1660, and FM 3349). Where there is not enough detail coded into the model for existing intersections, existing counts and a growth rate will be used to help develop future traffic projections. Other intersections, including those that could be part of future developments or that are being designed by other agencies will not be assessed as part of this study. Up to three (3) phases will be assessed for the A-1 Corridor:

      - Phase 1 – Single two-way roadway
      - Phase 2 – One-way Frontage Road Pair
      - Phase 3 – Full freeway section with D/C's at SH 130 & FM 3349

2. DATA COLLECTION

   i. Collect Existing Field counts including:

- 24-hour tube counts along the following four (4) roadways:

  a. CR 138

  b. CR 137

  c. CR 134/FM 1660

  d. FM 3349

ii. Perform AM and PM 2-hour turning movement counts at the intersections of SH 130 and Gattis School Road.

3. COORDINATION MEETINGS

i. Coordinate as necessary throughout the project. Assume up to 2 meeting.

- Develop preliminary alignments and preliminary costs for use in soliciting input during coordination meetings with stakeholders.

- Refine preliminary alignment based on stakeholder input, design criteria, existing structures, potential displacements, ROW limits and requirements, known developments, FEMA floodplain areas, existing and proposed drainage structures and issues.

d. DELIVERABLES

- Meeting Minutes, Sign-In Sheets, Agendas, Presentations, Maps, and Exhibits for all Stakeholder Coordination Meetings.

- Constraints Map Preliminary Alignments and Technical Memorandum (pdf and hardcopies)

- Constraints Map Refined Alignment and Technical Memorandum Recommendation (pdf and hardcopies)

- Design Summary Form (pdf and hardcopies)

- Prepare and Post deliverables on ProjectWise

TASK 3. <u>PUBLIC INVOLVEMENT</u>

a. The Engineer will provide general public outreach and engagement throughout the project. A database will be developed and maintained in

Excel format which includes nearby property owners and residents, businesses, churches, educational/community organizations, elected/public officials, and any interested individuals. The Engineer will identify and reach out to key stakeholders that may be interested and will collect contact information for updates.

b. PUBLIC MEETING/OPEN HOUSE

- Two (2) public meetings assumed

- Plan, schedule, conduct, and facilitate public meeting(s) to share project information with and collect feedback from citizens and stakeholders. Tasks may include, but are not limited to:

1. Develop invitations, advertisements, and invitation lists

   i. Develop a direct mail piece to announce the start of the project and public meetings

2. Coordinate meeting announcements such as letters, email notices, signage, media releases, newspaper advertisements, website and social media postings. Including outreach / notifications to elected officials (letters and emails).

3. Coordinate meeting logistics, including securing locations and conducting site visit.

4. Provide experienced meeting facilitator and support staff to attend public meetings to solicit input from the public.

5. Prepare and review handouts and exhibits (mounted boards) for public viewing.

6. Facilitator preparation, including developing an annotated agenda

7. Develop public surveys and summarize results for 2 public meetings

8. Hold and participate in meeting rehearsals

9. Prepare Public meeting summaries and responses to any comments or questions provided

10. Coordinate court reporter and translators (if necessary)

c. COMMUNICATION MATERIALS AND TOOLS

- Prepare communications materials and tools to explain project information and key messages. Materials will include:

  1. Frequently asked questions will be developed at project beginning and will serve as the foundation for developing all other communication materials and key messages.

  2. Website copy will be provided to the County as necessary

  3. Copy for up to four (4) eNewsletters/eblasts will be provided to the County to promote public meetings and provide project updates.

  4. Copy and layout/design for up to two (2) fact sheets or handouts. County templates/branding will be used.

d. DELIVERABLES

- Sign-In Sheets, Handouts, Presentations, Maps, and Exhibits for Public Meeting.
- Meeting Summary and comment responses.
- FAQs
- Website copy
- Copy of eNewsletters/eBlasts
- Fact Sheets/Handouts

TASK 4. <u>RIGHT OF WAY (ROW) MAPPING</u>

a. PRIMARY PROJECT CONTROL

- The Surveyor will recover and utilize the existing primary project control as published by others during the previous aerial mapping project. The Surveyor will establish up to ten (10) secondary horizontal/vertical control points within the project limits. The Surveyor will constrain to the published control network where values are based on the horizontal and vertical datum [NAD83 (2011)/NAVD88 values (Texas Coordinate System, North Central Zone)]. Elevations of the secondary control will be verified with

digital level runs. Replacing existing published primary control points found to be missing or disturbed is outside of this scope of services.

- The Surveyor will establish up to twenty (20) ground targets to be utilized as project control for the Aerial LiDAR and tie to the primary project control. Elevations will be derived from GPS observations.

b. RIGHT OF ENTRY (ROE) COORDINATION

- Prepare and mail right of entry letters per the County's standard for the project team including surveying, geotechnical, environmental and drainage. Send a second follow up letter to non-responsive property owners.

    1. The Surveyor will develop a spreadsheet containing ownership information for the properties along the project limits where ROE is required. The spreadsheet will include information provided by the Williamson County Tax Appraisal District (Owner Name, Mailing Address, Tax ID number, and legal description). The ownership spreadsheet will be provided to Williamson County. Williamson County will obtain written ROE from the landowners for the purpose of gaining access for survey. The Surveyor will contact affected land owners prior to commencing any work on private property. The Surveyor anticipates that Williamson County will handle problems regarding any and all refusal to grant ROE or communication with land owners who are hostile with respect to the completion of this scope of services. The Surveyor will document any interactions with land owners while performing the work. Gaining ROE from all land owners in a timely manner will be critical to the success and efficiency in meeting deadlines for this project.

c. RECORDS RESEARCH

- The Surveyor will perform a ROW survey along the proposed alignment. Upon notice to proceed, the Surveyor will conduct research in the Williamson County Appraisal District offices to confirm property ownership for up to approximately 45 affected properties (subject properties). Concurrently, copies of the current deeds and any plats for all subject properties will be obtained from the County Clerks' records. The Surveyor anticipates that Title Commitments, Title Reports, and any other form of records research beyond obtaining current deeds and plats will be provided by others.

Obtaining any additional records (including easements, chain of title, or any encumbrances) is outside of this scope of services.

d. DELIVERABLES

- Survey Control Index Sheet and Horizontal and Vertical Control Sheet signed, sealed, and dated by a registered professional land surveyor on 11x17 white Mylar and PDF
- Right of Entry ownership spreadsheet
- Right of Entry Letters, Follow up Letters, and Executed Right of Entry Documents
- Existing ROW Base Map (MicroStation V8i format) of Property Ownership
- Field book copies scanned to PDF format

TASK 5. <u>SURVEYING – AERIAL LIDAR</u>

Limits of Aerial LiDAR shall extend from the existing east ROW line of SH 130 to FM 3349 (approximately 5.4 miles) and will be approximately 1000 feet wide centered along the proposed Corridor A-1 alignment.

a. FLIGHT ACQUISITION AND PROCESSING

- Ground Survey – Simultaneous with LiDAR acquisition, survey field personnel will position and operate two GPS base stations along route.
- LiDAR Acquisition – The Surveyor will acquire LiDAR data at not less than 20 points per square meter average density, and will simultaneously collect color imagery suitable to generate 3-inch pixel GSD resolution orthoimagery.

1. Equipment –The following equipment will be used for data acquisition:
   i. Rotary wing aircraft.
   ii. Trimble Harrier 68i aerial mapping system fully integrated with a Trimble 60MP aerial camera.

2. Base Stations – Aerial acquisition will be controlled with GPS base stations during the acquisition. Base station data is logged at 2 Hz and merged with GPS and IMU data recorded on-board the aircraft using post-processed kinematic techniques to produce a highly

accurate position for the laser aperture and cameras.

3. LiDAR Acquisition - Quality Assurance/Control Process - Captured LiDAR data will be recorded on removable data storage units onboard the aircraft. After acquisition, the data will be copied to SATA drives and returned to our offices where it will be copied onto our network drives. The data will then be post-processed and reviewed to confirm complete data acquisition coverage. Any seams, holes, or other unwanted artifacts can be quickly identified to assess the need for any data acquisition re-capture. Once approved, the data will be archived and prepared for production.

   Daily acquisition QC procedures will be utilized to ensure data integrity from the mapping systems. These procedures include using a current satellite ephemeris for tracking the satellite constellation to plan scanning operations around the time of GPS Position Dilution of Precision (PDOP) spikes, adequate GPS static collection for receiver initialization and dynamic flying to initialize the IMU. During data acquisition, technicians constantly monitor the scanning system, checking the data logging rate, data storage capacity, GPS PDOP and imagery being collected.

b. LIDAR DATA PROCESSING

- Initial Processing – GPS/IMU Geo-referencing and Data Calibration. Once the collected data arrives, it is immediately processed and verified. Inertial measurement unit (IMU) data is processed and checked for gyro bias, systematic errors, and positional error.

- Laser Point Processing

  The calibration parameters are systematically checked and refined by estimating the residual boresight angles (roll, pitch, heading) and scanner scale corrections from overlapping strip areas, minimizing the inter-strip differences using a least squares approach.

  The ".las" data will then be projected into the required coordinate system. Simultaneously, the elevations will be transformed from ellipsoidal to orthometric heights by applying the latest GEOID models and all data will be geo-referenced to appropriate State Plane Coordinate System NAD83.

- Accuracy Testing

  Once the LAS files are created for a line, the data is tested to ensure it meets accuracy standards for the project. The ground survey information collected will be for use as an independent check of the LiDAR accuracy (minimum 8 pts. required). The Surveyor recommends not less than 20 well distributed check points throughout the project. The survey test

points should be on hard surfaces that are well defined features. Using the conventional survey data, a statistical comparison test will be run to verify that the geodetic positioning of the LiDAR data meets the accuracy standards required for the project. The absolute vertical accuracy of the project is +/-.25 ft. vertically, and 90% of the points tested shall be within this accuracy.

c. LIDAR DATA CLASSIFICATION AND FEATURE EXTRACTION

- Data Filtering - Once the initial post processing of the laser and imagery data is completed, it is ready for project set up and initial automated filtering and classification.

- Automated Filtering - Once the GPS/IMU data has been processed and the LiDAR data has gone through the boresite (correct for all roll, pitch, and yaw) the LiDAR data is sent to our LiDAR processing technicians for automated filtering and classification. Automated filtering of the data is the first process necessary to complete the bare earth ground processing and prepare the topographic mapping.

- Manual Editing - Effective auto filter routines can produce very clean LiDAR classifications. It is, however, always necessary to complete a manual review and edit of the data. The manual edit process eliminates any remaining anomalies and misclassifications within the data set.

- Feature Extraction and Planimetric Mapping - While automated filtering is a necessary component of each project and produces useful point cloud products, additional processing is required to produce all deliverables requested for the project. Our process includes collection of visible planimetric features in the specified collection area in accordance with the features required by TXDOT. Vector mapping will be produced for each of the planimetric features and will be delivered as a DGN drawing file for each line.

- Feature Coding - All data that is collected from the LiDAR (both point cloud and vector) will be feature coded at the time of collection using the attached TXDOT06 feature code library.

- Quality Assurance/Control Process

    i. Feature Extraction Quality Control – At the time of classification and feature extraction, our LiDAR technicians will use LiDAR data processing and feature extraction software to accurately identify, classify and locate specific features. There are multiple Quality

Control steps built into our feature collection process. The methodology proposed for this project is designed to ensure that QC steps for feature extraction and attribution meet or exceed the requirements set forth in the RFP. The major QC components of feature extraction process are summarized below.

1. Use of workflow "checklists"- Our suite of software is designed specifically to ensure that quality control is part of each step in the process. One of its key features is the use of well documented and managed workflows called "Cues" which define and control each step of a given task. These work flow checklists serve several purposes in the QC process:

2. Process repeatability and consistency - The software guides each technician through the required processing steps. Each technician uses the exact same process. The "Cues" encode flow logic so that steps have to be executed in a specific order. This ensures that each part of the collection process is repeatable and consistent no matter how many technicians are working on each phase of the project.

3. Process tracking - The software automatically records a time-stamped history of who executed each step on each workstation. This creates a time and date trail for any change recorded to the database during the duration of the project. These records are reviewed to make sure that each step in the collection process is completed.

4. Access Control - Cues also control access such that only a person who is a member of a specific processing group can execute a specific step (for example, if technician X is not a member of the QC group, he cannot execute the QC step). This also limits use of any data block to one person for any given task. It is not possible for two technicians to complete tasks at the same time on a given section of data and overwrite each other's updates.

In addition to these general quality management design features, there are also specific QC tools built into each of the processing steps.

5. Image Acquisition - The Surveyor will capture vertical color aerial imagery simultaneous to the LiDAR suitable for producing 3- inch GSD pixel orthophotography.

6. Aerial Triangulation - During the analytical Aerial Triangulation (AT) process, image coordinates of all tie, control, and check points in the imagery are measured and a "least squares bundle adjustment" is performed. This process yields exterior orientation parameters for all imagery and three-dimensional object coordinates for all measured image points.

7. Imagery and Control Data Comparison - The Surveyor will begin the A/T process immediately after receiving the imagery. All ABGPS/IMU data will be imported into the project, and control points will be measured on every photo on which they occur. We will then perform and exterior orientation analysis which will compare the given coordinates of the control points with their locations as projected on the photos by the given exterior orientation.

8. Measure Control Points Using Auto-Correlation - We will use a digital photogrammetry application that applies image-matching techniques to automate the point transfer and the point mensuration procedures to automatically extract tie points. To improve the bundle-adjustment we will manually measure points as necessary in any weak areas.

9. Review Residuals of Image Coordinates and Bundle Adjustments - A simultaneous bundle block adjustment will be performed using a least squares solution for all ground control, ABGPS/IMU, and photogrammetric observations.

d. ORTHOPHOTOGRAPHY PRODUCTION

The digital orthophotos will have a resolution of 1 pixel = 3 inches. All imagery will be rectified to the processed bare earth LiDAR data. The major processing tasks related to orthophotography production have been listed below.

- Rectification - The LiDAR data will be used to rectify the orthophotography. A triangulated irregular network (TIN) is created from the ground data which consists of the ground points and breaklines such as hydro lines and roads collected during the LiDAR data extraction process. Together these elements help to define the shape of the surface in three-dimensional space. Rectification to the surface model ensures the image pixels will be correctly located in the X and Y dimensions of the map space.

- Balancing/Mosaicking- Digital orthoimagery is subject to imbalances in tone, hue, and contrast due to a number of factors, including source imagery. We will not only balance adjoining images but will also use balancing techniques on the project as a whole. This process will eliminate the "patchwork" appearance caused by changes in conditions and sensor location/orientation between flight lines and image capture stations. To achieve consistent tone across the project area and to address the overlap between tiles, we will mosaic the images.

- Tiling -When the orthoimagery has passed internal quality check procedures, it will be broken up so that no individual image is larger than 10 MB. Imagery will be provided in TIF/TFW and ECW/EWW formats.

- Orthophotography Quality Control

    i. Aerial imagery is thoroughly reviewed by our digital imaging discipline lead for clarity, contrast, shadow detail, and sun spots.

    ii. The DEM is evaluated using various isometric views to check for any "spikes." DEM data are merged for given block and the elevation data is graphically displayed relative to the project boundary to ensure that all areas will be correctly rectified.

    iii. Ortho technicians validate that the DEM blocks overlap to ensure that there are no data gaps between blocks of imagery.

    iv. Ortho technicians review the location of seam lines and manually modify them to avoid height objects and to place them in monotone areas (through open field, along road centerlines, etc.)

    v. Ortho Technicians review the block-wide image characteristics and modify a histogram as necessary to adjust the overall tonal balance. Tonal balancing on a project-wide basis is reviewed to ensure consistent imagery and to specifically identify any breaks or processing failures.

    vi. A final visual inspection of each tile is completed for aesthetics and anomalies. Visible control points are measured on the final orthoimages and are compared against the values of the survey control coordinates. An RMSE is calculated for all measured control points and compared against the accuracy standards for the project.

e. DELIVERABLES

- Digital Orthophotography Image files
- Analytical aerial triangulation summary report in digital form
- Tiled LiDAR data files of classified points in LAS format
- One set of electronic files in MicroStation V8
- 2D DGN files of the planimetric feature collection data
- 3D DTM files in GeoPak format
- GeoPak .tin file

TASK 6. SCHEMATIC DEVELOPMENT - NO WORK ANTICIPATED ON THIS WORK AUTHORIZATION

TASK 7. DRAINAGE STUDY

It is anticipated the project includes two major FEMA stream crossings, Brushy Creek and Cottonwood Creek. Both streams are designated as an AE flood zone with a regulatory floodway. Additionally, up to 10 additional non-FEMA crossing structures are assumed. In addition to the crossing structures, there is flood control structure crossing anticipated at the Upper Brushy Creek WCID (UBCWCID) DAM No. 21.

a. HYDROLOGIC MODELING

Calculate discharges using appropriate hydrologic methods and as approved by the County. Consider the pre-construction and post-construction conditions in the hydrologic study. Include, at a minimum, the "design" frequency and the 1% Annual Exceedance Probability (AEP) storm frequency. The report must include the full range of frequencies.

- Obtain the drainage area boundaries and hydrologic parameters such as impervious covered areas, and overland flow paths and slopes from appropriate sources including, but are not limited to, topographic maps, GIS modeling, construction plans, and existing hydrologic studies. The Engineer shall not use existing hydrologic studies without assessing their validity. If necessary, obtain additional information such as local rainfall from official sites such as USGS rain gauges.

- At the Zone AE FEMA crossings, the best available models from the Final UBCWCID Flood Protection Plan dated June 2016 for the Brushy

Creek and Cottonwood Creek will be obtained. These will be compared with the FEMA effective data for reasonableness. These models will be supplemented as necessary (land use, impervious cover) and used as the basis for developing peak discharges for design.

- For each identified outfall, the Engineer shall quantify the change in peak flow rates between the existing and proposed conditions created by the project. The Engineer shall then determine if the overall increase in peak flow from the project compared to the peak flow in the receiving channel or storm drain system will create an adverse impact to the adjacent properties or existing storm drain systems. If the Engineer determines that the project will create adverse impacts to adjacent properties, the Engineer shall identify potential on-site locations for detention storage and assess potential detention storage availability. The Engineer may recommend detention structures in the form of ponds and ditches where the ROW area allows or within oversized storm drain conduits in locations with limited ROW area. Utilizing hydrograph routing software such as Hydrologic Engineering Center – Hydrologic Modeling System (HEC-HMS) or Storm Water Management Model (SWMM), the Engineer shall calculate required storage volumes based on hydrograph calculations and peak flows to limit 100-year discharge from each outfall to that produced under existing conditions.

- The Engineer will assess the hydrologic impact of the project in the 2, 5, 10, 25 and 50-year storm events to the receiving system and make any recommendations for erosion protection if required. If the receiving system is to an existing storm sewer system outside of the County ROW, the Engineer shall address impacts to the receiving storm drain system, taking into consideration what the existing system was sized to accommodate, and make recommendations for onsite improvements as to not have an adverse impact on these systems.

b. HYDRAULIC MODELING

- Perform hydraulic design and analysis using appropriate hydraulic methods, which may include computer models such as HEC-RAS, unsteady Hydrologic Engineering Center – River Analysis System (HEC- RAS) or two-dimensional (2D) models such as SWMM. 2D models shall not be developed without the express permission of the State. Data entry for appropriate hydraulic computer programs shall

consist of a combination of both on-the-ground survey and other appropriate sources including but not limited to topographic maps, GIS modeling, and construction plans and existing hydrologic studies.

- For the FEMA crossings, the Effective or best available models will be utilized accordingly for this analysis. Review the provided base model for correctness and updated as needed. For the Non-FEMA crossings, an original HEC-RAS model will be created for the analysis.

- Quantify impacts, beneficial or adverse, in terms of increases in peak flow rates and WSELs for the above listed hydraulic conditions and hydrologic events. The Engineer shall make recommendations for the proposed design which would limit any increase in WSELs upstream and downstream of the facility to be contained within County ROW. If there are conditions which cause and increase in WSEL outside of County ROW, The Engineer shall evaluate the potential risk to adjacent properties both upstream and downstream of the crossings.

- Compute ROW corridor 1% AEP flood plain volumes for existing and proposed roadway elevations. The Engineer may provide mitigation to offset a decrease in 1% AEP flood plain volumes.

- A Floodway Impact Analysis will be performed at Brushy Creek and Cottonwood Creek to determine the impact to the base flood elevation (BFE) between the pre- and post-construction. Federal requirements do not allow any increases to the BFE within a regulatory floodway.

c. FEMA COORDINATION

- Coordinate with Local Floodplain Administrator (FPA) as necessary throughout the project. Assume 2 meetings.

- For the UBCWCID SCSS site 21 dam (see below), any improvements to this dam will need to be approved by the local FPA. Assume 1 meeting.

TASK 8. <u>ENVIRONMENTAL SERVICES – NO WORK ANTICIPATED ON THIS WORK AUTHORIZATION</u>

TASK 9. <u>GEOTECHNICAL SERVICES - NO WORK ANTICIPATED ON THIS WORK AUTHORIZATION</u>

TASK 10. <u>PLAN PREPARATION - NO WORK ANTICIPATED ON THIS WORK AUTHORIZATION</u>

TASK 11. PERMITS - NO WORK ANTICIPATED ON THIS WORK AUTHORIZATION

TASK 12. BIDDING PHASE SERVICES - NO WORK ANTICIPATED ON THIS WORK AUTHORIZATION

ATTACHMENT C
WORK AUTHORIZATION #1
SCHEDULE
TRANSPORTATION CORRIDOR A-1 PLANNING, ENV, PI

		2017									
		MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Task 1	MANAGEMENT ROUTE STUDIES										
	Prepare Subconsultant Agreements										
	Prepare QA/QC Plan										
	Prepare & Maintain Records										
	Correspondence & Coordination with GEC										
	Manage Project Activities										
	Project Kickoff Meeting										
	Progress Meetings										
	Maintain Project Schedule										
	Prepare Invoices & Progress Reports										
Task 2	ROUTE & DESIGN STUDIES										
	Data Collection										
	Stakeholder Coordination										
	TxDOT Coordination										
	City of Pflugerville Coordination										
	City of Hutto Coordination										
	City of Taylor Coordination										
	Travis County Coordination										
	CTRMA Coordination										
	Neighborhood Meetings										
	Constraint Map										
	Develop Evaluation Criteria										
	Establish Study Area										
	Range of Reasonable Alternatives										
	Conceptual Alternatives										
	Traffic Projections										
	Environmental Investigations										
	Preliminary Cost										
Task 3	PUBLIC INVOLVEMENT										
	Identify Stakeholders										
	Prepare Handouts for Public Meeting #1										
	Select Meeting Venue for Public Meeting #1										
	Advertise Public Meeting #1										
	Prepare Exhibits for Public Meeting #1										
	Public Meeting #1										
	Respond to Public Meeting # 1 comments										
	Public Meeting #1 Summary										
	Prepare Handouts for Public Meeting #2										
	Select Meeting Venue for Public Meeting #2										
	Advertise Public Meeting #2										
	Prepare Exhibits for Public Meeting #2										
	Public Meeting #2										
	Respond to Public Meeting #2 comments										
	Public Meeting #2 Summary										
TASK 4	RIGHT OF WAY										
	Right of Entry Letters										
	Recover Existing Control										
	Record Search										
Task 5	SURVEYING										
	Udar Data Collection										
Task 7	DRAINAGE STUDY										
	Data Collection										
	Coordination with Agencies										
	Perform Analysis										

Task Duration	
Concurrent Tasks	
Critical Path Tasks	

ATTACHMENT D - FEE SCHEDULE
WORK AUTHORIZATION # 1
Fee Schedule Summary
Kennedy Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	KCI (39.4%)	Rifeline (9.9%)	Buie (8.0%)	CML (5.9%)	ATG (24.3%)	SAM (11.1%)	Cobb Fendley (1.4%)	Cost / Task Totals
Task 1. PROJECT MANAGEMENT	$66,022.50	$7,728.00	$7,584.00	$9,345.00	$15,975.00	$0.00	$2,180.00	$108,834.50
Task 2. ROUTE AND DESIGN STUDIES	$241,260.00	$22,280.00	$17,270.00	$35,640.00	$66,508.00	$0.00	$10,355.50	$393,313.50
Task 3. PUBLIC INVOLVEMENT	$39,490.00	$60,043.50	$48,193.50	$8,462.60	$4,071.00	$0.00	$0.00	$160,260.60
Task 4. RIGHT OF WAY (ROW) MAPPING	$11,900.00	$0.00	$0.00	$0.00	$0.00	$29,720.00	$0.00	$41,620.00
Task 5. SURVEYING	$0.00	$0.00	$0.00	$0.00	$0.00	$70,926.17	$0.00	$70,926.17
Task 7. DRAINAGE STUDY	$0.00	$0.00	$0.00	$0.00	$134,807.75	$0.00	$0.00	$134,807.75
FEE SCHEDULE SUMMARY	$358,672.50	$90,051.50	$73,047.50	$53,447.60	$221,361.75	$100,646.17	$12,535.50	$909,762.52
Kennedy Consulting, Inc.								$358,672.50
Rifeline, LLC								$90,051.50
Buie & Co. Public Relations								$73,047.50
Cox McLain Environmental Consulting, Inc.								$53,447.60
Alliance Transportation Group, Inc.								$221,361.75
Surveying And Mapping, Inc.								$100,646.17
Cobb, Fendley & Associates, Inc.								$12,535.50
PROJECT TOTAL								$909,762.52

Summary of Hours by Classification - WA #1
Kennedy Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Director $225.00/Hr	Sr. Project Manager $220.00/Hr	Senior Prof. 2 $200.00/Hr	Senior Prof. 1 $175.00/Hr	Prof. 2 / Sr. Eng. Tech $150.00/Hr	Prof. 1 / Eng. Tech $115.00/Hr	Admin / Clerical $65.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1. PROJECT MANAGEMENT									
a. General Project Management									
Prepare Subconsultant Agreements - Route Studies		8					8	16	$2,280.00
b. Monthly Progress Reports, Invoices, and Billing									
Progress Reports, Invoices, and Billing - Route Studies (6 Mo.)		6					18	24	$2,490.00
Project Correspondence - Route Studies (6 Mo.)		18						18	$3,960.00
Subconsultant Management - Route Studies (6 Mo.)		18						18	$3,960.00
c. Quality Assurance / Quality Control (QA/QC) Plan								0	$0.00
Prepare QA/QC Plan - Route Studies	8	16					12	36	$6,100.00
Continuous QA/QC - Route Studies	10	20	10					40	$8,650.00
d. Project Coordination and Administration								0	$0.00
Prepare and maintain records - Route Studies (6 Mo.)		8						8	$1,760.00
Correspondence and coordination with GEC - Route Studies (6 Mo.)		18						18	$3,960.00
Manage project activities - Route Studies (6 Mo.)		18						18	$3,960.00
e. Progress / Coordination Meetings (32 Mtgs.total)								0	$0.00
Prepare for and attend Kickoff Meeting - Route Studies (1 Mtg.)	4	6	6		12	12		40	$6,600.00
Attend Progress Meetings - Route Studies (6 Mtgs.)	4	12						16	$3,540.00
Prepare agenda & sign-in sheets for coord. meetings - Route Studies		6						6	$1,320.00
Prepare meeting minutes - Route Studies		12						12	$2,640.00
Internal coordination meetings - Route Studies	4	12						16	$3,540.00
f. Project Schedule								0	$0.00
Maintain Project Schedule - Route Studies (6 Mo.)	4	12				12		28	$4,920.00
Direct Expenses									$6,342.50
PROJECT MANAGEMENT Subtotal:	34	190	16	0	12	24	38	314	$66,022.50

Summary of Hours by Classification - WA #1
Kennedy Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Director $225.00/Hr	Sr. Project Manager $220.00/Hr	Senior Prof. 2 $200.00/Hr	Senior Prof. 1 $175.00/Hr	Prof. 2 / Sr. Eng. Tech $150.00/Hr	Prof. 1 / Eng. Tech $115.00/Hr	Admin / Clerical $65.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 2. ROUTE AND DESIGN STUDIES									
a. Data Collection									
Conduct Field Investigations		4	8	24			4	40	$6,940.00
Review Data Collected and Organize information			20	28	12	36		96	$14,840.00
b. Stakeholder Coordination								0	$0.00
Prepare agendas, sign-in sheets, meeting minutes, presentations, etc.		16					8	24	$4,040.00
Coordinate with affected local agencies, consultants, and property owners	12	24						36	$7,980.00
Meetings with affected property owners (MAPO) (10 Mtgs.)	10	20						30	$6,650.00
TxDOT Coordination (3 Mtgs.)	9	18						27	$5,985.00
City of Pflugerville Coordination (2 Mtgs.)	8	8						16	$3,560.00
City of Hutto Coordination (2 Mtgs.)	8	8						16	$3,560.00
City of Taylor Coordination (2 Mtgs.)	8	8						16	$3,560.00
Travis County Coordination (2 Mtgs.)	8	8						16	$3,560.00
CTRMA Coordination (1 Mtg.)	4	4						8	$1,780.00
Neighborhood Meetings (10 Mtgs.)	20	20						40	$8,900.00
c. Constraints Map (3 preliminary alignments assumed)								0	$0.00
Establish Project Design Criteria	1	2	4	8		12		27	$4,245.00
Develop Evaluation Criteria	2	6	12		12			32	$5,970.00
Establish Overall Study Area	2	4	12					18	$3,730.00
Establish Range of Reasonable Alternatives	4	4	12	16	24	40		100	$15,180.00
Develop Conceptual Alternatives (3 total)	8	16	32	80	100	120		356	$54,520.00
Develop Constraints Map and Technical Memorandum	2	2	6	24	26	32		92	$13,870.00
Estimate Traffic Projections for the Ultimate Roadway	2	4	8	8				22	$4,330.00
Develop Preliminary Alignments and Costs		8	16	24	48	88		184	$26,480.00
Refine Preliminary Alignment based on Stakeholder Input		4	10	20	80	100		214	$29,880.00
d. Deliverables								0	$0.00
Prepare and Post on ProjectWise				36	36			72	$11,700.00
ROUTE AND DESIGN STUDIES Subtotal:	108	188	140	268	338	428	12	1482	$241,260.00

Summary of Hours by Classification - WA #1
Kennedy Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Director $225.00/Hr	Sr. Project Manager $220.00/Hr	Senior Prof. 2 $200.00/Hr	Senior Prof. 1 $175.00/Hr	Prof. 2 / Sr. Eng. Tech $150.00/Hr	Prof. 1 / Eng. Tech $115.00/Hr	Admin / Clerical $65.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 3. PUBLIC INVOLVEMENT									
a. Develop Database in Excel								0	$0.00
Identify and reach out to key stakeholders		20						20	$4,400.00
b. Public Meeting / Open House								0	$0.00
Coordinate Meeting Announcements		4						4	$880.00
Coordinate meeting logistics	2	4						6	$1,330.00
Plan, schedule, conduct public meetings	2	4	8					14	$2,930.00
Prepare handouts and exhibits		4		8		28		40	$5,500.00
Facilitator Preparation & Develop annotated agenda		4						4	$880.00
Develop Public Surveys	2	4						6	$1,330.00
Plan, Prepare for and Attend Public Meetings (2 Total)	8	10	18					36	$7,600.00
Prepare Public Meeting Summary	2	10						12	$2,650.00
Prepare response to comments	2	6	12	12			16	48	$7,310.00
Coordinate court reporter and translators (if necessary)								0	$0.00
c. Communication Materials and Tools								0	$0.00
Frequently Asked Questions		4						4	$880.00
Website Copy								0	$0.00
Copy for up to 4 eNewsletters/eBlasts		8						8	$1,760.00
Copy and layout/design for up to two (2) fact sheets/handouts		2	8					10	$2,040.00
Public Involvement Subtotal:	18	84	46	20	0	28	16	212	$39,490.00
Task 4. RIGHT OF WAY (ROW) MAPPING									
a. Recover Exist. Control, Establish Up to 10 Secondary Control Pts.				4				4	$700.00
b. Right Of Entry (ROE) Coordination		16		32			32	80	$11,200.00
Right of Way Mapping Subtotal:	0	16	0	36	0	0	32	84	$11,900.00
KCI SUMMARY	160	478	202	324	350	480	98	2092	$358,672.50

Summary of Direct Expenses - WA #1
Kennedy Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	2000	$0.535	**$1,070.00**
II. In-house Photocopies B/W (8 1/2" X 11")	Per Page	500	$0.16	**$80.00**
III. In-house Photocopies Color (8 1/2" X 11")	Per Page	50	$0.75	**$37.50**
IV. In-house Photocopies B/W (11" X 17")	Per Page	500	$0.32	**$160.00**
V. In-house Photocopies Color (11" X 17")	Per Page	50	$1.50	**$75.00**
VI. In-house Plots (B/W on Bond)	SF	0	$0.75	**$0.00**
VII. In-house Plots (Color on Bond)	SF	0	$1.75	**$0.00**
VIII. Overnight Mail - letter size	each	3	$15.00	**$45.00**
IX. Overnight Mail - oversized box	each	2	$75.00	**$150.00**
X. Courier Services	each	4	$25.00	**$100.00**
XI. Outside Printing - Reports / Exhibits	each	4	$250.00	**$1,000.00**
XII. Large Format Plotting	SF	250	$2.50	**$625.00**
XIII. Mounting of Large Exhibits	SF	300	$10.00	**$3,000.00**
			KCI Total Direct Expenses	**$6,342.50**

Summary of Hours by Classification - WA #1
Rifeline, LLC
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Principal $200.00/Hr	Vice President $180.00/Hr	Sr. Public Affairs Mgr $180.00/Hr	Director Communications $170.00/Hr	PI Manager $160.00/Hr	Community Outreach Mgr $150.00/Hr	Community Outreach Coord. $120.00/Hr	Admin / Clerical $58.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1. PROJECT MANAGEMENT										
b. Monthly Progress Reports, Invoices, and Billing										
Progress Reports, Invoices, and Billing - Route Studies (6 Mo.)								6	6	$348.00
d. Project Coordination and Administration									0	$0.00
Correspondence and coordination with GEC - Route Studies (6 Mo.)	6	9							15	$2,820.00
e. Progress / Coordination Meetings (32 Mtgs.total)									0	$0.00
Prepare for and attend Kickoff Meeting - Rouet Studies (1 Mtg.)	3	3							6	$1,140.00
Attend Progress Meetings - Route Studies (6 Mtgs.)	6	6							12	$2,280.00
Internal coordination meetings - Route Studies	3	3							6	$1,140.00
										$0.00
PROJECT MANAGEMENT Subtotal:	**18**	**21**	**0**	**0**	**0**	**0**		**6**	**45**	**$7,728.00**
Task 2. ROUTE AND DESIGN STUDIES										
b. Stakeholder Coordination									0	$0.00
Prepare Agendas, Sign-in Sheets, Meeting Minutes, Presentations, etc.		16							16	$2,880.00
Coordinate with affected local agencies, Consultants and Property Owners	30	10							40	$7,800.00
Stakeholder Coordination Meetings (20 MAPOs Assumed)	20								20	$4,000.00
Neighborhood Meetings (10 Assumed)	20	20							40	$7,600.00
ROUTE AND DESIGN STUDIES Subtotal:	**70**	**46**	**0**	**0**	**0**	**0**		**0**	**116**	**$22,280.00**

Summary of Hours by Classification - WA #1
Rifeline, LLC
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Principal $200.00/Hr	Vice President $180.00/Hr	Sr. Public Affairs Mgr $180.00/Hr	Director Communications $170.00/Hr	PI Manager $160.00/Hr	Community Outreach Mgr $150.00/Hr	Community Outreach Coord. $120.00/Hr	Admin / Clerical $58.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 3. PUBLIC INVOLVEMENT										
a. Develop Database in Excel	2	6							8	$1,480.00
Identify and Reach out to key stakeholders	50				50				100	$18,000.00
b. Public Meeting/Open House									0	$0.00
Prepare Invitations, advertisements and invitation list	1	4							5	$920.00
Develop Mail Direct	1	2							3	$560.00
Coordinate Meeting Announcements	2	4							6	$1,120.00
Coordinate meeting logistics		10							10	$1,800.00
Plan, schedule, conduct public meetings	10	10							20	$3,800.00
Prepare handouts and exhibits	10	4							14	$2,720.00
Facilitator Preparation & Develop annotated agenda	4	2							6	$1,160.00
Develop Public Surveys	3	9							12	$2,220.00
Plan, Prepare and Attend Public Meetings (2 Total)	6	8							14	$2,640.00
Prepare Public Meeting Summary	2	4							6	$1,120.00
Prepare response to comments	2	4							6	$1,120.00
Coordinate court reporter and translators (if necessary)									0	$0.00
c. Communication Materials and Tools									0	$0.00
Frequently Asked Questions	2	5							7	$1,300.00
Website Copy	1	3							4	$740.00
Copy for up to 4 eNewsletters/eBlasts	1	2							3	$560.00
Copy and layout/design for up to two (2) fact sheets/handouts	1	4							5	$920.00
Direct Expenses										$17,863.50
PUBLIC INVOLVEMENT Subtotal:	98	81	0	0	50	0	0	0	229	$60,043.50
Rifeline SUMMARY	186	148	0	0	50	0	0	6	390	$90,051.50

Summary of Direct Expenses - WA #1
Rifeline, LLC
Transportation Corridor A-1 Planning, ENV, & PI

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	3500	$0.535	**$1,872.50**
II. In-house Photocopies B/W (8 1/2" X 11")	Per Page	1,000	$0.10	**$100.00**
III. In-house Photocopies Color (8 1/2" X 11")	Per Page	1,250	$0.75	**$937.50**
IV. Standard Postage	Per Letter	50	$0.47	**$23.50**
V. Parking	Per Day	5	$10.00	**$50.00**
VI. Newspaper Advertisements	Per Publication	4	$2,000.00	**$8,000.00**
VII. Public Meeting refreshments	Per Meeting	2	$20.00	**$40.00**
VIII. Public Meeting Supplies	Per Meeting	2	$20.00	**$40.00**
IX. Court Reporter	Per Day	2	$500.00	**$1,000.00**
X. Translator	Per Event	2	$400.00	**$800.00**
XI. Post Crd (mail) or Flyer (hand Deliver) - Printing + Postage or Flyering Services	Each	2,000	$1.25	**$2,500.00**
XII. Facility Rental	Per Event	2	$400.00	**$800.00**
XIII. Custodian	Per Hour	10	$50.00	**$500.00**
XIV. Audio-Visual Equipment Rental	Per Event	2	$400.00	**$800.00**
XV. Meeting Signage	EACH	8	$50.00	**$400.00**
			Rifeline Direct Expenses	**$17,863.50**

Summary of Hours by Classification - WA #1
Buie & Co. Public Relations
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Principal $185.00/Hr	Account Manager $140.00/Hr	Graphic Designer $125.00/Hr	Account Coordinator $120.00/Hr	Admin / Clerical $58.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1. PROJECT MANAGEMENT							
b. Monthly Progress Reports, Invoices, and Billing						0	$0.00
Progress Reports, Invoices, and Billing - Route Studies (6 Mo.)				6	3	9	$894.00
d. Project Coordination and Administration						0	$0.00
Prepare and maintain records - Route Studies (6 Mo.)				8		8	$960.00
Correspondence and coordination with GEC - Route Studies (6 Mo.)	4	6		6		16	$2,300.00
e. Progress / Coordination Meetings (32 Mtgs.total)						0	$0.00
Prepare for and attend Kickoff Meeting - Route Studies (1 Mtg.)	3					3	$555.00
Attend Progress Meetings - Route Studies (6 Mtgs.)	6					6	$1,110.00
Internal coordination meetings - Route Studies (6 Mo.)	5	6				11	$1,765.00
PROJECT MANAGEMENT Subtotal:	**18**	**12**	**0**	**20**	**3**	**53**	**$7,584.00**
Task 2. ROUTE AND DESIGN STUDIES							
b. Stakeholder Coordination						0	$0.00
Prepare Agendas, Sign-in Sheets, Meeting Minutes, Presentations, etc.				16		16	$1,920.00
Coordinate with affected local agencies, Consultants and Property Owners	30			10		40	$6,750.00
Stakeholder Coordination Meetings (20 MAPOs Assumed)	20					20	$3,700.00
Neighborhood Meetings (10 Assumed)	20			10		30	$4,900.00
ROUTE AND DESIGN STUDIES Subtotal:	**70**	**0**	**0**	**36**	**0**	**106**	**$17,270.00**

Summary of Hours by Classification - WA #1
Buie & Co. Public Relations
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Principal $185.00/Hr	Account Manager $140.00/Hr	Graphic Designer $125.00/Hr	Account Coordinator $120.00/Hr	Admin / Clerical $58.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 3. PUBLIC INVOLVEMENT							
a. Develop Database in Excel	2			6		8	$1,090.00
Identify and Reach out to key stakeholders	100					100	$18,500.00
b. Public Meeting/Open House						0	$0.00
Prepare Invitations, advertisements and invitation list	1		15	4		20	$2,540.00
Develop Mail Direct	1		2	4		7	$915.00
Coordinate Meeting Announcements	2	7		4		13	$1,830.00
Coordinate meeting logistics				10		10	$1,200.00
Plan, schedule, conduct public meetings	10			10		20	$3,050.00
Prepare handouts and exhibits	8					8	$1,480.00
Facilitator Preparation & Develop annotated agenda						0	$0.00
Develop Public Surveys	2			4		6	$850.00
Plan, Prepare and Attend Public Meetings (2 Total)	8	10		10		28	$4,080.00
Prepare Public Meeting Summary	1	4				5	$745.00
Prepare response to comments	1	4				5	$745.00
Coordinate court reportes and translators (if necessary)				3		3	$360.00
c. Communication Materials and Tools						0	$0.00
Frequently Asked Questions	5					5	$925.00
Website Copy	1	5				6	$885.00
Copy for up to 4 eNewsletters/eBlasts	1	8				9	$1,305.00
Copy and layout/design for up to two (2) fact sheets/handouts	2	6	8			16	$2,210.00
Direct Expenses							$5,483.50
Public Involvement Subtotal:	**145**	**44**	**25**	**55**	**0**	**269**	**$48,193.50**
BUIE SUMMARY	**233**	**56**	**25**	**111**	**3**	**428**	**$73,047.50**

Summary of Direct Expenses - WA #1
Buie & Co. Public Relations
Transportation Corridor A-1 Planning, ENV, & PI

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	3500	$0.535	**$1,872.50**
II. In-house Photocopies B/W (8 1/2" X 11")	Per Page	1,000	$0.10	**$100.00**
III. In-house Photocopies Color (8 1/2" X 11")	Per Page	1,250	$0.75	**$937.50**
IV. Standard Postage	Per Letter	50	$0.47	**$23.50**
V. Parking	Per Day	5	$10.00	**$50.00**
VI. Newspaper Advertisements	Per Publication		$2,000.00	**$0.00**
VII. Public Meeting refreshments	Per Meeting		$20.00	**$0.00**
VIII. Public Meeting Supplies	Per Meeting		$20.00	**$0.00**
IX. Court Reporter	Per Day		$500.00	**$0.00**
X. Translator	Per Event		$400.00	**$0.00**
XI. Post Crd (mail) or Flyer (hand Deliver) - Printing + Postage or Flyering Services	Each	2,000	$1.25	**$2,500.00**
XII. Facility Rental	Per Event		$400.00	**$0.00**
XIII. Custodian	Per Hour		$50.00	**$0.00**
XIV. Audio-Visual Equipment Rental	Per Event		$400.00	**$0.00**
XV. Meeting Signage	EACH		$50.00	**$0.00**
			BUIE Total Direct Expenses	**$5,483.50**

Summary of Hours by Classification - WA #1
Cox McLain Environmental Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Sr. ENV Scientist II $150.00/Hr	Sr. ENV Scientist $130.00/Hr	ENV Professional II $110.00/Hr	ENV Professional I $95.00/Hr	ENV Staff III $85.00/Hr	ENV Staff II $75.00/Hr	ENV Staff I $65.00/Hr	ENV Tech II $55.00/Hr	ENV Tech I $45.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1. PROJECT MANAGEMENT											
b. Monthly Progress Reports, Invoices, and Billing										0	$0.00
Progress Reports, Invoices, and Billing - Route Studies (6 Mo.)	8							8		16	$1,640.00
c. Quality Assurance / Quality Control (QA/QC) Plan										0	$0.00
Prepare QA/QC Plan - Route Studies	2									2	$300.00
d. Project Coordination and Administration										0	$0.00
Prepare and maintain records - Route Studies (6 Mo.)	3		6							9	$1,110.00
Correspondence and coordination with GEC - Route Studies (6 Mo.)	3		6							9	$1,110.00
Manage project activities - Route Studies (6 Mo.)	6		6							12	$1,560.00
e. Progress / Coordination Meetings (32 Mtgs.total)										0	$0.00
Prepare for and attend Kickoff Meeting - Route Studies (1 Mtg.)	2									2	$300.00
Attend Progress Meetings - Route Studies (6 Mtgs.)	8		8							16	$2,080.00
Internal coordination meetings - Route Studies		1	1	1		5	4	5		17	$1,245.00
										0	$0.00
PROJECT MANAGEMENT Subtotal:	32	1	27	1	0	5	4	13	0	83	$9,345.00

Summary of Hours by Classification - WA #1
Cox McLain Environmental Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Sr. ENV Scientist II $150.00/Hr	Sr. ENV Scientist $130.00/Hr	ENV Professional II $110.00/Hr	ENV Professional I $95.00/Hr	ENV Staff III $85.00/Hr	ENV Staff II $75.00/Hr	ENV Staff I $65.00/Hr	ENV Tech II $55.00/Hr	ENV Tech I $45.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 2. ROUTE AND DESIGN STUDIES											
a. Data Collection											
Hazardous Waste Sites	1	1	1	0	0	8	8	8	4	31	$2,130.00
Water Quality and Wetlands/Waters of the US, Floodplains	1	1	2	6	0	16	16	8	0	50	$3,750.00
Ecological Resources - Wildlife Habitat, T&E Species	1	1	2	4	0	16	14	16	2	56	$3,960.00
Cultural Resources - Historic, Archaeological sites, Cemeteries	1	1	3	0	3	16	16	0	0	40	$3,105.00
Community (Socioecon., Relocat., Land Use, Farmlands, other modes)	1	1	8	8	0	8	16	16	4	62	$4,620.00
Noise and Air Quality	1	1	3	0	0	0	6	0	1	12	$1,045.00
Other Environmentally Sensitive Areas (Visual Resources, etc.)	1	0	1	2	0	0	4	0	0	8	$710.00
Prepare Eval. Matrix Criteria, Populate Matrix, Review Evaluation Matrix	6	4	4	2	8	4	12	0	2	42	$3,900.00
b. Stakeholder Coordination										0	$0.00
Prepare Agendas, Sign-in Sheets, Meeting Minutes, Presentations, etc.										0	$0.00
Coord. with affected local agencies, Consultants and Property Owners										0	$0.00
Stakeholder Coordination Meetings (3 meetings Assumed)	8		10							18	$2,300.00
c. Constraints Map (3 preliminary alignments assumed)										0	$0.00
Develop constraint map (Draft and Final)	3	6	2	2	2	8	24		6	53	$4,240.00
Technical Reports	4	8	8	8	8	8	8	8	8	68	$5,880.00
										0	$0.00
ROUTE AND DESIGN STUDIES Subtotal:	28	24	44	32	21	84	124	56	27	440	$35,640.00
Task 3. PUBLIC INVOLVEMENT											
a. Develop Database in Excel										0	$0.00
Identify and Reach out to key stakeholders										0	$0.00
b. Public Meeting/Open House										0	$0.00
Prepare handouts and exhibits	2		2							4	$520.00
Plan, Prepare and Attend Public Meetings (3 Total)	8		10			10				28	$3,050.00
Plan, Prepare Exhibits for Public Meetings (3 Total)										0	$0.00
Plan, Prepare and Attend Public Hearing (1 Total)										0	$0.00
Prepare Public Meeting Summary										0	$0.00
Prepare response to comments	4		8		12	8				32	$3,100.00
Direct Expenses											$1,792.60
Public Involvement Subtotal:	14	0	20	0	12	18	0	0	0	64	$8,462.60
Cox McLain SUMMARY	74	25	91	33	33	107	128	69	27	587	$53,447.60

Summary of Direct Expenses - WA #1
Cox McLain Environmental Consulting, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	0	$0.535	$0.00
II. In-house Photocopies B/W (8 1/2" X 11")	Per Page	250	$0.16	$40.00
III. In-house Photocopies Color (8 1/2" X 11")	Per Page	125	$0.75	$93.75
IV. In-house Photocopies B/W (11" X 17")	Per Page	125	$0.32	$40.00
V. In-house Photocopies Color (11" X 17")	Per Page	50	$1.50	$75.00
VI. In-house Plots (B/W on Bond)	SF	30	$0.75	$22.50
VII. In-house Plots (Color on Bond)	SF	30	$1.75	$52.50
VIII. Hazardous Materials Database Search	Per Search	2	$550.00	$1,100.00
IX. Environmental Field Supplies (lathes, stakes, flagging, spray paint, etc.)	Day	4	$40.00	$160.00
X. Overnight Mail - Letter Size	EACH	3	$22.950	$68.85
XI. Overnight Mail - Oversized Box	EACH	2	$70.000	$140.00
			Cox McLain Total Direct Expenses	$1,792.60

Summary of Hours by Classification - WA #1
Alliance Transportation Group, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Principal $250.00/Hr	Sr. Project Manager $244.00/Hr	Senior Engineer $193.00/Hr	Project Engineer $144.00/Hr	EIT $101.00/Hr	Sr. Eng. Tech $133.00/Hr	Engineer Technician $90.00/Hr	Planning Director $230.00/Hr	Sr. Travel Demand Mod. $182.00/Hr	Travel Dem. Modeler III $137.00/Hr	Travel Dem. Modeler II $117.00/Hr	Project Administrator $104.00/Hr	Clerical $83.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1. PROJECT MANAGEMENT															
b. Monthly Progress Reports, Invoices, and Billing															
Progress Reports, Invoices, and Billing - Route Studies (6 Mo.)	1	1	12									6	6	26	$3,824.00
c. Quality Assurance / Quality Control (QA/QC) Plan														0	$0.00
Continuous QA/QC - Route Studies	1	1	8	8	3									21	$3,493.00
d. Project Coordination and Administration														0	$0.00
Prepare and maintain records - Route Studies (6 Mo.)			6	12										18	$2,886.00
Correspondence and coordination with GEC - Route Studies (6 Mo.)			6	12										18	$2,886.00
Manage project activities - Route Studies (6 Mo.)			6	12										18	$2,886.00
														0	$0.00
PROJECT MANAGEMENT Subtotal:	2	2	38	44	3	0	0	0	0	0	0	6	6	101	$15,975.00
Task 2. ROUTE AND DESIGN STUDIES															
a. Data Collection															
Conduct Field Investigations			2	10	10									22	$2,836.00
Develop and Maintain Ownership Information														0	$0.00
Review Data Collected and Organize Information			2	10	10									22	$2,836.00
b. Stakeholder Coordination														0	$0.00
Prepare agendas, sign-in sheets, meeting minutes, presentations, etc.														0	$0.00
Coordinate with affected local agencies, consultants, & property owners			16	8	6									30	$4,846.00
c. Constraints Map (3 preliminary alignments assumed)														0	$0.00
Develop Conceptual Alternatives (3 total)			2	8	12									22	$2,750.00
Traffic Projections															
Travel Data Model (TDM) (3 Phases)															
Phase 1 - Two-way Road	1	4	7	8				1	16	40	24			101	$15,159.00
Phase 2 - One-way Frontage Road Pairs		1	1	2				1	8	24	12			49	$7,103.00
Phase 3 - Full Freeway Section with DC's at SH 130 and FM 3349		2	2	4				1	8	24	12			53	$7,826.00
Volumes (3 Phases)														0	$0.00
Phase 1 - Two-way Road	1	1	2	4	8	8	8	1	2	2	2			39	$5,150.00
Phase 2 - One-way Frontage Road Pairs		1	4	8	16	8	8	1	2	2	2			52	$6,670.00
Phase 3 - Full Freeway Section with DC's at SH 130 and FM 3349		2	4	8	16	8	8	1	2	2	2			53	$6,914.00
Data Collection														0	$0.00
AM and PM 2-hour Turning Movement Counts		1		1	2								1	5	$655.00
24-hour Tube Counts along 4 Roadways		1		2	4								1	8	$1,001.00
Coordination Meetings														0	$0.00
Two Meetings		8			8									16	$2,760.00
ROUTE AND DESIGN STUDIES Subtotal:	2	21	42	73	92	24	24	6	38	94	54	0	2	472	$68,508.00
Task 3. PUBLIC INVOLVEMENT															
b. Public Meeting/Open House														0	$0.00
Plan, Prepare and Attend Public Meetings (2 Total)			8											8	$1,544.00
Plan, Prepare Exhibits for Public Meetings (2 Total)			4		4									8	$1,176.00
Prepare Public Meeting Summary			3											3	$579.00
Prepare response to comments			4											4	$772.00
														0	$0.00
Public Involvement Subtotal:	0	0	19	0	4	0	0	0	0	0	0	0	0	23	$4,071.00

Summary of Hours by Classification - WA #1
Alliance Transportation Group, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Project Principal $250.00/Hr	Sr. Project Manager $244.00/Hr	Senior Engineer $193.00/Hr	Project Engineer $144.00/Hr	EIT $101.00/Hr	Sr. Eng. Tech $133.00/Hr	Engineer Technician $90.00/Hr	Planning Director $230.00/Hr	Sr. Travel Demand Mod. $182.00/Hr	Travel Dem. Modeler III $137.00/Hr	Travel Dem. Modeler II $117.00/Hr	Project Administrator $164.00/Hr	Clerical $85.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 7. DRAINAGE STUDY															
a. Hydrologic Modeling														0	$0.00
Drainage Areas		2	4	50	140									196	$22,600.00
Update FEMA Models			4	30	65									99	$11,657.00
Peak Impact Analysis / Detention Design			8	65	125									198	$23,529.00
b. Hydraulic Modeling														0	$0.00
Hydraulic Design non-FEMA crossings		2	5	65	100									172	$20,913.00
Hydraulic Design FEMA crossings			2	40	120									162	$18,266.00
Mitigation Recommendations			1	12	20									33	$3,941.00
Floodplain Volume Calculation			1	15	25									41	$4,878.00
Floodway Impact Analysis			2	20	52									74	$8,518.00
c. FEMA Coordination														0	$0.00
FPA Meetings		2	8	8	6									24	$3,790.00
Floodway Certification			4	12										16	$2,500.00
SCS Dam Approval			4	4	2									10	$1,550.00
d. Deliverables														0	$0.00
Draft and Final Drainage Report and Exhibits		1	5	25	45									76	$9,354.00
Direct Expenses															$3,311.75
Drainage Study Subtotal:	0	7	48	346	700	0	0	0	0	0	0	0	0	1101	$134,807.75
ATG SUMMARY	4	30	147	463	799	24	24	8	38	94	54	8	8	1697	$221,361.75

Summary of Direct Expenses - WA #1
Alliance Transportation Group, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	150	$0.535	**$80.25**
II. In-house Photocopies B/W (8 1/2" X 11")	Per Page	750	$0.10	**$75.00**
III. In-house Photocopies Color (8 1/2" X 11")	Per Page	250	$0.75	**$187.50**
IV. In-house Photocopies B/W (11" X 17")	Per Page	500	$0.30	**$150.00**
V. In-house Photocopies Color (11" X 17")	Per Page	250	$1.50	**$375.00**
VI. Courier Services	EACH	3	$60.00	**$180.00**
VII. Toll Charges	EACH	8	$3.000	**$24.00**
VIII. Report Binding	EACH	10	$10.000	**$100.00**
IX. 24 Hour Counts (4)	EACH	4	$135.000	**$540.00**
X. 2-Hour Tutning Movement Counts (2)	EACH	2	$650.000	**$1,300.00**
XI. Other Miscellaneous		1	$300.000	**$300.00**
			ATG Total Direct Expenses	**$3,311.75**

Summary of Manhours by Classification
Surveying And Mapping, Inc.
Transportation Corridor A-1 Planning, EMV, & PI

Description of Work or Task	Sr. PM $145.00/hr	Project Manager $125.00/hr	Senior Survey Technician $90.00/hr	Survey Technician $80.00/hr	Two Person Survey Crew $130.00/hr	Three Person Survey Crew $180.00/hr	Admin / Clerical $70.00/hr	Aerial Proj. Manager $125.00/hr	Project Coord. Ast $101.67/hr	Analytical Triang. Spec. $85.33/hr	Aerial Map. Tech $90.33/hr	Mapping Editor $75.34/hr	Aerial Ortho. Tech $73.11/hr	Project Coord. AP $115.02/hr	Airborne Lidar Processing Tech $96.29/hr	Helicopter Lidar Processing Tech $107.71/hr	Aerial Processing Tech $94.83/hr	Orthophoto Specialist $75.34/hr	Certified Photogrammetrist $100.29/hr	Staff Hr. Totals	Staff Cost / Task Totals
Task 4. RIGHT OF WAY (ROW) MAPPING																					
a. Receiver Ests. Control, Establish Up to 10 Secondary Control Pts.	2	7	8	8	60	30														135	$17,512.00
b. Right Of Entry Coordination	2	4	16	24																46	$4,436.00
c. Records Search	6	8	40	20																74	$7,470.00
Right of Way Mapping Subtotal	10	14	64	52	60	30	0	0	0	0	0	0	0	0	0	0	0	0	0	256	$29,730.00
Task 5. SURVEYING																					
a. Flight Acquisition and Initial Processing							2	4	8				2							14	$1,570.32
b. Calibration and Accuracy Verification	1	1	2		30		2	4	8	8			2			24				80	$8,306.16
c. Lidar Point Processing and extraction							2	4	8		34	24	2		117		32			211	$18,206.33
d. Mosaic Images, Create Seam lines, Image Processing							2	4	8				2	16				48	48	118	$11,363.36
e. Direct Expenses																					$36,514.00
Surveying Subtotal	1	1	2	0	30	0	6	16	24	8	34	24	8	16	117	24	32	48	48	423	$78,826.17
SAM SUMMARY	11	15	66	52	90	30	6	16	24	8	34	24	8	16	117	24	32	48	48	679	$108,646.17

Summary of Direct Expenses - WA #1
Surveying And Mapping, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	1,400	$0.535	$749.00
II. Traffic Control	day	1	$1,500.00	$1,500.00
III. GPS Receiver	Hour	120	$25.00	$3,000.00
IV. Deed Records	Sheet	225	$1.00	$225.00
V. Map Records	Sheet	30	$6.00	$180.00
VI. Aerial Lidar System	Day	1	$6,500.00	$6,500.00
VII. Materials and Shipping	EACH	2	$30.00	$60.00
VIII. LiDAR Workstation	Hour	204	$25.00	$5,100.00
IX. Helicopter Airborne Lidar	HOUR	8	$1,650.000	$13,200.00
			SAM Total Direct Expenses	$30,514.00

Summary of Hours by Classification - WA#1
Cobb, Fendley & Associates, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Description of Work or Task	Senior Engineer $235.00/Hr	Project Engineer $125.00/Hr	Sr. Utility Specialist $150.00/Hr	Utility Specialist $125.00/Hr	Senior Technician $135.00/Hr	Technician $110.00/Hr	Staff-Hr. Totals	Staff Cost / Task Totals
Task 1. PROJECT MANAGEMENT								
c. Quality Assurance / Quality Control (QA/QC) Plan							0	$0.00
Continuous QA/QC - Schematic (Utilities - SUE Level D)	4		2				6	$1,240.00
e. Progress / Coordination Meetings (32 Mtgs.total)							0	$0.00
Internal coordination meetings - Schematic	4						4	$940.00
								$0.00
PROJECT MANAGEMENT Subtotal:	8	0	2	0	0	0	10	$2,180.00
Task 2. ROUTE AND DESIGN STUDIES								
a. Data Collection								
Conduct Field Investigations (Utilities SUE Level D)		6	2	8	8	36	60	$7,090.00
Develop & Maintain Ownership Information							0	$0.00
Review Data Collected and Organize information (Utilities SUE Level D)	4		10			4	18	$2,880.00
Direct Expenses								$385.50
ROUTE AND DESIGN STUDIES Subtotal:	4	6	12	8	8	40	78	$10,355.50
CFA SUMMARY	12	6	14	8	8	40	88	$12,535.50

Summary of Direct Expenses - WA #1
Cobb, Fendley & Associates, Inc.
Transportation Corridor A-1 Planning, ENV, & PI

Item Description	Unit	Quantity	Unit Cost	Total Cost
Direct Expenses				
I. Mileage	mile	300	$0.535	**$160.50**
II. In-house Photocopies Color (11" X 17")	SF	75	$3.00	**$225.00**
			CFA Total Direct Expenses	**$385.50**

Commissioners Court - Regular Session **24.**

Meeting Date: 03/07/2017

Atkins Corridor C Contract

Submitted By: Marie Walters, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a contract for Corridor C between Williamson County and Atkins North America, Inc. relating to the LTP Corridor Study.

Background

The compensation cap for this contract is $1,500,000.00 with a Work Authorization #1 being for $595,734.35 which falls within the approved $4M for FY2017 P456 LTP Corridor Study.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Atkins-contract-CorridorC

Atkins-WA1-CorridorC

Form Review

Inbox	Reviewed By	Date
Hal Hawes	Hal Hawes	03/02/2017 10:53 AM
County Judge Exec Asst.	Wendy Coco	03/03/2017 04:08 PM
Form Started By: Marie Walters		Started On: 03/01/2017 06:20 PM
Final Approval Date: 03/03/2017		

RECEIVED
FEB 27 2017
BY: PSI

WILLIAMSON COUNTY
CONTRACT FOR ENGINEERING SERVICES

FIRM: **Atkins North America, Inc. ("Engineer")**
ADDRESS: **6504 Bridge Point Parkway, Suite 200, Austin, Texas 78730**
PROJECT: Corridor C SH 29 Bypass **("Project")**

THE STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

THIS CONTRACT FOR ENGINEERING SERVICES ("Contract") is made and entered into, effective as the date of the last party's execution hereinbelow, by and between Williamson County, Texas, a political subdivision of the State of Texas, whose offices are located at 710 Main Street, Suite 101, Georgetown, Texas, 78626 (hereinafter referred to as "County"), and Engineer, and such Contract is for the purpose of contracting for professional engineering services.

RECITALS:

WHEREAS, V.T.C.A., Government Code §2254.002(2)(A)(vii) under Subchapter A entitled "Professional Services Procurement Act" provides for the procurement by counties of services of professional engineers; and

WHEREAS, County and Engineer desire to contract for such professional engineering services; and

WHEREAS, County and Engineer wish to document their agreement concerning the requirements and respective obligations of the parties;

NOW, THEREFORE, WITNESSETH:

That for and in consideration of the mutual promises contained herein and other good and valuable considerations, and the covenants and agreements hereinafter contained to be kept and performed by the respective parties hereto, it is agreed as follows:

ARTICLE 1
CONTRACT DOCUMENTS AND APPLICABLE PROJECT DOCUMENTS

A. Contract Documents. The Contract Documents consist of this Contract, any exhibits attached hereto (which exhibits are hereby incorporated into and made a part of this Contract), any fully executed Work Authorizations; any fully executed Supplemental Work Authorizations and all fully executed Contract Amendments (as defined herein in Article 14) which are subsequently issued. These form the entire contract, and all are as fully a part of this Contract as if attached to this Contract or repeated herein.

B. Project Documents. In addition to any other pertinent and necessary Project documents, the following documents shall be used in the development of the Project:

A. TxDOT 2011 Texas Manual of Uniform Traffic Control Devices for Streets and Highways, including latest revisions
B. Texas Department of Transportation's Standard Specifications for Construction of Highways, Streets, and Bridges, 2014 (English units)
C. National Environmental Policy Act (NEPA)
D. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, Effective April 4, 1994, including latest revisions
E. Americans with Disabilities Act (ADA) Regulations
F. U.S. Army Corps Regulations
G. International Building Code, current edition as updated
H. Williamson County Design Criteria & Project Development Manual, latest edition
I. Williamson County Multi-Corridor Transportation Plan Project Level Environmental Review and Compliance Protocol, latest edition
J. Williamson County Protocol for Sustainable Roadsides, latest edition
K. TxDOT Bridge Design Manual - LRFD, latest edition
L. TxDOT Geotechnical Manual, latest edition

ARTICLE 2
NON-COLLUSION; DEBARMENT; AND FINANCIAL INTEREST PROHIBITED

A. Non-collusion. Engineer warrants that he/she/it has not employed or retained any company or persons, other than a bona fide employee working solely for Engineer, to solicit or secure this Contract, and that he/she/it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, County reserves and shall have the right to annul this Contract without liability or, in its discretion and at its sole election, to deduct from the contract price or compensation, or to otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

B. Debarment Certification. Engineer must sign the Debarment Certification

enclosed herewith as **Exhibit A**.

C. Financial Interest Prohibited. Engineer covenants and represents that Engineer, his/her/its officers, employees, agents, consultants and subcontractors will have no financial interest, direct or indirect, in the purchase or sale of any product, materials or equipment that will be recommended or required for the construction of the Project.

ARTICLE 3
ENGINEERING SERVICES

Engineer shall perform Engineering Services as identified in **Exhibit B** entitled "Engineering Services."

County will prepare and issue Work Authorizations, in substantially the same form identified and attached hereto as **Exhibit C** and entitled "Work Authorization No. ____", to authorize the Engineer to perform one or more tasks of the Engineering Services. Each Work Authorization will include a description of the work to be performed, a description of the tasks and milestones, a work schedule for the tasks, definite review times by County and Engineer of all Engineering Services and a fee amount agreed upon by the County and Engineer. The amount payable for a Work Authorization shall be supported by the estimated cost of each work task as described in the Work Authorization. The Work Authorization will not waive the Engineer's responsibilities and obligations established in this Contract. The executed Work Authorizations shall become part of this Contract.

All work must be completed on or before the date specified in the Work Authorization. The Engineer shall promptly notify the County of any event which will affect completion of the Work Authorization, although such notification shall not relieve the Engineer from costs or liabilities resulting from delays in completion of the Work Authorization. Should the review times or Engineering Services take longer than shown on the Work Authorization, through no fault of Engineer, Engineer may submit a timely written request for additional time, which shall be subject to the approval of the County. Any changes in a Work Authorization shall be enacted by a written Supplemental Work Authorization before additional costs may be incurred. Any Supplemental Work Authorization must be executed by both parties within the period specified in the Work Authorization.

ARTICLE 4
CONTRACT TERM

A. Term. The Engineer is expected to complete the Engineering Services described herein in accordance with the above described Work Authorizations or any Supplemental Work Authorization related thereto. If Engineer does not perform the Engineering Services in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall have the right to terminate this Contract as set forth below in Article 20. So long as the County elects not to terminate this Contract, it shall continue from day to day until such time as the Engineering Services are completed in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto. Any Engineering Services performed or

costs incurred after the date of termination shall not be eligible for reimbursement. Engineer shall notify County in writing as soon as possible if he/she/it determines, or reasonably anticipates, that the Engineering Services will not be completed in accordance with an applicable Work Authorization or any Supplemental Work Authorization related thereto.

B. Work Authorizations. Engineer acknowledges that each Work Authorization is of critical importance, and agrees to undertake all reasonably necessary efforts to expedite the performance of Engineering Services required herein so that construction of the Project will be commenced and completed as scheduled. In this regard, and subject to adjustments in a particular Work Authorization, as provided in Article 3 herein, Engineer shall proceed with sufficient qualified personnel and consultants necessary to fully and timely accomplish all Engineering Services required under this Contract in a professional manner.

C. Commencement of Engineering Services. After execution of this Contract, Engineer shall not proceed with Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and has been notified in writing by the County to proceed, as provided in Article 8.

ARTICLE 5
COMPENSATION AND EXPENSES

County shall pay and Engineer agrees to accept up to the amount shown below as full compensation for the Engineering Services performed and to be performed under this Contract. The basis of compensation for the services of principals and employees engaged in the performance of the Engineering Services shall be based on the Rate Schedule set forth in the attached **Exhibit D**.

The maximum amount payable under this Contract, without modification, is **One Million Five Hundred Thousand Dollars ($1,500,000.00)** (the "Compensation Cap"), provided that any amounts paid or payable shall be solely pursuant to a validly issued Work Authorization or any Supplemental Work Authorization related thereto. In no event may the aggregate amount of compensation authorized under Work Authorizations and Supplemental Work Authorizations exceed the Compensation Cap. The Compensation Cap shall be revised equitably only by written Contract Amendments executed by both parties in the event of a change the overall scope of the Engineering Services set forth in **Exhibit B**, as authorized by County.

The Compensation Cap is based upon all labor and non-labor costs estimated to be required in the performance of the Engineering Services provided for under this Contract. Should the actual costs of all labor and non-labor costs rendered under this Contract be less than the above stated Compensation Cap, then Engineer shall receive compensation for only actual fees and costs of the Engineering Services actually rendered and incurred, which may be less than the above stated Compensation Cap.

The Compensation Cap herein referenced may be adjusted for Additional Engineering Services requested and performed only if approved by a written Contract Amendment signed by both parties.

Engineer shall prepare and submit to County monthly progress reports in sufficient detail to support the progress of the Engineering Services and to support invoices requesting monthly payment. The format for such monthly progress reports and invoices must be in a format acceptable to County. Satisfactory progress of Engineering Services shall be an absolute condition of payment.

Engineer shall be reimbursed for actual non-labor and subcontract expenses incurred in the performance of the services under this Contract in accordance with the Williamson County Vendor Reimbursement Policy set forth under **Exhibit E.** Invoices requesting reimbursement for costs and expenditures related to the Project (reimbursables) must be accompanied by copies of the provider's invoice and comply with the Williamson County Vendor Reimbursement Policy. The copies of the provider's invoice must evidence the actual costs billed to Engineer without mark-up.

ARTICLE 6
METHOD OF PAYMENT

Payments to Engineer shall be made while Engineering Services are in progress. A monthly progress report, as referenced in Article 5 above (in a form acceptable to the County), shall be submitted to Williamson County Department of Infrastructure, to the attention of the Sr. Director of Infrastructure. Such progress report shall provide a summary of the work accomplished during the billing period for each Work Authorization task with an estimated percentage of completion for the task.

Simultaneous with submission of such progress report, Engineer shall prepare and submit one (1) original of a certified invoice to the Director of Road & Bridge in a form acceptable to the County Auditor. All invoices submitted to County must, at a minimum, be accompanied by an original complete packet of supporting documentation and time sheets detailing hours worked by staff persons with a description of the work performed by such persons. For Additional Engineering Services performed pursuant to this Contract, a separate invoice or itemization of the Additional Engineering Services must be presented with the same aforementioned requirements.

Payments shall be made by County based upon Engineering Services actually provided and performed.[a] Upon timely receipt and approval of each statement, County shall make a good faith effort to pay the amount which is due and payable within thirty (30) days of the County Auditor's receipt. County reserves the right to reasonably withhold payment pending verification of satisfactory Engineering Services performed. Engineer has the responsibility to submit proof to County, adequate and sufficient in its determination, that tasks of an applicable Work Authorization or any Supplemental Work Authorization related thereto were completed.

The certified statements shall show the total amount earned to the date of submission and shall show the amount due and payable as of the date of the current statement. Final payment does not relieve Engineer of the responsibility of correcting any errors and/or omissions resulting from his/her/its negligence.

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[a] *See also,* Art. 32(P) "Termination of Work Authorization".

Upon submittal of the initial invoice, Engineer shall provide the County Auditor with an Internal Revenue Form W-9, Request for Taxpayer Identification Number and Certification that is complete in compliance with the Internal Revenue Code, its rules and regulations.

ARTICLE 7
PROMPT PAYMENT POLICY

In accordance with Chapter 2251, V.T.C.A., Texas Government Code, payment to Engineer will be made within thirty (30) days of the day on which the performance of services was complete, or within thirty (30) days of the day on which the County Auditor receives a correct invoice for services, whichever is later.

Engineer may charge a late fee (fee shall not be greater than that which is permitted by Texas law) for payments not made in accordance with this prompt payment policy; however, this policy does not apply in the event:

A. There is a bona fide dispute between County and Engineer concerning the supplies, materials, or equipment delivered or the services performed that causes the payment to be late; or

B. The terms of a federal contract, grant, regulation, or statute prevent County from making a timely payment with federal funds; or

C. There is a bona fide dispute between Engineer and a subcontractor/subconsultant or between a subcontractor/subconsultant and its supplier concerning supplies, materials, or equipment delivered or the Engineering Services performed which causes the payment to be late; or

D. The invoice is not submitted to Williamson County[b] in strict accordance with instructions, if any, on the purchase order, or this Contract or other such contractual agreement.

The County Auditor shall document to Engineer the issues related to disputed invoices within ten (10) calendar days of receipt of such invoice. Any non-disputed invoices shall be considered correct and payable per the terms of Chapter 2251, V.T.C.A., Texas Government Code.

ARTICLE 8
COMMENCEMENT OF ENGINEERING SERVICES

The Engineer shall not proceed with any task of the Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and instructed, in writing by the County, to proceed with the applicable Engineering Services. The County shall not be responsible for work performed or costs incurred by Engineer related to any task for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties. Engineer shall not be required to perform any work for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties.

ARTICLE 9

[b] *See* Art. 6, *supra.*

PROJECT TEAM

County's Designated Representative for purposes of this Contract is as follows:

Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

County shall have the right, from time to time, to change the County's Designated Representative by giving Engineer written notice thereof. With respect to any action, decision or determination which is to be taken or made by County under this Contract, the County's Designated Representative may take such action or make such decision or determination or shall notify Engineer in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the County's Designated Representative on behalf of County shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the County's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the County's Designated Representative shall be binding on County; *provided, however,* the County's Designated Representative shall not have any right to modify, amend or terminate this Contract, an Executed Work Authorization, an executed Supplemental Work Authorization or executed Contract Amendment. County's Designated Representative shall not have any authority to execute a Contract Amendment, Work Authorization or any Supplemental Work Authorization unless otherwise granted such authority by the Williamson County Commissioners Court.

Engineer's Designated Representative for purposes of this Contract is as follows:

Atkins North America, Inc.
Attn: Brian D. Hall
6504 Bridge Point Parkway, Suite 200
Austin, Texas 78730

Engineer shall have the right, from time to time, to change the Engineer's Designated Representative by giving County written notice thereof. With respect to any action, decision or determination which is to be taken or made by Engineer under this Contract, the Engineer's Designated Representative may take such action or make such decision or determination or shall notify County in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the Engineer's Designated Representative on behalf of Engineer shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the Engineer's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the Engineer's Designated Representative shall be binding on Engineer. Engineer's Designated

Representative shall have the right to modify, amend and execute Work Authorizations, Supplemental Work Authorizations and Contract Amendments on behalf of Engineer.

ARTICLE 10
PROGRESS EVALUATION

Engineer shall, from time to time during the progress of the Engineering Services, confer with County at County's election. Engineer shall prepare and present such information as may be pertinent and necessary, or as may be reasonably requested by County, in order for County to evaluate features of the Engineering Services. At the request of County or Engineer, conferences shall be provided at Engineer's office, the offices of County, or at other locations designated by County. When requested by County, such conferences shall also include evaluation of the Engineering Services. County may, from time to time, require Engineer to appear and provide information to the Williamson County Commissioners Court.

Should County determine that the progress in Engineering Services does not satisfy an applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall review same with Engineer to determine corrective action required.

Engineer shall promptly advise County in writing of events which have or may have a significant impact upon the progress of the Engineering Services, including but not limited to the following:

A. Problems, delays, adverse conditions which may materially affect the ability to meet the objectives of an applicable Work Authorization or any Supplemental Work Authorization related thereto, or preclude the attainment of Project Engineering Services units by established time periods; and such disclosure shall be accompanied by statement of actions taken or contemplated, and County assistance needed to resolve the situation, if any; and

B. Favorable developments or events which enable meeting goals sooner than anticipated in relation to an applicable Work Authorization's or any Supplemental Work Authorization related thereto.

ARTICLE 11
SUSPENSION

Should County desire to suspend the Engineering Services, but not to terminate this Contract, then such suspension may be effected by County giving Engineer thirty (30) calendar days' verbal notification followed by written confirmation to that effect. Such thirty-day notice may be waived in writing by agreement and signature of both parties. The Engineering Services may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from County to resume the Engineering Services. Such sixty-day (60) notice may be waived in writing by agreement and signature of both parties. If this Contract is suspended for more than thirty (30) days, Engineer shall have the option of terminating this Contract and, in the event, Engineer shall be compensated for all Engineering Services performed and reimbursable expenses incurred, provided such Engineering Services and reimbursable expenses have been previously authorized and approved by County, to the effective date of suspension.

If County suspends the Engineering Services, the contract period as determined in Article 4, and the Work Authorization or any Supplemental Work Authorization related thereto, shall be extended for a time period equal to the suspension period.

County assumes no liability for Engineering Services performed or costs incurred prior to the date authorized by County for Engineer to begin Engineering Services, and/or during periods when Engineering Services is suspended, and/or subsequent to the completion date.

ARTICLE 12
ADDITIONAL ENGINEERING SERVICES

If Engineer forms a reasonable opinion that any work he/she/it has been directed to perform is beyond the overall scope of this Contract, as set forth in **Exhibit B,** and as such constitutes extra work ("Additional Engineering Services"), he/she/it shall promptly notify County in writing. In the event County finds that such work does constitute Additional Engineering Services, County shall so advise Engineer and a written Contract Amendment will be executed between the parties as provided in Article 14. Any increase to the Compensation Cap due to Additional Engineering Services must be set forth in such Contract Amendment. Engineer shall not perform any proposed Additional Engineering Services nor incur any additional costs prior to the execution, by both parties, of a written Contract Amendment. Following the execution of a Contract Amendment that provides for Additional Engineering Services, a written Work Authorization, which sets forth the Additional Engineering Services to be performed, must be executed by the parties. County shall not be responsible for actions by Engineer nor for any costs incurred by Engineer relating to Additional Engineering Services not directly associated with the performance of the Engineering Services authorized in this Contract, by a fully executed Work Authorization or a fully executed Contract Amendment thereto.

ARTICLE 13
CHANGES IN COMPLETED ENGINEERING SERVICES

If County deems it necessary to request changes to previously satisfactorily completed Engineering Services or parts thereof which involve changes to the original Engineering Services or character of Engineering Services under this Contract, then Engineer shall make such revisions as requested and as directed by County. Such revisions shall be considered as Additional Engineering Services and paid for as specified under Article 12.

Engineer shall make revisions to Engineering Services authorized hereunder as are necessary to correct errors appearing therein, when required to do so by County. No additional compensation shall be due for such Engineering Services.

ARTICLE 14
CONTRACT AMENDMENTS

The terms set out in this Contract may be modified by a written fully executed Contract Amendment. Changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization. To the extent that such changes or

modifications to a Work Authorization do not also require modifications to the terms of this Contract (i.e. changes to the overall scope of Engineering Services set forth in **Exhibit B**, modification of the Compensation Cap, etc.) a Contract Amendment will not be required.

ARTICLE 15
USE OF DOCUMENTS

All documents, including but not limited to drawings, specifications and data or programs stored electronically, (hereinafter referred to as "Engineering Work Products") prepared by Engineer and its subcontractors/subconsultants are related exclusively to the services described in this Contract and are intended to be used with respect to this Project. However, it is expressly understood and agreed by and between the parties hereto that all of Engineer's designs under this Contract (including but not limited to tracings, drawings, estimates, specifications, investigations, studies and other documents, completed or partially completed), shall be the property of County to be thereafter used in any lawful manner as County elects. Any such subsequent use made of documents by County shall be at County's sole risk and without liability to Engineer.

By execution of this Contract and in confirmation of the fee for services to be paid under this Contract, Engineer hereby conveys, transfers and assigns to County all rights under the Federal Copyright Act of 1976 (or any successor copyright statute), as amended, all common law copyrights and all other intellectual property rights acknowledged by law in the Project Designs and work product developed under this Contract. Copies may be retained by Engineer. Engineer shall be liable to County for any loss or damage to any such documents while they are in the possession of or while being worked upon by Engineer or anyone connected with Engineer, including agents, employees, Engineers or subcontractors/subconsultants. All documents so lost or damaged shall be replaced or restored by Engineer without cost to County.

Upon execution of this Contract, Engineer grants to County permission to reproduce Engineer's work and documents for purposes of constructing, using and maintaining the Project, provided that County shall comply with its obligations, including prompt payment of all sums when due, under this Contract. Engineer shall obtain similar permission from Engineer's subcontractors/subconsultants consistent with this Contract. If and upon the date Engineer is adjudged in default of this Contract, County is permitted to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the work and documents for the purposes of completing, using and maintaining the Project.

County shall not assign, delegate, sublicense, pledge or otherwise transfer any permission granted herein to another party without the prior written consent of Engineer. However, County shall be permitted to authorize the contractor, subcontractors and material or equipment suppliers to reproduce applicable portions of the Engineering Work Products appropriate to and for use in the execution of the Work. Submission or distribution of Engineering Work Products to meet official regulatory requirements or for similar purposes in connection with the Project is permitted. Any unauthorized use of the Engineering Work Products shall be at County's sole risk and without liability to Engineer and its Engineers.

Prior to Engineer providing to County any Engineering Work Products in electronic form or County providing to Engineer any electronic data for incorporation into the Engineering Work Products, County and Engineer shall by separate written contract set forth the specific conditions governing the format of such Engineering Work Products or electronic data, including any special limitations not otherwise provided in this Contract. Any electronic files are provided by Engineer for the convenience of County, and use of them is at County's sole risk. In the case of any defects in electronic files or any discrepancies between them and any hardcopy of the same documents prepared by Engineer, the hardcopy shall prevail. Only printed copies of documents conveyed by Engineer shall be relied upon.

Engineer shall have no liability for changes made to the drawings by other engineers subsequent to the completion of the Project. Any such change shall be sealed by the engineer making that change and shall be appropriately marked to reflect what was changed or modified.

ARTICLE 16
PERSONNEL, EQUIPMENT AND MATERIAL

Engineer shall furnish and maintain, at its own expense, quarters for the performance of all Engineering Services, and adequate and sufficient personnel and equipment to perform the Engineering Services as required. All employees of Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Engineer who, in the reasonable opinion of County, is incompetent or whose conduct becomes detrimental to the Engineering Services shall immediately be removed from association with the Project when so instructed by County. Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the Engineering Services required under this Contract, or will obtain such personnel from sources other than County. Engineer may not change the Project Manager without prior written consent of County.

ARTICLE 17
SUBCONTRACTING

Engineer shall not assign, subcontract or transfer any portion of the Engineering Services under this Contract without prior written approval from County. All subcontracts shall include the provisions required in this Contract. No subcontract shall relieve Engineer of any responsibilities under this Contract.

ARTICLE 18
REVIEW OF ENGINEERING SERVICES

Engineer's Engineering Services will be reviewed by County under its applicable technical requirements and procedures.

A. Completion. Reports, plans, specifications, and supporting documents shall be submitted by Engineer on or before the dates specified in the applicable Work Authorization or Supplemental Work Authorization related thereto. Upon receipt of same, the submission shall be checked for completion. "Completion" or "Complete" shall be defined as all of the required items, as set out in the applicable Work Authorization, have been included in compliance with the requirements of this Contract. The completeness of any Engineering Services submitted to County shall be determined by County within thirty (30) days of such submittal and County shall notify Engineer in writing within such thirty (30) day period if such Engineering Services have been found to be incomplete. If the submission is Complete, County shall notify Engineer and County's technical review process will begin.

If the submission is not Complete, County shall notify Engineer, who shall perform such professional services as are required to complete the Engineering Services and resubmit it to County. This process shall be repeated until a submission is Complete.

B. Acceptance. County shall review the completed Engineering Services for compliance with this Contract. If necessary, the completed Engineering Services shall be returned to Engineer, who shall perform any required Engineering Services and resubmit it to County. This process shall be repeated until the Engineering Services are Accepted. "Acceptance" or "Accepted" shall mean that in the County's reasonable opinion, substantial compliance with the requirements of this Contract has been achieved.

C. Final Approval. After Acceptance, Engineer shall perform any required modifications, changes, alterations, corrections, redesigns, and additional work necessary to receive Final Approval by the County. "Final Approval" in this sense shall mean formal recognition that the Engineering Services have been fully carried out.

D. Errors and Omissions. After Final Approval, Engineer shall, without additional compensation, perform any work required as a result of Engineer's development of the work which is found to be in error or omission due to Engineer's negligence. However, any work required or occasioned for the convenience of County after Final Approval shall be paid for as Additional Engineering Services.

E. Disputes Over Classifications. In the event of any dispute over the classification of Engineer's Engineering Services as Complete, Accepted, or having attained Final Approved under this Contract, the decision of the County shall be final and binding on Engineer, subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

F. County's Reliance on Engineer. ENGINEER'S DUTIES AS SET FORTH HEREIN SHALL AT NO TIME BE IN ANY WAY DIMINISHED BY REASON OF ANY REVIEW, EVALUATION OR APPROVAL BY THE COUNTY NOR SHALL THE ENGINEER BE RELEASED FROM ANY LIABILITY BY REASON OF SUCH REVIEW, EVALUATION OR APPROVAL BY THE COUNTY, IT BEING UNDERSTOOD THAT THE COUNTY AT ALL TIMES IS ULTIMATELY RELYING UPON THE ENGINEER'S SKILL, ABILITY AND KNOWLEDGE IN PERFORMING THE ENGINEERING SERVICES REQUIRED HEREUNDER.

ARTICLE 19
VIOLATION OF CONTRACT TERMS/BREACH OF CONTRACT

Violation of contract terms or breach of contract by Engineer shall be grounds for termination of this Contract, and any increased costs arising from Engineer's default, breach of contract, or violation of contract terms shall be paid by Engineer.

ARTICLE 20
TERMINATION

This Contract may be terminated as set forth below.

A. By mutual agreement and consent, in writing, of both parties.

B. By County, by notice in writing to Engineer, as a consequence of failure by Engineer to perform the Engineering Services set forth herein in a satisfactory manner.

C. By either party, upon the failure of the other party to fulfill its obligations as set forth herein.

D. By County, for reasons of its own and not subject to the mutual consent of Engineer, upon not less than thirty (30) days' written notice to Engineer.

E. By satisfactory completion of all Engineering Services and obligations described herein.

Should County terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination plus reimbursable expenses incurred shall thereafter be paid to Engineer. In determining the value of the Engineering Services performed by Engineer prior to termination, County shall be the sole judge. Compensation for Engineering Services at termination will be based on a percentage of the Engineering Services completed at that time. Should County terminate this Contract under Subsection (D) immediately above, then the amount charged during the thirty-day notice period shall not exceed the amount charged during the preceding thirty (30) days.

If Engineer defaults in the performance of this Contract or if County terminates this Contract for fault on the part of Engineer, then County shall give consideration to the actual costs incurred by Engineer in performing the Engineering Services to the date of default, the amount of Engineering Services required which was satisfactorily completed to date of default, the value of the Engineering Services which are usable to County, the cost to County of employing another firm to complete the Engineering Services required and the time required to do so, and other factors which affect the value to County of the Engineering Services performed at the time of default.

The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of County under this Contract. If the termination of this Contract is due to the failure of Engineer to fulfill his/her/its contractual obligations, then County may take over the Project and prosecute the Engineering Services to

completion. In such case, Engineer shall be liable to County for any additional and reasonable costs incurred by County.

Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurements made by Engineer in support of the Engineering Services under this Contract.

ARTICLE 21
COMPLIANCE WITH LAWS

A. Compliance. Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including without limitation, minimum/maximum salary and wage statutes and regulations, and licensing laws and regulations. Engineer shall furnish County with satisfactory proof of his/her/its compliance.

Engineer shall further obtain all permits and licenses required in the performance of the Engineering Services contracted for herein.

B. Taxes. Engineer will pay all taxes, if any, required by law arising by virtue of the Engineering Services performed hereunder. County is qualified for exemption pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise, and Use Tax Act.

ARTICLE 22
INDEMNIFICATION

ENGINEER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM AN NEGLIGENT ACT OR OMISSION, NEGLIGENCE, OR INTENTIONAL TORT COMMITTED BY ENGINEER, ENGINEER'S EMPLOYEES, AGENTS, OR ANY OTHER PERSON OR ENTITY UNDER CONTRACT WITH ENGINEER INCLUDING, WITHOUT LIMITATION, ENGINEER'S SUBCONSULTANTS, OR ANY OTHER ENTITY OVER WHICH ENGINEER EXERCISES CONTROL.

ENGINEER FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM ENGINEER'S FAILURE TO PAY ENGINEER'S EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY ENGINEER.

ENGINEER FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES,

INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM THE INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY ENGINEER IN THE PERFORMANCE OF THIS CONTRACT.

THE LIMITS OF INSURANCE REQUIRED IN THIS CONTRACT AND/OR THE CONTRACT DOCUMENTS SHALL NOT LIMIT ENGINEER'S OBLIGATIONS UNDER THIS SECTION. THE TERMS AND CONDITIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THE CONTRACT AND/OR CONTRACT DOCUMENTS OR THE SUSPENSION OF THE WORK HEREUNDER. TO THE EXTENT THAT ANY LIABILITIES, PENALTIES, DEMANDS, CLAIMS, LAWSUITS, LOSSES, DAMAGES, COSTS AND EXPENSES ARE CAUSED IN PART BY THE ACTS OF THE COUNTY OR THIRD PARTIES FOR WHOM ENGINEER IS NOT LEGALLY LIABLE, ENGINEER'S OBLIGATIONS SHALL BE IN PROPORTION TO ENGINEER'S FAULT. THE OBLIGATIONS HEREIN SHALL ALSO EXTEND TO ANY ACTIONS BY THE COUNTY TO ENFORCE THIS INDEMNITY OBLIGATION.

IN THE EVENT THAT CONTRACTORS INITIATE LITIGATION AGAINST THE COUNTY IN WHICH THE CONTRACTOR ALLEGES DAMAGES AS A RESULT OF ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, INCLUDING, BUT NOT LIMITED TO, DEFECTS, ERRORS, OR OMISSIONS, THEN THE COUNTY SHALL HAVE THE RIGHT TO JOIN ENGINEER IN ANY SUCH PROCEEDINGS AT THE COUNTY'S COST. ENGINEER SHALL ALSO HOLD THE COUNTY HARMLESS AND INDEMNIFY THE COUNTY TO THE EXTENT THAT ENGINEER, ANY OF ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, CAUSED SUCH DAMAGES TO CONTRACTOR, INCLUDING ANY AND ALL COSTS AND ATTORNEYS' FEES INCURRED BY THE COUNTY IN CONNECTION WITH THE DEFENSE OF ANY CLAIMS WHERE ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, ARE ADJUDICATED AT FAULT.

ARTICLE 23
ENGINEER'S RESPONSIBILITIES

Engineer shall be responsible for the accuracy of his/her/its Engineering Services and shall promptly make necessary revisions or corrections to its work product resulting from errors, omissions, or negligent acts, and same shall be done without compensation. County shall determine Engineer's responsibilities for all questions arising from design errors and/or omissions, subject to the dispute resolution provisions of Article 33. Engineer shall not be relieved of responsibility for subsequent correction of any such errors or omissions in its work product, or for clarification of any ambiguities until after the construction phase of the Project has been completed.

ARTICLE 24
ENGINEER'S SEAL

The responsible engineer shall sign, seal and date all appropriate engineering submissions to County in accordance with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

ARTICLE 25
INSURANCE

Engineer must comply with the following insurance requirements at all times during this Contract:

A. Coverage Limits. Engineer, at Engineer's sole cost, shall purchase and maintain during the entire term while this Contract is in effect the following insurance:

1. Worker's Compensation in accordance with statutory requirements.
2. Commercial General Liability Insurance with a combined minimum Bodily Injury and Property Damage limits of $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.
3. Automobile Liability Insurance for all owned, non-owned, and hired vehicles with combined minimum limits for Bodily Injury and Property Damage limits of $500,000.00 per occurrence and $1,000,000.00 in the aggregate.
4. Professional Liability Errors and Omissions Insurance in the amount of $2,000,000.00 per claim.

B. Additional Insureds; Waiver of Subrogation. County, its directors, officers and employees shall be added as additional insureds under policies listed under (2) and (3) above, and on those policies where County, its directors, officers and employees are additional insureds, such insurance shall be primary and any insurance maintained by County shall be excess and not contribute with it. Such policies shall also include waivers of subrogation in favor of County.

C. Premiums and Deductible. Engineer shall be responsible for payment of premiums for all of the insurance coverages required under this section. Engineer further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Engineer is responsible hereunder, Engineer shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over $160,000 in the Engineer's insurance must be declared and approved in writing by County in advance.

D. Commencement of Work. Engineer shall not commence any field work under this Contract until he/she/it has obtained all required insurance and such insurance has been approved by County. As further set out below, Engineer shall not allow any subcontractor/subconsultant(s) to commence work to be performed in connection with this Contract until all required insurance has been obtained and approved and such approval shall not be unreasonably withheld. Approval of the insurance by County shall not relieve or decrease the liability of Engineer hereunder.

E. Insurance Company Rating. The required insurance must be written by a company approved to do business in the State or Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued.

F. Certification of Coverage. Engineer shall furnish County with a certification of coverage issued by the insurer. Engineer shall not cause any insurance to be canceled nor permit any insurance to lapse. **In addition to any other notification requires set forth hereunder, Engineer shall also notify County, within twenty-four (24) hours of receipt, of any notices of expiration, cancellation, non-renewal, or material change in coverage it receives from its insurer.**

G. No Arbitration. It is the intention of the County and agreed to and hereby acknowledged by the Engineer, that no provision of this Contract shall be construed to require the County to submit to mandatory arbitration in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder or as may be required by law or a court of law with jurisdiction over the provisions of this Contract.

H. Subcontractor/Subconsultant's Insurance. Without limiting any of the other obligations or liabilities of Engineer, Engineer shall require each subcontractor/subconsultant performing work under this Contract (to the extent a subcontractor/subconsultant is allowed by County) to maintain during the term of this Contract, at the subcontractor/subconsultant's own expense, the same stipulated minimum insurance required in this Article above, including the required provisions and additional policy conditions as shown below in this Article.

Engineer shall obtain and monitor the certificates of insurance from each subcontractor/subconsultant in order to assure compliance with the insurance requirements. Engineer must retain the certificates of insurance for the duration of this Contract, and shall have the responsibility of enforcing these insurance requirements among its subcontractor/subconsultants. County shall be entitled, upon request and without expense, to receive copies of these certificates of insurance.

I. Insurance Policy Endorsements. Each insurance policy shall include the following conditions by endorsement to the policy:

1. County shall be notified thirty (30) days prior to the expiration, cancellation, non-renewal or any material change in coverage, and such notice thereof shall be given to County by certified mail to:

   Williamson County Auditor
   c/o: Pam Navarrette
   710 Main Street, Suite 301
   Georgetown, Texas 78626

   With copy to: Williamson County Dept. of Infrastructure

Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

2. The policy clause "Other Insurance" shall not apply to any insurance coverage currently held by County, to any such future coverage, or to County's Self-Insured Retentions of whatever nature.

J. Cost of Insurance. The cost of all insurance required herein to be secured and maintained by Engineer shall be borne solely by Engineer, with certificates of insurance evidencing such minimum coverage in force to be filed with County. Such Certificates of Insurance are evidenced as **Exhibit F** herein entitled "Certificates of Insurance."

ARTICLE 26
COPYRIGHTS

County shall have the royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use, any reports developed by Engineer for governmental purposes.

ARTICLE 27
SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and inure to the benefit of the parties hereto, their successors, lawful assigns, and legal representatives. Engineer may not assign, sublet or transfer any interest in this Contract, in whole or in part, by operation of law or otherwise, without obtaining the prior written consent of County.

ARTICLE 28
SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

ARTICLE 29
PRIOR AGREEMENTS SUPERSEDED

This Contract constitutes the sole agreement of the parties hereto, and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein. This Contract may only be amended or supplemented by mutual agreement of the parties hereto in writing.

ARTICLE 30
ENGINEER'S ACCOUNTING RECORDS

Engineer agrees to maintain, for a period of three (3) years after final payment under this Contract, detailed records identifying each individual performing the Engineering Services, the date or dates the services were performed, the applicable hourly rates, the total amount billed for each individual and the total amount billed for all persons, records of reimbursable costs and expenses of other providers and provide such other details as may be requested by the County Auditor for verification purposes. Engineer agrees that County or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any and all books, documents, papers and records of Engineer which are directly pertinent to the services to be performed under this Contract for the purposes of making audits, examinations, excerpts, and transcriptions. Engineer further agrees that County shall have access during normal working hours to all necessary Engineer facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. County shall give Engineer reasonable advance notice of intended audits.

ARTICLE 31
NOTICES

All notices to either party by the other required under this Contract shall be personally delivered or mailed to such party at the following respective addresses:

County: Williamson County Judge
710 Main Street, Suite 101
Georgetown, Texas 78626

With copy to: Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

and to: Office of General Counsel
Williamson County
710 Main Street, Suite 102
Georgetown, Texas 78626

Engineer: **Atkins North America, Inc.**
Attn: Steven Lindsey
6504 Bridge Point Parkway, Suite 200
Austin, Texas 78730

ARTICLE 32

GENERAL PROVISIONS

A. Time is of the Essence. Subject to Article 3 hereof, Engineer understands and agrees that time is of the essence and that any failure of Engineer to complete the Engineering Services for each phase of this Contract within the agreed work schedule set out in the applicable Work Authorization may constitute a material breach of this Contract. Engineer shall be fully responsible for his/her/its delays or for failures to use his/her/its reasonable efforts in accordance with the terms of this Contract and the Engineer's standard of performance as defined herein. Where damage is caused to County due to Engineer's negligent failure to perform County may accordingly withhold, to the extent of such damage, Engineer's payments hereunder without waiver of any of County's additional legal rights or remedies.

B. Force Majeure. Neither County nor Engineer shall be deemed in violation of this Contract if prevented from performing any of their obligations hereunder by reasons for which they are not responsible or circumstances beyond their control. However, notice of such impediment or delay in performance must be timely given, and all reasonable efforts undertaken to mitigate its effects.

C. Enforcement and Venue. This Contract shall be enforceable in Georgetown, Williamson County, Texas, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for same shall lie in Williamson County, Texas. This Contract shall be governed by and construed in accordance with the laws and court decisions of the State of Texas excluding, however, its choice of law rules.

D. Standard of Performance. The standard of care for all professional engineering, consulting and related services performed or furnished by Engineer and its employees under this Contract will be the care and skill ordinarily used by members of Engineer's profession practicing under the same or similar circumstances at the same time and in the same locality.

E. Opinion of Probable Cost. Any opinions of probable Project cost or probable construction cost provided by Engineer are made on the basis of information available to Engineer and on the basis of Engineer's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, Engineer does not guarantee that proposals, bids or actual Project or construction cost will not vary from opinions of probable cost Engineer prepares.

F. Opinions and Determinations. Where the terms of this Contract provide for action to be based upon opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

G. Reports of Accidents. Within 24 hours after Engineer becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Engineer), whether or not it results

from or involves any action or failure to act by the Engineer or any employee or agent of the Engineer and which arises in any manner from the performance of this Contract, the Engineer shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Engineer, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Engineer's performance of work under this Contract.

H. Gender, Number and Headings. Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Contract.

I. Construction. Each party hereto acknowledges that it and its counsel have reviewed this Contract and that the normal rules of construction are not applicable and there will be no presumption that any ambiguities will be resolved against the drafting party in the interpretation of this Contract.

J. Independent Contractor Relationship. Both parties hereto, in the performance of this Contract, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

K. No Waiver of Immunities. Nothing in this Contract shall be deemed to waive, modify or amend any legal defense available at law or in equity to County, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

L. Texas Public Information Act. To the extent, if any, that any provision in this Contract is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that County, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to County as to whether or not the same are available to the public. It is further understood that County's officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

M. Governing Terms and Conditions. If there is an irreconcilable conflict between the terms and conditions set forth in this Contract or any Contract Amendment and the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract, the terms and conditions set forth in this Contract or any Contract

Amendment shall control over the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract.

N. **Meaning of Day.** For purposes of this Contract, all references to a "day" or "days" shall mean a calendar day or calendar days.

O. **Appropriation of Funds by County.** County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Contract. Engineer understands and agrees that County's payment of amounts under this Contract is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

P. **Termination of Work Authorization.** Should it be determined that the progress in the production of Engineer's services and work does not satisfy the requirements of the approved Work Authorization as provided by Exhibit "C", attached hereto, the County shall review the approved Work Authorization with the Engineer to determine the corrective action needed, including potential termination of such Work Authorization by Williamson County. Additionally, if an approved Work Authorization has not been completed by the end of the applicable County fiscal year under this contract and the Williamson County Commissioners Court does not provide for funding through its budgetary oversight for the subsequent County fiscal year, Williamson County reserves the right to terminate such Work Authorization at its discretion.

ARTICLE 33
DISPUTE RESOLUTION

Except as otherwise specifically set forth herein, County and Engineer shall work together in good faith to resolve any controversy, dispute or claim between them which arises out of or relates to this Contract, whether stated in tort, contract, statute, claim for benefits, bad faith, professional liability or otherwise ("Claim"). If the parties are unable to resolve the Claim within thirty (30) days following the date in which one party sent written notice of the Claim to the other party, and if a party wishes to pursue the Claim, such Claim shall be addressed through non-binding mediation. A single mediator engaged in the practice of law, who is knowledgeable about subject matter of this Contract, shall be selected by agreement of the parties and serve as the mediator. Any mediation under this Contract shall be conducted in Williamson County, Texas. The mediator's fees shall be borne equally between the parties. Such non-binding mediation is a condition precedent to seeking redress in a court of competent jurisdiction, but this provision shall not preclude either party from filing a lawsuit in a court of competent jurisdiction prior to completing a mediation if necessary to preserve the statute of limitations, in which case such lawsuit shall be stayed pending completion of the mediation process contemplated herein. This provision shall survive the termination of the Contract.

ARTICLE 34
EQUAL OPPORTUNITY IN EMPLOYMENT

During the performance of this Contract and to the extent the Project is a federally funded project, Engineer, for itself, its assignees and successors in interest agrees as follows:

A. Compliance with Regulations. The Engineer shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

B. Nondiscrimination. The Engineer, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors/subconsultants, including procurements of materials and leases of equipment. The Engineer shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor/subconsultant or supplier shall be notified by the Engineer of the Engineer's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports. The Engineer shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the County (referred to in this Article as the "Recipient") or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the Engineer shall so certify to the Recipient, or the Texas Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance. In the event of the Engineer's noncompliance with the nondiscrimination provisions of this contract, the Recipient shall impose such contract sanctions as it or the Texas Department of Transportation may determine to be appropriate, including, but not limited to:

1. withholding of payments to the Engineer under the contract until the Engineer complies, and/or;
2. cancellation, termination or suspension of the Contract, in whole or in part.

F. Incorporation of Provisions. The Engineer shall include the provisions of Subsections (A) through (F) above in every subcontract, including procurements of materials and

leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Engineer shall take such action with respect to any subcontract or procurement as the Recipient or the Texas Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor/subconsultant or supplier as a result of such direction, the Engineer may request the Recipient to enter into such litigation to protect the interests of the Recipient, and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

SIGNATORY WARRANTY

The undersigned signatory for Engineer hereby represents and warrants that the signatory is an officer of the organization for which he/she has executed this Contract and that he/she has full and complete authority to enter into this Contract on behalf of the firm. The above-stated representations and warranties are made for the purpose of inducing County to enter into this Contract.

IN WITNESS WHEREOF, County has caused this Contract to be signed in its name by its duly authorized County Judge, as has Engineer, signing by and through its duly authorized representative(s), thereby binding the parties hereto, their successors, assigns and representatives for the faithful and full performance of the terms and provisions hereof, to be effective as of the date of the last party's execution below. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND, TERMINATE OR MODIFY THIS CONTRACT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

COUNTY

WILLIAMSON COUNTY, TEXAS

OK
2/23/2017

By: _____
Dan A. Gattis, County Judge

Date: _____ ____, 20____

ENGINEER

Atkins North America, Inc.

By B. D. Hall

Printed Name: Brian D. Hall

Title: Vice President

Date: February 27, 2017

SUBSCRIBED and sworn to before me the undersigned authority by Brian D. Hull
_____ the Vice President of **ENGINEER**, on behalf of said firm.

Cindy Lou Scott
Notary Public in and for the
State of Texas

My commission expires: February 04, 2018.

CINDY LOU SCOTT
Notary Public, State of Texas
My Commission Expires
February 04, 2018

LIST OF EXHIBITS ATTACHED

(1) **Exhibit A** Debarment Certification

(2) **Exhibit B** Engineering Services

(3) **Exhibit C** Work Authorization

(4) **Exhibit D** Rate Schedule

(5) **Exhibit E** Williamson County Vendor Reimbursement Policy

(6) **Exhibit F** Certificates of Insurance

EXHIBIT A
DEBARMENT CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Engineer and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public* transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity* with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions* terminated for cause or default; and

(e) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

Atkins North America, Inc.
Name of Firm

B. D. Hall
Signature of Certifying Official

Brian D. Hall
Printed Name of Certifying Official

Vice President
Title of Certifying Official

February 27, 2017
Date

(2) Where the PROVIDER is unable to certify to any of the statements in this certification, such PROVIDER shall attach an explanation to this certification.

* federal, state, or local

SUBSCRIBED and sworn to before me the undersigned authority by Brian D. Hull _____ the Vice President of Atkins North America, on behalf of said firm.

Cindy Lou Scott

Notary Public in and for the
State of Texas

My commission expires: February 04, 2018

CINDY LOU SCOTT
Notary Public, State of Texas
My Commission Expires
February 04, 2018

EXHIBIT B

ENGINEERING SERVICES

General Work Description: Provide engineering services and planning to develop Transportation Corridor C as shown on the attached map.

The Engineer may perform any or all of the following tasks listed below, as described in detail in each Work Authorization:

TASK 1 - PROJECT MANAGEMENT

TASK 2 - ROUTE AND DESIGN STUDIES

TASK 3 - PUBLIC INVOLVEMENT

TASK 4 - SURVEYING

TASK 5 - ROW MAPPING

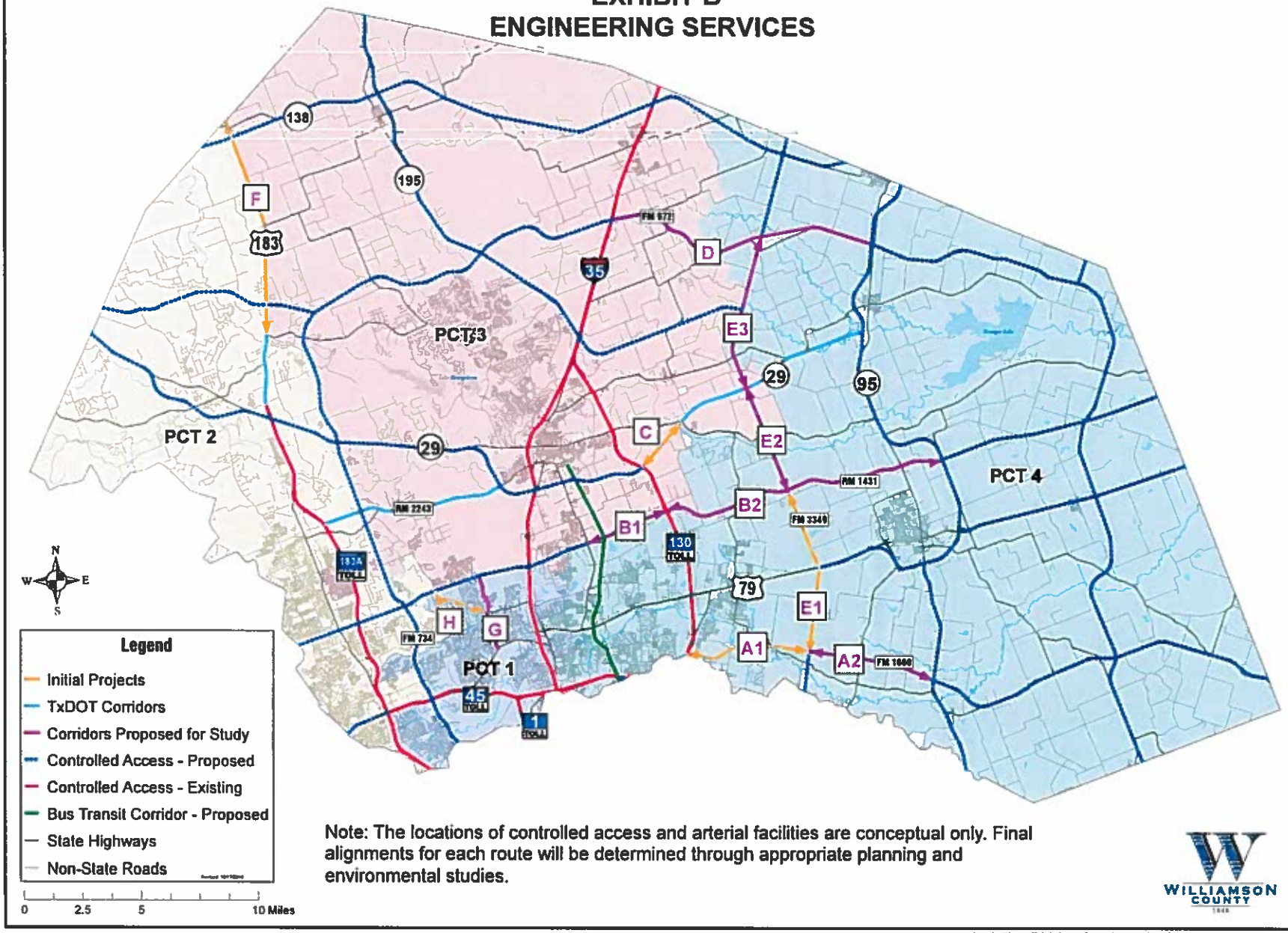
TASK 6 - ENVIRONMENTAL STUDIES & DOCUMENTS

TASK 7 - GEOTECHNICAL SERVICES

TASK 8 - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

TASK 9 - CONSTRUCTION PHASE SERVICES

EXHIBIT B
ENGINEERING SERVICES



Note: The locations of controlled access and arterial facilities are conceptual only. Final alignments for each route will be determined through appropriate planning and environmental studies.

WILLIAMSON COUNTY

EXHIBIT C

WORK AUTHORIZATION

(To Be Completed and Executed After Contract Execution)

WORK AUTHORIZATION NO. _____
PROJECT: _____

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ ____, 20____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and _____ (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is _____.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on _____ ____, 20_____. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:	COUNTY:
[Insert Company Name HERE]	Williamson County, Texas
By:_____	By:_____
Signature	Signature
_____	_____
Printed Name	Printed Name
_____	_____
Title	Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

EXHIBIT D

RATE SCHEDULE

See attached Rate Schedules for:
1. Atkins North America, Inc.
2. K Friese + Associates, Inc.
3. P.E. Structural Consultants, Inc.
4. Rifeline, LLC
5. Zara Environmental, LLC
6. HVJ Associates, Inc.
7. Inland Geodetics, LLC
8. Surveying and Mapping, LLC
9. Buie & Co.
10. CD&P

CPI Rate Adjustments: Rates will remain firm for the initial first year of the Contract and such rates shall be deemed the "Initial Base Rates". Engineer must request rate adjustments, in writing, at least thirty (30) days prior to each annual anniversary date of the Contract and any rate changes will take effect on the first day following the prior year. If Engineer fails to request a CPI rate adjustment, as set forth herein, the adjustment will be effective thirty (30) days after the County receives Engineer's written request. No retroactive rate adjustments will be allowed.

Price adjustments will be made in accordance with changes in the U.S. Department of Labor Consumer Price Index (CPI-U) for All Urban Consumers, All Items, South Region (Base 1982-84 = 100).

The rate adjustment will be determined by multiplying the Initial Base Rates by a fraction, the numerator of which is the index number for most recently released index before each annual anniversary date of the Contract and the denominator of which is the index number for the first month of the Contract (the index number for the month in which the Contract was originally executed). If the products are greater than the Initial Base Rates, County will pay the greater amounts as the rates during the successive year until the next rate adjustment. Rates for each successive year will never be less than the Initial Base Rates.

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

Atkins North America, Inc.	
CATEGORY	**RATE**
Principal	$275.00
Sr Advisor/Sr Project Manager	$275.00
Project Manager	$250.00
Sr Engineer II	$270.00
Sr Engineer I	$210.00
Project Engineer	$160.00
Design Engineer	$123.00
EIT	$100.00
Sr Engineer Tech	$130.00
Engineer Tech	$100.00
Sr CADD Operator	$123.00
CADD Operator	$77.00
Sr Environmental Planner	$185.00
Environmental Planner	$170.00
Jr Environmental Planner	$115.00
Sr Environmental Specialist	$135.00
Environmental Specialist	$110.00
Jr Environmental Specialist	$92.00
Sr GIS Analyst	$123.00
GIS Analyst	$78.00
Graphics Technician	$75.00
Sr Public Involvement Specialist	$153.00
Public Involvement Specialist	$123.00
Jr Public Involvement Specialist	$92.00
Sr Transportation Planner	$185.00
Transportation Planner	$145.00
Jr Transportation Planner	$101.00
Scheduler	$138.00
Contract Specialist	$108.00
Admin/Clerical	$71.00
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate
Large Format Color Plotting (per square foot)	$1.00
Drymount on 1/4" Foam Core (per square foot)	$3.00
Photocopies B/W (8 1/2" X 11") (per page)	$0.10
Photocopies Color (8 1/2" X 11") (per page)	$0.25
Photocopies B/W (11" X 17") (per page)	$0.15
Photocopies Color (11" X 17") (per page)	$0.50

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

K Friese & Associates, Inc.	
CATEGORY	**RATE**
Principal	$250.00
Project Manager	$165.00
Senior Engineer	$187.50
Engineer	$125.00
EIT	$100.00
Sr. Engr. Tech.	$90.00
Admin/Clerical	$75.00
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

PE Structural Consultants, Inc.	
CATEGORY	**RATE**
Principal Engineer	$200.00
Sr QC Engineer	$165.00
Sr Project Manager	$155.00
Senior Engineer	$145.00
Project Engineer	$120.00
Design Engineer	$105.00
EIT II	$95.00
EIT I	$87.00
Graduate Engineer	$70.00
Sr CADD Manager	$120.00
CADD Technician	$85.00
Jr CADD Technician	$70.00
Admin/Clerical	$60.00
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate
Photocopies B/W (8 1/2" X 11") (per page)	$0.10
Photocopies Color (8 1/2" X 11") (per page)	$1.00
Photocopies B/W (11" X 17") (per page)	$0.15
Photocopies Color (11" X 17") (per page)	$1.50

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

Rifeline, LLC	
CATEGORY	**RATE**
President	$200.00
Vice President	$180.00
Sr. Public Affairs Manager	$180.00
Director of Communications and Strategy	$170.00
Public Involvement Manager	$160.00
Community Outreach Manager	$150.00
Community Outreach Coordinator	$120.00
Admin/Clerical	$58.00
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate
Photocopies B/W (8 1/2" X 11") (per page)	$0.10
Photocopies Color (8 1/2" X 11") (per page)	$0.75

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

Zara Environmental, LLC	
CATEGORY	**RATE**
Senior Project Manager	$159.00
Lead Diver	$159.00
Project Manager	$138.00
Permitted Scientist	$111.00
Hydrogeologist	$111.00
Geoscientist	$111.00
Diver	$111.00
Geology Technician	$90.00
Taxonomy Expert	$212.00
Karst Invertebrate Specialist	$111.00
Karst Technician	$90.00
Senior Biologist	$111.00
Biology Technician	$90.00
GIS Technician	$90.00
Technical Writer/Editor	$90.00
Administrative	$64.00
Technician IV	$75.00
Technician III	$66.28
Technician II	$57.85
Technician I	$33.75
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

HVJ Associates		
CATEGORY	**RATE**	
Sr Advisor/Sr Project Manager	$175.00	
Project Manager	$125.00	
EIT	$100.00	
Sr Technician	$60.00	
Technician	$55.00	
Sr CADD Operator	$95.00	
Admin/Clerical	$65.00	
DIRECT EXPENSES		**UNIT**
Mileage (per mile)	Current Federal Rate	mile
Mobilization/Demobilization	$400.00	each
Drill Rig Minimum Charge	$900.00	each
Undisturbed sample boring w/3" Shelby tube	$22.50	per foot
Add for coring in rock (Rock Coring Cost - Soft & Hard Rock) 0'-25' Depth	$22.50	per foot
Texas Cone Penetration Test	$25.00	each
Standard Penetration Test	$22.50	each
Grout Backfill	$5.00	per foot
Moisture Content	$18.00	each
Hydrometer Analysis	$200.00	each
Atterberg Limits	$75.00	each
Unconfined Compressive Strength Test	$65.00	each
Texas Triaxial	$1,750.00	each
Percent Passing No. 200 Sieve	$35.00	each
Sulfate Testing	$75.00	each
Soil PH Testing	$200.00	each
FWD Equipment	$2,600.00	each
Traffic Control	$1,500.00	each

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

Inland Geodetics, LLC	
CATEGORY	**RATE/HR**
Project Manager	$140.00
Licensed State Land Surveyor	$150.00
Registered Professional Land Surveyor	$135.00
Survey Technician	$98.00
Admin/Clerical	$54.00
GPS Field Operator	$120.00
Two (2) Person Field Crew	$142.00
Three (3) Person Field Crew	$165.00
Four (4) Person Field Crew	$183.00
Additional Crewmember	$48.00
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate
All Terrain Vehicle (per day)	$55.00
Additional Vehicle (per day)	$60.00

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

Surveying And Mapping, LLC		
CATEGORY	**RATE**	
Principal	$170.00	
Senior Project Manager	$145.00	
Project Manager	$125.00	
Senior Survey Technician	$96.00	
Survey Technician	$88.00	
Administration/Clerical Support	$70.00	
Two (2) Person Survey Field Crew	$130.00	
Three (3) Person Survey Field Crew	$160.00	
Additional Rodperson, Chainperson, Flagperson	$32.00	
One (1) Person Survey Field Crew with Receiver or Robotic Total Station	$105.00	
Project Coordinator - Mobile LiDAR	$120.70	
Mobile LiDAR Processing Technician	$96.56	
Project Coordinator - AM	$131.67	
Certified Photogrammetrist	$120.00	
Analytical Triangulation Specialist	$95.00	
Aerial Mapping Technician	$95.00	
Orthophoto Specialist	$95.00	
Mapping Editor (includes QA/QC, Finishing, & Finalization)	$90.00	
Aerial Office Technician	$80.00	
Project Coordinator - AP	$115.02	
Aerial Processing Technician	$84.82	
Project Coordinator - FWAL	$110.37	
Airborne LiDAR Processing Technician	$86.29	
HAL Processing Technician	$110.00	
Project Coordinator - HAL	$130.00	
Helicopter Flight Crew Rotary Wing Aircraft	$195.00	
Helicopter LiDAR Processing Technician	$107.71	
DIRECT EXPENSES	**RATE**	**UNIT**
In-house Photocopies B/W (8 1/2" X 11")	$0.16	per page
In-house Photocopies Color (8 1/2" X 11")	$0.75	per page
In-house Photocopies B/W (11" X 17")	$0.32	per page
In-house Photocopies Color (11" X 17")	$1.50	per page
In-house Plots (B/W on Bond)	$0.75	sf
In-house Plots (Color on Bond)	$1.75	sf
In-house Large Format Plotting	$2.50	sf
In-house Mounting of Large Exhibits	$10.00	sf
In-house Traffic Control	$1,500.00	day
GPS Receiver	$25.00	hour
Terrestrial Laser Scanner	$80.00	hour
LiDAR Workstation	$25.00	hour
Helicopter Rate	$1,650.00	hour
Aerial LiDAR System	$6,500.00	day
Digital Imagery Processing	$20.00	each
LiDAR Mobile Mapping System	$6,000.00	day
Aerial Photography Flight Crew Fixed Wing Aircraft	$180.00	hour
LiDAR Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator)	$192.00	hour
Helicopter Flight Crew (Includes Pilot and LiDAR Operator)	$190.00	hour
AP Transit Miles	$5.90	mile
AP Project Flight Miles	$20.00	mile
AP ABGPS Processing	$2,250.00	project
FWAL Transit Miles	$6.00	mile
FWAL Project Flight Miles	$20.00	mile
B&W processing (film, development, scanning)	$16.00	each
CIR processing (film, development, scanning)	$23.00	each
Color processing (film, development, scanning)	$26.00	each
Digital Image Processing	$20.00	each

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

Buie & Co.	
CATEGORY	**RATE**
Principal	$185.00
Account Manager	$140.00
Account Coordinator	$120.00
Graphic Designer	$125.00
Admin/Clerical	$58.00
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate
Photocopies B/W (8 1/2" X 11") (per page)	$0.10
Photocopies Color (8 1/2" X 11") (per page)	$0.75

Exhibit D - Rate Schedule
Transportation Corridor C SH 29 Bypass

CD&P	
CATEGORY	**RATE**
Principal	$165.00
Project Manager	$130.00
Senior Media Specialist	$115.00
Senior Public Involvement Specialist	$115.00
Public Involvement Specialist	$100.00
Senior Graphic Design and Web Developer	$90.00
Graphic Design and Web Developer	$65.00
Junior Public Involvement Specialist	$65.00
Admin/Clerical	$50.00
DIRECT EXPENSES	
Mileage (per mile)	Current Federal Rate
Postage	Current Postal Rate
Photocopies B/W (11" X 17") (per page)	$0.20
Photocopies B/W (8 1/2" X 11") (per page)	$0.10
Photocopies Color (11" X 17") (per page)	$0.80
Photocopies Color (8 1/2" X 11") (per page)	$0.40

EXHIBIT E

Williamson County
Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy ("Policy") is to provide clear guidelines to vendors on Williamson County's expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. Invoices and Affidavits

1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.

1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.

1.3 Upon County's request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. **Travel Reimbursement**

2.1 The County will only cover costs associated with travel on vendors outside a 50 mile radius from Williamson County, Texas.

2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.

2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.

2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).

2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.

2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.

2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.

2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).

2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.

2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.

2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. **Meals**
   - 3.1 Meal reimbursements are limited to a maximum of $50.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of $20.00 per day. The travel must be outside the Williamson County, Texas line by a 50 mile radius.
   - 3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.
   - 3.3 Meals are reimbursable only for vendors who do not have the necessary personnel located within a 50 mile radius of Williamson County, Texas that are capable of carrying the vendor's obligations to County. Meals will not be reimbursed to vendors who are located within a 50 mile radius of Williamson County, Texas.
   - 3.4 County will not reimburse for alcoholic beverages.
   - 3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance
   - 3.6 No meals purchased for entertainment purposes will be allowed.
   - 3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. **Lodging**
   - 4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.
   - 4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.
   - 4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. **Airfare**
   - 5.1 The County will only reimburse up to a coach price fare for air travel.
   - 5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. early bird check in, seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)
   - 5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.

5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.

5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.

6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.

6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.

6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.

6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.

6.6 Insurance purchased when renting vehicle may also be reimbursed.

6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.

7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:

7.2.1.1 Date

7.2.1.2 Destination

7.2.1.3 Purpose

7.2.1.4 Name of traveler(s)

7.2.1.5 Correspondence that verifies business purpose of the expense

7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.

7.4 Mileage will be reimbursed on the basis of the most commonly used route.

7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.

7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.

7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of Williamson County, Texas by at least a 50 mile radius.

7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.

7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).

7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.

7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Nonreimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

10.1 Alcoholic beverages/tobacco products
10.2 Personal phone calls
10.3 Laundry service
10.4 Valet service (excludes hotel valet)
10.5 Movie rentals
10.6 Damage to personal items
10.7 Flowers/plants
10.8 Greeting cards
10.9 Fines and/or penalties
10.10 Entertainment, personal clothing, personal sundries and services
10.11 Transportation/mileage to places of entertainment or similar personal activities
10.12 Upgrades to airfare, hotel and/or car rental

10.13 Airport parking above the most affordable rate available
10.14 Excessive weight baggage fees or cost associated with more than two airline bags
10.15 Auto repairs
10.16 Babysitter fees, kennel costs, pet or house-sitting fees
10.17 Saunas, massages or exercise facilities
10.18 Credit card delinquency fees or service fees
10.19 Doctor bills, prescription and other medical services
10.20 Hand tools
10.21 Safety Equipment (hard hats, safety vests, etc.)
10.22 Office Supplies
10.23 Lifetime memberships to any association
10.24 Donations to other entities
10.25 Any items that could be construed as campaigning
10.26 Community outreach items exceeding $2 per item
10.27 Sales tax on goods purchased
10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

EXHIBIT F

CERTIFICATES OF INSURANCE

ATTACHED BEHIND THIS PAGE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/27/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
Willis of New York, Inc. c/o 26 Century Blvd. P. O. Box 305191 Nashville, TN 37230-5191	PHONE (A/C, NO, EXT): 877-945-7378	FAX (A/C, NO): 888-467-2378
	E-MAIL ADDRESS: certificates@willis.com	

INSURER(S) AFFORDING COVERAGE	NAIC#
INSURER A: Greenwich Insurance Company	22322-001
INSURER B: XL Specialty Insurance Company	37885-001
INSURER C: Underwriter's at Lloyds	15792-001
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
Atkins North America, Inc.
2001 NW 107th Avenue
Miami, FL 33172-2507

COVERAGES **CERTIFICATE NUMBER: 25257307** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR X Contractual Liability GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [X] LOC OTHER:	Y	Y	CGG740901605	4/1/2016	4/1/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 300,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO X OWNED AUTOS ONLY X HIRED AUTOS ONLY SCHEDULED AUTOS X NON-OWNED AUTOS ONLY	Y	Y	CAH740901705	4/1/2016	4/1/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000 $ $ $
	UMBRELLA LIAB [ ] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED [ ] RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		CWG740901505	4/1/2016	4/1/2017	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
C	Professional Liability			B080111209P16	4/1/2016	4/1/2017	$2,000,000 $2,000,000 11/11/1961	Each Claim & Annual Aggregate Retrodate

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: Williamson County Transportation Corridor C SH 29 Bypass

Greenwich Insurance Companies Best Rating A XV
XL Specialty Insurance Company Best Rating A XV
Underwriters at Lloyd's London AM Best Rating: A XV

Professional Liability policy written on claims-made basis.

CERTIFICATE HOLDER

Williamson County Auditor
c/o: Pam Navarrette
710 Main Street, Suite 301
Georgetown, TX 78626

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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AGENCY CUSTOMER ID: 33004588

LOC#: _____

ADDITIONAL REMARKS SCHEDULE

AGENCY	NAMED INSURED
Willis of New York, Inc.	Atkins North America, Inc. 2001 NW 107th Avenue Miami, FL 33172-2507
POLICY NUMBER See First Page	
CARRIER: See First Page / NAIC CODE	EFFECTIVE DATE: See First Page

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,
FORM NUMBER: 25 FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

There are no Deductibles or Self-Insured Retentions on the General Liability, Automobile Liability and Workers Compensation.

Williamson County Auditor, its directors, officers and employees are included as an Additional Insureds with respects to General & Automobile Liability.

General Liability and Automobile Liability policies shall be Primary to any other insurance in force for or which may be purchased by Additional Insureds.

Waiver of Subrogation applies in favor of Additional Insureds with respects to General Liability and Automobile Liability.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) Of Covered Operations
ANY PERSON OR ORGANIZATION WITH WHOM YOU HAVE AGREED, THROUGH WRITTEN CONTRACT, AGREEMENT OR PERMIT, EXECUTED PRIOR TO THE LOSS, TO PROVIDE ADDITIONAL INSURED COVERAGE.	VARIOUS AS REQUIRED PER WRITTEN CONTRACT.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. **Section II – Who Is An Insured** is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

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POLICY NUMBER: CGG740901605

COMMERCIAL GENERAL LIABILITY
CG 2037 07 04

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED- OWNERS, LESSEES OR **CONTRACTORS-** COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of AdditionalInsured Person(s) Or Organization(s):	Location And Description Of Completed Operations
ANY PERSON OR ORGANIZATION WITH WHOM YOU HAVE AGREED, THROUGH WRITTEN CONTRACT, AGREEMENT OR PERMIT, EXECUTED PRIOR TO THE LOSS, TO PROVIDE ADDITIONAL INSURED COVERAGE.	VARIOUS AS REQUIRED PER WRITTEN CONTRACT.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".

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POLICY NUMBER: CAH740901705 XIC4111007

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

AUTOMATIC ADDITIONAL INSURED

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
TRUCKERS COVERAGE FORM
BUSINESS AUTO PHYSICAL DAMAGE COVERAGE FORM

A. LIABILITY COVERAGE, Who Is An Insured, is amended to include as an "insured" any person or organization you are required in a written contract to name as an additional insured, but only for "bodily injury" or "property damage" otherwise covered under this Policy caused, in whole or in part, by the negligent acts or omissions of:

1. You, while using a covered "auto"; or
2. Any other person, except the additional insured or any employee or agent of the additional insured, operating a covered "auto" with your permission;

Provided that:

a. The written contract is in effect during the policy period of this Policy;
b. The written contract was signed by you and executed prior to the "accident" causing "bodily injury" or "property damage" for which liability coverage is sought; and
c. Such person or organization is an "insured" solely to the extent required by the contract, but in no event if such person or organization is solely negligent.

B. The Limits of Insurance provided for the Additional Insured shall not be greater than those required by contract and, in no event shall the Limits of Insurance set forth in this Polley be increased by the contract.

C. General Conditions, Other Insurance is amended as follows:

Any coverage provided hereunder shall be excess over any other valid and collectible insurance available to the additional insured whether such insurance is primary, excess, contingent or on any other basis unless the contract specifically requires that this Policy be primary.

All terms, conditions, exclusions and limitations of this Policy shall apply *to* the liability coverage provided to any additional insured, and in no event shall such coverage be enlarged or expanded by reason of the contract.

All other terms and conditions of this policy remain unchanged.

(Authorized Representative)

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WAIVER OF TRANSFER RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Name of Persons or Organization: Any person or organization with whom you have agreed in writing to waive any right of recovery prior to a loss.
Information required to complete this Schedule, if not shown in the Declarations.

The following is added to Paragraph **8. Transfer of Rights of Recovery Against Others To Us** of **Section IV – Conditions:**

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your ongoing operations or "your work" done under a contract with that person or organization and included in the "products-completed operations hazard". This waiver applies only to the person or organization shown in the Schedule above.

This endorsement is executed by the Greenwich Insurance Company

Premium $

Effective Date 4/1/2016 Expiration Date 4/1/2017

For attachment to Policy No. CGG740901605

Issued To Atkins North America, Inc.

Countersigned by _____
Authorized Representative

Issued

Sales Office and No. Rnd. Serial No. 17

©ISO Properties, Inc.

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER RIGHTS OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

Business Auto Coverage Form
Garage Coverage Form
Truckers Coverage Form
Motor Carrier Coverage form

SCHEDULE

Premium: INCL

Name of Persons or Organization:	Any person or organization for whom you perform work under a written contract if the contract requires you to obtain this agreement from us, but only if the contract is executed prior to the injury or damage occurring.

The TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US Condition is amended by the addition of the following:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or damage arising out of your operations of a covered auto done under contract with that person or organization. This waiver applies only to the person or organization shown in the Schedule above.

Policy No. CAH740901705 Issued By: Greenwich Insurance Company
Effective Date 4/1/2016
Expiration Date 4/1/2017
Sales Office: 0001 Endt. Serial No.35

POLICY NUMBER: CGG740901605

COMMERCIAL GENERAL LIABILITY
CG 02 2410 93

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

EARLIER NOTICE OF CANCELLATION PROVIDED BY US

This endorsement modifies insurance provided under the following:
COMMERCIAL GENERAL LIABILITY COVERAGE PART
LIQUOR LIABILITY COVERAGE PART
POLLUTION LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS LIABILITY COVERAGE PART

SCHEDULE

Number of Days' Notice 90
(If no entry appears above, information required to complete this Schedule will be shown in the Declarations as applicable *to* this endorsement.)

For any statutorily permitted reason other than nonpayment of premium, the number of days required for notice of cancellation, as provided in paragraph **2.** of either the CANCELLATION Common Policy Condition or as amended by an applicable state cancellation endorsement, is increased to the number of days shown in the Schedule above.

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POLICY NUMBER: CAH740901705 XIC4051007

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

CANCELLATION BY US

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM
GARAGE COVERAGE FORM
MOTOR CARRIER COVERAGE FORM
TRUCKERS COVERAGE FORM
BUSINESS AUTO PHYSICAL DAMAGE COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

Changes In Conditions

The number of days required for notice of cancellation by us for any reason other than nonpayment of premium, as provided in either paragraph 2. of the CANCELLATION Common Policy condition or as amended by an applicable state cancellation endorsement, is extended to the number of days shown in the Schedule below:

SCHEDULE

Number of Days' Notice: 90

All other terms and conditions of this policy remain unchanged.

(Authorized Representative)

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THIS ENDORSEMENT CHANGES THE POLICY_ PLEASE READ IT CAREFULLY.

EARLIER NOTICE OF CANCELLATION PROVIDED BY US ENDORSEMENT

This endorsement modifies insurance provided under the following:

WORKERS' COMPENSATION AND EMPLOYERS' LIABILITY INSURANCE POLICY

Number of Days Notice:90

(If no entry appears above, information required to complete this Schedule will be shown in the Declarations as applicable to this endorsement)

For any statutorily permitted reason other than nonpayment of premium, the number of days required for notice of cancellation, as provided in PART SIX — CONDITIONS, D. Cancelation of the Workers' Compensation and Employers' Liability Insurance Policy or as amended by an applicable state cancellation endorsement, is increased to the number of days shown in the Schedule above.

All other terms and conditions remain the same.

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective April 1, 2016 Policy No. CWG740901505 Endorsement No.

Insured ATKINS NORTH AMERICA, INC.

Insurance Company: XL Specialty Insurance Company Countersigned by _____

Company

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ENDORSEMENT #001

This endorsement, effective on 4/1/2016 at 12:01 A.M. standard time, forms a part of

Policy No. CAH740901705 of the Greenwich Insurance Company

Issued to ATKINS US HOLDINGS INC.
ATKINS US HOLDINGS INC. ATKINS NORTH AMERICA, INC., FAITHFUL & GOULD

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY INSURANCE CLAUSE ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

It is agreed that to the extent that insurance is afforded to any Additional Insured under this policy, this insurance shall apply as primary and not contributing with any insurance carried by such Additional Insured, as required by written contract.

All other terms and conditions remain unchanged.

Authorized Representative

MANUS

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ENDORSEMENT #025

This endorsement, effective 12:01 a.m., 4/1/2016, forms a part of

Policy No. CGG740901605 issued to ATKINS US HOLDINGS,

INC. ATKINS NORTH AMERICA, INC, FAITHFUL & GOULD

by Greenwich Insurance Company

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY INSURANCE CLAUSE ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
PRODUCTS/COMPLETED OPERATIONS COVERAGE PART

It is agreed that to the extent that insurance is afforded to any Additional Insured under this policy, this insurance shall apply as primary and not contributing with any insurance carried by such Additional Insured, as required by written contract.

All other terms and conditions of this policy remain unchanged.



XIL 424 0605
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CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-171793

Date Filed:
02/27/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
Atkins North America, Inc.
Tampa, FL United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Williamson County Texas

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
Corridor C SH 29 Bypass
Engineering Services and planning to develop Transportation Corridor C.

original

4 Name of Interested Party	City, State, Country (place of bus		
The Atkins North America Holdings Corporation	Tampa, FL United States		
Nash, George	Edison, NJ United States		
Edgar IV, C. Ernest	Tampa, FL United States	X	
Newton, Michael M.	Tampa, FL United States	X	
Schulz, Barry J.	Denver, CO United States	X	
Steele Jr., James R.	Tampa, FL United States	X	
Quinn Sr., David D.	Boston, MA United States	X	
Burns Jr., Kenneth J.	Denver, CO United States	X	

5 Check only if there is NO Interested Party. ☐

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

DEBORAH LYNN SHIMEL
MY COMMISSION # FF 036524
EXPIRES: November 13, 2017
Bonded Thru Notary Public Underwriters

Signature of authorized agent of contracting business entity
Donya M. Becton, Assistant Secretary

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said Donya M. Becton, Assistant Secretary, this the 27th day of February, 20 17, to certify which, witness my hand and seal of office.

Signature of officer administering oath	Printed name of officer administering oath	Title of officer administering oath
	Deborah L. Shimel	Notary

RECEIVED
MAR 01 2017
BY: PST

WORK AUTHORIZATION NO. 1

PROJECT: Corridor C SH 29 Bypass

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **Atkins North America, Inc.** (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is **$595,734.35.**

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **December 31, 2017**. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:	COUNTY:
Atkins North America, Inc.	Williamson County, Texas
By: _____ Signature	By: _____ Signature
Robert Bailey Printed Name	Dan A. Gattis Printed Name
Vice President Title	County Judge Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

ATTACHMENT A
SERVICES TO BE PROVIDED BY THE COUNTY
PRELIMINARY ENGINEERING FOR CORRIDOR C SH 29 BYPASS

In general, Williamson County and its representatives to their best efforts will render services as follows:

1. Name, business address and phone number of County's project manager.

2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.

3. Obtain Rights of Entry from landowners that are unwilling to grant access to the Engineer.

4. Provide available appropriate County data on file, plans and specifications that are deemed pertinent to the completion of the work required by the scope of services (including previous hydraulic studies, models, previous reports and studies, available existing traffic counts, design year traffic projections and transportations plans).

5. Provide available criteria and full information as to the client's requirements for the project. Provide examples of acceptable format for the required deliverables.

6. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.

7. Submittal of documentation to regulatory agencies for review and comment, when specified.

8. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.

9. Post and maintain project information for public consumption on the County website.

10. Assist with Coordination between the Engineer and the County's other subconsultants.

11. Negotiate with all utility companies for any agreements and/or relocations required.

12. Provide an agent as necessary to secure proposed ROW.

13. Provide construction observation and review contractor pay applications and progress.

14. Provide Engineer with Contractor submittals, Requests for Information (RFI's), shop drawings, and correspondence.

15. Review Engineer progress, submittals, and plan changes.

16. Provide traffic data or information needed for the project.

17. Provide aerial photography and contours to be used for the development of the exhibits and schematics.

18. Provide any existing survey data and utility information.

19. Coordinate with the City of Georgetown to obtain and provide schematics and Microstation files for the ultimate facility being tied into at the west end of the project and any transportation planning related study documents.

20. Coordinate with CAMPO to obtain and provide the regional transportation plan.

21. Coordinate with TxDOT to obtain and provide drawings, Microstation files, feasibility study report and information on selected route options for the ultimate facility being tied into at the east end of the project.

22. Coordinate with agencies, as applicable, to obtain and provide any applicable engineering plans, schematics, electronic files, reports, studies, and raw data need to perform the services in Exhibit B.

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
PRELIMINARY ENGINEERING FOR CORRIDOR C SH 29 BYPASS

PROJECT DESCRIPTION

Existing Facility

This is a new location project, so there is no existing facility. The proposed project will begin where existing Sam Houston Avenue terminates approximately 0.6 miles west of SH 130 and ends approximately where existing SH 29 crosses the San Gabriel River near CR 120. The proposed project will cross existing SH 130, CR 106 and possibly CR 100.

Proposed Facility

The proposed SH 29 Bypass project includes a new location controlled access facility (Corridor C) between Sam Houston Avenue on the west, and the future SH 29 facility on the east. It also includes a fully directional interchange at SH 130 and an interchange at SH 29. The ultimate project will cross the San Gabriel River. The typical section includes a divided expressway section of 2 mainlanes and 3 frontage road lanes in each direction. The mainlanes will have paved shoulders with an open drainage system and the frontage roads will have curb and gutter with a closed drainage system. There will be a shared use path on both sides of the facility. The right of way width is expected to be approximately 350'. These elements and others are shown in the Williamson County MLE 2 typical section and design criteria.

Design Criteria

The proposed design criteria for the project will be developed from Williamson County, City of Georgetown and TxDOT design criteria. It is anticipated that in most cases the most stringent of the design criteria will be used. The design criteria manuals to be used will be those in place at the time this work authorization is executed.

1. PROJECT MANAGEMENT

   a. Shall designate one Licensed Professional Engineer (Texas) to be responsible for the project management, and all communications with the County and its representatives.

   b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS:

      - Submit monthly progress status reports to the GEC. Progress reports will include: tasks completed, tasks/objectives that are planned for the upcoming periods, lists or descriptions of items or decisions needed from the County and its representatives. Subconsultant progress will be incorporated into the monthly progress report. A copy of the monthly progress report will be uploaded to ProjectWise.

- Prepare correspondence, invoices, and progress reports on a monthly basis for up to 7 months in accordance with current County requirements.

c. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:

- Prepare a project specific QA/QC plan and submit to the County within thirty (30) days of notice to proceed.
- For each deliverable, provide evidence of their internal review and mark-up of that deliverable as preparation for submittal and in accordance with submitted project specific QA/QC plan.
- Provide continuous QA/QC throughout the duration of the scheduled services included herein to appraise both technical and business performance and provide direction for project activities.

d. PROJECT COORDINATION & ADMINISTRATION:

- Prepare and maintain routine project record keeping including records of meetings.
- Correspondence and coordination will be handled through & with the concurrence of the GEC.
- Manage Project activities (including technical support data, documenting emails, phone and conference calls, maintain project files for the length of the project, meeting agendas, meeting minutes, and schedule meetings), direct Engineer's team/staff, correspond with the County and its representatives, and assist the County and its representatives in preparing responses to Project-related inquiries.
- Maintain a log of all stakeholder comments and inquiries received via phone, email, web form and written comments submitted at public meetings. Include stakeholder contact information and any responses provided.

e. PROGRESS/COORDINATION MEETINGS (4 external meetings assumed):

- Attend a kickoff meeting and coordination/progress meeting with the County and its representatives and stakeholders, as necessary up to a total of 4 to communicate development of the project and design issues.
- Prepare agenda and sign-in sheets for external coordination/progress meetings.
- Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting.

- Conduct internal coordination meetings as required to advance the development of the project.

f. PROJECT SCHEDULE:

- Maintain a project schedule indicating tasks, subtasks, critical dates, milestones, and deliverables.

g. DELIVERABLES:

- Monthly Invoices and Progress Reports
- Project Specific QA/QC Plan
- Meeting Minutes, Sign-In Sheets, and Agendas
- Project Schedule

2. <u>ROUTE AND DESIGN STUDIES</u>

a. DATA COLLECTION:

- Perform record research and obtaining existing information, including but not limited to: as-built plans, construction plans, right of way maps, environmental reports, studies, future land use maps, floodplain data, floodplain and drainage models and analyses. Obtain construction plans for projects within the project limits and abutting TxDOT and County Roads. Obtain drainage studies, reports, and mapping for the project area, including reports for developments affecting the drainage area.

- Review aerial photography and contours provided by Williamson County. Minimal survey, no aerial photography or mapping is included in this scope of services. County provided aerial photography and contours will be the basis for developing all constraints maps and schematics.

- Conduct a field investigation of the proposed roadway alignment and the surrounding area to determine field conditions including photographic record of notable existing features. This field investigation will be limited to accessible areas within the existing right-of-way.

- Develop and maintain adjacent property ownership information (including owner's name, mailing address, property address, property id number) spreadsheet for up to 25 properties to be used for disseminating project information.

- Review the data collected and organize the information.

b. STAKEHOLDER AND PROPERTY OWNER COORDINATION (4 stakeholder and 2 affected property owner meetings assumed):

- Schedule, coordinate logistics for and prepare agendas, sign in sheets, meeting minutes, discussion topics, presentations, overall exhibits, and maps of the project limits for stakeholder coordination and property owner meetings.

- Coordinate with affected local agencies, County's consultants, and affected property owners. Includes preparing/reviewing presentations and other communications materials for elected official briefings.

- Conduct up to 4 meetings with stakeholders and up to 2 Meetings with Affected Property Owners (MAPOs)

c. CONSTRAINTS MAP (Up to 3 preliminary alignments assumed that connect on the east to the two TxDOT 2016 Feasibility Study alternatives A and D):

- Obtain and update periodically publicly available information including but not limited to: locations of public buildings (schools, churches, parks), aerial photography, National Wetland Inventory Maps, County Soil Survey Maps, TCEQ & EPA Hazardous Materials Database Information, FEMA Floodplain Information, Vegetation Information, Environmental Information from the appropriate local, state, or federal agencies, Threatened & Endangered Species Information.

- Conduct a regulatory records review to identify listed hazardous waste generators, treatment, storage and disposal facilities; solid waste landfills, unauthorized sites; documented spills; oil and gas exploration and production sites; and underground storage tank sites within the proposed site location. The review will also identify other environmental risks along the project corridor.

- Conduct field reconnaissance to visually inspect the project site for additional risks and field verify any environmental risks identified by the regulatory records review. This field investigation will be limited to accessible areas within the existing right-of-way.

- Review the latest 2040 CAMPO model, Williamson County's Long Range Transportation Plan and other local and regional transportation plans to review and gather information of projects that could impact Corridor C. Review historic traffic data, population growth, and available forecasts from the CAMPO model. The corridor safety and traffic operations under No-Build condition will then be evaluated to assess the safety and operational deficiencies along the corridor under No-Build conditions.

The resultant observations will be utilized in developing purpose and need.

- Develop a constraints map that includes environmental concerns, known constraints (structures, floodplain), aerial photography, contour information, utility information, based on research of public databases and sources.

- Begin development of preliminary alignments and preliminary costs for use in soliciting input during coordination meetings with stakeholders.

- Structures anticipated to be considered during preliminary alignment development include the following 26 bridges:

    1. 8 Direct Connectors at SH 130
    2. CR 106 overpass (EB and WB mainlanes; Frontage roads at grade with turnarounds)
    3. Mankins Branch bridge (EB/WB mainlanes, EB/WB frontage roads)
    4. Un-named dry creek bridge (EB/WB mainlanes, EB/WB frontage roads)
    5. McShepherd Rd overpass (EB and WB mainlanes)
    6. SH 29 overpass (EB and WB mainlanes)
    7. San Gabriel River bridge (EB/WB mainlanes, EB/WB frontage roads)

- Develop evaluation criteria to assist in evaluating route alignment alternatives.

- Quantify potential effects of the preliminary alignments based on the evaluation criteria.

- Conduct screening process for eliminating non-viable corridors and select recommended alignment.

d. DELIVERABLES:

- Meeting Minutes, Sign-In Sheets, Agendas, Presentations, Maps, and Exhibits for all Stakeholder Coordination Meetings.

- Constraints Map with Preliminary Alignments and preliminary recommendation

3. PUBLIC INVOLVEMENT

a. The Engineer will provide general public outreach and engagement throughout the project. A database will be developed and maintained in Excel format which includes nearby property owners and residents, businesses, churches, educational/community organizations, elected/public officials, and any interested individuals. The Engineer will identify and reach out to key stakeholders that may be interested and will collect contact information for updates.

b. OPEN HOUSE (2 open houses assumed):

- Prepare handout materials, presentation, and exhibits for public viewing. Develop an invitation list of affected property owners, elected officials, stakeholders, school districts, local affected agencies, utility owners, and any other individuals who have showed interest in the project.

- Plan, schedule, conduct, and facilitate 2 public meetings to share project information with and collect feedback from citizens and stakeholders. Tasks may include, but not limited to:

    1. Developing invitations/advertisements/invitation lists

        a. For Open House #1, develop a letter for up to 30 households to announce the start of the project and the first public meeting

    2. Coordinate meeting announcements such as letters, email notices, signage, media releases, website and social media postings, outreach/notifications to elected officials (letters and emails), and up to 2 legal notices.
    3. Coordinate meeting logistics, including securing locations and conducting site visits.
    4. Provide experienced meeting facilitator and support staff to attend first open house to solicit input from the general public.
    5. Prepare/review handouts and exhibits for public viewing.
    6. Facilitator preparations, including developing an annotated agenda
    7. Hold and participate in meeting rehearsals

8. Prepare public meeting summaries and responses to any comments or questions provided at the open houses.
9. Coordinate court reporter and translators (if needed)

c. COMMUNICATIONS MATERIALS AND TOOLS

- Prepare communications materials and tools to explain project information and key messages. Materials will include:

1. Frequently Asked Questions will be developed at project commencement and will serve as the foundation for developing all other communication materials and key messages.

2. Website copy will be provided to the County as needed.

3. Copy for up to 4 eNewsletters/eBlasts will be provided to the County to promote public meetings and provide project updates.

4. Copy and layout/design for up to 2 fact sheet or handout. Williamson County Road Bond templates/branding will be utilized.

d. DELIVERABLES:

- Sign-In Sheets, Handouts, Presentations, Maps, and Exhibits for Open Houses.
- Open House Summary and comment responses for first open house.
- FAQs
- Website copy
- Copy for eNewsletters/eBlasts
- Fact Sheet/Handout

4. <u>RIGHT OF WAY (ROW) MAPPING</u>

a. ROW MAP:

- Research and compile deed/plat records and build a working map from recorded data for tie in and crossing right-of-ways such as SH 130, SH 29, and any county roads along project corridor.

- Calculate approximate search data to recover right of way monumentation and make initial pass to recover right of way monumentation. Perform analysis of gathered data to develop and verify the existing ROW condition.

- Draft preliminary map of existing right of way and list of impacted tracts.

b. DELIVERABLES:

- Preliminary ROW Map for the affected area
- Property owner list in spreadsheet format

5. SURVEYING

a. FIELD SURVEYING:

- Locate and verify aerial LiDAR mapping control to ground targets in the immediate area.

- Establish horizontal and vertical control using 3 intervisible monument pairs at locations at both ends and centroidal to project corridor.

- Survey a sample of ground data (cross sectional) in areas not requiring right of entry e.g., crossing roadways, watercourses, etc.

- Perform coordinate system translations for existing file integration and to generate a homogenous project coordinate system.

b. DELIVERABLES:

- DGN file of ground truthing data and crossing roadway information. This will not be a DTM or have associated TIN files.
- DGN of collated and translated files
- Control monument data in ACSII format
- ASCII file of ground truthing data

6. SCHEMATIC DEVELOPMENT (Not Applicable)

7. DRAINAGE STUDY

a. HYDROLOGIC/HYDRAULIC MODELING (1 river crossing and 2 major channel crossings, 6 cross drainage structures total assumed):

- Prepare preliminary hydrologic and hydraulic review for up to three (3) alignment alternatives. The analysis will include: identification of cross drainage structure locations and preliminary sizing of structures; and recommended minimum pavement elevations based on cross drainage flood elevations. HEC-RAS shall be utilized for modeling all river and major channel crossings. HY-8 shall be used for non-bridge class culverts.

- Develop existing channel cross sections based on data collection.

- Exhibits and analysis will be prepared in the GIS environment to the extent practical.

b. FEMA COORDINATION:

- Coordinate with Local Floodplain Administrator as necessary throughout the project.

8. DELIVERABLES

a. DOCUMENTS:

- All contract documents, including hard copies and electronic files, shall be turned over to the County at each milestone and at the completion of the project. Documents shall be posted to the County's project management database as requested. The deliverables for this work authorization are those noted at the end of sections 1 through 5. Other efforts will be a work in progress that may have an associated deliverable in a future work authorization.

9. EXCLUSIONS

a. The following items are not included in this work authorization:

- Traffic analysis or traffic data collection

- Aerial mapping

- Right-of-way acquisition document preparation, acquisition or cost estimates

- Environmental field work or studies

- Permitting or agency coordination

- Geotechnical field work, testing, analysis or design

- Utility coordination or relocation estimates
- PS&E level design
- Construction phase services
- LOMR and/or CLOMR
- Plan/profile of parallel drainage systems
- Scour analysis

Attachment C - Work Schedule
Transportation Corridor C SH 29 Bypass
Atkins North America, Inc.

		FY 2017						
		Mar	Apr	May	Jun	Jul	Aug	Sep
	Work Authorization Execution							
Task 1	**Project Management**							
Task 2	**Route and Design Studies**							
a.	Data Collection							
b.	Stakeholder and Property Owner Coordination							
c.	Constraints Map							
Task 3	**Public Involvement**							
a.	Public Outreach and Engagement							
b.	Open Houses							
c.	Communications Materials and Tools							
Task 4	**Right of Way Mapping**							
Task 5	**Surveying**							
Task 6	**Schematic Development**							
Task 7	**Drainage Study**							
a.	Hydrologic/Hydraulic Modeling							
b.	FEMA Coordination							
c.	Impact and Mitigation Analysis							

Corridor C SH 29 Bypass
Work Authorization No. 1
Attachment D - Fee Schedule

TASK Atkins North America, Inc.	Atkins	KFA	PE Structural	Rifeline	Bain & Co.	Inland Geodetics	Total Labor Cost	Total Labor Cost
1. Project Management (7 months)								$ 69,786.00
A. Monthly Progress Reports, Invoices, and Billings	$ 7,562.00	$ 1,920.00	$ 1,260.00	$ 464.00	$ 712.00	$ -	$ 11,918.00	
B. Quality Assurance and Quality Control Plan	$ 8,860.00	$ 1,500.00	$ -	$ -	$ -	$ -	$ 10,360.00	
C. Project Coordination & Administration	$ 11,335.00	$ 2,320.00	$ 1,260.00	$ 1,160.00	$ 1,980.00	$ -	$ 18,055.00	
D. Progress/Coordination Meetings	$ 10,749.00	$ 3,530.00	$ 1,720.00	$ 4,160.00	$ 1,850.00	$ -	$ 22,009.00	
E. Project Schedule	$ 7,444.00	$ -	$ -	$ -	$ -	$ -	$ 7,444.00	
2. Route and Design Studies								$ 286,141.00
A. Data Collection	$ 29,984.00	$ 5,500.00	$ 1,440.00	$ -	$ -	$ -	$ 36,924.00	
B. Stakeholder and Property Owner Coordination	$ 21,877.00	$ -	$ -	$ 9,220.00	$ 8,110.00	$ -	$ 39,207.00	
C. Constraints Map	$ 202,870.00	$ -	$ 7,140.00	$ -	$ -	$ -	$ 210,010.00	
3. Public Involvement								$ 127,145.00
A. Stakeholder Database	$ 4,048.00	$ -	$ -	$ 400.00	$ 1,810.00	$ -	$ 6,258.00	
B. Open Houses	$ 73,877.00	$ -	$ -	$ 17,600.00	$ 16,840.00	$ -	$ 108,317.00	
C. Communication Materials and Tools	$ 5,540.00	$ -	$ -	$ 3,000.00	$ 4,030.00	$ -	$ 12,570.00	
4. Right of Way Mapping								$ 22,480.00
A. Right of Way Mapping	$ 4,560.00	$ -	$ -	$ -	$ -	$ 17,920.00	$ 22,480.00	
5. Surveying								$ 47,138.00
A. Surveying	$ 20,900.00	$ -	$ -	$ -	$ -	$ 26,238.00	$ 47,138.00	
6. Schematic Development (Not Applicable)								$ -
7. Drainage Study								$ 26,874.00
A. Hydrologic/Hydraulic Modeling	$ 4,324.00	$ 22,050.00	$ -	$ -	$ -		$ 26,374.00	
B. FEMA Coordination	$ 500.00	$ -	$ -	$ -	$ -		$ 500.00	
LABOR COST:	**$ 414,430.00**	**$ 36,820.00**	**$ 12,820.00**	**$ 36,004.00**	**$ 35,332.00**	**$ 44,158.00**	**$ 579,564.00**	**$ 579,564.00**
TOTAL DIRECT EXPENSES COST:	**$ 5,496.00**	**$ 214.00**	**$ 272.75**	**$ 1,944.40**	**$ 8,243.20**	**$ -**	**$ 16,170.35**	
TOTAL PROJECT COST:	**$ 419,926.00**	**$ 37,034.00**	**$ 13,092.75**	**$ 37,948.40**	**$ 43,575.20**	**$ 44,158.00**	**$ 595,734.35**	

Corridor C SH 29 Bypass
Work Authorization No. 1
Attachment D - Fee Schedule

TASK Hourly Rate: Atkins North America, Inc.	SHEETS/ UNITS	PRINCIPAL $ 275.00	SR ADVISOR/SR PM $ 275.00	PROJECT MANAGER $250.00	SR ENGINEER II $270.00	SR ENGINEER I $210.00	PROJECT ENGINEER $160.00	DESIGN ENGINEER $123.00	EIT $100.00	SR. ENGINEER TECH $130.00	ENGINEER TECH $100.00	SR CAD OPERATOR $123.00	CAD OPERATOR $77.00	SR ENV PLANNER $185.00	ENV PLANNER $170.00	JR ENV PLANNER $115.00	SR ENV SPECIALIST $135.00	ENV SPECIALIST $110.00	JR ENV SPECIALIST $92.00	SR GIS ANALYST $123.00
																	Hours			
1. Project Management (7 months)																				
A. Monthly Progress Reports, Invoices, and Billings	7			24																
B. Quality Assurance and Quality Control Plan	1		2	18	4		8							4						
C. Project Coordination & Administration	1			24	4		2							4						
D. Progress/Coordination Meetings	4			18	10		10							9						
E. Project Schedule	1			10	4		4							4						
2. Route and Design Studies																				
A. Data Collection	1			16	16		32							16		40		16	16	32
B. Stakeholder and Property Owner Coordination	6			24	18		18							5		12				36
C. Constraints Map																				
Publicly available environmental information	1						20							16		64				80
Regulatory records review	1													16		48				24
Field reconnaissance	1			8	8		12							8		8				
Initial constraints map	1		2	8	8		16							16		80				80
Alignment alternatives	1		24	24	64	32	240		80	200				8		32				
Recommended alignment exhibit and tech memo	1																			
3. Public Involvement																				
A. Stakeholder Database	1			8										8						
B. Open Houses	2	5	18	32	64		48							32	32					128
C. Communication Materials and Tools	1			8	8		4							4						
4. Right of Way Mapping																				
A. Right of Way Mapping	1			8			16													
5. Surveying																				
A. Surveying	1			8			12													100
6. Schematic Development (Not Applicable)																				
7. Drainage Study																				
A. Hydrologic/Hydraulic Modeling	1			2		4		8	20											
B. FEMA Coordination	1			2																
TOTAL NUMBER OF SHEETS:																				
HOURS:		5	46	242	208	36	442	8	100	200				150	32	284		16	16	480
LABOR COST:		$ 1,375	$ 12,650	$ 60,500	$ 56,160	$ 7,560	$ 70,720	$ 984	$ 10,000	$ 26,000	$ -	$ -	$ -	$ 27,750	$ 5,440	$ 32,660	$ -	$ 1,760	$ 1,472	$ 59,040
		0.2%	1.7%	8.9%	7.6%	1.3%	16.2%	0.3%	3.7%	7.3%				5.5%	1.2%	10.4%		0.6%	0.6%	17.6%

DIRECT EXPENSES:						
	Travel:			Rate		
	Mileage	1000	miles	$0.535		$535.00
	Tolls	50	each	$5.00		$250.00
	Copies:					
	B/W (8.5x11)	500	each	$0.10		$50.00
	B/W (11x17)	250	each	$0.15		$37.50
	Color (8.5x11)	500	each	$0.25		$125.00
	Color (11x17)	250	each	$0.50		$125.00
	Misc Expenses:					
	1/4" Foam Core Mounting	1000	sf	$3.00		$3,000.00
	Large Format Color Plotting	1200	sf	$1.00		$1,200.00
	Postage	50	each	$0.47		$23.50
	Courier	5	each	$30.00		$150.00
TOTAL DIRECT COST:						$ 5,496.00
TOTAL PROJECT COST:						$ 419,926.00

Corridor C SH 29 Bypass
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TASK Hourly Rate: Atkins North America, Inc.	GIS ANALYST $78.00	GRAPHICS TECHNICIAN $75.00	SR PI SPECIALIST $153.00	PI SPECIALIST $123.00	JR PI SPECIALIST $92.00	SR TRANS PLANNER $185.00	TRANS PLANNER $145.00	JR TRANS PLANNER $101.00	SCHEDULER $138.00	CONTRACT SPECIALIST $108.00	ADMIN/ CLERICAL $71.00	Sub Total Hours	Hr/Unit	Labor Cost
1. Project Management (7 months)														
A. Monthly Progress Reports, Invoices, and Billings											22	46	6.6	$ 7,562.00
B. Quality Assurance and Quality Control Plan											10	46	46.0	$ 8,860.00
C. Project Coordination & Administration											45	79	79.0	$ 11,335.00
D. Progress/Coordination Meetings											4	51	12.8	$ 10,749.00
E. Project Schedule									18			40	40.0	$ 7,444.00
2. Route and Design Studies														
A. Data Collection	16										8	208	208.0	$ 29,984.00
B. Stakeholder and Property Owner Coordination	18											131	21.8	$ 21,877.00
C. Constraints Map														
Publicly available environmental information	20											200	200.0	$ 24,920.00
Regulatory records review	16											104	104.0	$ 12,680.00
Field reconnaissance												44	44.0	$ 8,480.00
Initial constraints map	40					40						290	290.0	$ 39,790.00
Alignment alternatives												744	744.0	$ 117,000.00
Recommended alignment exhibit and tech memo											40			$ -
3. Public Involvement														
A. Stakeholder Database												24	24.0	$ 4,048.00
B. Open Houses	96										8	455	227.5	$ 73,877.00
C. Communication Materials and Tools												24	24.0	$ 5,540.00
4. Right of Way Mapping														
A. Right of Way Mapping												24	24.0	$ 4,560.00
5. Surveying														
A. Surveying	60											180	180.0	$ 20,900.00
6. Schematic Development (Not Applicable)														
7. Drainage Study														
A. Hydrologic/Hydraulic Modeling												34	34.0	$ 4,324.00
B. FEMA Coordination												2	2.0	$ 500.00
TOTAL NUMBER OF SHEETS:														
HOURS:	266					40			18		137	Column Total = 2.7%		
LABOR COST:	$ 20,748	$ -	$ -	$ -	$ -	$ 7,400	$ -	$ -	$ 2,484	$ -	$ 9,727	Row Total = 2.7%		$ 414,430.00
	5.0%					1.8%			0.7%		2.3%			$ 414,430.00

DIRECT EXPENSES:
TOTAL DIRECT COST:
TOTAL PROJECT COST:

Corridor C SH 29 Bypass
Work Authorization No. 1
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TASK Hourly Rate: K Friese & Associates, Inc.	SHEETS/ UNITS	PRINCIPAL $ 250.00	PROJECT MANAGER $ 165.00	SR ENGINEER $157.50	ENGINEER $125.00	EIT $100.00	SR. ENGINEER TECH $90.00	ADMIN/ CLERICAL $75.00							Sub Total Hours	Hr/Unit	Labor Cost
		Hours															
1. Project Management (7 months)																	
A. Monthly Progress Reports, Invoices, and Billings	7		8					8							16	2.3	$ 1,920.00
B. Quality Assurance and Quality Control Plan	1			8											8	8.0	$ 1,500.00
C. Project Coordination & Administration	1	2	8		4										14	14.0	$ 2,320.00
D. Progress/Coordination Meetings	4		12		8	4		2							26	6.5	$ 3,530.00
E. Project Schedule	1																$ -
2. Route and Design Studies																	
A. Data Collection	1		6	4	8	24	4								46	46.0	$ 5,500.00
B. Stakeholder and Property Owner Coordination	6																$ -
C. Constraints Map																	
Publicly available environmental information	1																$ -
Regulatory records review	1																$ -
Field reconnaissance	1																$ -
Initial constraints map	1																$ -
Alignment alternatives	1																$ -
3. Public Involvement																	
A. Stakeholder Database	1																$ -
B. Open Houses	2																$ -
C. Communication Materials and Tools	1																$ -
4. Right of Way Mapping																	
A. Right of Way Mapping	1																$ -
5. Surveying																	
A. Surveying	1																$ -
6. Schematic Development (Not Applicable)																	
7. Drainage Study																	
A. Hydrologic/Hydraulic Modeling	1		16	8	54	96	14	4							192	192.0	$ 22,050.00
B. FEMA Coordination	1																$ -
TOTAL NUMBER OF SHEETS:																	
HOURS:		2	50	20	74	124	18	14							Column Total = 392		
LABOR COST:		$ 500	$ 8,250	$ 3,750	$ 9,250	$ 12,400	$ 1,620	$ 1,050							Row Total = 392		$ 36,820.00
		0.7%	16.6%	6.6%	24.5%	41.1%	6.0%	4.6%									$ 36,820.00

DIRECT EXPENSES:								
	Travel:				Rate			
	Mileage			400	miles	$0.535		$214.00
	Tolls				each	$5.00		
	Copies:							
	B&W				each	$0.10		
	Color (8.5x11)				each	$0.75		
	Color (11x17)				each	$2.00		
	Misc Expenses:							
	Foam Core Mounting				sf	$10.00		
	Postage				each	$0.47		
	Courier				each	$30.00		
TOTAL DIRECT COST:								$ 214.00
TOTAL PROJECT COST:								$ 37,034.00

Corridor C SH 29 Bypass
Work Authorization No. 1
Attachment D - Fee Schedule

TASK Hourly Rate: PE Structural Consultants, Inc.	SHEETS/ UNITS	PRINCIPAL ENGINEER $ 200.00	SR QC ENGINEER $ 165.00	SR PROJECT MANAGER $155.00	SR ENGINEER $145.00	PROJECT ENGINEER $120.00	DESIGN ENGINEER $105.00	EIT II $95.00	EIT I $87.00	GRADUATE ENGINEER $70.00	SR CAD MANAGER $120.00	CAD TECHNICIAN $85.00	JR CAD TECHNICIAN $70.00	ADMIN CLERICAL $60.00	Sub Total Hours	Hr/Unit	Labor Cost
		Hours															
1. Project Management (7 months)																	
A. Monthly Progress Reports, Invoices, and Billings	7	2		4										4	10	1.4	$ 1,260.00
B. Quality Assurance and Quality Control Plan	1																$ -
C. Project Coordination & Administration	1	2		4										4	10	10.0	$ 1,260.00
D. Progress/Coordination Meetings	4	2		4	4									2	12	3.0	$ 1,720.00
E. Project Schedule	1																$ -
2. Roads and Design Studies																	
A. Data Collection	1	2		4			4								10	10.0	$ 1,440.00
B. Stakeholder and Property Owner Coordination	6																$ -
C. Constraints Map																	
Publicly available environmental information	1																$ -
Regulatory records review	1																$ -
Field reconnaissance	1																$ -
Initial constraints map	1																$ -
Alignment alternatives	1	4		8	12	12		8			4	8			56	56.0	$ 7,140.00
3. Public Involvement																	
A. Stakeholder Database	1																$ -
B. Open Houses	2																$ -
C. Communication Materials and Tools	1																$ -
4. Right of Way Mapping																	
A. Right of Way Mapping	1																$ -
5. Surveying																	
A. Surveying	1																$ -
6. Schematic Development (Not Applicable)																	$ -
7. Drainage Study																	
A. Hydrologic/Hydraulic Modeling	1																$ -
B. FEMA Coordination	1																$ -
TOTAL NUMBER OF SHEETS:																	$ -
HOURS:		32		24	16	12	4	8			4	8		10	Column Total = 90 Row Total = 90		
LABOR COST:		$ 2,400	$ -	$ 3,720	$ 2,320	$ 1,440	$ 420	$ 760	$ -	$ -	$ 480	$ 680	$ -	$ 600			$ 12,820.00
		12.2%		24.5%	16.3%	12.2%	4.1%	8.2%			4.1%	8.2%		10.2%			$ 12,820.00

DIRECT EXPENSES:						
Travel:				Rate		
Mileage	150	miles		$0.535		$80.25
Tolls		each		$5.00		
Copies:						
B&W (8.5x11)	100	each		$0.10		$10.00
B&W (11x17)	50	each		$0.15		$7.50
Color (8.5x11)	100	each		$1.00		$100.00
Color (11x17)	50	each		$1.50		$75.00
Misc Expenses:						
Foam Core Mounting		sf		$10.00		
Postage		each		$0.47		
Courier		each		$30.00		
TOTAL DIRECT COST:						$ 272.75
TOTAL PROJECT COST:						$ 13,092.75

Corridor C SH 29 Bypass
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TASK Hourly Rate: Rifleline, LLC	SHEETS/ UNITS	PRESIDENT $ 200.00	VICE PRESIDENT $ 180.00	SR PUBLIC AFFAIRS MANAGER $180.00	DIRECTOR OF COMM. $170.00	PI MANAGER $160.00	COMMUNITY OUTREACH MANAGER $150.00	COMMUNITY OUTREACH COOR. $120.00	ADMIN/ CLERICAL $58.00					Sub Total Hours	Hr/Unit	Labor Cost
		Hours														
1. Project Management (7 months)																
A. Monthly Progress Reports, Invoices, and Billings	7								8					8	1.1	$ 464.00
B. Quality Assurance and Quality Control Plan	1															$ -
C. Project Coordination & Administration	1	4		2										6	6.0	$ 1,160.00
D. Progress/Coordination Meetings	4	10	12											22	5.5	$ 4,160.00
E. Project Schedule	1															$ -
2. Route and Design Studies																
A. Data Collection	1															$ -
B. Stakeholder and Property Owner Coordination	6	38	9											47	7.8	$ 9,220.00
C. Constraints Map																
Publicly available environmental information	1															$ -
Regulatory records review	1															$ -
Field reconnaissance	1															$ -
Initial constraints map	1															$ -
Alignment alternatives	1															$ -
3. Public Involvement																
A. Stakeholder Database	1	2												2	2.0	$ 400.00
B. Open Houses	2	34	60											94	47.0	$ 17,600.00
C. Communication Materials and Tools	1	6	10											16	16.0	$ 3,000.00
4. Right of Way Mapping																
A. Right of Way Mapping	1															$ -
5. Surveying																
A. Surveying	1															$ -
6. Schematic Development (Not Applicable)																$ -
7. Drainage Study																
A. Hydrologic/Hydraulic Modeling	1															$ -
B. H:MA Coordination	1															$ -
TOTAL NUMBER OF SHEETS:																
HOURS:		94	91	2					8					Column Total = 195 Row Total = 195		
LABOR COST:		$ 18,800	$ 16,380	$ 360	$ -	$ -	$ -	$ -	$ 464							$ 36,004.00
		38.2%	46.7%	1.0%					4.1%							$ 36,004.00

DIRECT EXPENSES:				Rate		
	Travel:					
	Mileage	2000	miles	$0.535		$1,070.00
	Tolls		each	$5.00		
	Parking	8	day	$10.00		$80.00
	Copies:					
	B&W (8.5x11)	350	each	$0.10		$35.00
	Color (8.5x11)	1000	each	$0.75		$750.00
	Color (11x17)		each	$2.00		
	Misc Expenses:					
	Foam Core Mounting		sf	$10.00		
	Postage	20	each	$0.47		$9.40
	Courier		each	$30.00		
TOTAL DIRECT COST:						$ 1,944.40
TOTAL PROJECT COST:						$ 37,948.40

Corridor C SH 29 Bypass
Work Authorization No. 1
Attachment D - Fee Schedule

TASK Hourly Rate: Role & Co.	SHEETS/ UNITS	PRINCIPAL $ 185.00	ACCOUNT MANAGER $ 140.00	ACCOUNT COOR. $120.00	GRAPHIC DESIGNER $125.00	ADMIN/ CLERICAL $58.00	Hours								Sub Total Hours	Hr/Unit	Labor Cost
1. Project Management (7 months)																	
A. Monthly Progress Reports, Invoices, and Billings	7			4		4									$	1.1	$ 712.00
B. Quality Assurance and Quality Control Plan	1																$ -
C. Project Coordination & Administration	1	4	2	8											14	14.0	$ 1,980.00
D. Progress/Coordination Meetings	4	10													10	2.5	$ 1,850.00
E. Project Schedule	1																$ -
2. Route and Design Studies																	
A. Data Collection	1																$ -
B. Stakeholder and Property Owner Coordination	6	38		9											47	7.8	$ 8,110.00
C. Constraints Map																	
Publicly available environmental information	1																$ -
Regulatory records review	1																$ -
Field reconnaissance	1																$ -
Initial constraints map	1																$ -
Alignment alternatives	1																$ -
3. Public Involvement																	
A. Stakeholder Database	1	2		12											14	14.0	$ 1,810.00
B. Open Houses	2	32	30	56											118	59.0	$ 16,840.00
C. Communication Materials and Tools	1	10	12		4										26	26.0	$ 4,030.00
4. Right of Way Mapping																	
A. Right of Way Mapping	1																$ -
5. Surveying																	
A. Surveying	1																$ -
6. Schematic Development (Not Applicable)																	
7. Drainage Study																	
A. Hydrologic/Hydraulic Modeling	1																$ -
B. FEMA Coordination	1																$ -
TOTAL NUMBER OF SHEETS:																	
HOURS:		96	44	89	4	4									Column Total = 237 Row Total = 237		
LABOR COST:		$ 17,760	$ 6,160	$ 10,680	$ 500	$ 232											$ 35,332.80
		40.5%	18.6%	37.6%	1.7%	1.7%											$ 35,332.00

DIRECT EXPENSES:					
Travel:			Rate		
Mileage	2000	miles	$0.535		$1,070.00
Tolls		each	$5.00		
Parking	8	per day	$10.00		$80.00
Copies:					
B&W (8.5x11)	350	each	$0.10		$35.00
Color (8.5x11)	1000	each	$0.75		$750.00
Color (11x17)		each	$2.00		
PI Expenses:					
Legal Notice (newspaper)	2	each	$2,000.00		$4,000.00
Public Meeting Refreshments	2	per meeting	$20.00		$40.00
Public Meeting Supplies	2	per meeting	$20.00		$40.00
Facility rental	2	per event	$400.00		$800.00
Custodian	6	per hour	$50.00		$300.00
Audio-Visual Equipment Rental	2	per event	$400.00		$800.00
Meeting Signage	6	per unit	$50.00		$300.00
Misc Expenses:					
Foam Core Mounting		sf	$10.00		
Postage	60	each	$0.47		$28.20
Courier		each	$30.00		
TOTAL DIRECT COST:					$ 8,243.20
TOTAL PROJECT COST:					$ 43,575.20

Corridor C SH 29 Bypass
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TASK Inland Geodetics, LLC Hourly Rate:	SHEETS/ UNITS	PROJECT MANAGER $ 140.00	LICENSED STATE LAND SURVEYOR $ 150.00	RPLS $135.00	SURVEY TECH $90.00	ADMIN/ CLERICAL $54.00	3 PERSON FIELD CREW $142.00	3 PERSON FIELD CREW $165.00	4 PERSON FIELD CREW $185.00	ADDITIONAL CREWMEMBER $48.00	GPS FIELD OPERATOR $120.00				Sub Total Hours	Hr/Unit	Labor Cost
		Hours															
1. Project Management (7 months)																	
A. Monthly Progress Reports, Invoices, and Billings	7																$ -
B. Quality Assurance and Quality Control Plan	1																$ -
C. Project Coordination & Administration	1																$ -
D. Progress/Coordination Meetings	4																$ -
E. Project Schedule	1																$ -
2. Route and Design Studies																	$ -
A. Data Collection	1																
B. Stakeholder and Property Owner Coordination	6																$ -
C. Constraints Map																	$ -
Publicly available environmental information	1																
Regulatory records review	1																$ -
Field reconnaissance	3																$ -
Initial constraints map	1																$ -
Alignment alternatives	1																$ -
3. Public Involvement																	$ -
A. Stakeholder Database	1																
B. Open Houses	2																$ -
C. Communication Materials and Tools	1																$ -
4. Right of Way Mapping																	$ -
A. Right of Way Mapping	1			32	80	8	24				16				160	160.0	$ 17,920.00
5. Surveying																	
A. Surveying	1	6		38	44	6	56				64				214	214.0	$ 26,238.00
6. Schematic Development (Not Applicable)																	
7. Drainage Study																	
A. Hydrologic/Hydraulic Modeling	1																$ -
B. FEMA Coordination	1																$ -
TOTAL NUMBER OF SHEETS:																	
HOURS:		6		70	124	14	80				80				Column Total = 374		
LABOR COST:		$ 840	$ -	$ 9,450	$ 12,152	$ 756	$ 11,360	$ -	$ -	$ -	$ 9,600	$ -	$ -	$ -	Row Total = 374		$ 44,158.00
		1.6%		18.7%	33.2%	3.7%	21.4%				21.4%						$ 44,158.00

DIRECT EXPENSES:							
	Travel:				Rate		
	Mileage			miles	$0.535		
	Tolls			each	$5.00		
	Copies:						
	B/W (8.5x11)			each	$0.10		
	B/W (11x17)			each	$0.15		
	Color (8.5x11)			each	$0.25		
	Color (11x17)			each	$0.50		
	Misc Expenses:						
	All Terrain Vehicle			day	$55.00		
	Additional Vehicle			day	$60.00		
	Postage			each	$0.47		
	Courier			each	$30.00		
TOTAL DIRECT COST:							$ -
TOTAL PROJECT COST:							$ 44,158.00

Commissioners Court - Regular Session **25.**

Meeting Date: 03/07/2017

K Friese Corridor H Contract

Submitted By: Marie Walters, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a contract for Corridor H between Williamson County and K Friese & Associates, Inc. relating to the LTP Corridor Study.

Background

The compensation cap for this contract is $1,500,000.00 with Work Authorization #1 being for $491,775.35 which falls within the approved $4M for FY2017 P456 LTP Corridor Study.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

KFriese-contract-CorridorH

KFriese-WA1-CorridorH

Form Review

Inbox	Reviewed By	Date
Hal Hawes	Hal Hawes	03/02/2017 10:53 AM
County Judge Exec Asst.	Wendy Coco	03/03/2017 04:08 PM
Form Started By: Marie Walters		Started On: 03/01/2017 06:27 PM
Final Approval Date: 03/03/2017		

RECEIVED
FEB 28 2017
BY: PST

WILLIAMSON COUNTY
CONTRACT FOR ENGINEERING SERVICES

FIRM: K Friese & Associates, Inc. ("Engineer")
ADDRESS: 1120 S. Capital of Texas Hwy, Bldg 2, Suite 100, Austin, Texas 78746
PROJECT: Transportation Corridor H – Sam Bass Road ("Project")

THE STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

THIS CONTRACT FOR ENGINEERING SERVICES ("Contract") is made and entered into, effective as the date of the last party's execution hereinbelow, by and between Williamson County, Texas, a political subdivision of the State of Texas, whose offices are located at 710 Main Street, Suite 101, Georgetown, Texas, 78626 (hereinafter referred to as "County"), and Engineer, and such Contract is for the purpose of contracting for professional engineering services.

RECITALS:

WHEREAS, V.T.C.A., Government Code §2254.002(2)(A)(vii) under Subchapter A entitled "Professional Services Procurement Act" provides for the procurement by counties of services of professional engineers; and

WHEREAS, County and Engineer desire to contract for such professional engineering services; and

WHEREAS, County and Engineer wish to document their agreement concerning the requirements and respective obligations of the parties;

NOW, THEREFORE, WITNESSETH:

That for and in consideration of the mutual promises contained herein and other good and valuable considerations, and the covenants and agreements hereinafter contained to be kept and performed by the respective parties hereto, it is agreed as follows:

ARTICLE 1
CONTRACT DOCUMENTS AND APPLICABLE PROJECT DOCUMENTS

A. Contract Documents. The Contract Documents consist of this Contract, any exhibits attached hereto (which exhibits are hereby incorporated into and made a part of this Contract), any fully executed Work Authorizations; any fully executed Supplemental Work Authorizations and all fully executed Contract Amendments (as defined herein in Article 14) which are subsequently issued. These form the entire contract, and all are as fully a part of this Contract as if attached to this Contract or repeated herein.

B. Project Documents. In addition to any other pertinent and necessary Project documents, the following documents shall be used in the development of the Project:

A. TxDOT 2011 Texas Manual of Uniform Traffic Control Devices for Streets and Highways, including latest revisions
B. Texas Department of Transportation's Standard Specifications for Construction of Highways, Streets, and Bridges, 2014 (English units)
C. National Environmental Policy Act (NEPA)
D. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, Effective April 4, 1994, including latest revisions
E. Americans with Disabilities Act (ADA) Regulations
F. U.S. Army Corps Regulations
G. International Building Code, current edition as updated
H. Williamson County Design Criteria & Project Development Manual, latest edition
I. Williamson County Multi-Corridor Transportation Plan Project Level Environmental Review and Compliance Protocol, latest edition
J. Williamson County Protocol for Sustainable Roadsides, latest edition
K. TxDOT Bridge Design Manual - LRFD, latest edition
L. TxDOT Geotechnical Manual, latest edition

ARTICLE 2
NON-COLLUSION; DEBARMENT; AND FINANCIAL INTEREST PROHIBITED

A. Non-collusion. Engineer warrants that he/she/it has not employed or retained any company or persons, other than a bona fide employee working solely for Engineer, to solicit or secure this Contract, and that he/she/it has not paid or agreed to pay any company or engineer any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent upon or resulting from the award or making of this Contract. For breach or violation of this warranty, County reserves and shall have the right to annul this Contract without liability or, in its discretion and at its sole election, to deduct from the contract price or compensation, or to otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift or contingent fee.

B. Debarment Certification. Engineer must sign the Debarment Certification

enclosed herewith as **Exhibit A**.

C. Financial Interest Prohibited. Engineer covenants and represents that Engineer, his/her/its officers, employees, agents, consultants and subcontractors will have no financial interest, direct or indirect, in the purchase or sale of any product, materials or equipment that will be recommended or required for the construction of the Project.

ARTICLE 3
ENGINEERING SERVICES

Engineer shall perform Engineering Services as identified in **Exhibit B** entitled "Engineering Services."

County will prepare and issue Work Authorizations, in substantially the same form identified and attached hereto as **Exhibit C** and entitled "Work Authorization No. ____", to authorize the Engineer to perform one or more tasks of the Engineering Services. Each Work Authorization will include a description of the work to be performed, a description of the tasks and milestones, a work schedule for the tasks, definite review times by County and Engineer of all Engineering Services and a fee amount agreed upon by the County and Engineer. The amount payable for a Work Authorization shall be supported by the estimated cost of each work task as described in the Work Authorization. The Work Authorization will not waive the Engineer's responsibilities and obligations established in this Contract. The executed Work Authorizations shall become part of this Contract.

All work must be completed on or before the date specified in the Work Authorization. The Engineer shall promptly notify the County of any event which will affect completion of the Work Authorization, although such notification shall not relieve the Engineer from costs or liabilities resulting from delays in completion of the Work Authorization. Should the review times or Engineering Services take longer than shown on the Work Authorization, through no fault of Engineer, Engineer may submit a timely written request for additional time, which shall be subject to the approval of the County. Any changes in a Work Authorization shall be enacted by a written Supplemental Work Authorization before additional costs may be incurred. Any Supplemental Work Authorization must be executed by both parties within the period specified in the Work Authorization.

ARTICLE 4
CONTRACT TERM

A. Term. The Engineer is expected to complete the Engineering Services described herein in accordance with the above described Work Authorizations or any Supplemental Work Authorization related thereto. If Engineer does not perform the Engineering Services in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall have the right to terminate this Contract as set forth below in Article 20. So long as the County elects not to terminate this Contract, it shall continue from day to day until such time as the Engineering Services are completed in accordance with each applicable Work Authorization or any Supplemental Work Authorization related thereto. Any Engineering Services performed or

costs incurred after the date of termination shall not be eligible for reimbursement. Engineer shall notify County in writing as soon as possible if he/she/it determines, or reasonably anticipates, that the Engineering Services will not be completed in accordance with an applicable Work Authorization or any Supplemental Work Authorization related thereto.

B. Work Authorizations. Engineer acknowledges that each Work Authorization is of critical importance, and agrees to undertake all reasonably necessary efforts to expedite the performance of Engineering Services required herein so that construction of the Project will be commenced and completed as scheduled. In this regard, and subject to adjustments in a particular Work Authorization, as provided in Article 3 herein, Engineer shall proceed with sufficient qualified personnel and consultants necessary to fully and timely accomplish all Engineering Services required under this Contract in a professional manner.

C. Commencement of Engineering Services. After execution of this Contract, Engineer shall not proceed with Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and has been notified in writing by the County to proceed, as provided in Article 8.

ARTICLE 5
COMPENSATION AND EXPENSES

County shall pay and Engineer agrees to accept up to the amount shown below as full compensation for the Engineering Services performed and to be performed under this Contract. The basis of compensation for the services of principals and employees engaged in the performance of the Engineering Services shall be based on the Rate Schedule set forth in the attached **Exhibit D**.

The maximum amount payable under this Contract, without modification, is **One Million, Five Hundred Thousand Dollars ($1,500,000.00)** (the "Compensation Cap"), provided that any amounts paid or payable shall be solely pursuant to a validly issued Work Authorization or any Supplemental Work Authorization related thereto. In no event may the aggregate amount of compensation authorized under Work Authorizations and Supplemental Work Authorizations exceed the Compensation Cap. The Compensation Cap shall be revised equitably only by written Contract Amendments executed by both parties in the event of a change the overall scope of the Engineering Services set forth in **Exhibit B**, as authorized by County.

The Compensation Cap is based upon all labor and non-labor costs estimated to be required in the performance of the Engineering Services provided for under this Contract. Should the actual costs of all labor and non-labor costs rendered under this Contract be less than the above stated Compensation Cap, then Engineer shall receive compensation for only actual fees and costs of the Engineering Services actually rendered and incurred, which may be less than the above stated Compensation Cap.

The Compensation Cap herein referenced may be adjusted for Additional Engineering Services requested and performed only if approved by a written Contract Amendment signed by both parties.

Engineer shall prepare and submit to County monthly progress reports in sufficient detail to support the progress of the Engineering Services and to support invoices requesting monthly payment. The format for such monthly progress reports and invoices must be in a format acceptable to County. Satisfactory progress of Engineering Services shall be an absolute condition of payment.

Engineer shall be reimbursed for actual non-labor and subcontract expenses incurred in the performance of the services under this Contract in accordance with the Williamson County Vendor Reimbursement Policy set forth under **Exhibit E**. Invoices requesting reimbursement for costs and expenditures related to the Project (reimbursables) must be accompanied by copies of the provider's invoice and comply with the Williamson County Vendor Reimbursement Policy. The copies of the provider's invoice must evidence the actual costs billed to Engineer without mark-up.

ARTICLE 6
METHOD OF PAYMENT

Payments to Engineer shall be made while Engineering Services are in progress. A monthly progress report, as referenced in Article 5 above (in a form acceptable to the County), shall be submitted to Williamson County Department of Infrastructure, to the attention of the Sr. Director of Infrastructure. Such progress report shall provide a summary of the work accomplished during the billing period for each Work Authorization task with an estimated percentage of completion for the task.

Simultaneous with submission of such progress report, Engineer shall prepare and submit one (1) original of a certified invoice to the Director of Road & Bridge in a form acceptable to the County Auditor. All invoices submitted to County must, at a minimum, be accompanied by an original complete packet of supporting documentation and time sheets detailing hours worked by staff persons with a description of the work performed by such persons. For Additional Engineering Services performed pursuant to this Contract, a separate invoice or itemization of the Additional Engineering Services must be presented with the same aforementioned requirements.

Payments shall be made by County based upon Engineering Services actually provided and performed.[a] Upon timely receipt and approval of each statement, County shall make a good faith effort to pay the amount which is due and payable within thirty (30) days of the County Auditor's receipt. County reserves the right to reasonably withhold payment pending verification of satisfactory Engineering Services performed. Engineer has the responsibility to submit proof to County, adequate and sufficient in its determination, that tasks of an applicable Work Authorization or any Supplemental Work Authorization related thereto were completed.

The certified statements shall show the total amount earned to the date of submission and shall show the amount due and payable as of the date of the current statement. Final payment does not relieve Engineer of the responsibility of correcting any errors and/or omissions resulting from his/her/its negligence.

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[a] *See also,* Art. 32(P) "Termination of Work Authorization".

Upon submittal of the initial invoice, Engineer shall provide the County Auditor with an Internal Revenue Form W-9, Request for Taxpayer Identification Number and Certification that is complete in compliance with the Internal Revenue Code, its rules and regulations.

ARTICLE 7
PROMPT PAYMENT POLICY

In accordance with Chapter 2251, V.T.C.A., Texas Government Code, payment to Engineer will be made within thirty (30) days of the day on which the performance of services was complete, or within thirty (30) days of the day on which the County Auditor receives a correct invoice for services, whichever is later.

Engineer may charge a late fee (fee shall not be greater than that which is permitted by Texas law) for payments not made in accordance with this prompt payment policy; however, this policy does not apply in the event:

A. There is a bona fide dispute between County and Engineer concerning the supplies, materials, or equipment delivered or the services performed that causes the payment to be late; or

B. The terms of a federal contract, grant, regulation, or statute prevent County from making a timely payment with federal funds; or

C. There is a bona fide dispute between Engineer and a subcontractor/subconsultant or between a subcontractor/subconsultant and its supplier concerning supplies, materials, or equipment delivered or the Engineering Services performed which causes the payment to be late; or

D. The invoice is not submitted to Williamson County[b] in strict accordance with instructions, if any, on the purchase order, or this Contract or other such contractual agreement.

The County Auditor shall document to Engineer the issues related to disputed invoices within ten (10) calendar days of receipt of such invoice. Any non-disputed invoices shall be considered correct and payable per the terms of Chapter 2251, V.T.C.A., Texas Government Code.

ARTICLE 8
COMMENCEMENT OF ENGINEERING SERVICES

The Engineer shall not proceed with any task of the Engineering Services until Engineer has been thoroughly briefed on the scope of the Project and instructed, in writing by the County, to proceed with the applicable Engineering Services. The County shall not be responsible for work performed or costs incurred by Engineer related to any task for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties. Engineer shall not be required to perform any work for which a Work Authorization or a Supplemental Work Authorization related thereto has not been issued and signed by both parties.

ARTICLE 9

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[b] *See* Art. 6, *supra.*

PROJECT TEAM

County's Designated Representative for purposes of this Contract is as follows:

Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

County shall have the right, from time to time, to change the County's Designated Representative by giving Engineer written notice thereof. With respect to any action, decision or determination which is to be taken or made by County under this Contract, the County's Designated Representative may take such action or make such decision or determination or shall notify Engineer in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the County's Designated Representative on behalf of County shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the County's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the County's Designated Representative shall be binding on County; *provided, however,* the County's Designated Representative shall not have any right to modify, amend or terminate this Contract, an Executed Work Authorization, an executed Supplemental Work Authorization or executed Contract Amendment. County's Designated Representative shall not have any authority to execute a Contract Amendment, Work Authorization or any Supplemental Work Authorization unless otherwise granted such authority by the Williamson County Commissioners Court.

Engineer's Designated Representative for purposes of this Contract is as follows:

Thomas M. Owens, P.E.
1120 S. Capital of Texas Hwy
Building 2, Suite 100
Austin, Texas 78746

Engineer shall have the right, from time to time, to change the Engineer's Designated Representative by giving County written notice thereof. With respect to any action, decision or determination which is to be taken or made by Engineer under this Contract, the Engineer's Designated Representative may take such action or make such decision or determination or shall notify County in writing of an individual responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual for response or action. Actions, decisions or determinations by the Engineer's Designated Representative on behalf of Engineer shall be done in his or her reasonable business judgment unless express standards or parameters therefor are included in this Contract, in which case, actions taken by the Engineer's Designated Representative shall be in accordance with such express standards or parameters. Any consent, approval, decision or determination hereunder by the Engineer's Designated Representative shall be binding on Engineer. Engineer's Designated

Representative shall have the right to modify, amend and execute Work Authorizations, Supplemental Work Authorizations and Contract Amendments on behalf of Engineer.

ARTICLE 10
PROGRESS EVALUATION

Engineer shall, from time to time during the progress of the Engineering Services, confer with County at County's election. Engineer shall prepare and present such information as may be pertinent and necessary, or as may be reasonably requested by County, in order for County to evaluate features of the Engineering Services. At the request of County or Engineer, conferences shall be provided at Engineer's office, the offices of County, or at other locations designated by County. When requested by County, such conferences shall also include evaluation of the Engineering Services. County may, from time to time, require Engineer to appear and provide information to the Williamson County Commissioners Court.

Should County determine that the progress in Engineering Services does not satisfy an applicable Work Authorization or any Supplemental Work Authorization related thereto, then County shall review same with Engineer to determine corrective action required.

Engineer shall promptly advise County in writing of events which have or may have a significant impact upon the progress of the Engineering Services, including but not limited to the following:

A. Problems, delays, adverse conditions which may materially affect the ability to meet the objectives of an applicable Work Authorization or any Supplemental Work Authorization related thereto, or preclude the attainment of Project Engineering Services units by established time periods; and such disclosure shall be accompanied by statement of actions taken or contemplated, and County assistance needed to resolve the situation, if any; and

B. Favorable developments or events which enable meeting goals sooner than anticipated in relation to an applicable Work Authorization's or any Supplemental Work Authorization related thereto.

ARTICLE 11
SUSPENSION

Should County desire to suspend the Engineering Services, but not to terminate this Contract, then such suspension may be effected by County giving Engineer thirty (30) calendar days' verbal notification followed by written confirmation to that effect. Such thirty-day notice may be waived in writing by agreement and signature of both parties. The Engineering Services may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from County to resume the Engineering Services. Such sixty-day (60) notice may be waived in writing by agreement and signature of both parties. If this Contract is suspended for more than thirty (30) days, Engineer shall have the option of terminating this Contract and, in the event, Engineer shall be compensated for all Engineering Services performed and reimbursable expenses incurred, provided such Engineering Services and reimbursable expenses have been previously authorized and approved by County, to the effective date of suspension.

If County suspends the Engineering Services, the contract period as determined in Article 4, and the Work Authorization or any Supplemental Work Authorization related thereto, shall be extended for a time period equal to the suspension period.

County assumes no liability for Engineering Services performed or costs incurred prior to the date authorized by County for Engineer to begin Engineering Services, and/or during periods when Engineering Services is suspended, and/or subsequent to the completion date.

ARTICLE 12
ADDITIONAL ENGINEERING SERVICES

If Engineer forms a reasonable opinion that any work he/she/it has been directed to perform is beyond the overall scope of this Contract, as set forth in **Exhibit B,** and as such constitutes extra work ("Additional Engineering Services"), he/she/it shall promptly notify County in writing. In the event County finds that such work does constitute Additional Engineering Services, County shall so advise Engineer and a written Contract Amendment will be executed between the parties as provided in Article 14. Any increase to the Compensation Cap due to Additional Engineering Services must be set forth in such Contract Amendment. Engineer shall not perform any proposed Additional Engineering Services nor incur any additional costs prior to the execution, by both parties, of a written Contract Amendment. Following the execution of a Contract Amendment that provides for Additional Engineering Services, a written Work Authorization, which sets forth the Additional Engineering Services to be performed, must be executed by the parties. County shall not be responsible for actions by Engineer nor for any costs incurred by Engineer relating to Additional Engineering Services not directly associated with the performance of the Engineering Services authorized in this Contract, by a fully executed Work Authorization or a fully executed Contract Amendment thereto.

ARTICLE 13
CHANGES IN COMPLETED ENGINEERING SERVICES

If County deems it necessary to request changes to previously satisfactorily completed Engineering Services or parts thereof which involve changes to the original Engineering Services or character of Engineering Services under this Contract, then Engineer shall make such revisions as requested and as directed by County. Such revisions shall be considered as Additional Engineering Services and paid for as specified under Article 12.

Engineer shall make revisions to Engineering Services authorized hereunder as are necessary to correct errors appearing therein, when required to do so by County. No additional compensation shall be due for such Engineering Services.

ARTICLE 14
CONTRACT AMENDMENTS

The terms set out in this Contract may be modified by a written fully executed Contract Amendment. Changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization. To the extent that such changes or

modifications to a Work Authorization do not also require modifications to the terms of this Contract (i.e. changes to the overall scope of Engineering Services set forth in **Exhibit B**, modification of the Compensation Cap, etc.) a Contract Amendment will not be required.

ARTICLE 15
USE OF DOCUMENTS

All documents, including but not limited to drawings, specifications and data or programs stored electronically, (hereinafter referred to as "Engineering Work Products") prepared by Engineer and its subcontractors/subconsultants are related exclusively to the services described in this Contract and are intended to be used with respect to this Project. However, it is expressly understood and agreed by and between the parties hereto that all of Engineer's designs under this Contract (including but not limited to tracings, drawings, estimates, specifications, investigations, studies and other documents, completed or partially completed), shall be the property of County to be thereafter used in any lawful manner as County elects. Any such subsequent use made of documents by County shall be at County's sole risk and without liability to Engineer.

By execution of this Contract and in confirmation of the fee for services to be paid under this Contract, Engineer hereby conveys, transfers and assigns to County all rights under the Federal Copyright Act of 1976 (or any successor copyright statute), as amended, all common law copyrights and all other intellectual property rights acknowledged by law in the Project Designs and work product developed under this Contract. Copies may be retained by Engineer. Engineer shall be liable to County for any loss or damage to any such documents while they are in the possession of or while being worked upon by Engineer or anyone connected with Engineer, including agents, employees, Engineers or subcontractors/subconsultants. All documents so lost or damaged shall be replaced or restored by Engineer without cost to County.

Upon execution of this Contract, Engineer grants to County permission to reproduce Engineer's work and documents for purposes of constructing, using and maintaining the Project, provided that County shall comply with its obligations, including prompt payment of all sums when due, under this Contract. Engineer shall obtain similar permission from Engineer's subcontractors/subconsultants consistent with this Contract. If and upon the date Engineer is adjudged in default of this Contract, County is permitted to authorize other similarly credentialed design professionals to reproduce and, where permitted by law, to make changes, corrections or additions to the work and documents for the purposes of completing, using and maintaining the Project.

County shall not assign, delegate, sublicense, pledge or otherwise transfer any permission granted herein to another party without the prior written consent of Engineer. However, County shall be permitted to authorize the contractor, subcontractors and material or equipment suppliers to reproduce applicable portions of the Engineering Work Products appropriate to and for use in the execution of the Work. Submission or distribution of Engineering Work Products to meet official regulatory requirements or for similar purposes in connection with the Project is permitted. Any unauthorized use of the Engineering Work Products shall be at County's sole risk and without liability to Engineer and its Engineers.

Prior to Engineer providing to County any Engineering Work Products in electronic form or County providing to Engineer any electronic data for incorporation into the Engineering Work Products, County and Engineer shall by separate written contract set forth the specific conditions governing the format of such Engineering Work Products or electronic data, including any special limitations not otherwise provided in this Contract. Any electronic files are provided by Engineer for the convenience of County, and use of them is at County's sole risk. In the case of any defects in electronic files or any discrepancies between them and any hardcopy of the same documents prepared by Engineer, the hardcopy shall prevail. Only printed copies of documents conveyed by Engineer shall be relied upon.

Engineer shall have no liability for changes made to the drawings by other engineers subsequent to the completion of the Project. Any such change shall be sealed by the engineer making that change and shall be appropriately marked to reflect what was changed or modified.

ARTICLE 16
PERSONNEL, EQUIPMENT AND MATERIAL

Engineer shall furnish and maintain, at its own expense, quarters for the performance of all Engineering Services, and adequate and sufficient personnel and equipment to perform the Engineering Services as required. All employees of Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of Engineer who, in the reasonable opinion of County, is incompetent or whose conduct becomes detrimental to the Engineering Services shall immediately be removed from association with the Project when so instructed by County. Engineer certifies that it presently has adequate qualified personnel in its employment for performance of the Engineering Services required under this Contract, or will obtain such personnel from sources other than County. Engineer may not change the Project Manager without prior written consent of County.

ARTICLE 17
SUBCONTRACTING

Engineer shall not assign, subcontract or transfer any portion of the Engineering Services under this Contract without prior written approval from County. All subcontracts shall include the provisions required in this Contract. No subcontract shall relieve Engineer of any responsibilities under this Contract.

ARTICLE 18
REVIEW OF ENGINEERING SERVICES

Engineer's Engineering Services will be reviewed by County under its applicable technical requirements and procedures.

A. Completion. Reports, plans, specifications, and supporting documents shall be submitted by Engineer on or before the dates specified in the applicable Work Authorization or Supplemental Work Authorization related thereto. Upon receipt of same, the submission shall be checked for completion. "Completion" or "Complete" shall be defined as all of the required items, as set out in the applicable Work Authorization, have been included in compliance with the requirements of this Contract. The completeness of any Engineering Services submitted to County shall be determined by County within thirty (30) days of such submittal and County shall notify Engineer in writing within such thirty (30) day period if such Engineering Services have been found to be incomplete. If the submission is Complete, County shall notify Engineer and County's technical review process will begin.

If the submission is not Complete, County shall notify Engineer, who shall perform such professional services as are required to complete the Engineering Services and resubmit it to County. This process shall be repeated until a submission is Complete.

B. Acceptance. County shall review the completed Engineering Services for compliance with this Contract. If necessary, the completed Engineering Services shall be returned to Engineer, who shall perform any required Engineering Services and resubmit it to County. This process shall be repeated until the Engineering Services are Accepted. "Acceptance" or "Accepted" shall mean that in the County's reasonable opinion, substantial compliance with the requirements of this Contract has been achieved.

C. Final Approval. After Acceptance, Engineer shall perform any required modifications, changes, alterations, corrections, redesigns, and additional work necessary to receive Final Approval by the County. "Final Approval" in this sense shall mean formal recognition that the Engineering Services have been fully carried out.

D. Errors and Omissions. After Final Approval, Engineer shall, without additional compensation, perform any work required as a result of Engineer's development of the work which is found to be in error or omission due to Engineer's negligence. However, any work required or occasioned for the convenience of County after Final Approval shall be paid for as Additional Engineering Services.

E. Disputes Over Classifications. In the event of any dispute over the classification of Engineer's Engineering Services as Complete, Accepted, or having attained Final Approved under this Contract, the decision of the County shall be final and binding on Engineer, subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

F. County's Reliance on Engineer. ENGINEER'S DUTIES AS SET FORTH HEREIN SHALL AT NO TIME BE IN ANY WAY DIMINISHED BY REASON OF ANY REVIEW, EVALUATION OR APPROVAL BY THE COUNTY NOR SHALL THE ENGINEER BE RELEASED FROM ANY LIABILITY BY REASON OF SUCH REVIEW, EVALUATION OR APPROVAL BY THE COUNTY, IT BEING UNDERSTOOD THAT THE COUNTY AT ALL TIMES IS ULTIMATELY RELYING UPON THE ENGINEER'S SKILL, ABILITY AND KNOWLEDGE IN PERFORMING THE ENGINEERING SERVICES REQUIRED HEREUNDER.

ARTICLE 19
VIOLATION OF CONTRACT TERMS/BREACH OF CONTRACT

Violation of contract terms or breach of contract by Engineer shall be grounds for termination of this Contract, and any increased costs arising from Engineer's default, breach of contract, or violation of contract terms shall be paid by Engineer.

ARTICLE 20
TERMINATION

This Contract may be terminated as set forth below.

A. By mutual agreement and consent, in writing, of both parties.

B. By County, by notice in writing to Engineer, as a consequence of failure by Engineer to perform the Engineering Services set forth herein in a satisfactory manner.

C. By either party, upon the failure of the other party to fulfill its obligations as set forth herein.

D. By County, for reasons of its own and not subject to the mutual consent of Engineer, upon not less than thirty (30) days' written notice to Engineer.

E. By satisfactory completion of all Engineering Services and obligations described herein.

Should County terminate this Contract as herein provided, no fees other than fees due and payable at the time of termination plus reimbursable expenses incurred shall thereafter be paid to Engineer. In determining the value of the Engineering Services performed by Engineer prior to termination, County shall be the sole judge. Compensation for Engineering Services at termination will be based on a percentage of the Engineering Services completed at that time. Should County terminate this Contract under Subsection (D) immediately above, then the amount charged during the thirty-day notice period shall not exceed the amount charged during the preceding thirty (30) days.

If Engineer defaults in the performance of this Contract or if County terminates this Contract for fault on the part of Engineer, then County shall give consideration to the actual costs incurred by Engineer in performing the Engineering Services to the date of default, the amount of Engineering Services required which was satisfactorily completed to date of default, the value of the Engineering Services which are usable to County, the cost to County of employing another firm to complete the Engineering Services required and the time required to do so, and other factors which affect the value to County of the Engineering Services performed at the time of default.

The termination of this Contract and payment of an amount in settlement as prescribed above shall extinguish all rights, duties, and obligations of County under this Contract. If the termination of this Contract is due to the failure of Engineer to fulfill his/her/its contractual obligations, then County may take over the Project and prosecute the Engineering Services to

completion. In such case, Engineer shall be liable to County for any additional and reasonable costs incurred by County.

Engineer shall be responsible for the settlement of all contractual and administrative issues arising out of any procurements made by Engineer in support of the Engineering Services under this Contract.

ARTICLE 21
COMPLIANCE WITH LAWS

A. Compliance. Engineer shall comply with all applicable federal, state and local laws, statutes, codes, ordinances, rules and regulations, and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Contract, including without limitation, minimum/maximum salary and wage statutes and regulations, and licensing laws and regulations. Engineer shall furnish County with satisfactory proof of his/her/its compliance.

Engineer shall further obtain all permits and licenses required in the performance of the Engineering Services contracted for herein.

B. Taxes. Engineer will pay all taxes, if any, required by law arising by virtue of the Engineering Services performed hereunder. County is qualified for exemption pursuant to the provisions of Section 151.309 of the Texas Limited Sales, Excise, and Use Tax Act.

ARTICLE 22
INDEMNIFICATION

ENGINEER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM AN NEGLIGENT ACT OR OMISSION, NEGLIGENCE, OR INTENTIONAL TORT COMMITTED BY ENGINEER, ENGINEER'S EMPLOYEES, AGENTS, OR ANY OTHER PERSON OR ENTITY UNDER CONTRACT WITH ENGINEER INCLUDING, WITHOUT LIMITATION, ENGINEER'S SUBCONSULTANTS, OR ANY OTHER ENTITY OVER WHICH ENGINEER EXERCISES CONTROL.

ENGINEER FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM ENGINEER'S FAILURE TO PAY ENGINEER'S EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY ENGINEER.

ENGINEER FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES,

INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM THE INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY ENGINEER IN THE PERFORMANCE OF THIS CONTRACT.

THE LIMITS OF INSURANCE REQUIRED IN THIS CONTRACT AND/OR THE CONTRACT DOCUMENTS SHALL NOT LIMIT ENGINEER'S OBLIGATIONS UNDER THIS SECTION. THE TERMS AND CONDITIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THE CONTRACT AND/OR CONTRACT DOCUMENTS OR THE SUSPENSION OF THE WORK HEREUNDER. TO THE EXTENT THAT ANY LIABILITIES, PENALTIES, DEMANDS, CLAIMS, LAWSUITS, LOSSES, DAMAGES, COSTS AND EXPENSES ARE CAUSED IN PART BY THE ACTS OF THE COUNTY OR THIRD PARTIES FOR WHOM ENGINEER IS NOT LEGALLY LIABLE, ENGINEER'S OBLIGATIONS SHALL BE IN PROPORTION TO ENGINEER'S FAULT. THE OBLIGATIONS HEREIN SHALL ALSO EXTEND TO ANY ACTIONS BY THE COUNTY TO ENFORCE THIS INDEMNITY OBLIGATION.

IN THE EVENT THAT CONTRACTORS INITIATE LITIGATION AGAINST THE COUNTY IN WHICH THE CONTRACTOR ALLEGES DAMAGES AS A RESULT OF ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, INCLUDING, BUT NOT LIMITED TO, DEFECTS, ERRORS, OR OMISSIONS, THEN THE COUNTY SHALL HAVE THE RIGHT TO JOIN ENGINEER IN ANY SUCH PROCEEDINGS AT THE COUNTY'S COST. ENGINEER SHALL ALSO HOLD THE COUNTY HARMLESS AND INDEMNIFY THE COUNTY TO THE EXTENT THAT ENGINEER, ANY OF ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, CAUSED SUCH DAMAGES TO CONTRACTOR, INCLUDING ANY AND ALL COSTS AND ATTORNEYS' FEES INCURRED BY THE COUNTY IN CONNECTION WITH THE DEFENSE OF ANY CLAIMS WHERE ENGINEER, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH ENGINEER EXERCISES CONTROL, ARE ADJUDICATED AT FAULT.

ARTICLE 23
ENGINEER'S RESPONSIBILITIES

Engineer shall be responsible for the accuracy of his/her/its Engineering Services and shall promptly make necessary revisions or corrections to its work product resulting from errors, omissions, or negligent acts, and same shall be done without compensation. County shall determine Engineer's responsibilities for all questions arising from design errors and/or omissions, subject to the dispute resolution provisions of Article 33. Engineer shall not be relieved of responsibility for subsequent correction of any such errors or omissions in its work product, or for clarification of any ambiguities until after the construction phase of the Project has been completed.

ARTICLE 24
ENGINEER'S SEAL

The responsible engineer shall sign, seal and date all appropriate engineering submissions to County in accordance with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

ARTICLE 25
INSURANCE

Engineer must comply with the following insurance requirements at all times during this Contract:

A. Coverage Limits. Engineer, at Engineer's sole cost, shall ~~purchase and maintain~~ during the entire term while this Contract is in effect the following insurance:

1. Worker's Compensation in accordance with statutory requirements.
2. Commercial General Liability Insurance with a combined minimum Bodily Injury and Property Damage limits of $1,000,000.00 per occurrence and $2,000,000.00 in the aggregate.
3. Automobile Liability Insurance for all owned, non-owned, and hired vehicles with combined minimum limits for Bodily Injury and Property Damage limits of $500,000.00 per occurrence and $1,000,000.00 in the aggregate.
4. Professional Liability Errors and Omissions Insurance in the amount of $2,000,000.00 per claim.

B. Additional Insureds; Waiver of Subrogation. County, its directors, officers and employees shall be added as additional insureds under policies listed under (2) and (3) above, and on those policies where County, its directors, officers and employees are additional insureds, such insurance shall be primary and any insurance maintained by County shall be excess and not contribute with it. Such policies shall also include waivers of subrogation in favor of County.

C. Premiums and Deductible. Engineer shall be responsible for payment of premiums for all of the insurance coverages required under this section. Engineer further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Engineer is responsible hereunder, Engineer shall be solely responsible for all deductibles and self-insured retentions. Any deductibles or self-insured retentions over $50,000 in the Engineer's insurance must be declared and approved in writing by County in advance.

D. Commencement of Work. Engineer shall not commence any field work under this Contract until he/she/it has obtained all required insurance and such insurance has been approved by County. As further set out below, Engineer shall not allow any subcontractor/subconsultant(s) to commence work to be performed in connection with this Contract until all required insurance has been obtained and approved and such approval shall not be unreasonably withheld. Approval of the insurance by County shall not relieve or decrease the liability of Engineer hereunder.

E. Insurance Company Rating. The required insurance must be written by a company approved to do business in the State or Texas with a financial standing of at least an A-rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued.

F. Certification of Coverage. Engineer shall furnish County with a certification of coverage issued by the insurer. Engineer shall not cause any insurance to be canceled nor permit any insurance to lapse. **In addition to any other notification requires set forth hereunder, Engineer shall also notify County, within twenty-four (24) hours of receipt, of any notices of expiration, cancellation, non-renewal, or material change in coverage it receives from its insurer.**

G. No Arbitration. It is the intention of the County and agreed to and hereby acknowledged by the Engineer, that no provision of this Contract shall be construed to require the County to submit to mandatory arbitration in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder or as may be required by law or a court of law with jurisdiction over the provisions of this Contract.

H. Subcontractor/Subconsultant's Insurance. Without limiting any of the other obligations or liabilities of Engineer, Engineer shall require each subcontractor/subconsultant performing work under this Contract (to the extent a subcontractor/subconsultant is allowed by County) to maintain during the term of this Contract, at the subcontractor/subconsultant's own expense, the same stipulated minimum insurance required in this Article above, including the required provisions and additional policy conditions as shown below in this Article.

Engineer shall obtain and monitor the certificates of insurance from each subcontractor/subconsultant in order to assure compliance with the insurance requirements. Engineer must retain the certificates of insurance for the duration of this Contract, and shall have the responsibility of enforcing these insurance requirements among its subcontractor/subconsultants. County shall be entitled, upon request and without expense, to receive copies of these certificates of insurance.

I. Insurance Policy Endorsements. Each insurance policy shall include the following conditions by endorsement to the policy:

1. County shall be notified thirty (30) days prior to the expiration, cancellation, non-renewal or any material change in coverage, and such notice thereof shall be given to County by certified mail to:

   Williamson County Auditor
   c/o: Pam Navarrette
   710 Main Street, Suite 301
   Georgetown, Texas 78626

   With copy to: Williamson County Dept. of Infrastructure

Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

2. The policy clause "Other Insurance" shall not apply to any insurance coverage currently held by County, to any such future coverage, or to County's Self-Insured Retentions of whatever nature.

J. Cost of Insurance. The cost of all insurance required herein to be secured and maintained by Engineer shall be borne solely by Engineer, with certificates of insurance evidencing such minimum coverage in force to be filed with County. Such Certificates of Insurance are evidenced as **Exhibit F** herein entitled "Certificates of Insurance."

ARTICLE 26
COPYRIGHTS

County shall have the royalty-free, nonexclusive and irrevocable right to reproduce, publish or otherwise use, and to authorize others to use, any reports developed by Engineer for governmental purposes.

ARTICLE 27
SUCCESSORS AND ASSIGNS

This Contract shall be binding upon and inure to the benefit of the parties hereto, their successors, lawful assigns, and legal representatives. Engineer may not assign, sublet or transfer any interest in this Contract, in whole or in part, by operation of law or otherwise, without obtaining the prior written consent of County.

ARTICLE 28
SEVERABILITY

In the event any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal or unenforceable in any respect, then such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Contract shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

ARTICLE 29
PRIOR AGREEMENTS SUPERSEDED

This Contract constitutes the sole agreement of the parties hereto, and supersedes any prior understandings or written or oral contracts between the parties respecting the subject matter defined herein. This Contract may only be amended or supplemented by mutual agreement of the parties hereto in writing.

ARTICLE 30
ENGINEER'S ACCOUNTING RECORDS

Engineer agrees to maintain, for a period of three (3) years after final payment under this Contract, detailed records identifying each individual performing the Engineering Services, the date or dates the services were performed, the applicable hourly rates, the total amount billed for each individual and the total amount billed for all persons, records of reimbursable costs and expenses of other providers and provide such other details as may be requested by the County Auditor for verification purposes. Engineer agrees that County or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any and all books, documents, papers and records of Engineer which are directly pertinent to the services to be performed under this Contract for the purposes of making audits, examinations, excerpts, and transcriptions. Engineer further agrees that County shall have access during normal working hours to all necessary Engineer facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. County shall give Engineer reasonable advance notice of intended audits.

ARTICLE 31
NOTICES

All notices to either party by the other required under this Contract shall be personally delivered or mailed to such party at the following respective addresses:

County: Williamson County Judge
710 Main Street, Suite 101
Georgetown, Texas 78626

With copy to: Williamson County Dept. of Infrastructure
Attn: Director of Road & Bridge
3151 SE Inner Loop, Suite B
Georgetown, Texas 78626

OK
my 2/28/2017

and to: Office of General Counsel
Williamson County
710 Main Street, Suite 102
Georgetown, Texas 78626

Engineer: K Friese & Associates, Inc.
1120 S. Capital of Texas Hwy
Building 2, Suite 100
Austin, Texas 78746

ARTICLE 32

GENERAL PROVISIONS

A. Time is of the Essence. Subject to Article 3 hereof, Engineer understands and agrees that time is of the essence and that any failure of Engineer to complete the Engineering Services for each phase of this Contract within the agreed work schedule set out in the applicable Work Authorization may constitute a material breach of this Contract. Engineer shall be fully responsible for his/her/its delays or for failures to use his/her/its reasonable efforts in accordance with the terms of this Contract and the Engineer's standard of performance as defined herein. Where damage is caused to County due to Engineer's negligent failure to perform County may accordingly withhold, to the extent of such damage, Engineer's payments hereunder without waiver of any of County's additional legal rights or remedies.

B. Force Majeure. Neither County nor Engineer shall be deemed in violation of this Contract if prevented from performing any of their obligations hereunder by reasons for which they are not responsible or circumstances beyond their control. However, notice of such impediment or delay in performance must be timely given, and all reasonable efforts undertaken to mitigate its effects.

C. Enforcement and Venue. This Contract shall be enforceable in Georgetown, Williamson County, Texas, and if legal action is necessary by either party with respect to the enforcement of any or all of the terms or conditions herein, exclusive venue for same shall lie in Williamson County, Texas. This Contract shall be governed by and construed in accordance with the laws and court decisions of the State of Texas excluding, however, its choice of law rules.

D. Standard of Performance. The standard of care for all professional engineering, consulting and related services performed or furnished by Engineer and its employees under this Contract will be the care and skill ordinarily used by members of Engineer's profession practicing under the same or similar circumstances at the same time and in the same locality.

E. Opinion of Probable Cost. Any opinions of probable Project cost or probable construction cost provided by Engineer are made on the basis of information available to Engineer and on the basis of Engineer's experience and qualifications and represents its judgment as an experienced and qualified professional engineer. However, since Engineer has no control over the cost of labor, materials, equipment or services furnished by others, or over the contractor(s') methods of determining prices, or over competitive bidding or market conditions, Engineer does not guarantee that proposals, bids or actual Project or construction cost will not vary from opinions of probable cost Engineer prepares.

F. Opinions and Determinations. Where the terms of this Contract provide for action to be based upon opinion, judgment, approval, review, or determination of either party hereto, such terms are not intended to be and shall never be construed as permitting such opinion, judgment, approval, review, or determination to be arbitrary, capricious, or unreasonable.

G. Reports of Accidents. Within 24 hours after Engineer becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Engineer), whether or not it results

from or involves any action or failure to act by the Engineer or any employee or agent of the Engineer and which arises in any manner from the performance of this Contract, the Engineer shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Engineer, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Engineer's performance of work under this Contract.

H. Gender, Number and Headings. Words of any gender used in this Contract shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Contract.

I. Construction. Each party hereto acknowledges that it and its counsel have reviewed this Contract and that the normal rules of construction are not applicable and there will be no presumption that any ambiguities will be resolved against the drafting party in the interpretation of this Contract.

J. Independent Contractor Relationship. Both parties hereto, in the performance of this Contract, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

K. No Waiver of Immunities. Nothing in this Contract shall be deemed to waive, modify or amend any legal defense available at law or in equity to County, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

L. Texas Public Information Act. To the extent, if any, that any provision in this Contract is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that County, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to County as to whether or not the same are available to the public. It is further understood that County's officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

M. Governing Terms and Conditions. If there is an irreconcilable conflict between the terms and conditions set forth in this Contract or any Contract Amendment and the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract, the terms and conditions set forth in this Contract or any Contract

Amendment shall control over the terms and conditions set forth in any Exhibit, Appendix, Work Authorization or Supplemental Work Authorization to this Contract.

N. Meaning of Day. For purposes of this Contract, all references to a "day" or "days" shall mean a calendar day or calendar days.

O. Appropriation of Funds by County. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Contract. Engineer understands and agrees that County's payment of amounts under this Contract is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

P. Termination of Work Authorization. Should it be determined that the progress in the production of Engineer's services and work does not satisfy the requirements of the approved Work Authorization as provided by Exhibit "C", attached hereto, the County shall review the approved Work Authorization with the Engineer to determine the corrective action needed, including potential termination of such Work Authorization by Williamson County. Additionally, if an approved Work Authorization has not been completed by the end of the applicable County fiscal year under this contract and the Williamson County Commissioners Court does not provide for funding through its budgetary oversight for the subsequent County fiscal year, Williamson County reserves the right to terminate such Work Authorization at its discretion.

ARTICLE 33
DISPUTE RESOLUTION

Except as otherwise specifically set forth herein, County and Engineer shall work together in good faith to resolve any controversy, dispute or claim between them which arises out of or relates to this Contract, whether stated in tort, contract, statute, claim for benefits, bad faith, professional liability or otherwise ("Claim"). If the parties are unable to resolve the Claim within thirty (30) days following the date in which one party sent written notice of the Claim to the other party, and if a party wishes to pursue the Claim, such Claim shall be addressed through non-binding mediation. A single mediator engaged in the practice of law, who is knowledgeable about subject matter of this Contract, shall be selected by agreement of the parties and serve as the mediator. Any mediation under this Contract shall be conducted in Williamson County, Texas. The mediator's fees shall be borne equally between the parties. Such non-binding mediation is a condition precedent to seeking redress in a court of competent jurisdiction, but this provision shall not preclude either party from filing a lawsuit in a court of competent jurisdiction prior to completing a mediation if necessary to preserve the statute of limitations, in which case such lawsuit shall be stayed pending completion of the mediation process contemplated herein. This provision shall survive the termination of the Contract.

ARTICLE 34
EQUAL OPPORTUNITY IN EMPLOYMENT

During the performance of this Contract and to the extent the Project is a federally funded project, Engineer, for itself, its assignees and successors in interest agrees as follows:

A. Compliance with Regulations. The Engineer shall comply with the Regulations relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this Contract.

B. Nondiscrimination. The Engineer, with regard to the work performed by it during the Contract, shall not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors/subconsultants, including procurements of materials and leases of equipment. The Engineer shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

C. Solicitations for Subcontracts, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiation made by the Engineer for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor/subconsultant or supplier shall be notified by the Engineer of the Engineer's obligations under this Contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports. The Engineer shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the County (referred to in this Article as the "Recipient") or the Texas Department of Transportation to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the Engineer shall so certify to the Recipient, or the Texas Department of Transportation as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance. In the event of the Engineer's noncompliance with the nondiscrimination provisions of this contract, the Recipient shall impose such contract sanctions as it or the Texas Department of Transportation may determine to be appropriate, including, but not limited to:

1. withholding of payments to the Engineer under the contract until the Engineer complies, and/or;
2. cancellation, termination or suspension of the Contract, in whole or in part.

F. Incorporation of Provisions. The Engineer shall include the provisions of Subsections (A) through (F) above in every subcontract, including procurements of materials and

leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto. The Engineer shall take such action with respect to any subcontract or procurement as the Recipient or the Texas Department of Transportation may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor/subconsultant or supplier as a result of such direction, the Engineer may request the Recipient to enter into such litigation to protect the interests of the Recipient, and, in addition, the Engineer may request the United States to enter into such litigation to protect the interests of the United States.

SIGNATORY WARRANTY

The undersigned signatory for Engineer hereby represents and warrants that the signatory is an officer of the organization for which he/she has executed this Contract and that he/she has full and complete authority to enter into this Contract on behalf of the firm. The above-stated representations and warranties are made for the purpose of inducing County to enter into this Contract.

IN WITNESS WHEREOF, County has caused this Contract to be signed in its name by its duly authorized County Judge, as has Engineer, signing by and through its duly authorized representative(s), thereby binding the parties hereto, their successors, assigns and representatives for the faithful and full performance of the terms and provisions hereof, to be effective as of the date of the last party's execution below. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND, TERMINATE OR MODIFY THIS CONTRACT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

COUNTY

WILLIAMSON COUNTY, TEXAS

By: _____
Dan A. Gattis, County Judge

Date: _____ ____, 20____

OK
2/28/2017

ENGINEER

K Friese & Associates, Inc.

By _____

Printed Name: Thomas M. Owens, P.E.

Title: Executive Vice President

Date: FEBRUARY 27, 2017

SUBSCRIBED and sworn to before me the undersigned authority by THOMAS M. OWENS the EXEC. VICE PRESIDENT of **ENGINEER**, on behalf of said firm.

Stacy C Kaase

STACY C KAASE
MY COMMISSION EXPIRES
February 22, 2019

Notary Public in and for the
State of Texas

My commission expires: 02/22/2019

LIST OF EXHIBITS ATTACHED

(1) **Exhibit A** Debarment Certification

(2) **Exhibit B** Engineering Services

(3) **Exhibit C** Work Authorization

(4) **Exhibit D** Rate Schedule

(5) **Exhibit E** Williamson County Vendor Reimbursement Policy

(6) **Exhibit F** Certificates of Insurance

EXHIBIT A
DEBARMENT CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Engineer and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public* transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity* with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions* terminated for cause or default; and

(e) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

K Friese & Associates, Inc.
Name of Firm

Signature of Certifying Official

Thomas M. Owens
Printed Name of Certifying Official

Executive Vice President
Title of Certifying Official

FEBRUARY 27, 2017
Date

(2) Where the PROVIDER is unable to certify to any of the statements in this certification, such PROVIDER shall attach an explanation to this certification.

* federal, state, or local

SUBSCRIBED and sworn to before me the undersigned authority by THOMAS M. OWENS _____ the EXEC. VICE PRESIDENT of K. FRIESE + ASSOCIATES on behalf of said firm.

Stacy C Kaase

STACY C KAASE
MY COMMISSION EXPIRES
February 22, 2019

Notary Public in and for the
State of Texas

My commission expires: 02/22/2019

EXHIBIT B

ENGINEERING SERVICES

General Work Description: Provide engineering services and planning to develop Transportation Corridor H as shown on the attached map.

The Engineer may perform any or all of the following tasks listed below, as described in detail in each Work Authorization:

TASK 1 - PROJECT MANAGEMENT

TASK 2 - ROUTE AND DESIGN STUDIES

TASK 3 - PUBLIC INVOLVEMENT

TASK 4 - SURVEYING

TASK 5 - ROW MAPPING

TASK 6 - ENVIRONMENTAL STUDIES & DOCUMENTS

TASK 7 - GEOTECHNICAL SERVICES

TASK 8 - PLANS, SPECIFICATIONS AND ESTIMATE (PS&E)

TASK 9 - CONSTRUCTION PHASE SERVICES

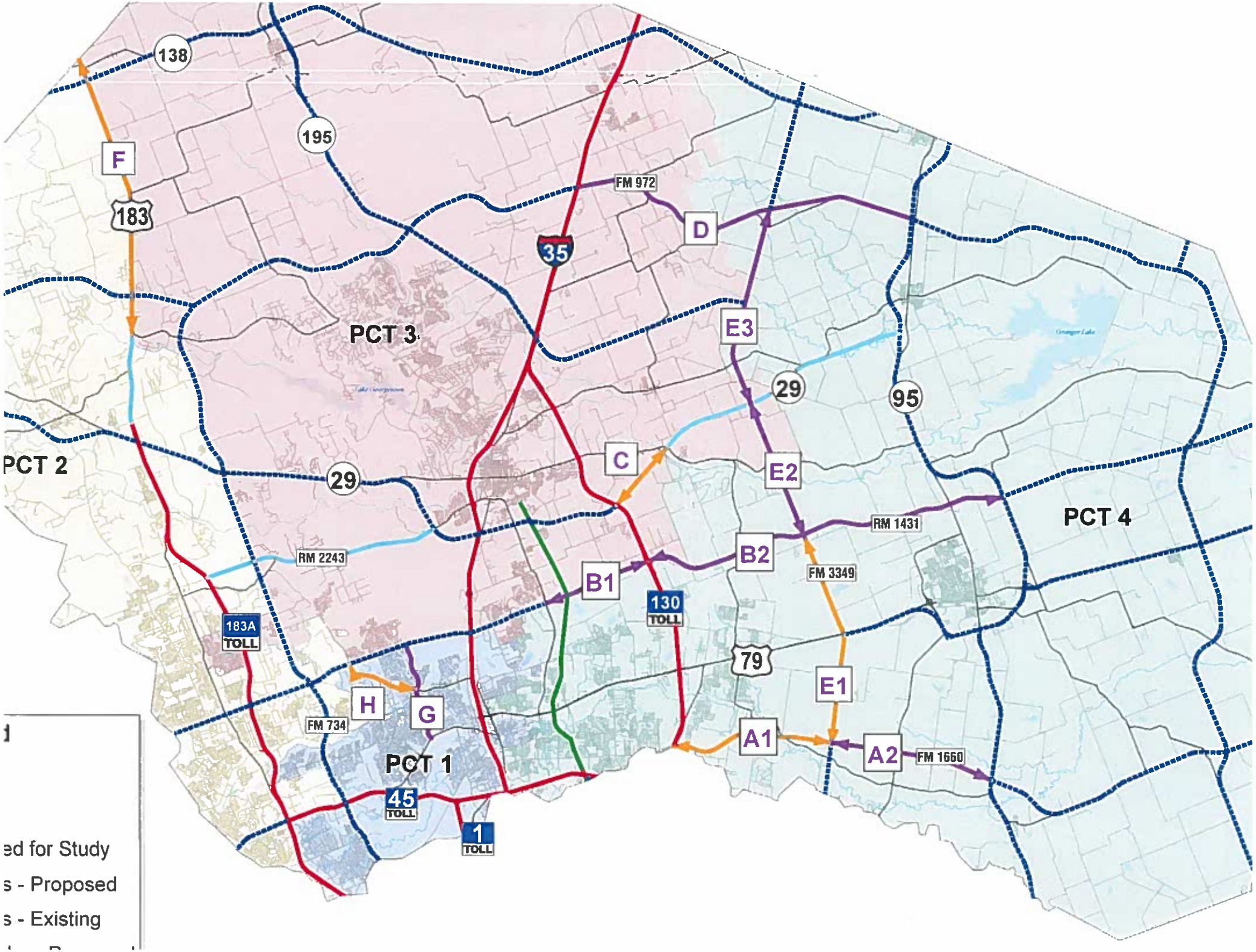

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RM 1431
PCT 4
RM 2243
B2
B1
FM 3349
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TOLL
183A
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A1
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FM 1660
PCT 1
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TOLL
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TOLL
ed for Study
s - Proposed
s - Existing

EXHIBIT C

WORK AUTHORIZATION

(To Be Completed and Executed After Contract Execution)

WORK AUTHORIZATION NO. _____
PROJECT: _____

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ ____, 20____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and _____ (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is _____.

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on _____ ____, 20_____. The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:

[Insert Company Name HERE]

By:_____
Signature

_____
Printed Name

_____
Title

COUNTY:

Williamson County, Texas

By:_____
Signature

_____
Printed Name

_____
Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

EXHIBIT D

RATE SCHEDULE

CPI Rate Adjustments: Rates will remain firm for the initial first year of the Contract and such rates shall be deemed the "Initial Base Rates". Engineer must request rate adjustments, in writing, at least thirty (30) days prior to each annual anniversary date of the Contract and any rate changes will take effect on the first day following the prior year. If Engineer fails to request a CPI rate adjustment, as set forth herein, the adjustment will be effective thirty (30) days after the County receives Engineer's written request. No retroactive rate adjustments will be allowed.

Price adjustments will be made in accordance with changes in the U.S. Department of Labor Consumer Price Index (CPI-U) for All Urban Consumers, All Items, South Region (Base 1982-84 = 100).

The rate adjustment will be determined by multiplying the Initial Base Rates by a fraction, the numerator of which is the index number for most recently released index before each annual anniversary date of the Contract and the denominator of which is the index number for the first month of the Contract (the index number for the month in which the Contract was originally executed). If the products are greater than the Initial Base Rates, County will pay the greater amounts as the rates during the successive year until the next rate adjustment. Rates for each successive year will never be less than the Initial Base Rates.

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR H
K FRIESE & ASSOCIATES, INC.

K Friese & Associates

Principal	$250.00
Sr. Roadway Engineer	$230.00
QA/QC Engineer	$190.00
Sr. Drainage Engineer	$187.50
Sr. Project Manager	$165.00
Project Engineer	$125.00
Engineer In Training	$100.00
CADD Technician	$ 90.00
Admin/Clerical	$ 75.00

Cox/McLain & Associates

Senior Environmental Scientist II	$150.00
Senior Environmental Scientist I	$130.00
Environmental Professional II	$110.00
Environmental Professional I	$ 95.00
Environmental Staff III	$ 85.00
Environmental Staff II	$ 75.00
Environmental Staff I	$ 65.00
Environmental Technician II	$ 55.00
Environmental Technician I	$ 45.00

Direct Expenses

8 ½" x 11" b/w Paper Copies	$ 0.16/each
11" x 17" b/w Paper Copies	$ 0.32/each
8 ½" x 11" color Paper Copies	$ 0.75/each
11" x 17" color Paper Copies	$ 1.50/each
Plots (B/W on Bond)	$ 0.75/each
Plots (Color on Bond)	$ 1.75/each
Hazardous Materials Database Search	$550.00/each

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR H
K FRIESE & ASSOCIATES, INC.

WSP Parsons Brinkerhoff

Principal in Charge	$255.05
Project Manager	$185.32
Senior Structural Engineer	$180.47
Senior Supervising Traffic Engineer	$220.83
Lead Traffic Engineer	$146.77
Senior CADD Tech	$118.70
Project Engineer	$112.73
EIT	$102.77
Project Accountant	$ 97.80

Direct Expenses

Photocopies B/W (8 ½" x 11")	$ 0.10/each
Photocopies B/W (11"x17")	$ 0.15/each
Photocopies Color (8 ½"x11")	$ 0.65/each
Plots (B/W on Bond)	$ 0.75/SF
Plots (Color on Bond)	$ 1.75/SF

Surveying and Mapping, Inc.

Project Manager	$135.00
Senior Survey Technician	$ 96.00
Survey Technician	$ 88.00
Admin/Clerical	$ 70.00
Two Person Survey Crew	$130.00
Three Person Survey Crew	$160.00
Project Coordinator – Aerial Mapping	$130.00
Certified Photogrammetrist	$120.00
Analytical Triangulation Specialist	$ 95.00
Aerial Mapping Technician	$ 95.00
Orthophoto Specialist	$ 95.00
Mapping Editor	$ 90.00
Aerial Office Technician	$ 80.00
Project Coordinator – HAL	$130.00
HAL Processing Technician	$110.00
Helicopter Flight Crew Rotary Wing Aircraft	$195.00

Direct Expenses

In-house Photocopies B/W (8 1/2" X 11")	$ 0.16/page
In-house Photocopies Color (8 1/2" X 11")	$ 0.75/page
In-house Photocopies B/W (11" X 17")	$ 0.32/page
In-house Photocopies Color (11" X 17")	$ 1.50/page

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR H
K FRIESE & ASSOCIATES, INC.

In-house Plots (B/W on Bond)	$ 0.75/sf
In-house Plots (Color on Bond)	$ 1.75/sf
In-house Large Format Plotting	$ 2.50/sf
In-house Mounting of Large Exhibits	$ 10.00/sf
In-house Traffic Control	$1,500.00/day
GPS Receiver	$ 25.00/hour
Terrestrial Laser Scanner	$ 80.00/hour
LiDAR Workstation	$ 25.00/hour
Helicopter Airborne Lidar	$1,650.00/hour
Digital Imagery Processing	$ 20.00/each
LiDAR Mobile Mapping System	$6,000.00/day
Aerial Photography Flight Crew Fixed Wing Aircraft	$ 180.00/hour
LiDAR Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator)	$ 192.00/hour
AP Transit Miles	$ 5.90/mile
AP Project Flight Miles	$ 20.00/mile
AP ABGPS Processing	$2,250.00/project
FWAL Transit Miles	$ 6.00/mile
FWAL Project Flight Miles	$ 20.00/mile
Aerial LiDAR System	$6,500.00/day
B&W processing (film, development, scanning)	$ 16.00/each
CIR processing (film, development, scanning)	$ 23.00/each
Color processing (film, development, scanning)	$ 26.00/each
Digital Image Processing	$ 20.00/each

Concept Development & Planning, Inc.

Principal	$165.00
Project Manager	$130.00
Senior Media Specialist	$115.00
Senior Public Involvement Specialist	$115.00
Public Involvement Specialist	$100.00
Senior Graphic Design and Web Developer	$ 90.00
Graphic Design and Web Developer	$ 65.00
Junior Public Involvement Specialist	$ 65.00
Admin/Clerical	$ 50.00

Direct Expenses

Photocopies B/W (11" x 17")	$ 0.20/each
Photocopies B/W (8 ½"" x 11")	$ 0.10/each
Photocopies Color (11" x 17")	$ 0.80/each
Photocopies Color (8 ½" x 11")	$ 0.40/each

EXHIBIT D – RATE SCHEDULE
TRANSPORTATION CORRIDOR H
K FRIESE & ASSOCIATES, INC.

Arias Geoprofessionals, Inc.

Senior Geotechnical Engineer	$135.00
Project Engineer	$ 95.00
Field Coordinator	$ 85.00
Logger	$ 65.00
Drafting	$ 65.00
Admin/Clerical	$ 55.00

Direct Expenses

Drill Rig Mobilization	$425.00/each
Drilling and Sampling	$ 19.00/linear foot
Backfill Boreholes	$ 5.00/linear foot
Traffic Control	$1,800.00/day
Lab Testing (Moisture Content)	$ 10.00/each
Lab Testing (Atterberg Limits)	$ 65.00/each
Lab Testing (Grain Size Analysis)	$ 65.00/each
Lab Testing (Unconfined Compressive Strength)	$ 55.00/each
Lab Testing (Soluble Sulfates)	$ 45.00/each

EXHIBIT E

Williamson County
Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy ("Policy") is to provide clear guidelines to vendors on Williamson County's expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. Invoices and Affidavits

1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.

1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.

1.3 Upon County's request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. **Travel Reimbursement**

2.1 The County will only cover costs associated with travel on vendors outside a 50 mile radius from Williamson County, Texas.

2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.

2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.

2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).

2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.

2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.

2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.

2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).

2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.

2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.

2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. **Meals**
   - 3.1 Meal reimbursements are limited to a maximum of $50.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of $20.00 per day. The travel must be outside the Williamson County, Texas line by a 50 mile radius.
   - 3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.
   - 3.3 Meals are reimbursable only for vendors who do not have the necessary personnel located within a 50 mile radius of Williamson County, Texas that are capable of carrying the vendor's obligations to County. Meals will not be reimbursed to vendors who are located within a 50 mile radius of Williamson County, Texas.
   - 3.4 County will not reimburse for alcoholic beverages.
   - 3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance
   - 3.6 No meals purchased for entertainment purposes will be allowed.
   - 3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. **Lodging**
   - 4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.
   - 4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.
   - 4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. **Airfare**
   - 5.1 The County will only reimburse up to a coach price fare for air travel.
   - 5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. early bird check in, seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)
   - 5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.

5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.

5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.

6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.

6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.

6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.

6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.

6.6 Insurance purchased when renting vehicle may also be reimbursed.

6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.

7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:

7.2.1.1 Date

7.2.1.2 Destination

7.2.1.3 Purpose

7.2.1.4 Name of traveler(s)

7.2.1.5 Correspondence that verifies business purpose of the expense

7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.

7.4 Mileage will be reimbursed on the basis of the most commonly used route.

7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.

7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.

7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of Williamson County, Texas by at least a 50 mile radius.

7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.

7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).

7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.

7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Nonreimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

10.1 Alcoholic beverages/tobacco products
10.2 Personal phone calls
10.3 Laundry service
10.4 Valet service (excludes hotel valet)
10.5 Movie rentals
10.6 Damage to personal items
10.7 Flowers/plants
10.8 Greeting cards
10.9 Fines and/or penalties
10.10 Entertainment, personal clothing, personal sundries and services
10.11 Transportation/mileage to places of entertainment or similar personal activities
10.12 Upgrades to airfare, hotel and/or car rental

10.13 Airport parking above the most affordable rate available
10.14 Excessive weight baggage fees or cost associated with more than two airline bags
10.15 Auto repairs
10.16 Babysitter fees, kennel costs, pet or house-sitting fees
10.17 Saunas, massages or exercise facilities
10.18 Credit card delinquency fees or service fees
10.19 Doctor bills, prescription and other medical services
10.20 Hand tools
10.21 Safety Equipment (hard hats, safety vests, etc.)
10.22 Office Supplies
10.23 Lifetime memberships to any association
10.24 Donations to other entities
10.25 Any items that could be construed as campaigning
10.26 Community outreach items exceeding $2 per item
10.27 Sales tax on goods purchased
10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

EXHIBIT F

CERTIFICATES OF INSURANCE

ATTACHED BEHIND THIS PAGE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/28/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Marsh Sponsored Programs
a division of Marsh USA Inc.
PO Box 14404
Des Moines IA 50306

CONTACT NAME:
PHONE (A/C, No, Ext): 800-338-1391 **FAX (A/C, No):** 888-621-3173
E-MAIL ADDRESS: acecclientrequest@marsh.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: Hartford Accident & Indemnity Co	22357
INSURER B: Twin City Fire Insurance Co	29459
INSURER C: Sentinel Insurance Company Ltd	11000
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
K Friese & Associates, Inc.

1120 S.Capital of Texas Hwy Cityview #2
Suite 100
Austin, TX 78746

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	GENERAL LIABILITY	Y	Y	84SBWVM8359	01/01/2017	01/01/2018	EACH OCCURRENCE	$1,000,000
	X COMMERCIAL GENERAL LIABILITY			Prof. Liab. Excl.			DAMAGE TO RENTED PREMISES (Ea occurrence)	$1,000,000
	CLAIMS-MADE X OCCUR						MED EXP (Any one person)	$10,000
	X XCU						PERSONAL & ADV INJURY	$1,000,000
	X Severability of Int.						GENERAL AGGREGATE	$2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$2,000,000
								$
C	AUTOMOBILE LIABILITY	Y	Y	84UEGAR7037	01/01/2017	01/01/2018	COMBINED SINGLE LIMIT (Ea accident)	$1,000,000
	X ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N		Y	84WBGBJ1571	01/01/2017	01/01/2018	X WC STATU-TORY LIMITS OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) N/A						E.L. EACH ACCIDENT	$1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$1,000,000
							E.L. DISEASE - POLICY LIMIT	$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
RE: Transportation Corridor H.
Williamson County, its directors, officers and employees are included as additional insured on the above referenced policies for ongoing and completed operations in regards to GL when required by written contract. Primary/Non Contributory applies to GL and Auto when required by written contract. Waiver of subrogation is included when required by written contract.
30 day notice of cancellation for the certificate holder per policy endorsement.

CERTIFICATE HOLDER

Williamson County

710 Main Street, Suite 101
Georgetown, TX 78626

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/28/2017

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PRODUCER
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CONTACT NAME:
PHONE (A/C, No, Ext): 800-338-1391 **FAX (A/C, No):** 888-621-3173
E-MAIL ADDRESS: acecclientrequest@marsh.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Beazley Insurance Company, Inc.	37540
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
K Friese & Associates, Inc.

1120 S.Capital of Texas Hwy Cityview #2
Suite 100
Austin TX 78746

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
	☐ CLAIMS-MADE ☐ OCCUR						MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
							GENERAL AGGREGATE	$
	GEN'L AGGREGATE LIMIT APPLIES PER						PRODUCTS - COMP/OP AGG	$
	☐ POLICY ☐ PRO-JECT ☐ LOC							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ☐ NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N						WC STATU-TORY LIMITS ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ N/A (Mandatory in NH)						E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
A	Professional Liablity			V14A3F170401	01/01/2017	01/01/2018	Per Claim	$2,000,000
							Aggregate	$2,000,000
							Deductible	$50,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
This policy is not project specific and therefore includes: Transportation Corridor H.
30 day notice of cancellation for the certificate holder per policy endorsement.

CERTIFICATE HOLDER

Williamson County

710 Main Street, Suite 101
Georgetown, TX 78626

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Brenda Vinson

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CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-172297

Date Filed:
02/27/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
K Friese & Associates, Inc.
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Williamson County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
Transportation Corridor H
Professional Engineering Services (Transportation Corridor H - Sam Bass Road)

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Friese, Karen	Austin, TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

STACY C KAASE
MY COMMISSION EXPIRES
February 22, 2019

Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said THOMAS M. OWENS, this the 27TH day of FEBRUARY, 20 17, to certify which, witness my hand and seal of office.

Signature of officer administering oath	Printed name of officer administering oath	Title of officer administering oath
Stacy C Kaase	STACY C KAASE	NOTARY PUBLIC

WORK AUTHORIZATION NO. 1

PROJECT: TRANSPORTATION CORRIDOR H – SAM BASS ROAD

This Work Authorization is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated _____ and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and **K Friese & Associates, Inc.** (the "Engineer").

Part1. The Engineer will provide the following Engineering Services set forth in Attachment "B" of this Work Authorization.

Part 2. The maximum amount payable for services under this Work Authorization without modification is **$ 491,775.35 .**

Part 3. Payment to the Engineer for the services established under this Work Authorization shall be made in accordance with the Contract.

Part 4. This Work Authorization shall become effective on the date of final acceptance and full execution of the parties hereto and shall terminate on **December 31, 2017** . The Engineering Services set forth in Attachment "B" of this Work Authorization shall be fully completed on or before said date unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

Part 6. County believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Work Authorization. Engineer understands and agrees that County's payment of amounts under this Work Authorization is contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to continue to make payments under this Contract. It is further understood and agreed by Engineer that County shall have the right to terminate this Contract at the end of any County fiscal year if the governing body of County does not appropriate sufficient funds as determined by County's budget for the fiscal year in question. County may effect such termination by giving written notice of termination to Engineer.

Part 7. This Work Authorization is hereby accepted and acknowledged below.

EXECUTED this ____ day of _____, 20___.

ENGINEER:	COUNTY:
K Friese & Associates, Inc.	Williamson County, Texas
By: _____	By: _____
Signature	Signature
Thomas M. Owens, P.E.	_____
Printed Name	Printed Name
Executive Vice President	_____
Title	Title

LIST OF ATTACHMENTS

Attachment A - Services to be Provided by County

Attachment B - Services to be Provided by Engineer

Attachment C - Work Schedule

Attachment D - Fee Schedule

ATTACHMENT A
SERVICES TO BE PROVIDED BY THE COUNTY
PRELIMINARY ENGINEERING FOR TRANSPORTATION CORRIDOR H – SAM BASS ROAD

In general, Williamson County and its representatives to their best efforts will render services as follows:

1. Name, business address and phone number of County's project manager.

2. Assistance to the Engineer, as necessary, with obtaining data and information from other local, regional, State and Federal agencies required for this project.

3. Obtain Rights of Entry from landowners that are unwilling to grant access to the Engineer.

4. Provide available appropriate County data on file, plans and specifications that are deemed pertinent to the completion of the work required by the scope of services (including previous hydraulic studies, models, previous reports and studies, available existing traffic counts, and design year traffic projections).

5. Provide available criteria and full information as to the client's requirements for the project. Provide examples of acceptable format for the required deliverables.

6. Provide timely reviews and decisions necessary for the Engineer to maintain the project work schedule. Review recommendations offered by the Engineer, progress of work, and final acceptance of all documents.

7. Submittal of documentation to regulatory agencies for review and comment, when specified.

8. Support project development efforts with stakeholders, coordinate meetings and interface with stakeholders, as needed.

9. Post and maintain project information for public consumption on the County website.

10. Assist with Coordination between the Engineer and the County's other subconsultants.

11. Negotiate with all utility companies for any agreements and/or relocations required.

12. Provide an agent as necessary to secure proposed ROW.

13. Provide construction observation and review contractor pay applications and progress.

14. Provide Engineer with Contractor submittals, Requests for Information (RFI's), shop drawings, and correspondence.

15. Review Engineer progress, submittals, and plan changes.

ATTACHMENT B
SERVICES TO BE PROVIDED BY THE ENGINEER
PRELIMINARY ENGINEERING FOR SAM BASS ROAD

PROJECT DESCRIPTION

Existing Facility

The project encompasses Sam Bass Road from FM 1431 to Wyoming Springs Drive. The existing facility is a two-lane roadway from FM 1431 to Tonkawa Trail and widens to four lanes from Tonkawa Trail to Wyoming Springs Drive. The existing right-of-way is variable width along the corridor. The roadway utilizes open drainage along the corridor. There is an existing traffic signal at FM 1431 and at Wyoming Springs Drive.

Proposed Facility

The proposed facility will be a five-lane roadway with shoulders open drainage, vegetative filter strips where possible. A proposed right-of-way width will be determined based on the proposed typical section. Signal modifications may be necessary at Wyoming Springs Drive. As the roadway footprint falls within 200-feet of the Upper Brushy Creek WCID (UBCWCID) Dam #13A, coordination with UBCWCID will be necessary. For this proposal, it is assumed that modifications to the dam and reservoir will not be necessary and are not included herein.

Design Criteria

This project will utilize Williamson County Design Criteria and will incorporate Texas Department of Transportation Standard Details and Specifications except where superceded by County details or specifications.

1. PROJECT MANAGEMENT

    a. Shall designate one Licensed Professional Engineer (Texas) to be responsible for the project management, and all communications with the County and its representatives.

    b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS:

        - Submit monthly progress status reports to the GEC. Progress reports will include: tasks completed, tasks/objectives that are planned for the upcoming periods, lists or descriptions of items or decisions needed from the County and its representatives. Subconsultant progress will be incorporated into the monthly progress report. A copy of the monthly progress report will be uploaded to ProjectWise.

        - Prepare correspondence, invoices, and progress reports on a monthly basis in accordance with current County requirements.

c. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) PLAN:

- Prepare a project specific QA/QC plan and submit to the County within thirty (30) days of notice to proceed.
- For each deliverable, provide evidence of their internal review and mark-up of that deliverable as preparation for submittal and in accordance with submitted project specific QA/QC plan.
- Provide continuous QA/QC throughout the duration of the scheduled services included herein to appraise both technical and business performance and provide direction for project activities.

d. PROJECT COORDINATION & ADMINISTRATION:

- Prepare and maintain routine project record keeping including records of meetings.
- Correspondence and coordination will be handled through & with the concurrence of the GEC.
- Manage Project activities (including documenting emails, phone and conference calls, maintain project files for the length of the project, meeting agendas, meeting minutes, and schedule meetings), direct Engineer's team/staff, correspond with the County and its representatives, and assist the County and its representatives in preparing responses to Project-related inquiries.

e. PROGRESS/COORDINATION MEETINGS (Two (2)external meetings assumed):

- Attend a kickoff meeting and coordination/progress meeting with the County and its representatives and stakeholders, as necessary to communicate development of the project and design issues.
- Prepare agenda and sign-in sheets for external coordination/progress meetings.
- Prepare meeting minutes for review via email within three (3) business days of the external coordination/progress meeting.
- Conduct internal coordination meetings as required to advance the development of the project.

f. PROJECT SCHEDULE:

- Maintain a project schedule indicating tasks, subtasks, critical dates, milestones, and deliverables.

g. DELIVERABLES:

- Monthly Invoices and Progress Reports
- Project Specific QA/QC Plan
- Meeting Minutes, Sign-In Sheets, and Agendas
- Project Schedule

2. ROUTE AND DESIGN STUDIES

a. DATA COLLECTION:

- Perform record research and obtaining existing information, including but not limited to: as-built plans, construction plans, right of way maps, environmental reports, studies, future land use maps, floodplain data, water quality data, floodplain and drainage models and analyses. Obtain construction plans for projects within the project limits and abutting TxDOT and County Roads. Obtain drainage studies, reports, and mapping for the project area, including reports for developments affecting the drainage area.

- Conduct a field investigation of the proposed roadway alignment and the surrounding area to determine field conditions including photographic record of notable existing features.

- Develop and maintain adjacent property ownership information (including owner's name, mailing address, property address, property id number) spreadsheet to be used for disseminating project information.

- Review the data collected and organize the information.

b. CONSTRAINTS MAP (1 preliminary alignment assumed):

- Environmental data collection will address land use and community impacts, ecological resources including biological and water resources, and cultural resources including recorded historic and archeological resources. Develop a constraints map and technical memorandum that includes environmental

concerns, known constraints (structures, floodplain), aerial photography, contour information, utility information, based on research of public databases and sources and details screening measures and decision practices for eliminating non-viable corridors.

c. DELIVERABLES:

- Constraints Map Preliminary Alignment and Technical Memorandum (pdf and hardcopies)
- Design Summary Form (pdf and hardcopies)

3. PUBLIC INVOLVEMENT

a. PUBLIC INVOLVEMENT PLAN

- CD&P will develop a Public Involvement Plan which outlines the objectives, strategies, tools and timeline of the engagement process. The overall approach will be to inform, and update stakeholders, and define methods of collecting input from stakeholders. The Plan may include elements such as: general public meetings, meetings with neighborhood groups, one-on-one meetings with affected property owners and businesses and outlined communication tools to be used. Development of the plan will start with thorough research of the project area, areas of concern, and identification of stakeholders. Tasks and deliverables:
    - Draft Public Engagement Plan - within 30 days of NTP
    - Final Public Engagement Plan

b. OUTREACH TOOLS

- A stakeholder database will be developed and include County contacts, elected/public officials, city and agency contacts, neighborhood associations, churches, community groups, nearby businesses, and any interested individuals. Communication will be logged in the database.
  Project status updates, meeting notices, and notices of opportunities to participate will be emailed to stakeholders in the database.
  CD&P will set up and monitor a project email address and be the point of contact to reply to questions and comments in a timely manner. All communication will be logged and team members and County staff will be involved in development of messages.
    - Develop and maintain the stakeholder database

- Up to 4 email updates (outside of meeting notices)
- Communications and responses to stakeholders

c. STAKEHOLDER OUTREACH AND MEETINGS

- Prior to any public meetings, KFA and CD&P will identify and reach out to key stakeholders to set up one-on-one meetings. CD&P will arrange, facilitate, and document meetings. KFA will attend meetings to answer questions and give general project considerations. It is assumed that there will be up to two rounds of outreach to key stakeholders, the project introduction and sharing proposed solution.

  There may also be opportunities to attend other meetings to make presentations and share updates such as HOA, Community Groups, etc. No meetings will be planned or held without prior county approval.

  - Identify and reach out to stakeholders
  - Coordinate and facilitate meetings (up to 2 rounds of outreach)
  - Attend up to 10 other group meetings to share information
  - Document meetings

d. PUBLIC MEETING/OPEN HOUSE (Two (2) public meetings assumed):

- Prepare handout materials, presentation, and exhibits for public viewing. Develop an invitation list of affected property owners, elected officials, stakeholders, school districts, local affected agencies, utility owners, and any other individuals who have showed interest in the project.

- Plan, schedule, conduct, and facilitate public meeting(s) to share project information with and collect feedback from citizens and stakeholders. Tasks may include, but not limited to: calling and/or visiting potential meeting sites; reserving meeting space; announcing the meetings by distributing meeting information and coordinating with attendees; holding and participating in meeting rehearsals; and facilitating meetings.

- Coordinate meeting announcements such as letters, email notices, signage, media releases, and postings.

- Provide experienced meeting facilitator and attend public open house meeting to solicit input from the general public.

- Prepare public meeting summary and responses to any comments or questions provided.

  DELIVERABLES:

  - Sign-In Sheets, Handouts, Presentations, Maps, and Exhibits for Public Meeting.
  - Open House Meeting Summary and comment responses.

e. PROJECT MATERIALS AND TOOLS

- CD&P will develop a template and coordinate materials for consistency and project branding. Materials will relay project information and provide opportunities to give input during the project. The approach to materials will be to tell the story of why these improvements are needed, explain the approach the County is taking to address transportation needs, and encourage involvement. Materials may include but are not limited to handouts, fliers, or fact sheets.
  - Project Templates
  - Illustrations to share project information
  - Handouts, flyers, FAQs, or fact sheets

f. WEBPAGE

- CD&P will develop content and coordinate with the County for posting on the County website. It will include project information, information on how to get involved and share input, project contact information, project materials and materials from public meetings. Tasks and deliverables:
  - Draft Content for webpage (general project information, project materials, meeting materials, photos)
  - Coordinate with County for posting
  - Monthly updates to content as needed

g. MEDIA OUTREACH

- CD&P will identify opportunities for, and place advertisements for public meetings in local media outlets. Print and digital advertisements allow the message to be broadcast to a broader audience in the county and promote the public meetings. Tasks and deliverables:

    - Development of up to 2 display advertisements for print or digital placement

4. SURVEYING

a. RIGHT OF ENTRY (68 letters assumed):

- Prepare and mail right of entry letters per the County's standard for the project team including geotechnical and environmental. Send a second follow up letter to non-responsive property owners.

b. FIELD SURVEYING:

- Project Control – SAM, Inc. will utilize the Western Data Systems (WDS) network to establish horizontal and vertical control including a minimum of six (6) primary survey control points within the survey limits. The survey control points (5/8 inch iron rods with "SAM Control" plastic caps) will be set in locations that will likely be undisturbed by construction or County maintenance. The project control will be placed on horizontal and vertical datums [NAD83/93/NAVD88 values (Texas State Plane, Central Zone)]. Elevations will be derived from GPS observations using Geoid 2012A model. Digital levels will be run through all survey control points to confirm the established elevations.

  SAM, Inc. will establish up to fifteen (15) ground targets to be utilized as project control for the Aerial LiDAR and tie to the primary project control. Elevations will be derived from GPS observations.

- Aerial LIDAR - The Surveyor will acquire LiDAR data at not less than 20 points per square meter average density, and will simultaneously collect color imagery suitable to generate 3-inch pixel GSD resolution orthoimagery.

  Aerial acquisition will be controlled with GPS base stations during the acquisition. Base station data is logged at 2 Hz and merged with GPS and IMU

data recorded on-board the aircraft using post-processed kinematic techniques to produce a highly accurate position for the laser aperture and cameras.

Captured LiDAR data will be recorded on removable data storage units onboard the aircraft. After acquisition, the data will be copied to SATA drives and returned to our offices where it will be copied onto our network drives. The data will then be post-processed and reviewed to confirm complete data acquisition coverage. Any seams, holes, or other unwanted artifacts can be quickly identified to assess the need for any data acquisition re-capture. Once approved, the data will be archived and prepared for production.

Daily acquisition QC procedures will be utilized to ensure data integrity from the mapping systems. These procedures include using a current satellite ephemeris for tracking the satellite constellation to plan scanning operations around the time of GPS Position Dilution of Precision (PDOP) spikes, adequate GPS static collection for receiver initialization and dynamic flying to initialize the IMU. During data acquisition, technicians constantly monitor the scanning system, checking the data logging rate, data storage capacity, GPS PDOP and imagery being collected.

- Supplemental Ground Survey - The Surveyor will supplement the Aerial LiDAR with conventional on-the-ground survey in areas obscured from the LiDAR sensors field of view. In such areas, cross-sections and break lines will be obtained at approximate 50 foot intervals. Major grade-break lines necessary to produce a one-foot interval contour DTM will be collected, as well as any visible improvements including driveways (with type noted), driveway pipes, drainage structures (noting size, material and flowline elevation), edge of pavement, edge (shoulder) line, crown (physical centerline), roadway striping, guardrail, fences, signs (with text) and mailboxes, visible utilities and visible evidence of underground utilities.

  The Surveyor will locate trees 8 inches in diameter at breast height (DBH) and larger within the design survey limits.

  The Surveyor will notify Texas One-Call to have utilities marked prior to survey. Locate any pin flags or markings found at the time of the survey.

  The Surveyor will merge and append the supplemental design survey to the Aerial LiDAR to create a seamless DTM and Planimetric DGN.

Obtaining supplemental design survey shall be excluded from the following limits

- Beyond the existing Sam Bass ROW from Wyoming Springs Drive to Great Oaks Drive
- Beyond the edge of water for existing stock tanks and ponds

c. RECORDS RESEARCH AND EXISTING ROW DELINEATION

- The Surveyor will conduct research in the Williamson County Appraisal District offices to confirm property ownership for approximately seventy-six (76) properties. Concurrently, copies of the current deeds and any plats for the properties will be obtained from the Williamson County Clerks' records. Monumentation and other physical evidence of the existing ROW, front property corners or limits of county maintenance for a prescriptive ROW easement found within the above described projects limits will be recovered and tied to the project control. The record deed information will be plotted to create a base file for use by the Engineer for design purposes only. Locating rear property corners is outside of this scope of services. This ROW Delineation is not a ROW retracement or Boundary Survey and is not intended to be used for ROW acquisition.

d. DELIVERABLES:

- 2D planimetrics and 3D DTM (Microstation V8i) – suitable for final P,S,&E design.
- Gpk and TIN file.
- Word doc file of surveyed points list and descriptor code list.
- Survey Control Index Sheet and Horizontal and Vertical Control Sheet signed, sealed, and dated by a registered professional land surveyor on 11x17 paper and pdf.
- PDF file of scanned field book copies.
- Digital Orthophotography Image Files
- Analytical Aerial Triangulation Summary Report
- Tiled LiDAR data files of classified points in .las format

5. SCHEMATIC DEVELOPMENT

a. SCHEMATIC:

- Prepare preliminary schematic submittal per Williamson County submittal requirements and selected design criteria including proposed cross sections, typical sections, roadway centerline, proposed drainage structures, proposed water quality BMPs, direction of flow and number of travel lanes, intersecting streets, property boundaries and information, ROW and easement locations, preliminary pavement section, driveway locations, horizontal alignment data, profile data, identification of known utilities.

b. DELIVERABLES:

- Preliminary Ultimate Schematic Submittal including cost estimate per submittal requirements.
- Electronic .kmz files for the County's database.

6. DRAINAGE STUDY

a. HYDROLOGIC/HYDRAULIC MODELING (1 major channel crossing, 7 cross drainage structures assumed):

- Prepare hydrologic and hydraulic models or modify existing models (FEMA, drainage districts, river authorities, cities, etc.) if available, to define the drainage infrastructure required for the project. Detail the methodologies employed and recommendations. The analysis will include: preparation of a preliminary design of the right of way drainage system; preliminary sizing of cross drainage structures and major channel crossings to reflect the existing and proposed conditions; recommended minimum pavement elevations based on cross drainage flood elevations; right-of-way requirements; identify potential needs for FEMA Coordination. HEC-RAS shall be utilized for all stream modeling. HY-8 shall be used for non-bridge class culverts.

- Develop existing channel cross sections based on data collection.

- Exhibits and analysis will be prepared in the GIS environment to the extent practical.

- Onsite parallel drainage for ditch and/or storm sewer sizing will only be analyzed to determine project ROW needs. Detailed inlet level calculations are not included in this scope.

- Coordinate with the Upper Brushy Creek Water Control Improvement District (UBCWCID) as necessary throughout the project.

b. FEMA COORDINATION:

- Coordinate with Local Floodplain Administrator as necessary throughout the project.

c. IMPACT AND MITIGATION ANALYSIS:

- Prepare an impact analysis at defined points of interest (POI) where water leaves project ROW to determine increases in peak flow rates for the 100-year storm including: existing and proposed peak flow rates, mitigation analysis, conceptual detention basin layouts, design of control structures, routing of storm hydrographs through basins, calculate the volume of fill to be placed in the 100-year floodplain, and recommend locations for compensatory storage.

d. WATER QUALITY:

- Develop preliminary load calculations and identify location, type, and size of preliminary BMP's required to comply with TCEQ Edwards Aquifer Protection Program regulations.

- Document water quality assumptions, calculations, and proposed BMP's in Drainage Report.

e. DELIVERABLES:

- Preliminary Drainage Report.

7. <u>ENVIRONMENTAL SERVICES</u>

a. COUNTY DUE DILIGENCE

- The Environmental Services will include studies and documentation required, per the Williamson County Environmental Protocol, for the various regulating authorities, including the Texas Historical Commission (THC), U.S. Army Corp of Engineers (USACE), U.S. Fish and Wildlife Service

(USFWS), Williamson County Conservation Foundation (WCCF), and the City of Georgetown. The intention of the Environmental Services is to attain necessary clearance letters and approvals in order to proceed with the proposed project.

This effort is for an Existing Conditions Report only – compliance would occur in future phases and it is assumed there is no federal nexus or NEPA requirement.

b. DATA COLLECTION & FIELD RECONNAISSANCE:

- Obtain and update periodically publicly available information including but not limited to: locations of public buildings (schools, churches, parks), aerial photography, National Wetland Inventory Maps, County Soil Survey Maps, TCEQ & EPA Hazardous Materials Database Information, FEMA Floodplain Information, Vegetation Information, Environmental Information from the appropriate local, state, or federal agencies, including information from TPWD and USFWS.

c. HAZARDOUS MATERIALS INITIAL SITE ASSESSMENT:

- Conduct a regulatory records review to identify listed hazardous waste generators, treatment, storage and disposal facilities; solid waste landfills, unauthorized sites; documented spills; oil and gas exploration and production sites; and underground storage tank sites within the proposed site location. The review will also identify other environmental risks along the project corridor.

- Prepare a Hazardous Materials Initial Site Assessment (ISA) based on the data collection and field reconnaissance conducted and identify potential hazardous material sites that may be impacted by the proposed project. **Existing Conditions portion only.**

d. SECTION 404 CLEAN WATER ACT COMPLIANCE:

- Prepare a wetland determination and delineation existing conditions report identifying: specific impacts of the project on the Waters of the U.S., measures to minimize the impacts will be identified, and discuss applicable Section 404 options in accordance with current permits and conditions based on data collection and field reconnaissance.

e. ECOLOGICAL RESOURCES AND ENDANGERED SPECIES ACT COMPLIANCE:

- Prepare Existing Conditions documenting the project's potential effects on federally listed Threatened & Endangered Species to document the project's compliance with the Endangered Species Act based on data collection and field reconnaissance.

- It is assumed SWCA would handle coordination related to the Jollyville Plateau Salamander critical habitat.

f. HISTORICAL SITE COMPLIANCE

- Prepare a study that will include database searches of the Texas Historical Commission's (THC) Historic Sites Atlas and TxDOT databases to identify previously documented cemeteries, historical markers, properties and districts. A field visit will be required to obtain photographs for the PCR attachments. **Existing Conditions only.**

g. TEXAS ANTIQUITIES CODE (TAC) COMPLIANCE:

- Prepare an Archeological Existing Conditions study that will be used to determine if archeological survey is warranted. The study will include review of the THC's Texas Archeological Sites Atlas maintained by the Texas Archeological Research Laboratory (TARL) for all known sites and previous cultural resources studies, as well as historic cemeteries, historical markers, NRHP listed properties and districts, and State Antiquities Landmarks (SALs) within one kilometer of the project area. Other resources used in the study would include soils, geology, and historic maps and on-line-available aerial photographs.

h. COMMUNITY IMPACT ASSESSMENT – DATA COLLECTION

- Prepare census-based socioeconomic data collection for understanding of project area demographics to assist public involvement.

i. DELIVERABLES

- Draft & Final Environmental Existing Conditions Report including:

    - Regulatory Records Review for Hazardous Materials

- Water Resources/Wetlands
- Ecological Resources and Endangered Species Letter
- Historic Resources
- Archeological Resources
- Socioeconomic Data

8. GEOTECHNICAL SERVICES

a. GEOTECHNICAL INVESTIGATION (19 roadway borings assumed, spaced approximately 750 feet to a 10 foot depth):

- Provide a Geotechnical Investigation for the project evaluated by a professional geotechnical engineer Licensed in the State of Texas. The following items will be included in the geotechnical report: soil boring locations, boring logs (TxDOT Wincore output graphs/format), and plan of borings, subsurface exploration procedures, encountered subsurface conditions, field and laboratory test results, description of surface and subsurface conditions, groundwater conditions, analysis and recommendations for settlement and slope stability of the earthen embankments; and culvert bedding, analysis and recommendations for wingwalls, headwalls, and retaining walls, general earthwork recommendations, Swell potential evaluations, Pavement thickness design alternatives with subgrade stabilization, Potential Vertical Rise (PVR) calculations.
- The soil borings will be properly backfilled with bentonite chips and a single lift of cold patch asphalt where applicable. The soil samples will be obtained using Shelby tubes and/or split-spoon samplers. Field-testing of soil samples will include pocket penetrometer in the cohesive soils and Standard Penetration Test (SPT) in the cohesionless soils. Texas Cone Penetrations will be performed in the culvert borings at five foot intervals.
- Perform appropriate laboratory tests on soil samples recovered from the borings. Laboratory testing will include but not limited to: moisture content, liquid limit, plastic limit, unconfined compression, Texas Triaxial, resilient modulus, and free swell, sulfate testing, and particle size analysis tests, visual

classification, dry density, California Bearing Ratio (CBR) tests, sulfate content tests, lime series analyses.

- Provide geotechnical analysis needed for pavement design, foundation design, and slope stability, as required. For retaining walls, Engineer will provide calculations including global stability, sliding, bearing capacity, and overturning and recommendations for minimum footing depth. Where retaining walls will be inundated due to water, a drawdown analysis is required. In addition, retaining wall backfill type shall be specified.
- The pavement design will include consideration of traffic loads to be based on the County's average daily traffic (ADT) projections. The traffic data required includes current and projected traffic counts and truck percentages. The Engineer will prepare three (3) flexible pavement design alternatives and one (1) rigid pavement design alternative. Flexible pavement design alternatives shall include: subgrade stabilization (utilizing lime or cement) and flexible base layer; full depth asphalt section; temporary full depth asphalt pavement section. Rigid design alternative shall include flexible base, HMAC Bond Breaker, and continuous reinforced concrete pavement. Geogrid reinforcement will also be considered in these designs. Pavement thickness options using TxDOT FPS-21.

9. <u>EXCLUSIONS</u>

   a. LOMR and/or CLOMR

   b. Water Pollution Abatement Plan (WPAP)

   c. Geologic Assessment for WPAP

   d. ROW Parcel Exhibits

   e. Plan/Profile of parallel drainage systems

   f. Utility Coordination

   g. Authorization or permitting under Section 404 of the Clean Water Act

   h. Archeological Permitting and Field Studies

   i. Complete Environmental Technical Reports Required for NEPA Clearance including complete Community Impact Assessment

j. Water Resources Technical Report

k. Noise and Air Quality Technical Reports

l. Indirect and Cumulative Impacts Analysis

m. NEPA Clearance Documentation (CE or EA)

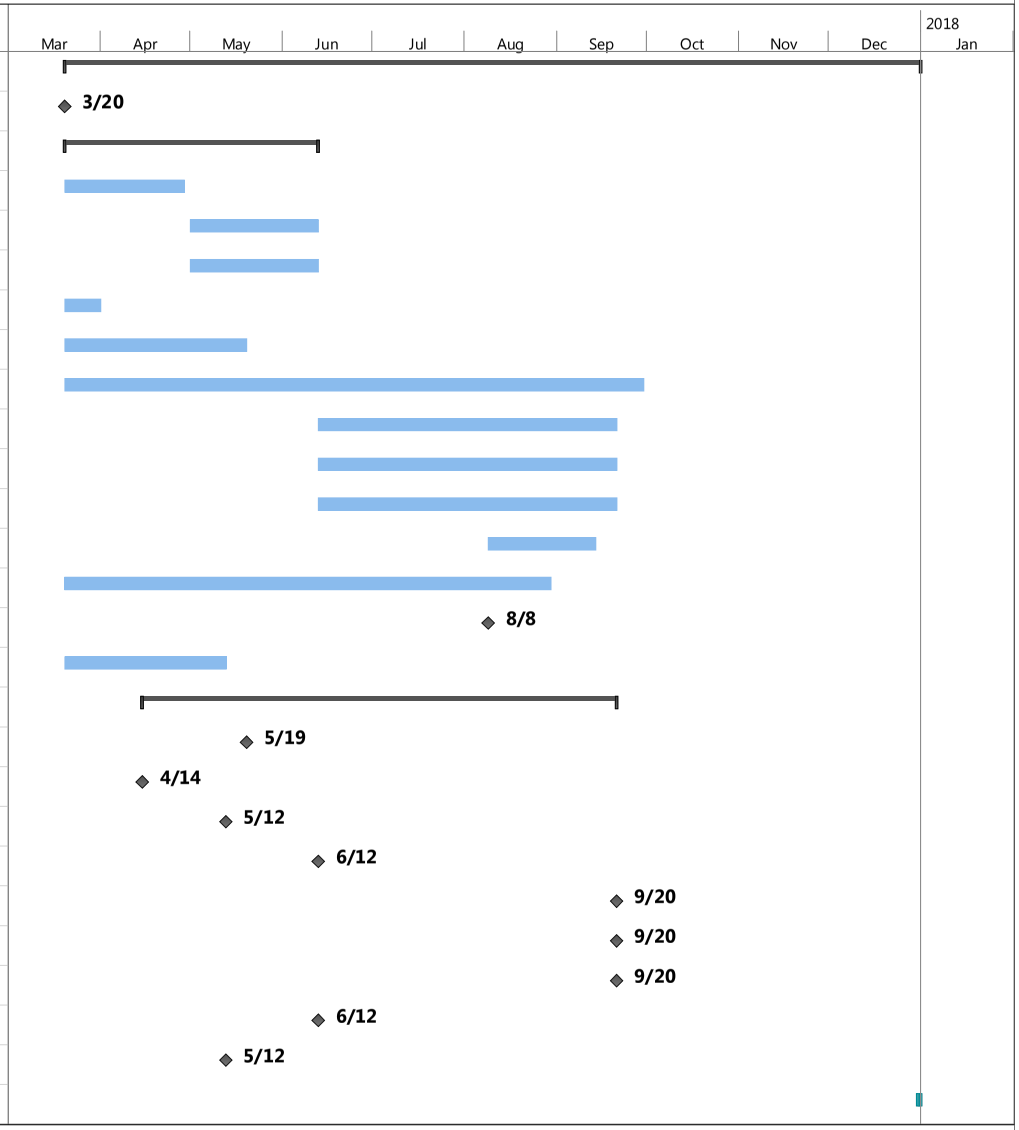
n. Research Design and Historic Resources Survey Report

o. Final P,S,&E Documents

p. Exclusions listed in individual sections

WILLIAMSON COUNTY
TRANSPORTATION CORRIDOR H
ATTACHMENT C - WORK SCHEDULE

ID	Task Name	Duration	Start	Finish
1	**Corridor H (Sam Bass Road)**	**199 days**	**Mon 3/20/17**	**Sun 12/31/17**
2	Notice to Proceed (NTP)	0 days	Mon 3/20/17	Mon 3/20/17
3	**Surveying**	**60 days**	**Mon 3/20/17**	**Mon 6/12/17**
4	Right of Entry	30 days	Mon 3/20/17	Fri 4/28/17
5	Field Surveying	30 days	Mon 5/1/17	Mon 6/12/17
6	Record Research and Exist ROW Delineation	30 days	Mon 5/1/17	Mon 6/12/17
7	Data Collection	10 days	Mon 3/20/17	Fri 3/31/17
8	Constraints Map	45 days	Mon 3/20/17	Fri 5/19/17
9	Public Involvement & Stakeholder Meetings	137 days	Mon 3/20/17	Fri 9/29/17
10	Schematic	70 days	Tue 6/13/17	Wed 9/20/17
11	Drainage	70 days	Tue 6/13/17	Wed 9/20/17
12	Water Quality	70 days	Tue 6/13/17	Wed 9/20/17
13	Cost Estimate	25 days	Wed 8/9/17	Wed 9/13/17
14	Environmental	115 days	Mon 3/20/17	Tue 8/29/17
15	Public Meeting	0 days	Tue 8/8/17	Tue 8/8/17
16	Geotechnical	40 days	Mon 3/20/17	Fri 5/12/17
17	**Deliverables**	**110 days**	**Fri 4/14/17**	**Wed 9/20/17**
18	Constraints Map	0 days	Fri 5/19/17	Fri 5/19/17
19	Draft Public Engagement Plan	0 days	Fri 4/14/17	Fri 4/14/17
20	Final Public Engagement Plan	0 days	Fri 5/12/17	Fri 5/12/17
21	Survey files (.dgn, .tin, .pdf)	0 days	Mon 6/12/17	Mon 6/12/17
22	Preliminary Schematic Submittal	0 days	Wed 9/20/17	Wed 9/20/17
23	Preliminary Cost Estimate	0 days	Wed 9/20/17	Wed 9/20/17
24	Preliminary Drainage Report	0 days	Wed 9/20/17	Wed 9/20/17
25	Draft Environmental Documents	0 days	Mon 6/12/17	Mon 6/12/17
26	Geotechnical Report	0 days	Fri 5/12/17	Fri 5/12/17
27	**Work Authorization Termination Date**	**1 day**	**Sun 12/31/17**	**Sun 12/31/17**



Project: Sam Bass Schedule
Date: Wed 3/1/17

Task	Inactive Task	Manual Summary Rollup	External Milestone
Split	Inactive Milestone	Manual Summary	Deadline
Milestone	Inactive Summary	Start-only	Progress
Summary	Manual Task	Finish-only	Manual Progress
Project Summary	Duration-only	External Tasks	

Attachment D - Fee Schedule
Transportation Corridor H
K Friese Associates, Inc.

TASK	KFA	CMEC	SAM	CD&P	Arias	Total Labor Cost
1. PROJECT MANAGEMENT						
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS	$ 3,630.00	$ 2,460.00	$ -	$ 1,680.00	$ -	$ 7,770.00
c. QA/QC PLAN	$ 3,400.00	$ -	$ -	$ -	$ -	$ 3,400.00
d. PROJECT COORDINATON AND ADMINISTRATION	$ 7,920.00	$ 3,120.00	$ -	$ -	$ -	$ 11,040.00
e. PROGRESS COORDINATION MEETINGS (2)	$ 3,495.00	$ 1,200.00	$ -	$ 2,160.00	$ -	$ 6,855.00
f. PROJECT SCHEDULE	$ 1,320.00	$ -	$ -	$ -	$ -	$ 1,320.00
2. ROUTE AND DESIGN STUDIES	$ -	$ -	$ -	$ -	$ -	
a. DATA COLLECTION	$ 7,860.00	$ -	$ -	$ -	$ -	$ 7,860.00
b. CONSTRAINTS MAP	$ 1,020.00	$ 7,430.00	$ -	$ -	$ -	$ 8,450.00
3. PUBLIC INVOLVEMENT	$ -	$ -	$ -	$ -	$ -	
a. PUBLIC INVOLVEMENT PLAN	$ -	$ -	$ -	$ 1,830.00	$ -	$ 1,830.00
b. OUTREACH TOOLS	$ -	$ -	$ -	$ 9,940.00	$ -	$ 9,940.00
c. STAKEHOLDER OUTREACH AND MEETINGS (10)	$ 14,325.00	$ -	$ -	$ 15,560.00	$ -	$ 29,885.00
d. PUBLIC MEETING/OPEN HOUSE (2)	$ 10,100.00	$ 5,800.00	$ -	$ 19,320.00	$ -	$ 35,220.00
e. PROJECT MATERIALS AND TOOLS	$ -	$ -	$ -	$ 5,780.00	$ -	$ 5,780.00
f. WEBPAGE	$ -	$ -	$ -	$ 2,930.00	$ -	$ 2,930.00
g. MEDIA OUTREACH	$ -	$ -	$ -	$ 755.00	$ -	$ 755.00
4. SURVEYING					$ -	
a. RIGHT OF ENTRY (76)	$ 2,660.00	$ -	$ 9,112.00	$ -	$ -	$ 11,772.00
b. FIELD SURVEYING	$ -	$ -	$ 44,022.00	$ -	$ -	$ 44,022.00
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION	$ -	$ -	$ 22,520.00	$ -	$ -	$ 22,520.00
5. SCHEMATIC DEVELOPMENT					$ -	
a. SCHEMATIC	$ 93,150.00	$ -	$ -	$ -	$ -	$ 93,150.00
6. DRAINAGE STUDY					$ -	
a. HYDROLOGIC/HYDRAULIC MODELING	$ 35,530.00	$ -	$ -	$ -	$ -	$ 35,530.00
b. FEMA COORDINATION	$ 625.00	$ -	$ -	$ -	$ -	$ 625.00
c. IMPACT AND MITIGATION ANALYSIS	$ 19,760.00	$ -	$ -	$ -	$ -	$ 19,760.00
d. WATER QUALITY	$ 31,780.00	$ -	$ -	$ -	$ -	$ 31,780.00
e. DELIVERABLES	$ 25,340.00	$ -	$ -	$ -	$ -	$ 25,340.00
7. ENVIRONMENTAL SERVICES					$ -	
a. COUNTY DUE DILIGENCE (see below)	$ -	$ -	$ -	$ -	$ -	$ -
b. DATA COLLECTION AND FIELD RECONNAISSANCE	$ -	$ 6,650.00	$ -	$ -	$ -	$ 6,650.00
c. HAZARDOUS MATERIALS ISA BASELINE	$ -	$ 2,070.00	$ -	$ -	$ -	$ 2,070.00
d. SECTION 404 WATER RESOURCES CONSIDERATIONS	$ -	$ 1,850.00	$ -	$ -	$ -	$ 1,850.00
e. ECOLOGICAL RESOURCES	$ -	$ 3,020.00	$ -	$ -	$ -	$ 3,020.00
f. HISTORIC RESOURCES	$ -	$ 1,420.00	$ -	$ -	$ -	$ 1,420.00
g. ARCHEOLOGICAL RESOURCES	$ -	$ 2,010.00	$ -	$ -	$ -	$ 2,010.00
h. COMMUNITY IMPACTS - BASELINE	$ -	$ 2,970.00	$ -	$ -	$ -	$ 2,970.00
8. GEOTECHNICAL SERVICES					$ -	
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT	$ -	$ -	$ -	$ -	$ 4,960.00	$ 4,960.00
LABOR COST:	**$ 261,915.00**	**$ 40,000.00**	**$ 75,654.00**	**$ 59,955.00**	**$ 4,960.00**	**$ 442,484.00**
TOTAL DIRECT EXPENSES COST:	**$ 1,040.00**	**$ 1,881.35**	**$ 30,084.00**	**$ 4,761.00**	**$ 11,525.00**	**$ 49,291.35**
TOTAL PROJECT COST:	**$ 262,955.00**	**$ 41,881.35**	**$ 105,738.00**	**$ 64,716.00**	**$ 16,485.00**	**$ 491,775.35**

Attachment D - Fee Schedule
Transportation Corridor H
K Friese Associates, Inc.

TASK Hourly Rate: K Friese & Associates, Inc.	SHEETS/ UNITS	Principal $ 250.00	Sr. Roadway Engineer $230.00	QA/QC Engineer $190.00	Sr. Drainage Engineer $187.50	Sr. Project Manager $165.00	Project Engineer $125.00	Engineer in Training $100.00	CADD Technician $90.00	Admin. $75.00	Sub Total Hours	Hr/Unit	KFA Labor Cost
						Hours							
1. PROJECT MANAGEMENT													
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS	12	3				12				12	27	2.3	$ 3,630.00
c. QA/QC PLAN				4		16					20		$ 3,400.00
d. PROJECT COORDINATON AND ADMINISTRATION						48					48		$ 7,920.00
e. PROGRESS COORDINATION MEETINGS (2)			6		6	6					18		$ 3,495.00
f. PROJECT SCHEDULE						8					8.0		$ 1,320.00
2. ROUTE AND DESIGN STUDIES													$ -
a. DATA COLLECTION			8		8	8		32			56.0		$ 7,860.00
b. CONSTRAINTS MAP						4			4		8.0		$ 1,020.00
3. PUBLIC INVOLVEMENT													$ -
a. PUBLIC INVOLVEMENT PLAN													$ -
b. OUTREACH TOOLS													$ -
c. STAKEHOLDER OUTREACH AND MEETINGS (10)	10	20	10		10	20	10			8	78.0	7.8	$ 14,325.00
d. PUBLIC MEETING/OPEN HOUSE (2)	2	4	8	8	8	16	8			8	60.0	30.0	$ 10,100.00
e. PROJECT MATERIALS AND TOOLS													$ -
f. WEBPAGE													$ -
g. MEDIA OUTREACH													$ -
4. SURVEYING													$ -
a. RIGHT OF ENTRY (76)	76					4		20			24.0	0.3	$ 2,660.00
b. FIELD SURVEYING													$ -
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION													$ -
5. SCHEMATIC DEVELOPMENT													$ -
a. SCHEMATIC			135	45		120		300	40	2	642.0		$ 93,150.00
6. DRAINAGE STUDY													$ -
a. HYDROLOGIC/HYDRAULIC MODELING				12	60		80	120			272.0		$ 35,530.00
b. FEMA COORDINATION					2		2				4.0		$ 625.00
c. IMPACT AND MITIGATION ANALYSIS				4	32		40	80			156.0		$ 19,760.00
d. WATER QUALITY				12	40		80	120			252.0		$ 31,780.00
e. DELIVERABLES				8	24	40	80	20	8		180.0		$ 25,340.00
7. ENVIRONMENTAL SERVICES													$ -
a. COUNTY DUE DILIGENCE (see below)													$ -
b. DATA COLLECTION AND FIELD RECONNAISSANCE													$ -
c. HAZARDOUS MATERIALS ISA BASELINE													$ -
d. SECTION 404 WATER RESOURCES CONSIDERATIONS													$ -
8. GEOTECHNICAL SERVICES													$ -
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT													$ -
TOTAL NUMBER OF SHEETS:											Column Total = 1,853		
HOURS:		**27**	**167**	**93**	**190**	**302**	**300**	**692**	**52**	**30**	Row Total = 1,853		
LABOR COST:		**$ 6,750**	**$ 38,410**	**$ 17,670**	**$ 35,625**	**$ 49,830**	**$ 37,500**	**$ 69,200**	**$ 4,680**	**$ 2,250**			**$ 261,915.00**
		1.5%	**9.0%**	**5.0%**	**10.3%**	**16.3%**	**16.2%**	**37.3%**	**2.8%**	**1.6%**			**$ 261,915.00**

DIRECT EXPENSES:						
Travel:						
Mileage	1500	miles		$ 0.56	$840.00	
Copies:						
Reproduction	500	copies		$ 0.20	$100.00	
Media (mylar)		sheets				
Misc Expenses:						
Express delivery	4	each		$ 25.00	$100.00	
TOTAL DIRECT COST:					**$ 1,040**	
TOTAL PROJECT COST:					**$ 262,955.00**	

Attachment D - Fee Schedule
Transportation Corridor H
Cox/McLain and Associates

TASK Hourly Rate: Cox McLain & Associates, Inc.	SHEETS/ UNITS	SR. ENV SCI II $ 150.00	SR. ENV SCI I $130.00	ENVIRON PROF. II $110.00	ENVIRON. PROF. I $95.00	ENVIRON STAFF III $85.00	ENVIRON STAFF II $75.00	ENVIRON STAFF I $65.00	ENVIRON TECH II $55.00	ENVIRON TECH I $45.00	Sub Total Hours	Hr/Unit	CMEC Labor Cost
		Hours											
1. PROJECT MANAGEMENT													
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS		12							12		24		$ 2,460.00
c. QA/QC PLAN													$ -
d. PROJECT COORDINATON AND ADMINISTRATION		12		12							24		$ 3,120.00
e. PROGRESS COORDINATION MEETINGS (2)		8									8		$ 1,200.00
f. PROJECT SCHEDULE													$ -
2. ROUTE AND DESIGN STUDIES													$ -
a. DATA COLLECTION													$ -
b. CONSTRAINTS MAP		10	8	10	6	4	10	16	10	12	86.0		$ 7,430.00
3. PUBLIC INVOLVEMENT													$ -
a. PUBLIC INVOLVEMENT PLAN													$ -
b. OUTREACH TOOLS													$ -
c. STAKEHOLDER OUTREACH AND MEETINGS (10)													$ -
d. PUBLIC MEETING/OPEN HOUSE (2)		16		16		8	8			8	56.0		$ 5,800.00
e. PROJECT MATERIALS AND TOOLS													$ -
f. WEBPAGE													$ -
g. MEDIA OUTREACH													$ -
4. SURVEYING													$ -
a. RIGHT OF ENTRY (76)													$ -
b. FIELD SURVEYING													$ -
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION													$ -
5. SCHEMATIC DEVELOPMENT													$ -
a. SCHEMATIC													$ -
6. DRAINAGE STUDY													$ -
a. HYDROLOGIC/HYDRAULIC MODELING													$ -
b. FEMA COORDINATION													$ -
c. IMPACT AND MITIGATION ANALYSIS													$ -
d. WATER QUALITY													$ -
e. DELIVERABLES													$ -
7. ENVIRONMENTAL SERVICES													$ -
a. COUNTY DUE DILIGENCE (see below)													$ -
b. DATA COLLECTION AND FIELD RECONNAISSANCE		8	8	8	6	4	10	12	10	12	78		$ 6,650.00
c. HAZARDOUS MATERIALS ISA BASELINE		1		8				16			25		$ 2,070.00
d. SECTION 404 WATER RESOURCES CONSIDERATIONS		1		8			8		4		21		$ 1,850.00
e. ECOLOGICAL RESOURCES		2			8		12		16	4	42		$ 3,020.00
f. HISTORIC RESOURCES		1		8			4			2	15		$ 1,420.00
g. ARCHEOLOGICAL RESOURCES		1		2	8				16		27		$ 2,010.00
h. COMMUNITY IMPACTS - BASELINE		1	4	8	8				12		33		$ 2,970.00
8. GEOTECHNICAL SERVICES													$ -
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT													$ -
TOTAL NUMBER OF SHEETS:											Column Total = 439		
HOURS:		**73**	**20**	**80**	**36**	**16**	**52**	**44**	**80**	**38**	Row Total = 439		
LABOR COST:		**$ 10,950**	**$ 2,600**	**$ 8,800**	**$ 3,420**	**$ 1,360**	**$ 3,900**	**$ 2,860**	**$ 4,400**	**$ 1,710**			**$ 40,000.00**
		16.6%	**4.6%**	**18.2%**	**8.2%**	**3.6%**	**11.8%**	**10.0%**	**18.2%**	**8.7%**			**$ 40,000.00**

DIRECT EXPENSES:						
Travel:						
Overnight Mail (Letter Size)	3	each			$ 22.95	$68.85
Overnight Mail (Box Size)	2	each			$ 70.00	$140.00
8 1/2" x 11" B/W Paper Copies	500	each			$ 0.16	$80.00
11" x 17" Paper Copies	250	each			$ 0.32	$80.00
8 1/2" X 11" Color Paper Copies	150	each			$ 0.75	$112.50
11" x 17" Color Paper Copies	100	each			$ 1.50	$150.00
Plots (B/W on Bond)	60	SF			$ 0.75	$45.00
Plots (Color on Bond)	60	SF			$ 1.75	$105.00
Hazardous Materials Database Search	2	each			$ 550.00	$1,100.00
TOTAL DIRECT COST:						**$ 1,881**
TOTAL PROJECT COST:						**$ 41,881.35**

Attachment D - Fee Schedule
Transportation Corridor H
Surveying and Mapping, Inc.

TASK Hourly Rate: Surveying and Mapping, Inc.	SHEETS/ UNITS	PROJECT MANAGER $ 135.00 Hours	SR SURV TECH $ 96.00	SURV TECH $ 88.00	ADMIN / CLERICAL $ 70.00	2 PERS SURV CREW $ 130.00	3 PERS SURV CREW $ 160.00	PROJ COORD - AER MAPPING $ 130.00	CERT PHOTOGR AM. SPEC. $ 120.00	ANALYT. TRIANG. SPEC. $95.00	AERIAL MAP TECH $95.00	ORTHO PHOT SPEC $95.00	MAPPING EDITOR $90.00	AERIAL OFFICE TECH $80.00	PROJ COORD - HAL $130.00	HAL PROCESS. TECH $110.00	HELICOP. FLIGHT CREW $195.00	Sub Total Hours	Hr/Unit	SAM Labor Cost
4. SURVEYING																				$ -
a. RIGHT OF ENTRY (76)		4	8	8		30	20											70.0		$ 9,112.00
b. FIELD SURVEYING		22	40	64	2	120		4	3	12	50	34	18	8	2	16	8	403.0		$ 44,022.00
c. RECORDS RESEARCH AND EXISTING ROW DELINEATION		16	40	40		100												196.0		$ 22,520.00
TOTAL NUMBER OF SHEETS:																		Column Total = 669		
HOURS:		**42**	**88**	**112**	**2**	**250**	**20**	**4**	**3**	**12**	**50**	**34**	**18**	**8**	**2**	**16**	**8**	Row Total = 669		
LABOR COST:		**$ 5,670**	**$ 8,448**	**$ 9,856**	**$ 140**	**$ 32,500**	**$ 3,200**	**$ 520**	**$ 360**	**$ 1,140**	**$ 4,750**	**$ 3,230**	**$ 1,620**	**$ 640**	**$ 260**	**$ 1,760**	**$ 1,560**			**$ 75,654.00**
		6.3%	**13.2%**	**16.7%**	**0.3%**	**37.4%**	**3.0%**	**0.6%**	**0.4%**	**1.8%**	**7.5%**	**5.1%**	**2.7%**	**1.2%**	**0.3%**	**2.4%**	**1.2%**			**$ 75.654.00**

DIRECT EXPENSES:						
	Travel:					
	Mileage	1500	miles	$ 0.56	$840.00	
	LiDAR:					
	Aerial LiDAR System	1	day	$ 6,500.00	$6,500.00	
	Helicopter Airborne LiDAR	8	hour	$ 1,650.00	$13,200.00	
	Photo Lab Service - Digital Image Processing	100	frame	$ 29.00	$2,900.00	
	Aerial Photography - Airborn GPS/IMU Data Collection	1	project	$ 2,500.00	$2,500.00	
	Copies:					
	Deed Records	200	sheet	$ 1.00	$200.00	
	Map Records	24	sheet	$ 6.00	$144.00	
	Misc Expenses:					
	Express Delivery	2	each	$ 25.00	$50.00	
	GPS Receiver	150	hour	$ 25.00	$3,750.00	
TOTAL DIRECT COST:					**$ 30,084**	
TOTAL PROJECT COST:					**$ 105,738.00**	

Attachment D - Fee Schedule
Transportation Corridor H
Concept Development and Planning, Inc.

TASK Hourly Rate: Concept Development & Planning, Inc.	SHEETS/ UNITS	PRINCIPAL $ 165.00	PROJECT MGR $130.00	SR MEDIA SPEC $115.00	SR PUBLIC INV SPEC $115.00	PUBLIC INVOLV SPEC $100.00	SR GRAPHIC DESIGN AND WEB $90.00	GRAPHIC DESIGN & WEB $65.00	JR PUBLIC INVOLV SPEC $65.00	ADMIN/ CLERICAL $50.00	Sub Total Hours	Hr/Unit	CD&P Labor Cost
		Hours											
1. PROJECT MANAGEMENT													
b. MONTHLY PROGRESS REPORTS, INVOICES, AND BILLINGS		3	3			6			3		15		$ 1,680.00
c. QA/QC PLAN													$ -
d. PROJECT COORDINATON AND ADMINISTRATION													$ -
e. PROGRESS COORDINATION MEETINGS (2)		6	6						6		18		$ 2,160.00
f. PROJECT SCHEDULE													$ -
3. PUBLIC INVOLVEMENT													$ -
a. PUBLIC INVOLVEMENT PLAN		4	6						6		16.0		$ 1,830.00
b. OUTREACH TOOLS		10	24			32	3		20	8	97.0		$ 9,940.00
c. STAKEHOLDER OUTREACH AND MEETINGS (10)		32	40			30			32		134.0		$ 15,560.00
d. PUBLIC MEETING/OPEN HOUSE (2)		22	34	2		48	28		48	12	194.0		$ 19,320.00
e. PROJECT MATERIALS AND TOOLS		6	7	4			38				55.0		$ 5,780.00
f. WEBPAGE		2	2	4		8	12				28.0		$ 2,930.00
g. MEDIA OUTREACH		1		2			4				7.0		$ 755.00
TOTAL NUMBER OF SHEETS:											Column Total = 564		
HOURS:		**86**	**122**	**12**		**124**	**85**		**115**	**20**	Row Total = 564		
LABOR COST:		**$ 14,190**	**$ 15,860**	**$ 1,380**	**$ -**	**$ 12,400**	**$ 7,650**	**$ -**	**$ 7,475**	**$ 1,000**			**$ 59,955.00**
		15.2%	**21.6%**	**2.1%**		**22.0%**	**15.1%**		**20.4%**	**3.5%**			**$ 59,955.00**

DIRECT EXPENSES:					
	Travel:				
	Mileage	1100	miles	$ 0.56	$616.00
	Corrugated meeting signs	15	each	$ 25.00	$375.00
	Foam Boards (24x36)	15	each	$ 70.00	$1,050.00
	Postage			Postal Rate	$500.00
	Photocopies B/W (11" X 17")	100		$ 0.20	$20.00
	Photocopies B/W (8 1/2" X 11")	100		$ 0.10	$10.00
	Photocopies Color (11" X 17")	250		$ 0.80	$200.00
	Photocopies Color (8 1/2" X 11")	600		$ 0.40	$240.00
	AV Rental (estimate)				$300.00
	Misc. Meeting Supplies (estimate)				$200.00
	Venue Rental (estimate)				$250.00
	Advertisements (estimate)				$1,000.00
TOTAL DIRECT COST:					**$ 4,761**
TOTAL PROJECT COST:					**$ 64,716.00**

Attachment D - Fee Schedule
Transportation Corridor H
Arias Geoprofessionals, Inc.

TASK Hourly Rate: Arias Geoprofessionals, Inc.	SHEETS/ UNITS	SR GEOTECH ENGR $ 135.00	PROJECT ENGR $95.00	FIELD COORD $85.00	LOGGER $65.00	DRAFTING $65.00	ADMIN/CLERICAL $55.00				Sub Total Hours	Hr/Unit	Arias Labor Cost
		Hours											
8. GEOTECHNICAL SERVICES													$ -
a. GEOTECHNICAL INVESTIGATION AND PAVEMENT REPORT		10	16	8	16	4	2						$ 4,960.00
TOTAL NUMBER OF SHEETS:													
HOURS:		**10**	**16**	**8**	**16**	**4**	**2**				Row Total = 56		
LABOR COST:		**$ 1,350**	**$ 1,520**	**$ 680**	**$ 1,040**	**$ 260**	**$ 110**	**$ -**	**$ -**	**$ -**			**$ 4,960.00**
		17.9%	**28.6%**	**14.3%**	**28.6%**	**7.1%**	**3.6%**						**$ 4,960.00**

DIRECT EXPENSES:							
Travel:							
Trip Charge	2	each			$ 55.00	$110.00	
Mobilization (drill rig, support equip, rock core)	1	each			$ 425.00	$425.00	
Drilling and Sampling (Soil)	190	ft			$ 19.00	$3,610.00	
Backfill Boreholes	190	ft			$ 5.00	$950.00	
Traffic Control	2	day			$ 1,800.00	$3,600.00	
Laboratory Soil Testing	1	LS			$ 2,830.00	$2,830.00	
TOTAL DIRECT COST:						**$ 11,525**	
TOTAL PROJECT COST:						**$ 16,485.00**	

Commissioners Court - Regular Session **26.**

Meeting Date: 03/07/2017

Arterial H

Submitted For: Charlie Crossfield **Submitted By:** Charlie Crossfield, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on an Amendment to Development Agreement regarding Detention Pond with Gardens at Mayfield, LLC.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Arterial H Amendment to Developer Agreement

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:09 AM
Form Started By: Charlie Crossfield		Started On: 03/02/2017 10:48 AM
Final Approval Date: 03/02/2017		

AMENDMENT TO DEVELOPMENT AGREEMENT
REGARDING DETENTION POND

This document is an amendment (the "Amendment") to the Development Agreement Regarding Detention Pond (the "Agreement") entered into by and between Williamson County, a political subdivision of the State of Texas ("County") and Gardens at Mayfield LLC, a limited liability company organized under the laws of the State of Mississippi ("Developer") that is dated June 6, 2016.

For and in consideration of the mutual promises contained in the Agreement and other good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties agree as follows:

1. Paragraph C (1) is deleted in its entirety and replaced with the following:

"C (1). Developer agrees to construct the Project. The Project has an estimated cost of the amount set out on Exhibit B attached."

2. Paragraph D (1) is deleted in its entirety and replaced with the following:

"D (1). County agrees to pay to Developer as a reimbursement of construction and design costs, $221,471.57, on or before ten (10) days from the date of this Amendment. County agrees to reimburse Developer for the balance of the total cost of the Project, minus the Developer's contribution of $26,688, on or before thirty (30) days after final invoice for construction of the Project is presented to the County."

3. Exhibits A and B are deleted and replaced with the Exhibits A and B attached to this Amendment.

4. There are no other or further modifications or amendments to the Agreement. The parties ratify and affirm all provisions of the Agreement as modified by the Amendment, and acknowledge that the Agreement as Amended is an effective and existing obligation and contract between the parties.

Signed this the ___ day of _____, 2017.

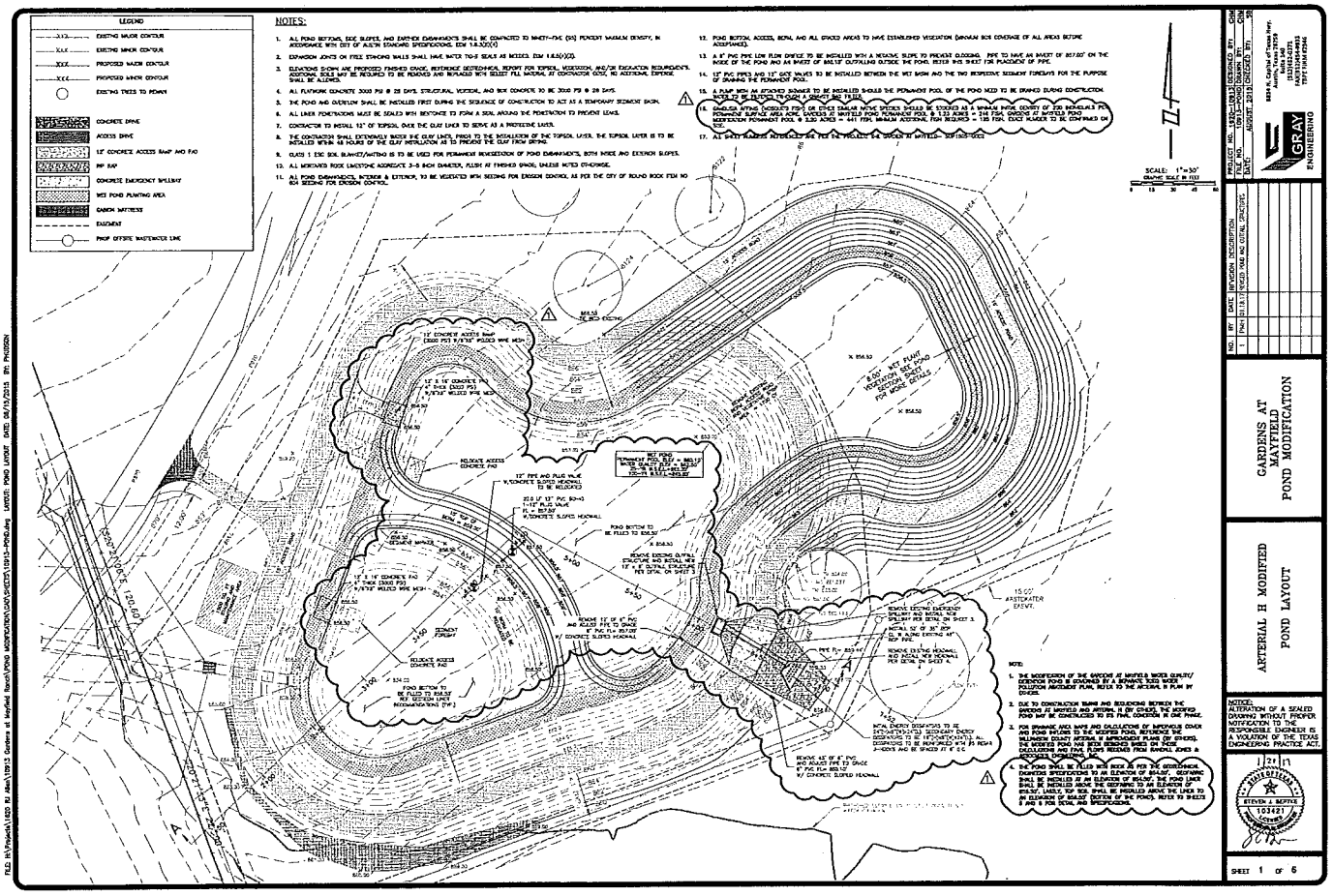
Signatures are on the following page.

WILLIAMSON COUNTY

By:_____
Dan A. Gattis, County Judge

GARDENS AT MAYFIELD, LLC

By:_____
David Blackburn, Manager


LEGEND
EXISTING MAJOR CONTOUR
EXISTING MINOR CONTOUR
PROPOSED MAJOR CONTOUR
PROPOSED MINOR CONTOUR
EXISTING TREES TO REMAIN
CONCRETE DRIVE
ACCESS DRIVE
12' CONCRETE ACCESS RAMP AND PAD
RIP RAP
CONCRETE EMERGENCY SPILLWAY
WET POND PLANTING AREA
RANDOM MATTRESS
EASEMENT
PROP OFFSITE WASTEWATER LINE
NOTES:
1. ALL POND BOTTOMS, SIDE SLOPES, AND EARTHEN EMBANKMENTS SHALL BE COMPACTED TO NINETY-FIVE (95) PERCENT MAXIMUM DENSITY, IN ACCORDANCE WITH CITY OF ALLEN STANDARD SPECIFICATIONS, ITEM 1.8.3.3(3)(b).
2. EXPANSION JOINTS ON FREE STANDING WALLS SHALL HAVE WATER TIGHT SEALS AS NOTED. ITEM 1.8.6.3(3)(d).
3. ELEVATIONS SHOWN ARE PROPOSED FINISHED GRADE. REFERENCE GEOTECHNICAL REPORT FOR TOPSOIL, VEGETATION, AND/OR EXCAVATION REQUIREMENTS. ADDITIONAL SOILS MAY BE REQUIRED TO BE REMOVED AND REPLACED WITH SELECT FILL MATERIAL AT CONTRACTOR COST, NO ADDITIONAL EXPENSE SHALL BE ALLOWED.
4. ALL PLATFORMS (CONCRETE) 3000 PSI @ 28 DAYS, STRUCTURAL VERTICAL, AND BOX CONCRETE TO BE 3000 PSI @ 28 DAYS.
5. THE POND AND OVERFLOW SHALL BE INSTALLED FIRST DURING THE SEQUENCE OF CONSTRUCTION TO ACT AS A TEMPORARY SEDIMENT BASIN.
6. ALL LINER PENETRATIONS MUST BE SEALED WITH BENTONITE TO FORM A SEAL AROUND THE PENETRATION TO PREVENT LEAKS.
7. CONTRACTOR TO INSTALL 12" OF TOPSOIL OVER THE CLAY LINER TO SERVE AS A PROTECTIVE LAYER.
8. THE CONTRACTOR SHALL EXTERNALLY MOIST THE CLAY LINER, PRIOR TO THE INSTALLATION OF THE TOPSOIL LAYER. THE TOPSOIL LAYER IS TO BE INSTALLED WITHIN 48 HOURS OF THE CLAY INSTALLATION AS TO PREVENT THE CLAY FROM DRYING.
9. CLASS 1 ESC SOIL BLANKET/MATTING IS TO BE USED FOR PERMANENT REVEGETATION OF POND EMBANKMENTS, BOTH INSIDE AND EXTERIOR SLOPES.
10. ALL MORTARED ROCK LIMESTONE AGGREGATE 3-5 INCH DIAMETER, FLUSH AT FINISHED GRADE, UNLESS NOTED OTHERWISE.
11. ALL POND EMBANKMENTS, INTERIOR & EXTERIOR, TO BE VEGETATED WITH SEEDING FOR EROSION CONTROL AS PER THE CITY OF ROUND ROCK ITEM NO 604 SEEDING FOR EROSION CONTROL.
12. POND BOTTOM, ACCESS, BERM, AND ALL GRADED AREAS TO HAVE ESTABLISHED VEGETATION (MINIMUM 80% COVERAGE OF ALL AREAS BEFORE ACCEPTANCE).
13. A 6" PVC PIPE LOW FLOW ORIFICE TO BE INSTALLED WITH A MINIMUM SLOPE TO PREVENT CLOGGING. PIPE TO HAVE AN INVERT OF 857.00' ON THE INSIDE OF THE POND AND AN INVERT OF 849.13' OUTFALLING OUTSIDE THE POND. REFER TO SHEET 7 FOR PLACEMENT OF PIPE.
14. 12" PVC PIPES AND 12" GATE VALVES TO BE INSTALLED BETWEEN THE WET WORK AND THE TWO RESPECTIVE SEDIMENT FOREBAYS FOR THE PURPOSE OF DRAINING THE PERMANENT POOL.
15. A RAMP WITH AN EFFECTIVE SLOPE NOT TO EXCEED 20% SHALL BE INSTALLED TO THE PERMANENT POOL OF THE POND NEED TO BE DRAINED DURING CONSTRUCTION.
16. SHRUBS WITHIN CANOPIES (DRIP LINE) OF SHADE TREES SHALL BE SPACED AT A MINIMUM OF 4' ON CENTER. SHRUBS WITHIN CANOPIES (DRIP LINE) OF ORNAMENTAL TREES SHALL BE SPACED AT A MINIMUM OF 3' ON CENTER.
17. ALL EARTH MOVING OPERATIONS SHALL BE IN ACCORDANCE WITH CITY OF ALLEN STANDARDS.
SCALE: 1"=30'
GRAPHIC SCALE IN FEET
0 15 30 45 60
NOTE:
1. THE MODIFICATION OF THE GRADING AT MAYFIELD WOODS SUBDIVISION/ EXTENSION POND IS GOVERNED BY A DEMINIMIS WATER QUALITY POLLUTION ABATEMENT PLAN, REFER TO THE ARTERIAL H PLAN BY OTHERS.
2. DUE TO CONSTRUCTION TIMING AND SEQUENCING BETWEEN THE GRADING AT MAYFIELD AND ARTERIAL H BY OTHERS, THE MODIFIED POND MAY BE CONSTRUCTED TO ITS FINAL CONDITION IN ONE PHASE.
3. FOR POND 1 AND POND 2 AREAS, THE EXISTING POND EMBANKMENT SHALL BE REMOVED TO ELEVATION 856.50 FOR REMOVAL OF OTHER ELEVATION CONSTRUCTION. IF APPROVED FILLING OF STRUCTURES, THE MODIFIED POND HAS BEEN DESIGNED BASED ON FROM EXCAVATIONS AND FILL SLOPES RECEIVED FROM ADJACENT JONES & BOUCHILLON, INC.
4. POND NO. 1 AND POND 2 TO BE CONSTRUCTED ACCORDING TO ENGINEERING SPECIFICATIONS TO AN ELEVATION OF 854.50'. RESPONSIBLE SHALL BE INSTALLED AT AN ELEVATION OF 850.00'. THE POND LINER SHALL BE INSTALLED ABOVE THE GEOTEXTILE TO AN ELEVATION OF 854.50'. BOTTOM OF THE POND'S, REFER TO SHEETS 8 AND 9 FOR DETAIL AND SPECIFICATIONS.
PROJECT NO. 1990-DRUP DESIGNED BY: CHM
DRAWING NO. 1990-DRUP DRAWN BY: CHM
DATE: AUGUST, 2016 CHECKED BY: RH
JONES & BOUCHILLON
8350 N. Central Expwy.
Suite 1440
Dallas, Texas 75206
(214)373-1095
FAX(972)644-8822
TBPE FIRM #2966
GRAY ENGINEERING
NO. BY DATE REVISION DESCRIPTION
1 CHM 01/13/17 REVISED POND AND GRADING STRUCTURE
GARDENS AT MAYFIELD
POND MODIFICATION
ARTERIAL H MODIFIED
POND LAYOUT
NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.
STATE OF TEXAS
RICHARD E. HOPPER
103421
LICENSED PROFESSIONAL ENGINEER
1/24/17
SHEET 1 OF 6
FILE: N:\Projects\1990 Ry Allen\1990 Gardens at Mayfield Round\Civil\Grading\1990-GRADING PLAN.dwg LAYOUT: POND LAYOUT DATE: 01/24/2017 BY: RHOPPER

CALCULATIONS FOR THE ORIGINAL WET POND AS PER THE GARDENS AT MAYFIELD SDP1505-002 PROJECT

CALCULATIONS FOR WET POND:

FOREBAY

Stage (ft msl) (Elevation)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
854.00	0.00	0.00	10133.37	0	0
855.00	1.00	1.00	12184.56	11,382	11,382
856.00	1.00	2.00	13824.31	12,983	24,370
857.00	1.00	3.00	15180.64	14,494	38,864
858.00	1.00	4.00	17137.43	16,500	55,364

WET POND

Description	Stage (ft msl) (Elevation)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Wet Pond Volume (cf)	Total Cumulative Volume (cf)	Stage Storage Discharge (cfs)
	853.00	0.00	0.00	2700.91	0	0	0	
	854.00	1.00	1.00	20652.70	29,339	29,339	29,339	
	855.00	1.00	2.00	33963.77	33,851	63,190	86,530	
	856.00	1.00	3.00	37154.45	35,542	97,272	121,642	
	857.00	1.00	4.00	41418.85	39,254	136,526	175,170	
PERMANENT POOL ELEVATION	858.00	1.00	5.00	45153.88	43,866	180,716	236,216	
	859.00	1.00	6.00	49732.93	64,536	245,451	344,415	
WATER QUALITY ELEVATION	860.00	1.00	7.00	70904.82	68,810	314,261	413,225	1.65
	861.00	1.00	8.00	75072.73	72,988	432,418	468,180	8.28
2 YEAR W.S.E. ELEVATION	861.30		8.30	79384.13	83,426	454,641	545,405	21.85
	862.00	1.30	9.30	76361.56	13,797	526,678	560,392	30.52
	863.00	1.30	10.30	81783.25	83,961	583,389	644,153	39.72
10 YEAR W.S.E. ELEVATION	863.53	0.53	10.83	84761.09	8,421	591,799	652,853	46.65
25 YEAR W.S.E. ELEVATION	863.98	0.92	11.30	87646.24	68,826	660,216	729,180	54.55
	864.00	0.53	11.30	86298.54	8,827	677,622	737,987	62.80
100 W.S.E. ELEVATION	864.80	0.30	11.90	86893.50	63,565	723,731	812,295	85.81
	865.00	0.20	12.00	87403.02	8,732	732,463	820,027	90.51
	866.00	1.00	13.00	103283.75	130,565	870,028	926,397	130.95
TOP OF WET POND	866.50	0.50	13.50	105,842.71	52,106	922,133	978,763	157.68

INVERTED PIPE DRAWDOWN CALCULATIONS:

DESCRIPTION	ELEVATION ft	HEAD ft	DISCHARGE cfs	HOURS hrs
SIPHON ELEVATION	854.5			
PERMANENT POOL ELEV	858.00	3.50		
WATER QUALITY ELEVATION	860.00	5.50	1.56	33
2 YEAR	861.0	7.3	1.82	43
10 YEAR	862.1	7.8	1.86	64
25 YEAR	863.9	9.4	2.07	75
100 YEAR	864.5	10.4	2.17	75

NOTE:

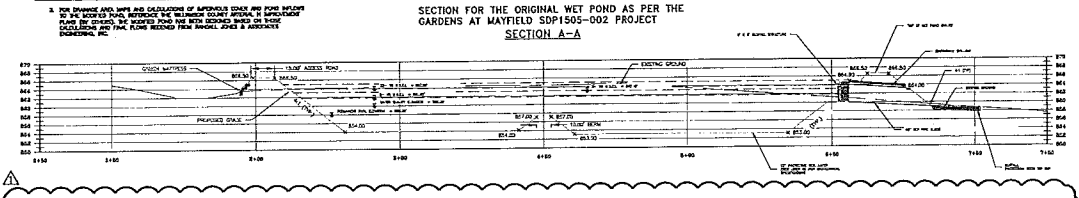
1. THE MODIFICATION OF THE GARDENS AT MAYFIELD WATER QUALITY/ DETENTION POND IS GOVERNED BY A NETWORK TYPE WATER POLLUTION ABATEMENT PLAN, REFER TO THE ASSOCIATED PLAN BY OTHERS.
2. DUE TO CONSTRUCTION TIMING AND SEQUENCING BETWEEN THE GARDENS AT MAYFIELD AND ARTERIAL H BY OTHERS, THE MODIFIED POND MAY BE CONSTRUCTED TO ITS FINAL CONDITION AT ONE TIME.
3. FOR DRAINAGE AREA MAPS AND CALCULATIONS OF IMPERVIOUS COVER AND POND INFLOWS TO THE MODIFIED POND, REFERENCE THE WILLIAMSON COUNTY ARTERIAL H IMPROVEMENT PLANS BY OTHERS. THE MODIFIED POND HAS BEEN DESIGNED BASED ON THOSE CALCULATIONS AND FINAL FLOWS RECEIVED FROM RANDALL JONES & ASSOCIATES ENGINEERING, INC.

WATER QUALITY CONTROL CALCULATIONS FOR THE PERMANENT POOL

TOTAL VOLUME REQUIRED	236,179 CUBIC FEET
SEDIMENT FOREBAY VOLUME (15-20% REQ)	
PROVIDED VOLUME	50,564 CUBIC FEET
PROVIDED %	21.6%
MAIN POOL VOLUME (75-80% REQ)	
PROVIDED VOLUME	175,652 CUBIC FEET
PROVIDED %	75.0%
TOTAL VOLUME PROVIDED	226,216 CUBIC FEET

SECTION FOR THE ORIGINAL WET POND AS PER THE GARDENS AT MAYFIELD SDP1505-002 PROJECT

SECTION A-A



CALCULATIONS FOR THE MODIFIED WET POND

CALCULATIONS FOR WET POND:

FOREBAY

Stage (ft msl) (Elevation)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Volume (cf)
854.50	0.00	0.00	21951.00	0	0
857.00	0.50	0.50	23273.00	33,534	33,534
858.00	1.00	1.50	25328.00	22,963	31,108
859.00	1.00	2.50	27587.00	24,947	56,114

WET POND

Description	Stage (ft msl) (Elevation)	Pond Depth (ft)	Cumulative Pond Depth (ft)	Area (sf)	Volume (cf)	Cumulative Main Pool Volume (cf)	Total Cumulative Volume (cf)	Stage Storage Discharge (cfs)
	854.50	0.00	0.00	46,353.45	0	0	0	
	857.00	0.50	0.50	51467.67	24,928	24,928	35,211	
	858.00	1.00	1.50	54212.38	52,853	77,852	110,830	
	859.00	1.00	2.50	57,117.52	55,704	133,556	190,460	
	860.00	1.00	3.50	59,618.60	58,374	191,930	249,495	
PERMANENT POOL ELEVATION	858.00	0.00	3.50	59,618.60	0.00	191,930	249,495	
	859.00	0.50	4.00	60,863.53	9,808	201,737	259,301	
	860.00	0.50	4.50	62,113.37	30,494	232,232	290,797	
	861.00	1.00	5.50	67,707.70	64,911	297,142	355,707	
WQ ELEVATION	860.50	0.50	6.00	65,094.10	32,951	330,094	388,610	6.0
	861.00	0.50	6.50	112,925.70	44,392	374,486	432,962	7.7
2 YEAR ELEVATION	861.30	0.30	7.30	115,944.88	33,757	408,243	466,719	19.3
	862.00	0.25	7.55	122,159.69	29,737	437,980	496,456	40.4
10 YEAR ELEVATION	862.75	0.75	8.25	129,957.49	95,572	533,552	592,028	75.4
	863.00	0.25	8.50	132,551.41	36,376	569,928	628,404	93.8
25 YEAR ELEVATION	863.28	0.28	8.78	135,521.80	25,728	595,656	654,132	103.9
100 YEAR ELEVATION	863.80	0.52	9.30	139,906.50	77,177	672,833	731,309	133.8
	864.00	0.20	9.50	141,614.39	25,728	698,561	764,185	
TOP OF WET POND	864.50	0.50	10.00	146,164.67	64,681	763,242	1,017,239	

INVERTED PIPE DRAWDOWN CALCULATIONS:

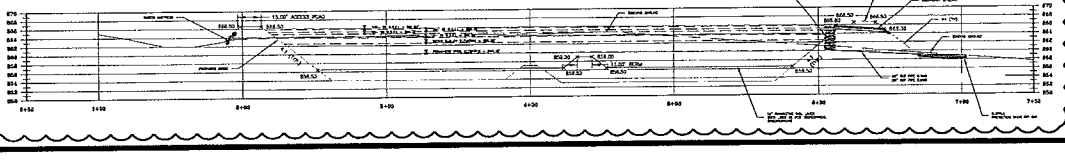
DESCRIPTION	ELEVATION ft	HEAD ft	DISCHARGE cfs	HOURS hrs
SIPHON ELEVATION	857.00			
PERMANENT POOL ELEV	858.50	3.5		
WATER QUALITY ELEVATION	860.50	5.5	1.56	41
2 YEAR	861.30	6.8	1.76	23
10 YEAR	862.79	7.7	1.87	16
25 YEAR	863.20	8.2	1.93	9
100 YEAR	863.80	8.8	2.00	11

WATER QUALITY CONTROL CALCULATIONS FOR THE PERMANENT POOL

TOTAL VOLUME REQUIRED	236126 CUBIC FEET
SEDIMENT FOREBAY VOLUME (15-25% REQ)	
PROVIDED VOLUME	50,114 CUBIC FEET
PROVIDED %	21.2%
MAIN POOL VOLUME (75-85% REQ)	
PROVIDED VOLUME	237,207 CUBIC FEET
PROVIDED %	83.0%
TOTAL VOLUME PROVIDED	285,321 CUBIC FEET

SECTION FOR THE MODIFIED WET POND

SECTION A-A



SCALE: 1"=50' HOR
1"= 5' VER
GRAPHIC SCALE IN FEET
0 15 30 45 60

PROJECT NO.: 1505-001.25 DESIGNED BY: JSH
PROJECT NO.: 1505-002.25 DRAWN BY: JSH
DATE: AUGUST 2018 CHECKED BY: SJB

GRAY ENGINEERING
8824 N. Capital of Texas Hwy.
Austin, Texas 78759
(512)345-2275
FIRM REGISTRATION #12337
TBPE/TBPLS #3386

NO.	BY	DATE	REVISION DESCRIPTION
1	JSH	10/19/2018	ADD CALCS. MOD POND SECTION

GARDENS AT MAYFIELD POND MODIFICATION

ARTERIAL H MODIFIED POND SECTIONS

NOTICE: ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

1/24/19
STATE OF TEXAS
STEVEN J. BERTKE
103491
LICENSED PROFESSIONAL ENGINEER

SHEET 2 OF 6

FILE: N:\Projects\1505 RJ Ahern\10013 Gardens at Mayfield Resort\POND MODIFICATION\CAD SHEETS\10013-POND.dwg LAYOUT: POND SECTIONS DATE: 09/13/2018 BY: PHERSON

WETLAND PLANT LIST

INSTALL BULRUSH IN CLUMPS, WITH INDIVIDUAL PLANTS SPACED APPROXIMATELY THREE TO FOUR FEET ON CENTER. AT LEAST TWO OF THE FOLLOWING SPECIES SHALL BE USED:

BULRUSH	WATER DEPTH	NOTES
SCIRPUS VALIDUS	1' - 3'	8' TALL EVERGREEN, RESISTS CATTAIL ENCROACHMENT
SCIRPUS CALIFORNICUS	1' - 3'	8' TALL EVERGREEN, RESISTS CATTAIL ENCROACHMENT
SCIRPUS AMERICANUS	2'-6'	3' TO 4' TALL, WITH 3 DISTINCT EDGES
BULRUSH		

INSTALL SPIKERUSH AT OR NEAR WATER'S EDGE, WITH INDIVIDUAL PLANTS SPACED APPROXIMATELY THREE TO SIX FEET ON CENTER. AT LEAST TWO OF THE FOLLOWING SPECIES BE USED:

SPIKERUSH	WATER DEPTH	NOTES
ELEOCHARIS MONTEVIDENSIS SPIKERUSH	0-6"	3' TALL, RHIZOMATOUS, REDUCES EROSION AT POND EDGE
ELEOCHARIS MACROSTOCHYS SPIKERUSH	0-6"	3' TALL, RHIZOMATOUS, REDUCES EROSION AT POND EDGE
ELEOCHARIS QUADRANGULATA SPIKERUSH	3"-1	2' TO 2.5' TALL, RHIZOMATOUS, CAN ACCOMMODATE DEEPER WATER, 4 ANGLES

INSTALL ARROWHEAD IN CLUMPS IN SHALLOW WATER, WITH INDIVIDUAL PLANTS SPACED APPROXIMATELY THREE FEET ON CENTER.

ARROWHEAD	WATER DEPTH	NOTES
SAGITTARIA LATIFOLIA ARROWHEAD	2"-1'	3' HIGH, WILDLIFE VALUE, WHITE FLOWERS, PROVEN WATER QUALITY PERFORMER

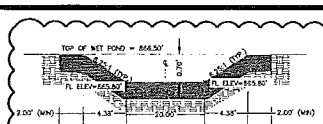
TO MEET WATER QUALITY REQUIREMENTS THE PLANT SCHEDULE ON THIS SHEET IS A MINIMUM REQUIREMENT. A LICENCED LANDSCAPE ARCHITECT MUST PREPARE A PLANTING SCHEDULE PRIOR TO CONSTRUCTION. FOR AESTHETICS VALUE ADDITIONAL/ ALTERNATE PLANTS MAY BE INCLUDED HOWEVER THE MINIMUM PLANT SCHEDULE AS LISTED ON THIS SHEET MUST BE MET.

THE FOLLOWING CATEGORY, AQUATICS, INCLUDES SUBMERGENTS AND FLOATING LEAVED AQUATICS. SUBMERGENTS ARE ROOTED IN SEDIMENT OF THE POND, AND ARE COMPLETELY SUBMERGED IN THE WATER. FLOATING-LEAVED AQUATIC PLANTS ARE ROOTED IN THE SEDIMENT OF THE POND, AND HAVE LEAVES THAT FLOAT ON THE SURFACE OF THE WATER. THESE LEAVES SHADE THE WATER, WHICH LIMITS POTENTIAL ALGAE GROWTH. AT LEAST TWO OF THE FOLLOWING SPECIES SHALL BE USED AND SHOULD BE PLACED AT RANDOM LOCATIONS THROUGHOUT THE POND.

AQUATICS	WATER DEPTH	NOTES
CABOMBA CAROLINIANA FANWORT	1'-4'	AT 2' INCREMENTS IF LENGTH UNDER WATER, SUBMERGENT
CERATOPHYLLUM SPP COON-TAIL	1'-4'	AS MUCH AS IS LENGTH, TO LEVEL OF FLRD DEPTH AND WATER FUNCTION, WILDLIFE FOOD
NYMPHAEA ODORATA WATER LILY	6"-2'	A NATIVE, RELIABLE HARDY, FLOATING-LEAVED AQUATIC, WITH WHITE FLOWERS
POTOMOGETON PECTINATUS SAGO PONDWEED	8'-3'	COLONIZES QUICKLY, VALUABLE TO FISH AND WILDLIFE, FLOATING-LEAVED AQUATIC

AT LEAST TWO SPECIES OF THE FOLLOWING MARSH SPECIES SHALL BE USED (ADDITIONAL SPECIES ARE ENCOURAGED). INSTALL IN CLUMPS IN SHALLOW WATER, WITH INDIVIDUAL PLANTS SPACED AT APPROXIMATELY THREE FEET ON CENTER.

MARSH DIVERSITY	WATER DEPTH	NOTES
CYPERUS DEMARICUS FLATSEDGE	2"-6"	2' TO 2' TALL, CLUMP FORMING, COMMON TO CENTRAL TEXAS
DICHROMENA COLORATA WHITE TOPPED SEDGE	2"-6"	2' TO 2' TALL, WHITE BRACTS DURING WARM SEASON
ECHINODORUS BERTEROI BURHEAD	3"-1'	2' TO 2' TALL, ANNUAL, HEART-SHAPED LEAVES, FLOWER SIMILAR TO ARROWHEAD
ELEOCHARIS QUADRANGULATA FOUR SQUARE SPIKERUSH	6" - 1'	2' TO 2' TALL, COLONIZES, IN WATER DEEPER WATER THAN SPIKERUSHES
IRIS PSEUDACORUS YELLOW FLAG IRIS	1'-2'	3' TO 4' TALL, CAN BE INVASIVE, DENSE GROWTH, YELLOW FLOWERS
JUNCUS EFFUSUS SOFT RUSH	6"-1'	3' TO 4' TALL, FORMS A TIGHT CLUMP, EVERGREEN, VERY ATTRACTIVE
JUSTICIA AMERICANA WATER-WILLOW	2"-6"	3' TO 4' TALL, COMMON, WHITE FLOWERS, HERBACEOUS, COLONIZES
MARSILEA MACROPODA WATER CLOVER	2"-6"	LOOKS LIKE FLOATING FOUR LEAF CLOVER, ENDEMIC TO TEXAS
RUELLIA QUADRALLPERGIS WATER RUIA	1'-4'	SUBMERGENT, VALUABLE TO FISH AND WILDLIFE
PONTEDERIA CORDATA PICKERELWEED	2"-1	3' TALL, COLONIZES, COSMOPOLITAN, PURPLE FLOWERS
RHYNCHOSPORA CORNICULATA HORNED RUSH	2"-6"	2' TO 3' TALL, BRASS-COLORED FLOWERS IN MAY



SPILLWAY
OUTFLOW VIEW
N.T.S.

PLANTING PLAN

EXISTING GARDENS AT MAYFIELD POND
SURFACE AREA OF PERMANENT POOL = 1.23 ACRES (53,453 SQ FT)
53,453 S.Q.F. = 1604 NUMBER OF PLANTS REQUIRED (MINIMUM)

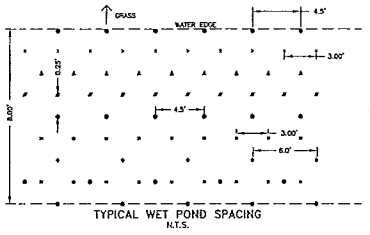
GARDENS AT MAYFIELD MODIFIED POND
SURFACE AREA OF PERMANENT POOL = 2.20 ACRES (95,964 SQ FT)
95,964 S.Q.F. = 2880 NUMBER OF PLANTS REQUIRED (MINIMUM)

ADDITIONAL PLANTS REQ. 12%

PLANT CATEGORY	RATIO	EXISTING GARDENS AT MAYFIELD POND MINIMUM NO. OF PLANTS	ELEMENTS AT MAYFIELD MODIFIED POND MINIMUM NO. OF PLANTS	ADDITIONAL PLANTS REQUIRED	MINIMUM SIZE
BULRUSH	40%	642	1152		1 GALLON
SPIKERUSH	20%	321	576		2 GALLON
MARSH DIVERSITY	20%	321	576		2 GALLON
ARROWHEAD	12%	193	346		1 GALLON
SUBMERGENT	5%	80	144		1 GALLON
FLOATING AQUATICS	5%	80	144		1 GALLON
TOTAL	100%	1604	2880		

NOTE:

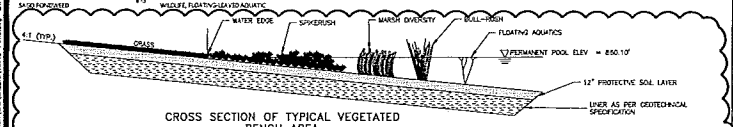
1. THE MODIFICATION OF THE GARDENS AT MAYFIELD WATER QUALITY/ DETENTION POND IS GOVERNED BY A NEPHELOMETRIC TURBIDITY UNIT (NTU) BASED POLLUTION ABATEMENT PLAN, ROUTE TO THE ARTERIAL H PLAN BY OTHERS.
2. DUE TO CONSTRUCTION TIMING AND SEQUENCING BETWEEN THE GARDENS AT MAYFIELD AND ARTERIAL H (BY OTHERS), THE MODIFIED POND MAY BE CONSTRUCTED TO ITS FINAL CONDITION IN ONE PHASE.
3. FOR DRAINAGE AREA MAPS AND CALCULATIONS OF IMPERVIOUS COVER AND POND INFLOWS TO THE MODIFIED POND, REFERENCE THE WILLIAMSON COUNTY ARTERIAL H IMPROVEMENT PLANS (BY OTHERS). THE MODIFIED POND WAS DESIGNED BASED ON THESE CALCULATIONS AND FINAL FLOWS RECEIVED FROM RANDALL JONES & ASSOCIATES ENGINEERING, INC.



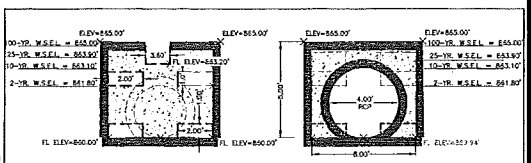
TYPICAL WET POND SPACING
N.T.S.

LEGEND

- SPIKERUSH
- ARROWHEAD
- PICKERELWEED
- FOUR SQUARE SPIKERUSH
- SAGE PONDWEED
- FANWORT
- BULLRUSH



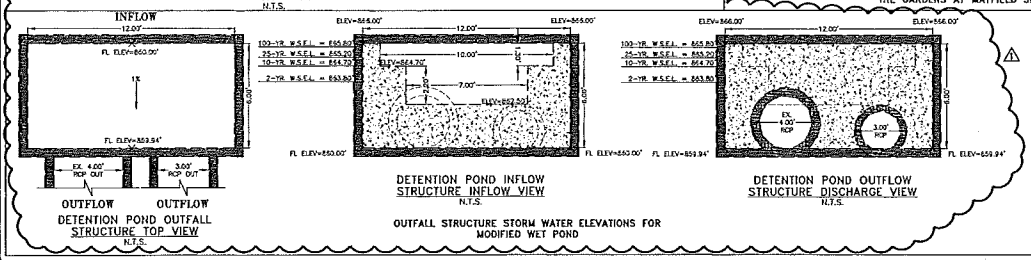
CROSS SECTION OF TYPICAL VEGETATED BENCH AREA
N.T.S.



DETENTION POND INFLOW STRUCTURE INFLOW VIEW
N.T.S.

DETENTION POND OUTFLOW STRUCTURE DISCHARGE VIEW
N.T.S.

OUTFALL STRUCTURE -ORIGINAL WET POND AS PER THE GARDENS AT MAYFIELD SDP1505-002 PROJECT

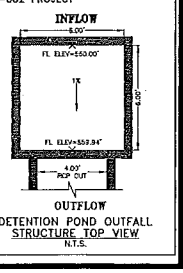


DETENTION POND OUTFALL STRUCTURE TOP VIEW
N.T.S.

DETENTION POND INFLOW STRUCTURE INFLOW VIEW
N.T.S.

DETENTION POND OUTFLOW STRUCTURE DISCHARGE VIEW
N.T.S.

OUTFALL STRUCTURE STORM WATER ELEVATIONS FOR MODIFIED WET POND



DETENTION POND OUTFALL STRUCTURE TOP VIEW
N.T.S.

GARDENS AT MAYFIELD POND MODIFICATION

ARTERIAL H MODIFIED POND DETAILS (SHEET 1 OF 2)

NOTICE: ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STEVEN J. BENTKE 103421 LICENSED PROFESSIONAL ENGINEER

SHEET 3 OF 6

FILE: N:\Projects\1923 RJ Ranch\1923 Gardens at Mayfield Ranch\PLANS\02-MODIFICATION\CAD\SHEETS\1923-PONDdetails_LAYOUT1.dwg DATE: 08/19/2013 DT: PHILLIPSON

TABLE OF VARIABLE DIMENSIONS AND QUANTITIES FOR ONE HEADWALL (4)

SLOPE	Pipe Dia.	Values for one Pipe W	X	Y	L	Reinforcing (lbs) (1)	Reinforcing (CY) (1)	Values to be added for each add'l Pipe X and W	Reinforcing (lbs) (1)	Reinforcing (CY) (1)
Z1	12"	4'- 7 1/2"	2'- 6"	2'-10"	3'- 3 1/4"	84	0.6	1'- 9"	20	0.2
	15"	5'- 5 1/2"	2'- 9 1/2"	3'- 4"	3'-10 1/4"	93	0.7	2'- 2"	24	0.3
	18"	6'- 4 1/4"	3'- 1"	3'-10"	4'- 5"	120	0.9	2'- 6"	32	0.3
	21"	7'- 2 3/4"	3'- 4 1/2"	4'- 4"	5'- 0"	137	1.1	3'- 1"	43	0.4
	24"	8'- 2 1/2"	3'- 9 1/2"	4'-10"	5'- 7"	158	1.3	3'- 7"	50	0.5
	27"	9'- 1"	4'- 1"	5'- 4"	6'- 2"	173	1.5	3'-11"	56	0.6
	30"	9'-11 1/2"	4'- 4 1/2"	5'-10"	6'- 8 3/4"	197	1.7	4'- 4"	65	0.8
	33"	10'-10"	4'- 8"	6'- 4"	9'- 3 3/4"	216	2.0	4'- 8"	71	0.9
	36"	11'- 8 1/2"	4'-11 1/2"	6'-10"	7'-10 3/4"	241	2.2	5'- 1"	81	1.0
	42"	13'- 5 1/4"	5'- 6 1/2"	7'-10"	9'- 0 1/2"	290	2.8	5'-10"	97	1.3
	48"	15'- 3"	6'- 1 1/2"	9'- 4"	10'- 9 1/2"	350	3.8	6'- 7"	117	1.7
	54"	17'- 0 3/4"	6'- 8 1/2"	10'- 4"	11'-11 1/2"	415	4.5	7'- 6"	151	2.1
	60"	18'- 2 3/4"	7'- 3 1/2"	11'- 4"	13'- 1"	469	5.3	8'- 3"	174	2.5
	66"	20'-11 1/2"	7'-10 1/2"	12'- 4"	14'- 3"	530	6.2	8'- 9"	194	2.9
	72"	22'- 8 1/2"	8'- 5 1/2"	13'- 4"	15'- 4 3/4"	587	7.1	9'- 4"	213	3.3
Z2	12"	6'- 3"	2'- 6"	4'- 3"	4'-11"	114	0.8	1'- 9"	22	0.2
	15"	7'- 5"	2'- 9 1/2"	5'- 0"	5'- 9 1/2"	133	1.1	2'- 2"	28	0.3
	18"	8'- 6 3/4"	3'- 1"	5'- 8"	6'- 7 3/4"	166	1.3	2'- 6"	37	0.5
	21"	9'- 8 3/4"	3'- 4 1/2"	6'- 6"	7'- 6"	189	1.6	3'- 1"	48	0.6
	24"	11'- 0"	3'- 9 1/2"	7'- 3"	8'- 4 1/2"	221	2.0	3'- 7"	58	0.7
	27"	12'- 2"	4'- 1"	8'- 0"	9'- 2 3/4"	245	2.3	3'-11"	67	0.8
	30"	13'- 4"	4'- 4 1/2"	8'- 8"	10'- 1 1/2"	269	2.7	4'- 4"	77	1.0
	33"	14'- 5 3/4"	4'- 8"	9'- 6"	10'-11 3/4"	310	3.1	4'- 8"	84	1.2
	36"	15'- 7 3/4"	4'-11 1/2"	10'- 3"	11'-10"	343	3.5	5'- 1"	96	1.4
	42"	17'-11 1/2"	5'- 6 1/2"	11'- 8"	13'- 6 3/4"	424	4.5	5'-10"	119	1.7
	48"	20'- 1 3/4"	6'- 1 1/2"	12'-11"	15'- 3"	527	6.1	6'- 7"	145	2.3
	54"	21'- 5 1/2"	6'- 8 1/2"	13'- 6"	17'-10 3/4"	618	7.3	7'- 6"	186	2.9
	60"	25'- 9 1/4"	7'- 3 1/2"	17'- 0"	19'- 7 1/2"	707	8.7	8'- 3"	219	3.4
	66"	28'- 1"	7'-10 1/2"	18'- 6"	21'- 4 1/2"	797	10.1	8'- 9"	242	3.9
	72"	30'- 4 3/4"	8'- 5 1/2"	20'- 0"	23'- 1 1/2"	910	11.7	9'- 4"	272	4.4
Z3	12"	7'-10 1/2"	2'- 6"	5'- 8"	6'- 6 1/2"	144	1.1	1'- 9"	24	0.3
	15"	9'- 4 1/2"	2'- 9 1/2"	6'- 8"	7'- 8 1/2"	177	1.5	2'- 2"	32	0.4
	18"	10'- 9 1/2"	3'- 1"	7'- 8"	8'-10 1/2"	217	1.9	2'- 8"	42	0.5
	21"	12'- 2 1/2"	3'- 4 1/2"	8'- 8"	10'- 0"	254	2.3	3'- 1"	57	0.7
	24"	13'- 9 1/2"	3'- 9 1/2"	9'- 8"	11'- 2"	295	2.8	3'- 7"	67	0.9
	27"	15'- 3"	4'- 1"	10'- 8"	12'- 3 3/4"	338	3.3	3'-11"	77	1.0
	30"	16'- 8 1/2"	4'- 4 1/2"	11'- 8"	13'- 5 3/4"	379	3.8	4'- 4"	89	1.3
	33"	18'- 1 1/2"	4'- 8"	12'- 8"	14'- 7 1/2"	417	4.5	4'- 8"	101	1.4
	36"	19'- 7"	4'-11 1/2"	13'- 8"	15'- 9 1/2"	464	5.1	5'- 1"	115	1.7
	42"	22'- 5 1/2"	5'- 6 1/2"	15'- 8"	18'- 1"	575	6.5	5'-10"	141	2.1
	48"	26'- 6 1/4"	6'- 1 1/2"	18'- 8"	21'- 6 3/4"	720	8.9	6'- 7"	175	2.8
	54"	29'- 5"	6'- 8 1/2"	20'- 8"	23'-10 1/2"	863	10.7	7'- 6"	226	3.6
	60"	32'- 3 1/4"	7'- 3 1/2"	22'- 8"	26'- 3"	994	12.7	8'- 3"	264	4.3
	66"	35'- 2 1/2"	7'-10 1/2"	24'- 8"	28'- 5 3/4"	1126	14.5	8'- 9"	300	4.9
	72"	38'- 1 1/4"	8'- 5 1/2"	26'- 8"	30'- 9 1/2"	1283	17.3	9'- 4"	334	5.6
Z4	12"	11'- 2"	2'- 6"	8'- 6"	9'- 9 1/2"	220	1.9	1'- 9"	28	0.4
	15"	13'- 2 1/2"	2'- 9 1/2"	10'- 0"	11'- 6 1/2"	264	2.5	2'- 2"	37	0.5
	18"	15'- 2 1/2"	3'- 1"	11'- 6"	13'- 3 1/2"	326	3.3	2'- 8"	50	0.7
	21"	17'- 2 1/4"	3'- 4 1/2"	13'- 0"	15'- 0 1/2"	391	3.9	3'- 1"	69	0.9
	24"	19'- 2 1/2"	3'- 9 1/2"	14'- 6"	16'- 9"	437	4.8	3'- 7"	80	1.2
	27"	21'- 2 3/4"	4'- 1"	16'- 0"	18'- 5 3/4"	506	5.7	3'-11"	96	1.4
	30"	23'- 5 1/4"	4'- 4 1/2"	17'- 6"	20'- 2 1/2"	587	6.7	4'- 4"	110	1.7
	33"	25'- 5 1/2"	4'- 8"	18'- 0"	21'-11 1/2"	667	7.8	4'- 8"	127	2.0
	36"	27'- 5 3/4"	4'-11 1/2"	20'- 6"	23'- 8"	727	9.0	5'- 1"	144	2.3
	42"	31'- 6 1/2"	5'- 6 1/2"	23'- 6"	27'- 1 1/2"	814	11.5	5'-10"	179	3.0
	48"	37'- 3 1/2"	6'- 1 1/2"	28'- 0"	32'- 4"	1181	15.8	6'- 7"	231	4.0
	54"	41'- 4 1/2"	6'- 8 1/2"	31'- 0"	35'- 9 1/2"	1412	19.2	7'- 6"	300	5.0
	60"	45'- 4 3/4"	7'- 3 1/2"	34'- 0"	39'- 3"	1619	22.9	8'- 3"	353	6.0



ELEVATION
Showing dimensions

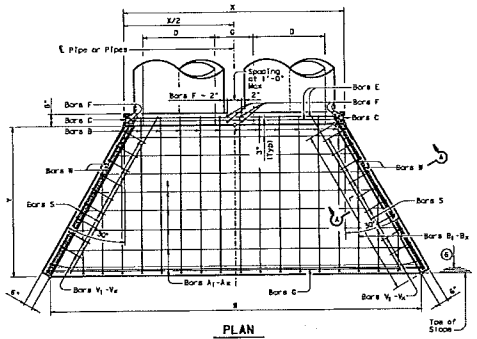
1. Quantities shown are for concrete pipe and will increase slightly for metal pipe installations.
2. For vehicle safety, curbs shall project no more than 3" above finished grade. Curb heights shall be reduced, if necessary, to meet these requirements. No changes will be made in quantities and no additional compensation will be allowed for this work.
3. Provide a 1'-0" footing as shown where required to maintain 4" Min cover for pipes.
4. Quantities shown are for one structure and one type headwall.
5. Min Length = $6" + 3" \times \left(\frac{12 \times H - Z}{12 \times L}\right)$
   Max Length = $12 \times H - 3" \times \left(\frac{12 \times H - Z}{12 \times L}\right) - 1"$
6. Lengths of wings based on Skill Slope along this line.

TABLE OF REINFORCING STEEL (4)

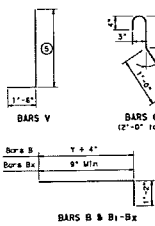
Bar	Size	Spa	No.
A	# 4	1'-0"	-
B	# 3	1'-6"	-
C	# 4	1'-0"	-
D	# 3	1'-0"	-
E	# 5	-	4
F	# 5	-	-
G	# 3	-	2
S	# 4	-	6
V	# 4	1'-0"	-
W	# 5	-	4

TABLE OF CONSTANT DIMENSIONS

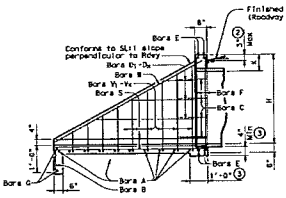
Pipe Dia.	G	K	H
12"	9"	1'- 0"	2'- 0"
15"	11"	1'- 0"	2'- 3"
18"	1'- 2"	1'- 0"	2'- 6"
21"	1'- 4"	1'- 0"	2'- 9"
24"	1'- 7"	1'- 0"	3'- 0"
27"	1'- 9"	1'- 0"	3'- 3"
30"	1'-10"	1'- 0"	3'- 6"
33"	1'-11"	1'- 0"	3'- 9"
36"	2'- 1"	1'- 0"	4'- 0"
42"	2'- 4"	1'- 0"	4'- 6"
48"	2'- 7"	1'- 3"	5'- 3"
54"	3'- 0"	1'- 3"	5'- 9"
60"	3'- 3"	1'- 3"	6'- 3"
66"	3'- 5"	1'- 3"	6'- 9"
72"	3'- 8"	1'- 3"	7'- 3"



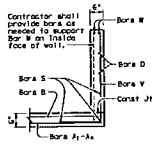
PLAN



GENERAL NOTES:
Designed according to AASHTO LRFD Specifications.
Reinforcing steel shall be placed with the center of the outside layer of bars 2" from the surface of the concrete.
All reinforcing steel shall be Grade 60.
All concrete shall be Class "C" and shall have a minimum compressive strength of 3600 psi.
No bridge rails of any type may be mounted directly to these culvert headwalls.



TYPICAL WING ELEVATION



SECTION A-A

Texas Department of Transportation — Bridge Division Standard

CONCRETE HEADWALLS WITH FLARED WINGS FOR 0° SKEW PIPE CULVERTS

CH-FW-0

FILE	dateplotted	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
	February 2013	CONT	SECT	JOB	HIGHWAY
	REVISIONS	DIST	COUNTY		SHEET NO.

PROJECT NO. 1402-0093 | DESIGNED BY: CHW
FILE NO. 1402-0093 | DRAWN BY: SB
DATE: AUGUST 2013 | CHECKED BY:

GRAY ENGINEERING
8824 N. Capital of Texas Hwy., Austin, Texas 78759
(512) 346-4629
(512) 346-4631
TBPE Firm No. F-2400
TBPLS Firm No. 10024900

NO.	BY	DATE	REVISION DESCRIPTION
1			

GARDENS AT MAYFIELD POND MODIFICATION

ARTERIAL H MODIFIED POND DETAILS (SHEET 2 OF 2)

NOTICE: ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE ENGINEER WHO SEALED IT IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STEVEN J. BEATTIE 103431 LICENSED PROFESSIONAL ENGINEER — 12/2/13

SHEET 4 OF 6

DISCLAIMER:
The use of this standard is governed by the Texas Engineering Practice Act. Any use of this standard to prepare engineering plans, specifications or estimates for any project not designed by a licensed engineer, or for incorrect results or damages resulting from its use, is the responsibility of the user.

FILE: N:\Projects\1402-XX Misc\1402-0093 Gardens at Mayfield Pond\DWG MODIFICATION\CAD\SHEETS\1402-0093-PONDs.dwg LAYER: POND DETAILS (SHEET 2 OF 2) DATE: 08/15/2013 BY: PHOSON

"just as it's due"

A Division of MLA Labs, Inc.

September 22, 2015

The Gardens at Mayfield Ranch LLC.
c/o RMD Partners
308 Baylor Street
Austin, Texas 78703
Attn.: Ms. Cathy Hossack-Ouellette

Re: Geotechnical Investigation
Pond Construction and Liner Recommendations
Gardens at Mayfield Ranch
Round Rock, Texas
Engineer's Job No.: 15101100.033

Dear Ms. Ekiner,

For the request of Ms. Cathy Hossack-Ouellette at Gray Engineering, Inc., we have developed recommendations for the design and construction of the wet pond at this site. The design and construction information is contained in two documents that are included as attachments to this letter:

1. Recommendations – Wet Pond - This document contains general guidelines and discussion of wet pond design and construction including information on clay liners. It is intended for use by the civil engineer in our in developing the pond details.
2. Quality Assurance/Quality Control Recommendations for Clay Liners For Wet Ponds - This document contains recommendations regarding QA/QC for the wet pond. These recommendations follow the City of Austin's draft document for Liner Construction and Testing dated April 18, 2007, and meet the requirements of the COA Environmental Criteria Manual.

We hope that the information provided herein is sufficient for your use. If you have any questions or comments or need any additional information, please contact our office.

Sincerely,

MLA LABS, INC.

Timothy E. Weston, P.E.
Vice President
Additional Attachments: MLA Labs Appendix A & Appendix B

TIMOTHY E. WESTON 87998 LICENSED PROFESSIONAL ENGINEER

2600 Longhorn Boulevard, Suite 104 • Austin, Texas 78758 • 512/873-3050 • FAX # 524/836-0154
TBPE # 2864 Dallas/Fort Worth Austin San Antonio Houston

Gardens at Mayfield Ranch
Engineer's Job No.: 15101100.033

September 22, 2015
Page 1 of 5

Quality Assurance/Quality Control Recommendations for Clay Liners For Wet Ponds

The following recommendations for quality control and quality assurance with respect to material testing and construction recommendations shall apply to clay liners for ponds that are to have permanent pools. Pond construction details are specifically not included in this document and should be provided by the civil engineer for the project based upon the recommendations contained herein. In addition, an hydrologic or non-dimensional analysis of the pond has been performed in developing these recommendations.

Section 1: Material Considerations
1. Selection of clay liner material shall be guided by the following criteria:

Material Property	Requirement	Testing Standard
Minimum Liquid Limit	> 30	ASTM D 4318
Minimum Plasticity Index	> 15	ASTM D 4318
Minimum Percent Passing # 200 Sieve	> 50 %	ASTM D 422
Maximum Plasticity Index	< 1.4 PI	ASTM D 4318
Maximum Volumetric Permeability	1×10^{-7} cm/sec	ASTM D 5084

2. Clay liner material shall be free of organics and debris, such as tree limbs, bark, leaves, trash or other deleterious material.
3. The maximum clay clod size during liner placement and compaction shall be approximately two inch.
4. For each potential source of pond liner material, enough material shall be provided by the earthwork contractor to run the tests listed in the table under item 1 of section 1. During preconstruction testing, the samples should be compacted in the laboratory to the density and moisture levels indicated in Section 3.B from 2 of this document.
5. At the same time that the tests listed in item #1 of section 1 are run, the moisture density relationship (ASTM D 698) must be determined for use during field compaction testing of the clay liner.
6. If all requirements listed under item 1 section 1 are met, then the material provided shall be considered acceptable for use in the construction of the pond's clay liner. If all requirements are not met, then another material must be chosen and tested for compliance with the material requirements in Section 1.
7. If the subgrade soil shall consists of soil, then Atterberg Limits, gradation and a moisture density relationship should be determined for the subgrade soils in preparation for subgrade acceptance and moisture density determination. These tests should be run in accordance with the standards listed in Section F of this document.

Section 2: Layout
1. A minimum clay liner placed on the bottom and side slopes of the entire pond should be a minimum of 12 inches thick. Greater thickness may be required depending upon the planned pond use, as determined by the civil engineer. The clay liner shall be placed in increments of 8 inch thick lifts after compaction.
2. The liner should extend a minimum of two feet above the permanent pool elevation of the completed pond.
3. The clay liner shall extend below and around all concrete cutoff walls, inflow/outflow headwall structures, spillways, trickle and other miscellaneous structures within the pond interior.
4. The velocity of water entering the pond should be carefully reduced to avoid eroding the pond liner.
5. Embankments constructed of clay liner material may be constructed with maximum side slopes of 2:1 (horizontal to vertical). In addition, the maximum cut side slopes may also be 2:1 (horizontal to vertical) in the pond area.

Gardens at Mayfield Ranch
Engineer's Job No.: 15101100.033

September 22, 2015
Page 2 of 5

7. Inspection of liner that are constructed next to a completed section should not be constructed by "keying" the entire thickness of the new liner section next to the completed section. Instead, the edge of the completed section of clay liner shall be benched or notched such that a width of approximately 12 inches such that the section being newly constructed and the completed section are offset in a stair-step fashion without a construction joint through the entire liner thickness.
8. At the end of each day's construction, completed lifts or sections of compacted clay liner shall be sealed by rolling with a rubber tire to smooth drum roller and kept wet enough to prevent drying and cracking of the clay until liner construction resumes.
9. Any areas that do not meet the moisture or density requirements during compaction testing shall be scarified and saturated until the material meets the specifications.

Section 3: Testing
1. If the subgrade consists of soil, then the subgrade below the clay liner shall be compacted to at least 95 percent of the maximum dry density determined by the Standard Proctor Test, ASTM D 698. If the subgrade soil has a plasticity index (PI) of 25 or greater, then the maximum moisture of the dry compaction shall be between -2 and +1 percent above the optimum moisture content of the subgrade soil has a plasticity index (PI) of less than 25, then the moisture content of the soil compaction shall be between 3 percent below (-3%) and 3 percent above (+3%) the optimum moisture content. If the subgrade consists of limestone or weathered limestone, then moisture and density control is not required.
2. The clay liner shall be compacted to at least 95 percent of the maximum dry density as determined by the Standard Proctor Test, ASTM D 698. The moisture content at time of compaction shall be at or above the optimum moisture content.
3. An independent lab or section shall be tested for moisture and density upon the completion of compaction lower to subgrade soil or existing placement using a sand-cone density gauge. The sampling procedure from the drying pan of a sand-cone density gauge shall be back filled with laboratory prepared dry. The compacted clay lift or section shall meet the project specifications listed in Item 2 of Section F2 for moisture and density prior to placement of additional clay liner material.
4. The frequency of testing of the clay liner during construction shall be governed by the following minimum:

Test	Test Requirement	Testing Frequency	Testing Standard
In Place Perfect Density	Greater than 95%	1 per 5,000 sq ft per lift (minimum 3 per lift)	ASTM D 2922
In Place Perfect Moisture	Greater than optimum	1 per 5,000 sq ft per lift (minimum 3 per lift)	ASTM D 2937
Liquid Limit	Greater Than 30	At 25%, 50%, 75% and 100% of liner construction	ASTM D 4318
Plasticity Index	Greater Than 15*	At 25%, 50%, 75% and 100% of liner construction	ASTM D 4318
% Passing # 200 Sieve	Greater Than 50 %	At 25%, 50%, 75% and 100% of liner construction	ASTM D 422
Maximum Permeability	Less Than 1×10^{-7} cm/sec	At 25%, 50%, 75% and 100% of liner construction	ASTM D 5084
Compacted Liner Thickness	Minimum of Liner Thickness	At Beginning and End of Liner Construction	Surveyed by RPLS (See Item 5 below)
Thickness of Soil Cover Over Liner	Minimum of Soil Cover Thickness	At Beginning and End of Cover Liner Placement	Surveyed by RPLS (See Item 5 below)

5. The plasticity index (PI) should be within 10 percentage points of the PI determined during testing of the proposed pre-treated (Section 1, item 7).

Gardens at Mayfield Ranch
Engineer's Job No.: 15101100.033

September 22, 2015
Page 3 of 5

6. Excessive lateral loss and the damaged test, the clay liner shall be knocked at mid-depth such that the area being repaired and the undisturbed liner are offset in a stair-step fashion without a construction joint through the entire liner thickness.
7. Compaction equipment that is appropriate for the size of the damaged area shall be utilized.
8. All rejected clay liner areas shall be tested against the project specifications for the moisture and density listed in Section 3B from 2 prior to acceptance.
9. Repairs that do not meet the density and moisture specifications shall be scarified and retested.

Section 4: Recommendations
1. Test reports shall be issued for all tests performed and shall indicate whether the test result is in compliance with the project specifications.
2. The Construction Materials Testing (CMT) firm shall issue a daily representative's report. This report shall include, as a minimum:
   - Date of Testing
   - CMT field technician present
   - A description of the work performed during the day
   - The type(s) of equipment used by contractor
   - Tests performed by the CMT field technician
   - Any failed tests or non-completed areas that require retesting or construction action
3. After liner construction is complete and all test results are acceptable, a Seal and Liner Evaluation Report (SLER) shall be prepared by the CMT firm. This report shall be sealed by a professional engineer registered in the state of Texas. This letter shall summarize the types of tests performed and state that the results are in general conformance with the project plans and specifications or bring to particulars reports regarding the clay liner.
4. After completion of the pond liner construction surveys, the Pond-crossed flowwyne shall prepare and seal a liner documenting the surveying process and the thickness of the clay liner. The letter shall include as an attachment a drawing indicating survey point locations with elevations at each point for pre-liner construction and pond liner construction.

Gardens at Mayfield Ranch
Engineer's Job No.: 15101100.033

September 22, 2015
Page 4 of 5

Section 5: Repairs
1. For any area of the clay liner that becomes damaged during construction, the damaged area shall be reconstructed to at least one foot beyond the damaged area in all directions.
2. The full depth of the clay liner shall be reconstructed in the damaged area using the previous specifications.
3. Excessive lateral loss and the damaged test, the clay liner shall be knocked at mid-depth such that the area being repaired and the undisturbed liner are offset in a stair-step fashion without a construction joint through the entire liner thickness.
4. Compaction equipment that is appropriate for the size of the damaged area shall be utilized.
5. All rejected clay liner areas shall be tested against the project specifications for the moisture and density listed in Section 3B from 2 prior to acceptance.
6. Repairs that do not meet the density and moisture specifications shall be scarified and retested.

Section 6: Recommendations
1. Test reports shall be issued for all tests performed and shall indicate whether the test result is in compliance with the project specifications.
2. The Construction Materials Testing (CMT) firm shall issue a daily representative's report. This report shall include, as a minimum:
   - Date of Testing
   - CMT field technician present
   - A description of the work performed during the day
   - The type(s) of equipment used by contractor
   - Tests performed by the CMT field technician
   - Any failed tests or non-completed areas that require retesting or construction action
3. After liner construction is complete and all test results are acceptable, a Seal and Liner Evaluation Report (SLER) shall be prepared by the CMT firm. This report shall be sealed by a professional engineer registered in the state of Texas. This letter shall summarize the types of tests performed and state that the results are in general conformance with the project plans and specifications or bring to particulars reports regarding the clay liner.
4. After completion of the pond liner construction surveys, the Pond-crossed flowwyne shall prepare and seal a liner documenting the surveying process and the thickness of the clay liner. The letter shall include as an attachment a drawing indicating survey point locations with elevations at each point for pre-liner construction and pond liner construction.

NOTE:
1. THE MODIFICATION OF THE GARDENS AT MAYFIELD RANCH QUALITY / DETENTION POND IS SHOWN(ED) BY A BETWEEN 2003 RANCH POLLUTION ABATEMENT PLAN, REVISED TO THE APPROVAL IS PLAN BY OTHERS.
2. DUE TO CONSTRUCTION PHASING AND SEQUENCING BETWEEN THE GARDENS AT MAYFIELD AND ARTERIAL H (BY OTHERS), THE MODIFIED POND MAY BE CONSTRUCTED TO ITS FINAL CONDITION IN ONE PHASE.
3. FOR DRAINAGE AREA MAPS AND CALCULATIONS OF APPROVED EXISTING AND POND INFLOWS TO THE MODIFIED POND, REFERENCE THE WILLIAMSON COUNTY ARTERIAL H IMPROVEMENT PLANS (BY OTHERS). THE MODIFIED POND WAS SIZED VERIFIED BASED ON THOSE CALCULATIONS AND FINAL PLANS RECEIVED FROM BANGLE, DAVIS & ASSOCIATES ENGINEERING, INC.

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

STEVEN J. BEATTY 103421 LICENSED PROFESSIONAL ENGINEER

NO.	BY	DATE	REVISION DESCRIPTION

PROJECT NO. 1402-1913
DESIGNED BY: CW
DRAWN BY: CW
CHK BY: SB
DATE: AUGUST 2015
CHECKED BY: SB

GRAY ENGINEERING
8834 N. Capital of Texas Hwy.
Suite 140
Austin, Texas 78759
512/346-2653
FAX 512/346-5953
TBPE #F-2966

GARDENS AT MAYFIELD
POND MODIFICATION

ARTERIAL H MODIFIED
POND LINER

SHEET 5 OF 6

FILE: J:\Projects\1402-1913\Gardens at Mayfield Ranch\REPORT\GEOTECH\GEOTECH_1913-SDHC.dwg, 11"X17", 2'=1", DWG LINEWT, DATE: 09/15/2015, BY: PAGSON

Gardens at Mayfield Ranch
Engineer's Job No.: 131111160.033

September 22, 2015
Page 5 of 5

Section 6. Test References

1. ASTM D 422 - Standard Test Method for Particle Size Analysis of Soils
2. ASTM D 698 - Standard Test Method for Moisture Density Relations of Soils and Soil-Aggregate Mixtures
3. ASTM D 1140 - Standard Test Method for Amount of Material in Soils Finer Than the No.200 Sieve
4. ASTM D 2216 - Standard Test Method for Laboratory Determination of Water (moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures
5. ASTM D 2487 - Classification of Soils for Engineering Purposes
6. ASTM D 2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods
7. ASTM D 3017 - Standard Test Method for Moisture Content of Soils in Place by Nuclear Method
8. ASTM D 4318 - Standard Test Method for Liquid Limit, Plastic Limit and Plasticity Index of Soils
9. ASTM D 5084 - Standard Test Method for Permeability of Free Grained Soils

MLA Sustainable Urban Post Work Austin San Antonio Houston Beyond College Station Athens "Just as it ought to be"

MLA Geotechnical

January 4, 2017

The Gardens at Mayfield Ranch LLC.
c/o RMD Development Partners
518 Baylor Street
Austin, Texas 78703
Attn: Mr. Joshua Stone

Re: Pond Construction and Liner Recommendations
Gardens at Mayfield Ranch
Round Rock, Texas
Engineer's Job No.: 131111361.033

Dear Mr. Stone;

Per your request, we have developed recommendations for the revised design of the wet pond at the referenced site. It is our understanding that the site has been suitably studied by the environmental consultant and that the pond depth is to be revised such that the pond does not impact a groundwater elevation of 814 feet AMSL. To achieve this, the bottom of the pond must be raised above the depth that is currently excavated. The following process should be used:

1. Mulch and root all the bottom of the existing excavation.
2. Place poorly graded gravel to an elevation established by the civil engineer that is above 814 feet AMSL. This gravel should be raked into place. Poorly graded gravels are generally self-compacting and density testing is not required or possible. The poorly graded gravel shall consist of one of the two following locally available materials, as indicated:
   a. Scrub to 1-inch gravel – This is readily available from Texas Crushed Stone as #67 Rock and Ballast
   b. 3-inch by 5-inch rock – This is readily available from Texas Crushed Stone
3. Place a layer of geotextile such as Mirafi 140N or equivalent so that the clay liner to be constructed above the gravel does not filter down into the gravel layer and clog it.
4. Construct the clay liner in accordance with the already approved clay liner specifications. Please note that the construction of the clay liner is expected to be a relatively slow process as care must be taken to preserve the integrity of the geotextile below. During the process, the clay will likely need to be hauled/pushed up across the geotextile, similar to constructing a clay cap on a landfill. Additionally, while not required, it may be necessary to place a layer of compacted soil 6 to 12 inches thick over the geotextile prior to commencing the clay liner for ease of liner construction.

We hope that the information provided herein is sufficient for your use. If you have any questions or comments or need any additional information, please contact our office.

Sincerely,

MLA LABS, INC.

Timothy B. Watson, P.E.
Vice President

1/4/17

2500 Longhorn Boulevard, Suite 104 • Austin, Texas 78758 • (512) 873-8822 • FAX (512) 873-8832
Dallas • Fort Worth • Austin • San Antonio • Houston • Beyond College Station • Athens

TCEQ CALCULATIONS FOR THE ORIGINAL WET POND AS PER THE GARDENS AT MAYFIELD SDP1505-002 PROJECT

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Gardens of May
Date Prepared: 5/7/2015

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over th
Text shown in blue indicates location of instructions in the Technical Guidance Manual - RG-348.
Characters shown in red are data entry fields.
Characters shown in black (Bold) are calculated fields.
Changes to these fields will remove the equations used in the spreadsheet.

1. The Required Load Reduction for the total project: — Calculations from RG-348 (Pages 3-27 to 3-30)

Page 3-28 Equation 3.3: $L_M = 27.2(A_N \times P)$

where L_M = total TSS load removed = Required TSS removal resulting from proposed development + 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

	County	Williamson	
Total project area included in plan	=	34.30	acres
Pre-development impervious area within the limits of the plan	=	8.00	acres
Total post-development impervious area within the limits of the plan	=	18.49	acres
Total post-development impervious area (linear fraction)	=	0.54	
P	=	32	inches
$L_{M\ TOTAL\ REQUIRED}$	=	19018	lbs

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area	=	1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No.	=	1
Total drainage basin/outfall area	=	34.30 acres
Pre-development impervious area within drainage basin/outfall area	=	8.00 acres
Post-development impervious area within drainage basin/outfall area	=	18.49 acres
Post-development impervious fraction within drainage basin/outfall area	=	0.54
L_M for basin	=	19018 lbs

3. Indicate the proposed if BMP Code for this basin.

Proposed BMP	=	Wet Basins
Removal efficiency	=	80 percent

4. Calculate the Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected if BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (0.34 \times A_P + 0.54)$

where A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS load removed from this catchment area by the proposed BMP

A_C	=	34.30 acres
A_I	=	18.49 acres
A_P	=	15.80 acres
L_R	=	19302 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area.

Desired L_R for basin	=	19302 lbs
F	=	1.00

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. — Calculations from RG-348 (Pages 3-34 to

Rainfall Depth	=	4.00 inches
Post-Development Runoff Coefficient	=	0.39
On-site Water Quality Volume	=	163673 cubic feet

Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP	=	0.00 acres
Off-site impervious cover draining to BMP	=	0.00 acres
Impervious fraction of off-site area	=	0
Off-site Runoff Coefficient	=	0.00
Off-site Water Quality Volume	=	0 cubic feet
Storage for Sediment	=	32766
Total Capture Volume (required water quality volume(s) x 1.20)	=	236173 cubic feet

11. Wet Basins — Designed as Required in RG-348 (Pages 3-38 to 3-71)

Required capacity of Permanent Pool	=	236173 cubic feet Permanent Pool Capacity = 1.20 x WQ
Required capacity at WQV Elevation	=	414648 cubic feet Total Capacity = Permanent Pool Cap

WQV is second WQV.

NOTE:

1. THE MODIFICATION OF THE GARDENS AT MAYFIELD WATER QUALITY/ DETENTION POND IS GOVERNED BY A SEPARATE TCEQ WATER POLLUTION ABATEMENT PLAN. REFER TO THE ARTERIAL H PLAN BY OTHERS.
2. DUE TO CONSTRUCTION TIMING AND SEQUENCING BETWEEN THE GARDENS AT MAYFIELD AND ARTERIAL H (BY OTHERS), THE MODIFIED POND MAY BE CONSTRUCTED TO ITS FINAL CONDITION IN ONE PHASE.
3. FOR DRAINAGE AREA MAPS AND CALCULATIONS OF IMPERVIOUS COVER AND POND INFLOWS TO THE MODIFICATION, REFERENCE THE WILLIAMSON COUNTY ARTERIAL H IMPROVEMENT PLANS (BY OTHERS). SEE SECTION 2 OF THE GARDENS AT MAYFIELD DRAINAGE CALCULATIONS AND FINAL FLOWS RECORD POOL ROUTING TABLE FOR ADDITIONAL INFORMATION.
4. SEE SHEET 5 FOR FULL POND LINER SPECIFICATIONS.

TCEQ CALCULATIONS FOR THE MODIFIED WET POND

Texas Commission on Environmental Quality

TSS Removal Calculations 04-20-2009

Project Name: Gardens of May
Date Prepared: 5/25/2016

Additional information is provided for cells with a red triangle in the upper right corner. Place the cursor over the
Text shown in blue indicate location of instructions in the Technical Guidance Manual - RG-348.
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1. The Required Load Reduction for the total project: — Calculations from RG-348 (Pages 3-27 to 3-30)

Page 3-28 Equation 3.3: $L_M = 27.2(A_N \times P)$

where L_M = total TSS load removed = Required TSS removal resulting from proposed development + 80% of increased load
A_N = Net increase in impervious area for the project
P = Average annual precipitation, inches

Site Data: Determine Required Load Removal Based on the Entire Project

	County	Williamson	EXISTING POND CONTRIBUTION AREA	ADDITIONAL AREA
Total project area included in plan	=		41.80 acres	7.5
Pre-development impervious area within the limits of the plan	=		8.00 acres	
Total post-development impervious area within the limits of the plan	=		23.43 acres	3.33
Total post-development impervious area (linear fraction)	=		0.56	
P	=		32 inches	32
$L_{M\ TOTAL\ REQUIRED}$	=		30393 lbs	95615

* The values entered in these fields should be for the total project area.

Number of drainage basins / outfalls areas leaving the plan area	=	1	1

2. Drainage Basin Parameters (This information should be provided for each basin):

Drainage Basin/Outfall Area No.	=	1	
Total drainage basin/outfall area	=	41.80	acres
Pre-development impervious area within drainage basin/outfall area	=	8.00	acres
Post-development impervious area within drainage basin/outfall area	=	23.43	acres 2.54
Post-development impervious fraction within drainage basin/outfall area	=	0.56	
L_M for basin	=	30393	lbs

3. Indicate the proposed if BMP Code for this basin.

Proposed BMP	=	Wet Basins
Removal efficiency	=	80 percent

4. Calculate the Maximum TSS Load Removed (L_R) for this Drainage Basin by the selected if BMP Type.

RG-348 Page 3-33 Equation 3.7: $L_R = (\text{BMP efficiency}) \times P \times (0.34 \times A_P + 0.54)$

where A_C = Total On-Site drainage area in the BMP catchment area
A_I = Impervious area proposed in the BMP catchment area
A_P = Pervious area remaining in the BMP catchment area
L_R = TSS load removed from this catchment area by the proposed BMP

A_C	=	41.80 acres
A_I	=	23.43 acres
A_P	=	18.37 acres
L_R	=	24421 lbs

5. Calculate Fraction of Annual Runoff to Treat the drainage basin / outfall area.

Desired L_R for basin	=	24421 lbs
F	=	1.00

6. Calculate Capture Volume required by the BMP Type for this drainage basin / outfall area. — Calculations from RG-348 (Pages 3-34 to

Rainfall Depth	=	4.00 inches
Post-Development Runoff Coefficient	=	0.39
On-site Water Quality Volume	=	207072 cubic feet

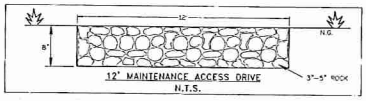
Calculations from RG-348 Pages 3-36 to 3-37

Off-site area draining to BMP	=	0.00 acres
Off-site impervious cover draining to BMP	=	0.00 acres
Impervious fraction of off-site area	=	0
Off-site Runoff Coefficient	=	0.00
Off-site Water Quality Volume	=	0 cubic feet
Storage for Sediment	=	47754
Total Capture Volume (required water quality volume(s) x 1.20)	=	298838 cubic feet

11. Wet Basins — Designed as Required in RG-348 (Pages 3-38 to 3-71)

Required capacity of Permanent Pool	=	298838 cubic feet Permanent Pool Capacity = 1.20 x WQ
Required capacity at WQV Elevation	=	525298 cubic feet Total Capacity = Permanent Pool Cap

WQV is second WQV.



NO.	BY	DATE	REVISION DESCRIPTION
1	RTI	10/16/15	REVISED PER COA COMMENTS

PROJECT NO. 1505-1-0010
DESIGNED BY: RTI
DRAWN BY: RTI
CHECKED BY: RTI
DATE: AUGUST 2015

GRAY ENGINEERING
8834 N. Capital of Texas Hwy.
Austin, Texas 78759
(512) 343-2251
(512) 343-2373
(512) 346-4693
TX F-3164

GARDENS AT MAYFIELD POND MODIFICATION

ARTERIAL H MODIFIED POND LINER TCEQ CALC & ACCESS ROAD SPEC.

NOTICE:
ALTERATION OF A SEALED DRAWING WITHOUT PROPER NOTIFICATION TO THE RESPONSIBLE ENGINEER IS A VIOLATION OF THE TEXAS ENGINEERING PRACTICE ACT.

1/26/17
STATE OF TEXAS
STEVEN J. BERYK
103421
LICENSED PROFESSIONAL ENGINEER

SHEET 6 OF 6

FILE: H:\Projects\1505 Rd Work\13913 Gardens at Mayfield Ranch\POND MODIFICATION\DAR\SHEETS\13913-POND.dwg LAYOUT: POND LINER (SHEET 2 OF 2) AND POND ACCESS ROAD DATE: 09/16/2015 BY: PHOSSON

Exhibit B
Estimated Project Cost

Category	Actual Cost to Date	Estimated Additional Cost	Total Estimated Cost	Notes
Survey, Environmental, Geotech	$6,499.57	$8,565.00	$15,064.57	MLA, ACI, LanDesign, RMD
Engineering	$37,829.50	$7,275.00	$45,104.50	Gray Engineering
Construction	$177,142.50	$487,212.50	$664,355.00	Cornerstone Site Services
Total	**$221,471.57**	**$503,052.50**	**$724,524.07**	

$724,524.07	Estimated Total Project Cost
-$26,688.00	Developer Contribution
$697,836.07	Estimated County Reimbursement

Commissioners Court - Regular Session **27.**

Meeting Date: 03/07/2017

Pearson Ranch Rd

Submitted For: Charlie Crossfield **Submitted By:** Charlie Crossfield, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a Letter Agreement with Austin White Lime for a Pearson Ranch Rd. Drainage Easement.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Pearson Ranch Rd Agreement

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 10:22 AM
Form Started By: Charlie Crossfield		Started On: 03/02/2017 09:47 AM
Final Approval Date: 03/02/2017		

DocuSign Envelope ID: CF02F598-E53E-468E-8869-8189B070E4BC

Sheets & Crossfield, P.C.
ATTORNEYS AT LAW
309 East Main Street • Round Rock, TX 78664-5246
Phone 512-255-8877 • fax 512-255-8986

February 17, 2017

Via e-mail KarenS@austinwhitelime.com
Karen Spielhagen
Austin White Lime
P.O. Box 9556
Austin, Texas 78766

Re: Williamson County—Pearson Ranch Road Drainage Easement

Dear Karen:

Please allow this letter to set out my understanding regarding our agreement for the purchase of a drainage easement interest in and across a portion of the Robinson Ranch ("Robinson") property as part of Williamson County's ("County") proposed Pearson Ranch Road construction project.

In return for granting a drainage easement across approximately 0.2648 acre, and a temporary construction easement in and to approximately 0.25 acre, County will pay Robinson the sum of $5,780, which is equal to the County's appraised value for this acquisition. The form of the Easement granted to City will be as shown in Exhibit "A" attached hereto.

The Closing and completion of this transaction shall take place at the Georgetown office of Capital Title ("Title Company") within 30 days after full execution of this agreement, or at other date and time agreed to between the parties. County shall be responsible for all fees and costs associated with closing, except that each party shall be responsible for any attorney's fees they incur. Robinson shall assist County and Title Company with any curative measures or mortgage lien subordination required as a condition of the Closing.

This agreement is being made in lieu of condemnation by County.

If this meets with your understanding please have this letter approved and executed where indicated and return it to me, and we will in turn have this approved and signed by the County and process this for payment and Closing as quickly as possible.

DocuSign Envelope ID: CF02F598-E53E-468E-8869-8189B070E4BC

Please feel free to contact me at any time if you have any questions or concerns about these issues.

Very truly yours,

Don Childs
Sheets & Crossfield, P.C.

AGREED:

ROBINSON RANCH, a Texas general partnership

By: **SBR Ranch, Ltd.,** a Texas limited partnership

By: SBR-Robinson Associates, LLC, a Texas limited liability company

By: DocuSigned by: Scott Bradley Robinson
Scott Bradley Robinson, Manager

Its: General Partner

By: **AHR IV ELT Ranch, LLC,** a Texas limited liability company

By: DocuSigned by:
Alfred Henry Robinson, IV, Manager

Its: General Partner

By: **FRC EAT1 Ranch, LLC,** a Texas limited liability company

By: DocuSigned by: Flora Louise Robinson Crosswell
Flora Louise Robinson Crosswell, Manager

Its: General Partner

By: **FRC ELT Ranch, LLC,** a Texas limited liability company

DocuSigned by:
By: Flora Louise Robinson Crosswell
Flora Louise Robinson Crosswell, Manager

Its: General Partner

By: **Robinson Benton, LLC,** a Texas limited liability company

DocuSigned by:
By: Elaine Robinson Benton
Elaine Robinson Benton, Manager

Its: General Partner

DocuSigned by:
By: Elaine Robinson Benton
Elaine Robinson Benton, as Trustee of the Elaine Robinson Benton Exempt Lifetime Trust u/w/o A. H. Robinson, III, Deceased Dated 4/21/05

Its: General Partner

By: JPMORGAN CHASE BANK, N.A.

By:_____

Title:_____

JPMorgan Chase Bank, N.A.,Trustee of the Thomas Scott Robinson Exempt Lifetime Trust U/W/O A.H. Robinson, Jr., deceased, Trustee of the Thomas Scott Robinson Non-Exempt Lifetime Trust u/w/o A.H. Robinson, Jr., deceased, and Trustee of the Thomas Scott Robinson Exempt Lifetime Trust u/w/o Charlotte Dies Robinson, deceased

As Assignee of a partnership interest in Robinson Ranch, a Texas general partnership, and signing as Assignee

By: **FRC ELT Ranch, LLC,** a Texas limited liability company

By:_____
Flora Louise Robinson Crosswell, Manager

Its: General Partner

By: **Robinson Benton, LLC,** a Texas limited liability company

By:_____
Elaine Robinson Benton, Manager

Its: General Partner

By:_____
Elaine Robinson Benton, as Trustee of the Elaine Robinson Benton Exempt Lifetime Trust u/w/o A. H. Robinson, III, Deceased Dated 4/21/05

Its: General Partner

By: JPMORGAN CHASE BANK, N.A.

By: Kaula Dominguez

Title: Vice President

JPMorgan Chase Bank, N.A.,Trustee of the Thomas Scott Robinson Exempt Lifetime Trust U/W/O A.H. Robinson, Jr., deceased, Trustee of the Thomas Scott Robinson Non-Exempt Lifetime Trust u/w/o A.H. Robinson, Jr., deceased, and Trustee of the Thomas Scott Robinson Exempt Lifetime Trust u/w/o Charlotte Dies Robinson, deceased

As Assignee of a partnership interest in Robinson Ranch, a Texas general partnership, and signing as Assignee

for the sole purpose of stating no objection to the General Partners' consent

By: **GER 1999 Limited Partnership**, a Texas limited partnership

By: G. E. Robinson, LLC, a Texas limited liability company

DocuSigned by:
By: John Oscar Robinson
John Oscar Robinson, Manager and President

Its: General Partner

By: **Robinson Cosper, Ltd.**, a Texas limited partnership

By: **Robinson Cosper Management, L.L.C.,** a Texas limited liability company

By: Flora Robinson Cosper
Flora Robinson Cosper, Manager

Its: General Partner

By: **Robinson Allen, L.L.C.**, a Texas limited liability company

DocuSigned by:
By: Carla Robinson Allen
Carla Robinson Allen, Manager

Its: General Partner

WILLIAMSON COUNTY, TEXAS

By:_____
Dan A. Gattis
County Judge

Date:_____

DocuSign Envelope ID: CF02F598-E53E-468E-8869-8189B070E4BC

EXHIBIT "A" (DRAINAGE EASEMENT FORM) FOLLOWS THIS PAGE

DRAINAGE EASEMENT
Pearson Ranch Road

THE STATE OF TEXAS §
§ KNOW ALL BY THESE PRESENTS:
COUNTY OF WILLIAMSON §

That **ROBINSON RANCH**, a Texas general partnership, hereinafter referred to as Grantor, for good and valuable consideration in hand paid by **WILLIAMSON COUNTY, TEXAS**, hereinafter referred to as Grantee, the receipt of which consideration is hereby acknowledged, has GRANTED, SOLD and CONVEYED and does hereby GRANT, SELL and CONVEY unto Grantee a perpetual easement (the "Easement") in, on, over, upon, and across the following property (the "Easement Tract"):

> All of that certain 0.2648 acre (11,535 square foot) tract of land situated in the Thomas P. Davy Survey, Abstract No. 169, Williamson County, Texas, said tract of land being more particularly described by metes and bounds in **Exhibit "A"**, attached hereto and incorporated herein.

The Easement and rights and privileges herein granted shall be used solely for the purposes of opening, constructing and maintaining a permanent drainage way and/or storm drainage system, along with any structures, subsurface storm sewer pipes, manholes, grading and related appurtenances necessary to facilitate the proper drainage of the adjacent property and roadway facilities, in, upon and across the Easement Tract pursuant to the Drainage Plan and Profile attached as **Exhibit "B"** (the "Project"), together with the right and privilege at all times of Grantee and its contractors, agents, employees and representatives (collectively, "Grantee's agents") to enter upon the Easement Tract for the purpose of making any improvements, modifications or repairs to the Project which Grantee deems necessary.

Grantor further grants and conveys to Grantee the right to temporarily use the tract of land adjacent to the Easement Tract more particularly described on **Exhibit "C"**, attached hereto and incorporated herein (the "Temporary Easement Tract"), as may be reasonably necessary for the initial construction and installation of the Project (the "Temporary Easement"). In no instance shall Grantee be entitled to use any portion of Grantee's adjoining property other than the Temporary Easement Tract. Grantee shall not remove any hardwood trees from the Easement Tract or the Temporary Easement Tract that are eight (8) inches or larger in diameter unless such removal is approved by Grantor in advance. Upon completion of the initial construction and installation of the Project, as applicable, Grantee shall return the surface of the Easement Tract and/or the Temporary Easement Tract and, upon any subsequent work within the Easement Tract that disturbs the surface of the ground, to a condition that is substantially similar to the condition that existed prior to Grantee's entry, taking into account, with respect to the Easement Tract only, the purposes of the Easement. The Temporary Easement shall remain in effect from the date of the initial entry onto the

Temporary Easement Tract by Grantee or Grantee's agents until the earlier of (a) the expiration of twelve (12) months from the effective date of this instrument, set out below, or (b) final completion of the Project, that being defined as thirty (30) days after issuance of a Certificate of Substantial Completion or similar notice for the Project or Grantee's acceptance of the Project. The passage of twelve (12) months from the Effective Date will conclusively terminate the Temporary Easement and no further confirmation thereof will be required, however, Grantee agrees, upon Grantor's request, to promptly execute, acknowledge where necessary and deliver a recordable document confirming that the Temporary Easement has terminated and is of no further force and effect. The expiration of the Temporary Easement will not affect any of Grantee's rights hereunder with respect to the Easement.

The Easement, rights and privileges herein granted shall also encompass the right of Grantee to trim, cut, fell and remove trees (other than hardwood trees eight (8) inches or greater in diameter), underbrush, vegetation, and obstructions, structures or obstacles within the limits of the Easement Tract, but only to the extent necessary to carry out the purposes of the Easement. Grantor expressly reserves all rights and privileges that may be exercised without interfering with or abridging Grantee's use of the Easement Tract for the purposes set forth herein.

Grantee covenants and agrees that all activities of Grantee and Grantee's agents on or within the Easement Tract and Temporary Easement Tract will be performed in accordance with applicable laws, ordinances and regulations applicable to the Easement Tract and the Temporary Easement Tract and that Grantee will be solely responsible for satisfying all regulatory or permitting requirements of any governmental entities with jurisdiction and paying all related fees. Grantee will be responsible, to the exclusion of any such responsibility of Grantor, for any liability for property damage, including environmental liability; liability arising due to a breach of the terms of this instrument; or liability for personal injury or death arising out of Grantee's and Grantee's agent's use of the Easement Tract and Temporary Easement Tract. To the extent allowed by law, Grantee shall indemnify Grantor against any loss and damage caused by Grantee's or Grantee's agents use of the Easement or Temporary Easement; Grantee's or Grantee's agents violation of the terms of this instrument; or any wrongful or negligent act or omission of Grantee or Grantee's agents in or upon the Easement Tract or Temporary Easement Tract. Grantee shall be responsible for the correction of, or compensation for, any damage to Grantor's property which is the result of any acts of Grantee or Grantee's agents outside the express purposes of this instrument.

TO HAVE AND TO HOLD the Easement, in perpetuity, in and to Grantee, and its successors and assigns, together with all and singular all usual and customary rights thereto in anywise belonging, and together with the right and privilege at any and all times to enter the Easement Tract, or any part thereof, for the purpose of constructing or maintaining the Project and for making connections therewith in accordance with the terms hereof.

And Grantor does hereby bind Grantor and its successors and assigns to WARRANT AND FOREVER DEFEND, all and singular, the Easement unto Grantee, its successors and assigns, against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through, and under Grantor but not otherwise.

This grant is subject to any easements, restrictions, reservations, covenants, conditions, oil and gas leases, mineral severances, and encumbrances for taxes and assessments (other than liens and conveyances) presently of record in the Official Public Records of Williamson County, Texas, that affect the Easement Tract, but only to the extent that said items are still valid and in force and effect at this time. The Easement, rights and privileges granted herein are non-exclusive, however Grantor covenants not to convey any other easement or conflicting rights within the Easement Tract that interfere with the purpose or function of the Project, or the maintenance of the surface of the Easement Tract for the conveyance of storm water and/or detention pond drainage, without the express written consent of Grantee, which consent shall not be unreasonably withheld.

EXECUTED on this the _____day of _____, 2017 (the "effective date").

(signature on following pages)

ROBINSON RANCH, a Texas general partnership

By:_____

Scott Bradley Robinson, Independent Executor of the Estate of A.H. Robinson, III deceased, Trustee of the Scott Bradley Robinson Exempt Appointment Trust No. One U/W/O A.H. Robinson, III, deceased, and Trustee of the Scott Bradley Robinson Exempt Appointment Trust No. Two U/W/O A.H. Robinson, III, deceased

Its: General Partner

By:_____

Alfred Henry Robinson, IV, Trustee of the Alfred Henry Robinson, IV Exempt Appointment Trust No. One U/W/O A.H. Robinson, III, deceased

Its: General Partner

By:_____

Flora Louise Robinson Crosswell, Trustee of the Flora Louise Robinson Crosswell Exempt Appointment Trust No. One U/W/O A.H. Robinson, III, deceased

Its: General Partner

By:_____

Elaine Robinson Benton, Trustee of the Elaine Robinson Benton Exempt Appointment Trust No. One U/W/O A.H. Robinson, III, deceased

By: JPMORGAN CHASE BANK, N.A.

By:_____

Title:_____

JPMorgan Chase Bank, N.A., Trustee of the Thomas Scott Robinson Exempt Lifetime Trust U/W/O A.H. Robinson, Jr., deceased, Trustee of the Thomas Scott Robinson Non-Exempt Lifetime Trust U/W/O A.H. Robinson, Jr., deceased, and Trustee of the Thomas Scott Robinson Exempt Lifetime Trust U/W/O Charlotte Dies Robinson, deceased

As Assignee of a partnership interest in Robinson Ranch, a Texas general partnership, and signing as Assignee for the sole purpose of stating no objection to the General Partners' consent

By: **GER 1999 Limited Partnership**, a Texas limited partnership

By: G. E. Robinson, LLC, a Texas limited liability company, its general partner

By:_____

John Oscar Robinson
Manager and President

Its: General Partner

By: **Robinson Cosper, Ltd.**, a Texas limited partnership

By: Robinson Cosper Management, L.L.C., its general partner

By:_____
Flora Robinson Cosper
Manager

Its: General Partner

By: **Robinson Allen, L.L.C.**, a Texas limited liability company

By:_____
Carla Robinson Allen, Manager

Its: General Partner

STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ___ day of _____, 2017, by **Scott Bradley Robinson**, Trustee of the Scott Bradley Robinson Exempt Appointment Trust No. One u/w/o A. H. Robinson III, Deceased, dated 4/21/2005; as trustee of the Scott Bradley Robinson Exempt Appointment Trust No. Two u/w/o A. H. Robinson, III, Deceased, dated 4/21/2005; and as Trustee of the Scott Bradley Robinson Exempt Lifetime Trust u/w/o A. H. Robinson, III, Deceased, dated 4/21/2005, on behalf of said general partnership.

_____
Notary Public, State of Texas

STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ___ day of _____, 2017, by **Alfred Henry Robinson, IV**, as Trustee of the Alfred Henry Robinson, IV Exempt Appointment Trust No. One u/w/o A.H. Robinson, III, deceased 04/21/2005 and as Manager of AHR IV ELT Ranch LLC, a Texas Limited Liability Company, on behalf of said general partnership.

_____
Notary Public, State of Texas

STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ___ day of _____, 2017, by **Flora Louise Robinson Crosswell**, as Manager of FRC ELT Ranch LLC, a Texas Limited Liability Company and as Manager of FRC EAT1 Ranch LLC, a Texas Limited Liability Company, on behalf of said general partnership.

_____
Notary Public, State of Texas

STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ___ day of _____, 2017, by **Elaine Robinson Benton**, as Manager of Robinson Benton, LLC, a Texas Limited Liability company and as Trustee of the Elaine Robinson Benton Exempt Lifetime Trust u/w/o A. H. Robinson, III, deceased dated 4/21/2005, on behalf of said general partnership.

_____
Notary Public, State of Texas

STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ____ day of _____, 2017, by _____, _____ of **JPMorgan Chase Bank, N.A.**, Trustee of the Thomas Scott Robinson Exempt Lifetime Trust U/W/O A.H. Robinson, Jr., Trustee of the Thomas Scott Robinson Non-Exempt Lifetime Trust U/W/O A.H. Robinson, Jr., and Trustee of the Thomas Scott Robinson Exempt Lifetime Trust U/W/O Charlotte Dies Robinson, deceased, as Assignee of a partnership interest in Robinson Ranch, a Texas general partnership.

_____
Notary Public, State of Texas

STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ___ day of _____, 2017, by **John Oscar Robinson,** Manager and President of G.E. Robinson, LLC, a Texas limited liability company, General Partner of GER 1999 Limited Partnership, a Texas limited partnership, general partner of Robinson Ranch, a Texas general partnership, on behalf of said limited liability company, limited partnership and general partnership.

_____
Notary Public, State of Texas

STATE OF TEXAS §
§
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ___ day of _____, 2017, by **Flora Robinson Cosper,** Manager of Robinson Cosper Management, L.L.C., a Texas limited liability company, General Partner of Robinson Cosper, Ltd., a Texas limited partnership, general partner of Robinson Ranch, a Texas general partnership, on behalf of said limited liability company, limited partnership and general partnership.

_____
Notary Public, State of Texas

STATE OF TEXAS §
COUNTY OF TRAVIS §

This instrument was acknowledged before me on the ___ day of _____, 2017, by **Carla Robinson Allen,** Manager of Robinson Allen, L.L.C., a Texas limited liability company, general partner of Robinson Ranch, a Texas general partnership, on behalf of said limited liability company and general partnership.

_____
Notary Public, State of Texas

After recording return to:
Sheets & Crossfield, P.C.
309 E. Main St.
Round Rock, Texas 78664

EXHIBIT A

Cunningham | Allen

EXHIBIT "A"
11,535 Square Feet
Drainage Easement

FIELD NOTE DESCRIPTION

DESCRIPTION OF A 0.2648 OF ONE ACRE (11,535 SQUARE FEET) PARCEL OF LAND SITUATED IN THE THOMAS P. DAVY SURVEY, ABSTRACT NUMBER 169, IN WILLIAMSON COUNTY, TEXAS, AND BEING A PART OF THE REMAINDER OF A 481.699 ACRE TRACT (REMAINDER) OF LAND DESCRIBED IN A DEED TO ROBINSON RANCH RECORDED IN VOLUME 1197, PAGE 164, OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING, at a TXDOT type II monument found in the north line of said REMAINDER at the intersection of the north right-of-way line of State Highway No. 45 (right-of-way varies) as conveyed to the State of Texas, in a Special Warranty Deed recorded in Document No. 2003069820, of the Official Public Records of Williamson County, Texas and the south right-of-way line of FM No. 620 (right-of-way varies) as conveyed to the State of Texas in a right-of-way deed recorded in Volume 337, Page 285, of the Deed Records of Williamson County, Texas;

THENCE, North 75°55'21" East, with the south right-of-way line of said FM No. 620, a distance of 54.76 feet to a point;

THENCE, departing said south right-of-way line and over and across said REMAINDER, the following five (5) courses and distances:

1. North 88°49'02" East, a distance of 280.59 feet to a point;
2. South 59°12'52" East, a distance of 145.60 feet to a point;
3. South 30°50'55" West, a distance of 25.00 feet to a point;
4. North 59°12'52" West, a distance of 138.41 feet to a point;
5. South 88°49'02" West, a distance of 334.78 feet to a point in the north right-of-way line of said State Highway No. 45, from which a TXDOT type II monument found in said north right-of-way line bears, South 30°45'46" West, a distance of 74.57 feet;

THENCE, North 30°45'46" East, with said north right-of-way line, a distance of 15.06 feet to the POINT OF BEGINNING containing 0.2648 of one acre (11,535 square feet) of land within these metes and bounds.

Reference is herein made to the sketch of this tract accompanying this description.

Subject tract described herein is an easement. No monumentation set for corners.

Bearing Basis: Grid North, Texas Coordinate System of 1983, Central Zone (NAD_83 (cors96)).

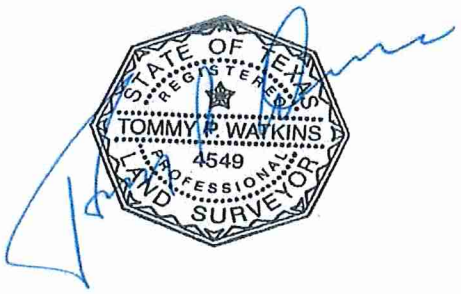
THE STATE OF TEXAS §
§ KNOWN ALL MEN BY THESE PRESENT
COUNTY OF TRAVIS §

That I, Tommy P. Watkins, a Registered Professional Land Surveyor, do hereby certify that the above description and the accompanying sketch is true and correct to the best of my knowledge and belief and the property described herein was determined by a survey made on the ground during the month of February, 2016, under my direction and supervision.

WITNESS MY HAND AND SEAL at Austin, Travis County, Texas on this 31st of May, 2016, A.D.

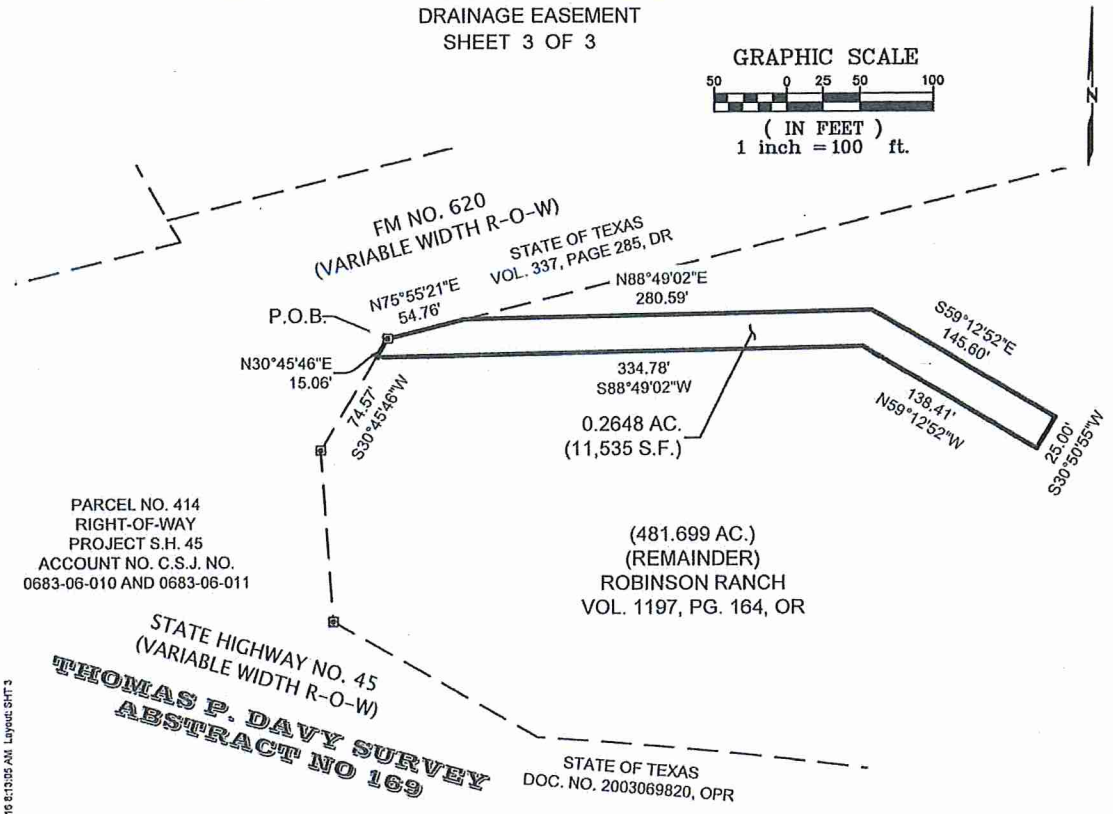
CUNNINGHAM-ALLEN, INC.

Tommy P. Watkins, R.P.L.S.
Texas Registration No. 4549



SKETCH TO ACCOMPANY DESCRIPTION

DRAINAGE EASEMENT
SHEET 3 OF 3



LEGEND

▣	TxDOT TYPE II MONUMENT FOUND
DR	DEED RECORDS WILLIAMSON COUNTY, TEXAS
OR	OFFICIAL RECORDS WILLIAMSON COUNTY, TEXAS
OPR	OFFICIAL PUBLIC RECORDS WILLIAMSON COUNTY, TEXAS
P.O.B.	POINT OF BEGINNING
R-O-W	RIGHT OF WAY

STATE OF TEXAS
REGISTERED
TOMMY P. WATKINS
4549
PROFESSIONAL
LAND SURVEYOR

REFERENCE IS HEREON MADE TO THE METES AND BOUNDS DESCRIPTION OF THIS TRACT ACCOMPANYING THIS SKETCH.

Cunningham|Allen
Engineers • Surveyors
FIRM REG: TBPE F-284; TBPLS 10000900

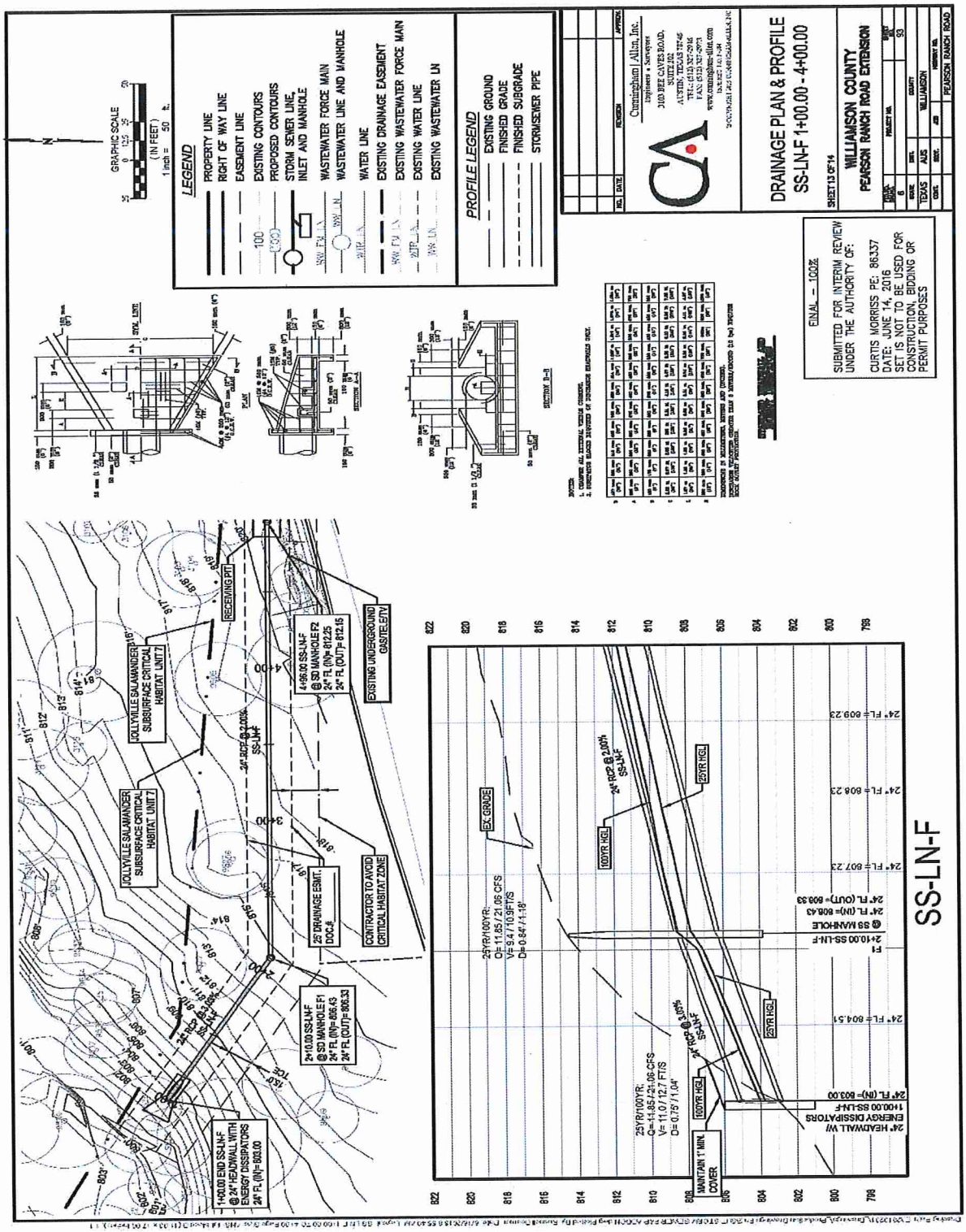
3103 Bee Cave Road
Suite 202
Austin, Texas 78746
Tel.: (512) 327-2946
Fax: (512) 327-2973

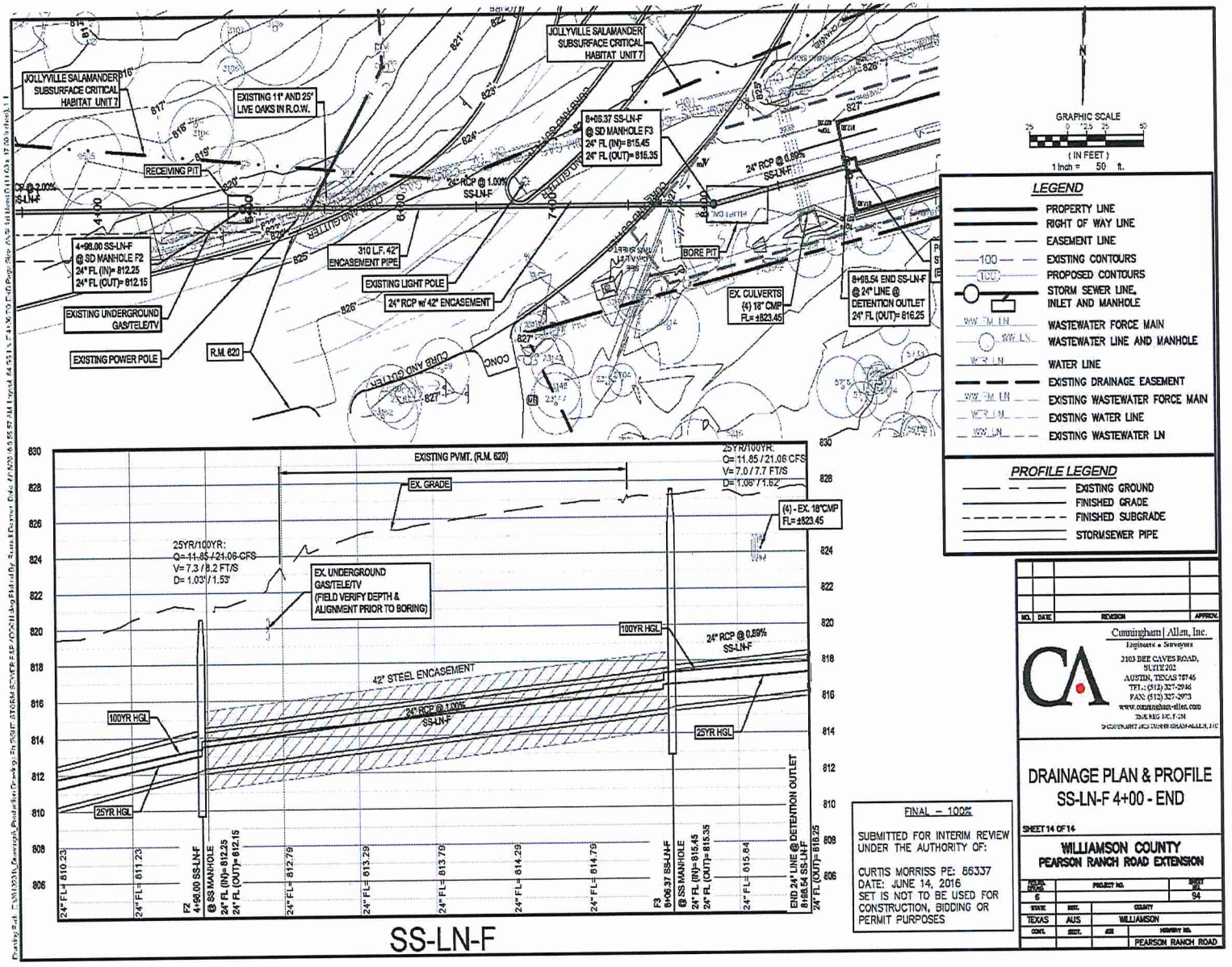
Drawing Path: S:\281\0201 Pearson RRL_Drawings\281\0201_ESMT_Drainage-Robinson Ranch.dwg Plotted By: Tom Watkins Date: 5/31/2016 8:13:05 AM Layout: SHT 3

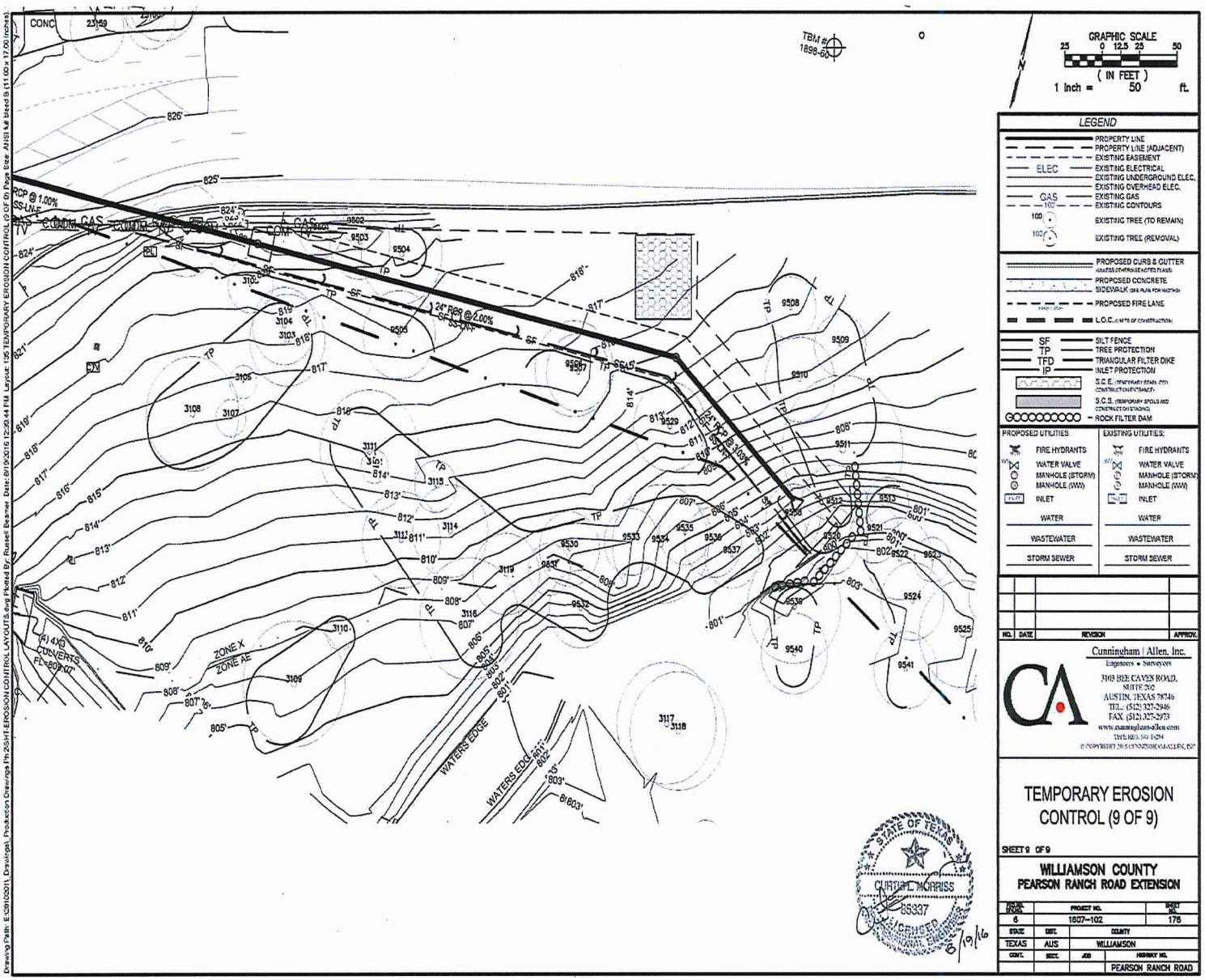
CLIENT:
DATE: 05/2016
CREW:
OFFICE: ii
F.B.:
PROJ #: 281.0201
FILE NAME:

COPYRIGHT 2016 CUNNINGHAM-ALLEN, INC.

EXHIBIT B


LEGEND
PROPERTY LINE
RIGHT OF WAY LINE
EASEMENT LINE
EXISTING CONTOURS
PROPOSED CONTOURS
STORM SEWER LINE, INLET AND MANHOLE
WASTEWATER FORCE MAIN
WASTEWATER LINE AND MANHOLE
WATER LINE
EXISTING DRAINAGE EASEMENT
EXISTING WASTEWATER FORCE MAIN
EXISTING WATER LINE
EXISTING WASTEWATER LN
PROFILE LEGEND
EXISTING GROUND
FINISHED GRADE
FINISHED SUBGRADE
STORM SEWER PIPE
GRAPHIC SCALE
(IN FEET)
1 inch = 50 ft.
DRAINAGE PLAN & PROFILE
SS-LN-F 1+00.00 - 4+00.00
SHEET 13 OF 14
WILLIAMSON COUNTY
PEARSON RANCH ROAD EXTENSION
Cunningham | Allen, Inc.
Engineers • Surveyors
3103 BEE CAVES ROAD, SUITE 202
AUSTIN, TEXAS 78746
TEL: (512) 327-2946
FAX: (512) 327-2973
www.cunninghamallen.com
FINAL – 100%
SUBMITTED FOR INTERIM REVIEW UNDER THE AUTHORITY OF:
CURTIS MORRISS PE: 86337
DATE: JUNE 14, 2016
SET IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES
JOLLYVILLE SALAMANDER SUBSURFACE CRITICAL HABITAT UNIT 7
REDEWING PIT
4+06.00 SS-LN-F
@ SD MANHOLE F2
24" FL (IN)= 812.25
24" FL (OUT)= 812.15
EXISTING UNDERGROUND GAS/TELE/TV
24" RCP @ 2.00%
SS-LN-F
25' DRAINAGE ESMT. DOC#
CONTRACTOR TO AVOID CRITICAL HABITAT ZONE
2+10.00 SS-LN-F
@ SD MANHOLE F1
24" FL (IN)= 806.43
24" FL (OUT)= 806.33
1+00.00 END SS-LN-F
@ 24" HEADWALL WITH ENERGY DISSIPATORS
24" FL (IN)= 803.00
EX. GRADE
25YR/100YR:
Q= 11.85 / 21.06 CFS
V= 9.4 / 10.9 FT/S
D= 0.94 / 1.18
100YR HGL
25YR HGL
24" FL= 809.23
24" FL= 808.23
24" FL= 807.23
24" FL= 806.33
24" FL (OUT)= 806.33
24" FL (IN)= 806.43
2+10.00 SS-LN-F
@ SS MANHOLE
24" FL= 804.51
24" FL (IN)= 803.00
1+00.00 SS-LN-F
24" HEADWALL W/ ENERGY DISSIPATORS
MAINTAIN 1' MIN. COVER
SS-LN-F


JOLLYVILLE SALAMANDER SUBSURFACE CRITICAL HABITAT UNIT 7
EXISTING 11" AND 25" LIVE OAKS IN R.O.W.
RECEIVING PIT
4+98.00 SS-LN-F @ SD MANHOLE F2 24" FL (IN)= 812.25 24" FL (OUT)= 812.15
EXISTING UNDERGROUND GAS/TELE/TV
EXISTING POWER POLE
R.M. 620
310 L.F. 42" ENCASEMENT PIPE
EXISTING LIGHT POLE
24" RCP w/ 42" ENCASEMENT
8+06.37 SS-LN-F @ SD MANHOLE F3 24" FL (IN)= 815.45 24" FL (OUT)= 816.35
24" RCP @ 1.00% SS-LN-F
24" RCP @ 0.69% SS-LN-F
BORE PIT
EX. CULVERTS (4) 18" CMP FL= ±823.45
8+68.54 END SS-LN-F @ 24" LINE @ DETENTION OUTLET 24" FL (OUT)= 816.25
CURB AND GUTTER
CONC
GRAPHIC SCALE
(IN FEET)
1 Inch = 50 ft.
LEGEND
PROPERTY LINE
RIGHT OF WAY LINE
EASEMENT LINE
EXISTING CONTOURS
PROPOSED CONTOURS
STORM SEWER LINE, INLET AND MANHOLE
WASTEWATER FORCE MAIN
WASTEWATER LINE AND MANHOLE
WATER LINE
EXISTING DRAINAGE EASEMENT
EXISTING WASTEWATER FORCE MAIN
EXISTING WATER LINE
EXISTING WASTEWATER LN
PROFILE LEGEND
EXISTING GROUND
FINISHED GRADE
FINISHED SUBGRADE
STORMSEWER PIPE
EXISTING PVMT. (R.M. 620)
EX. GRADE
25YR/100YR: Q=11.85 / 21.06 CFS V=7.0 / 7.7 FT/S D=1.06' / 1.62'
(4) - EX. 18"CMP FL=±823.45
25YR/100YR: Q=11.85 /21.06 CFS V=7.3 / 8.2 FT/S D= 1.03' / 1.53'
EX. UNDERGROUND GAS/TELE/TV (FIELD VERIFY DEPTH & ALIGNMENT PRIOR TO BORING)
100YR HGL
24" RCP @ 0.69% SS-LN-F
42" STEEL ENCASEMENT
24" RCP @ 1.00% SS-LN-F
25YR HGL
24" FL= 810.23
24" FL= 811.23
F2 4+98.00 SS-LN-F @ SS MANHOLE 24" FL (IN)= 812.25 24" FL (OUT)= 812.15
24" FL= 812.79
24" FL= 813.29
24" FL= 813.79
24" FL= 814.29
24" FL= 814.79
F3 8+06.37 SS-LN-F @ SS MANHOLE 24" FL (IN)= 815.45 24" FL (OUT)= 815.35
24" FL= 815.84
END 24" LINE @ DETENTION OUTLET 8+68.54 SS-LN-F 24" FL (OUT)= 816.25
SS-LN-F
FINAL – 100%
SUBMITTED FOR INTERIM REVIEW UNDER THE AUTHORITY OF:
CURTIS MORRISS PE: 86337
DATE: JUNE 14, 2016
SET IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES
NO. DATE REVISION APPROV.
Cunningham | Allen, Inc.
Engineers • Surveyors
3103 BEE CAVES ROAD, SUITE 203
AUSTIN, TEXAS 78746
TEL: (512) 327-2946
FAX: (512) 327-2973
www.cunninghamallen.com
DRAINAGE PLAN & PROFILE
SS-LN-F 4+00 - END
SHEET 14 OF 14
WILLIAMSON COUNTY
PEARSON RANCH ROAD EXTENSION
PROJECT NO. 6
SHEET NO. 94
STATE TEXAS
DIST. AUS
COUNTY WILLIAMSON
CONT. SECT. JOB HIGHWAY NO. PEARSON RANCH ROAD


GRAPHIC SCALE
25 0 12.5 25 50
(IN FEET)
1 inch = 50 ft.
LEGEND
PROPERTY LINE
PROPERTY LINE (ADJACENT)
EXISTING EASEMENT
ELEC EXISTING ELECTRICAL
EXISTING UNDERGROUND ELEC.
EXISTING OVERHEAD ELEC.
GAS EXISTING GAS
EXISTING CONTOURS
EXISTING TREE (TO REMAIN)
EXISTING TREE (REMOVAL)
PROPOSED CURB & GUTTER
PROPOSED CONCRETE SIDEWALK
PROPOSED FIRE LANE
L.O.C.
SF SILT FENCE
TP TREE PROTECTION
TFD TRIANGULAR FILTER DIKE
IP INLET PROTECTION
S.C.S.
S.C.S.
ROCK FILTER DAM
PROPOSED UTILITIES:
FIRE HYDRANTS
WATER VALVE
MANHOLE (STORM)
MANHOLE (WW)
INLET
WATER
WASTEWATER
STORM SEWER
EXISTING UTILITIES:
FIRE HYDRANTS
WATER VALVE
MANHOLE (STORM)
MANHOLE (WW)
INLET
WATER
WASTEWATER
STORM SEWER
NO. DATE REVISION APPROV.
Cunningham | Allen, Inc.
Engineers • Surveyors
3103 BEE CAVES ROAD, SUITE 202
AUSTIN, TEXAS 78746
TEL.: (512) 327-2946
FAX: (512) 327-2973
www.cunningham-allen.com
TBPE REG. NO. F-284
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TEMPORARY EROSION CONTROL (9 OF 9)
SHEET 9 OF 9
WILLIAMSON COUNTY
PEARSON RANCH ROAD EXTENSION
FED. ROAD: 6
PROJECT NO.: 1607-102
SHEET NO.: 176
STATE: TEXAS
DIST.: AUS
COUNTY: WILLIAMSON
CONT. SECT. JOB HIGHWAY NO.: PEARSON RANCH ROAD
STATE OF TEXAS
CURTIS L. MORRISS
88337
LICENSED PROFESSIONAL ENGINEER
6/19/16
TBM #1898-60
RCP @ 1.00% SS-LINE
24" RCP @ 2.00% SS-LINE
ZONE X
ZONE AE
(4) 4'X6' CONVERTS. FL=809.07'
WATERS EDGE
WATERS EDGE
Drawing Path: E:\2016\0011\Drawings\Production Drawings\Pearson Ranch Ext EROSION CONTROL LAYOUT 9.dwg Plotted By: Russell Beamer Date: 6/19/2016 12:20:44 PM Layout: 195 TEMPORARY EROSION CONTROL (9 OF 9) Page Size: ANSI full Bleed B (11.00 x 17.00 inches)

TREE LIST	
TAG #	Description
1590	* 10" LIVE OAK
1592	* 11" LIVE OAK (M)
1594	* 10" LIVE OAK
1595	* 9" LIVE OAK
1596	* 17" LIVE OAK (M)
1597	* 9" LIVE OAK
1598	* 8" LIVE OAK
1599	* 12" LIVE OAK (M)
1600	* 10" LIVE OAK (M)
1601	* 12" LIVE OAK (M)
1602	* 9" LIVE OAK (M)
1603	* 12" LIVE OAK (M)
1604	* 8" LIVE OAK
1605	* 14" LIVE OAK (M)
1606	* 16" LIVE OAK
1607	* 10" LIVE OAK
1608	* 8" LIVE OAK
1609	* 11" LIVE OAK (M)
1620	* 10" LIVE OAK
1622	* 8" LIVE OAK
1623	* 11" LIVE OAK
1624	* 22" LIVE OAK (M)
1625	* 12" LIVE OAK
1626	* 12" LIVE OAK
1627	* 10" LIVE OAK
1625	* 12" LIVE OAK
1629	* 11" LIVE OAK
1630	* 14" LIVE OAK
1631	* 12" LIVE OAK
1632	* 13" LIVE OAK

TREE LIST	
TAG #	Description
1635	* 17" LIVE OAK
2947	* 9" LIVE OAK
3086	* 14" CEDAR ELM
3087	* 14" CEDAR ELM
3245	* 14" CEDAR ELM
3246	* 15" LIVE OAK
3272	* 13" LIVE OAK
3273	* 11" LIVE OAK
3278	* 13" CEDAR ELM
3295	* 14" CEDAR ELM
3316	* 11" LIVE OAK
3317	* 14" CEDAR ELM
3318	* 12" CEDAR ELM
3319	* 11" CEDAR ELM
3320	* 16" LIVE OAK
3325	* 14" LIVE OAK
3340	* 15" CEDAR ELM
3348	* 14" LIVE OAK
3350	* 9" LIVE OAK
3351	* 15" LIVE OAK

TREE LIST	
TAG #	Description
7138	* 15" LIVE OAK
7139	* 9" LIVE OAK
7140	* 13" LIVE OAK
7141	* 9" LIVE OAK
7148	* 20" LIVE OAK
7152	* 12" LIVE OAK
7153	* 14" LIVE OAK
7156	* 18" LIVE OAK (M)
7157	* 9" LIVE OAK
7158	* 10" LIVE OAK
7159	* 14" LIVE OAK
7160	* 10" LIVE OAK
7161	* 12" LIVE OAK
7162	* 19" LIVE OAK (M)
7163	* 22" LIVE OAK (M)
7164	* 10" LIVE OAK
7165	* 9" LIVE OAK
7188	* 9" LIVE OAK
7190	* 9" LIVE OAK
7174	* 9" LIVE OAK

TREE LIST	
TAG #	Description
7180	* 27" LIVE OAK (M)
7181	* 9" LIVE OAK
7182	* 18" LIVE OAK (M)
7183	* 20" LIVE OAK (M)
7184	* 14" LIVE OAK (M)
7185	* 9" LIVE OAK
7186	* 15" LIVE OAK (M)
7187	* 20" LIVE OAK
7188	* 9" LIVE OAK
7189	* 11" LIVE OAK (M)
7190	* 11" LIVE OAK (M)
7191	* 11" LIVE OAK
7192	* 14" LIVE OAK
7193	* 13" LIVE OAK (M)
7194	* 13" LIVE OAK (M)
7195	* 13" LIVE OAK
7196	* 8" LIVE OAK
7197	* 17" LIVE OAK (M)
7198	* 22" LIVE OAK (M)
7199	* 25" LIVE OAK (M)

TREE LIST	
TAG #	Description
72109	* 15" LIVE OAK
72110	* 17" LIVE OAK (M)
72111	* 15" LIVE OAK
72115	* 9" CEDAR ELM
72124	* 8" CEDAR ELM
72125	* 8" CEDAR ELM
72126	* 10" CEDAR ELM

TREE LIST	
TAG #	Description
7177	* 12" LIVE OAK
7178	* 16" LIVE OAK
7197	* 16" LIVE OAK
7195	* 12" LIVE OAK
7189	* 14" LIVE OAK
7200	* 12" LIVE OAK

TREE LIST	
TAG #	Description
3452	* 8" LIVE OAK
3453	* 9" LIVE OAK
3454	* 11" LIVE OAK
3455	* 12" LIVE OAK
3456	* 11" LIVE OAK
3457	* 14" LIVE OAK
3458	* 11" CEDAR ELM
3573	* 14" LIVE OAK
3371	* 11" LIVE OAK
3418	* 8" CEDAR ELM
3417	* 12" LIVE OAK
3418	* 9" LIVE OAK
3419	* 14" LIVE OAK
3420	* 12" LIVE OAK
3421	* 20" LIVE OAK
3422	* 16" LIVE OAK
3423	* 9" LIVE OAK
5251	* 25" LIVE OAK
5252	* 21" LIVE OAK
5254	* 18" LIVE OAK

TREE LIST	
TAG #	Description
6548	* 8" LIVE OAK
6549	* 10" LIVE OAK
6550	* 8" LIVE OAK
5551	* 11" LIVE OAK
5552	* 13" LIVE OAK
6553	* 10" LIVE OAK
5554	* 10" LIVE OAK
5555	* 10" LIVE OAK
5556	* 9" LIVE OAK
7115	* 9" LIVE OAK (M)
7115	* 9" LIVE OAK (M)
7119	* 8" LIVE OAK
7121	* 8" LIVE OAK
7122	* 8" LIVE OAK
7123	* 13" LIVE OAK (M)
7133	* 25" LIVE OAK (M)
7134	* 10" LIVE OAK
7135	* 18" LIVE OAK (M)
7136	* 23" LIVE OAK (M)
7137	* 8" LIVE OAK

TREE LIST	
TAG #	Description
5209	* 35" LIVE OAK
5212	* 20" LIVE OAK
5213	* 20" LIVE OAK
5681	* 10" LIVE OAK
5702	* 13" LIVE OAK
5703	* 15" LIVE OAK
5722	* 8" LIVE OAK
5723	* 10" LIVE OAK
5725	* 9" LIVE OAK
5726	* 11" LIVE OAK
5727	* 9" LIVE OAK
5728	* 9" LIVE OAK
5732	* 9" LIVE OAK
5738	* 12" LIVE OAK
5739	* 8" LIVE OAK
5740	* 10" LIVE OAK
5741	* 10" LIVE OAK
5742	* 9" LIVE OAK
72125	* 8" ELM
72133	* 11" LIVE OAK

TREE LIST	
TAG #	Description
72134	* 11" LIVE OAK
72139	* 10" LIVE OAK

* TREES TO BE REMOVED

NO.	DATE	REVISION	APPROV.

Cunningham | Allen, Inc.
Engineers • Surveyors
3103 HEE CANYON ROAD, SUITE 230
AUSTIN, TEXAS 78746
TEL: (512) 327-2946
FAX: (512) 327-2973
www.cunningham-allen.com
FIRM REG. NO. 9044

TREE LIST

SHEET 1 OF 1

WILLIAMSON COUNTY
PEARSON RANCH ROAD EXTENSION

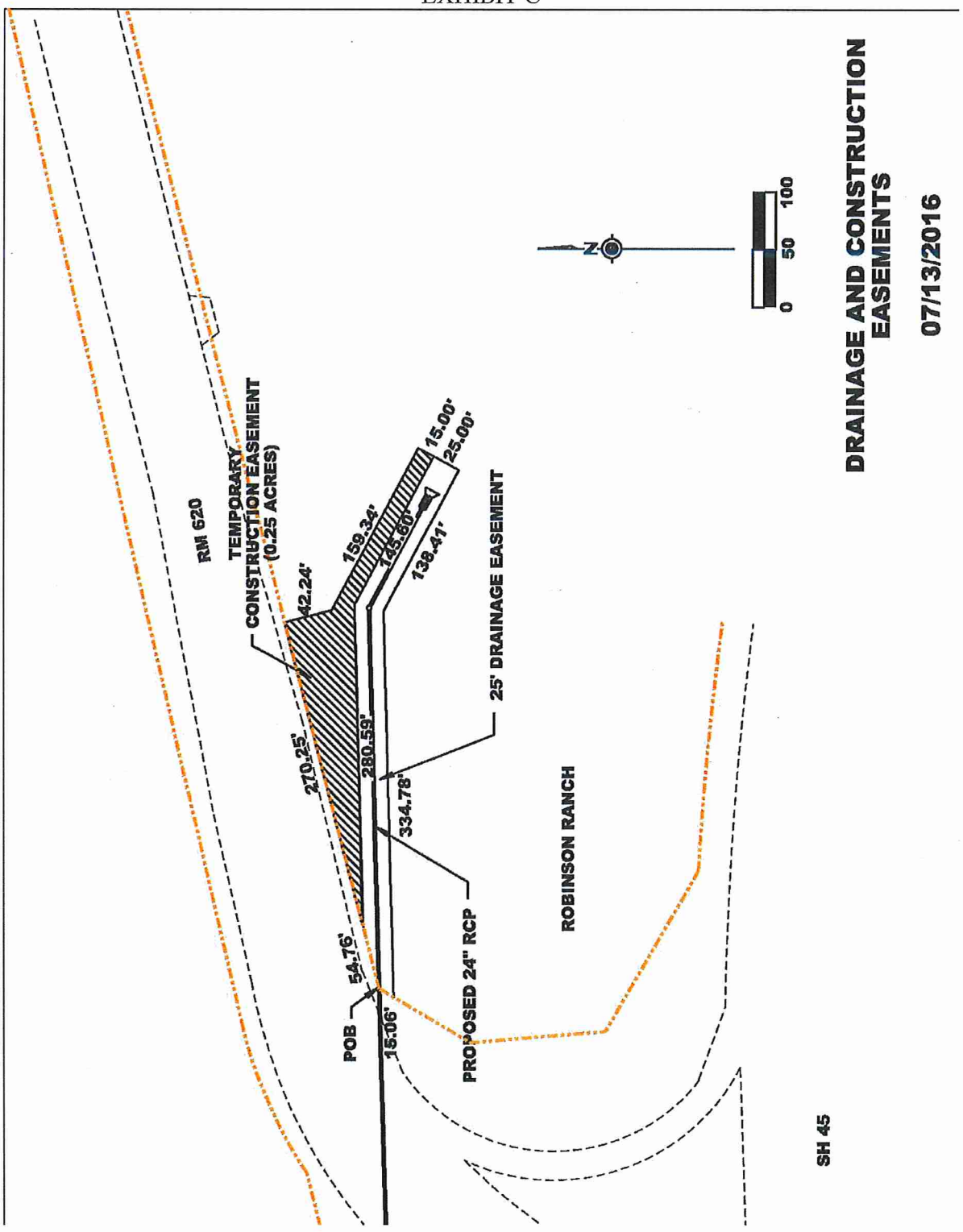
PROJECT NO.	SHEET NO.
1607-102	17a

STATE	DIST.	COUNTY
TEXAS	AUS	WILLIAMSON

CONT.	SECT.	JOB	HIGHWAY NO.
			PEARSON RANCH ROAD

Drawing Path: E:\2016\001\Preliminary\Predetailed Drawings\Pr_2\SHEET\EROSION CONTROL LAYOUTS.dwg Plotted By: Russell Bearmor Date: 8/19/2016 12:40:17 PM Layout: TREE LIST Page Size: ANSI full bleed B (11.00 x 17.00 Inches) 1:1

EXHIBIT C


DRAINAGE AND CONSTRUCTION EASEMENTS
07/13/2016
N
0
50
100
RM 620
TEMPORARY CONSTRUCTION EASEMENT (0.25 ACRES)
42.24'
159.34'
145.60'
138.41'
15.00'
25.00'
270.25'
280.59'
334.78'
25' DRAINAGE EASEMENT
54.76'
POB
15.06'
PROPOSED 24" RCP
ROBINSON RANCH
SH 45

Commissioners Court - Regular Session **28.**

Meeting Date: 03/07/2017

Interlocal Agreement

Submitted For: Charlie Crossfield **Submitted By:** Charlie Crossfield, Road Bond

Department: Road Bond

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on an Interlocal Agreement between Williamson County and the City of Jarrell, Texas regarding the Sharing of Costs to Design and Construct Certain Sections of Ronald Reagan Blvd and CR 305.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

City of Jarrell ILA

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 10:22 AM
Form Started By: Charlie Crossfield		Started On: 03/02/2017 09:49 AM
Final Approval Date: 03/02/2017		

INTERLOCAL AGREEMENT BETWEEN WILLIAMSON COUNTY AND THE CITY OF JARRELL, TEXAS REGARDING THE SHARING OF COSTS TO DESIGN AND CONSTRUCT CERTAIN SECTIONS OF RONALD REAGAN BOULEVARD AND COUNTY ROAD 305

THIS INTERLOCAL AGREEMENT is made and entered into effective this _____ day of _____, 2017, by and between WILLIAMSON COUNTY (the "County") and the CITY OF JARRELL, TEXAS (the "City") , political subdivisions of the State of Texas.

WITNESSETH:

WHEREAS, V.T.C.A., Government Code, Chapter 791, the Texas Interlocal Cooperation Act, provides that any one or more public agencies may contract with each other for the performance of governmental functions or services for the promotion and protection of the health and welfare of the inhabitants of this State and the mutual benefit of the parties; and

WHEREAS, the City and the County are interested in sharing the costs for the design and construction of certain sections of Ronald Reagan Boulevard at IH 35 and County Road 305 at IH 35 (collectively referred to herein as the "Projects"), as shown on Exhibits "A" and "B", attached hereto and incorporated herein; and

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the undersigned parties agree as follows:

I.

FINDINGS

1. **Recitals.** The recitals set forth above are incorporated herein for all purposes and are found by the parties to be true and correct. It is further found and determined that the City and the County have authorized and approved this Agreement by resolution or order adopted by their respective bodies, and that this agreement will be in full force and effect when approved by each party.

2. **Projects Definition.** The Projects shall be the design and construction of certain sections of the Ronald Reagan Boulevard at IH 35 ("Reagan Project") and County Road 305 at IH 35 ("CR 305 Project"), within the city limits of Jarrell, said sections being as shown on Exhibits "A" and "B",

respectively. The Projects are to be constructed by the Texas Department of Transportation ("TxDOT") pending the availability of funding.

3. **County Obligations.** The County agrees to be solely responsible for the design of the Projects. Except the City's Contribution, as stated below, the County will be solely responsible for the payment of all costs related to the design, acquisition of right-of-way, and relocation of utilities not owned by the City.

4. **City Obligations.** The City will pay to the County the sum of $60,000.00 for the Reagan Project and $60,000.00 for the CR305 Project, for a total contribution of $120,000.00 towards the cost of the Projects ("City's Contribution").

5. **City Payments**. The City shall remit to the County all payments agreed to as stated above within ten (10) days of County sending written request, which shall occur before contracts for the Projects are awarded.

6. **Ownership of Work**. The City agrees to allow the County to construct the Projects within the City limits. The City agrees to continue to be responsible for the operation and maintenance of the Projects after completion.

II.

Miscellaneous

1. **Prior Written Agreements.** This Agreement is without regard to any and all prior written contracts or agreements between the City and Williamson County regarding any other subject or matter, and does not modify, amend, ratify, confirm or renew any such other prior contract or agreement between the Parties.

2. **Other Services.** Nothing in this Agreement shall be deemed to create, by implication or otherwise, any duty or responsibility of either of the Parties to undertake or not to undertake any other, or to provide or to not provide any service, except as specifically set forth in this Agreement or in a separate written instrument executed by both Parties. The County shall not be obligated to fund any additional monies other than as stated herein.

3. **Governmental Immunity.** Nothing in this Agreement shall be deemed to waive, modify or amend any legal defense available at law or in equity to either of the Parties nor to create any legal rights or claim on behalf of any third party. Neither the City nor Williamson County waives, modifies, or alters to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

4. **Amendments and Modifications.** This Agreement may not be amended or modified except in writing executed by both the City and Williamson County, and authorized by their respective governing bodies.

5. **Severability.** If any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof, but rather this entire Agreement will be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligation of the Parties shall be construed and enforced in accordance therewith. The Parties acknowledge that if any provision of this Agreement is determined to be invalid or unenforceable, it is their desire and intention that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, to give effect to the intent of this Agreement and be deemed to be validated and enforceable.

6. **Gender, Number and Headings.** Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Agreement.

7. **Execution in Counterparts.** This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall be considered fully executed as of the date above first written, when all parties have executed an identical counterpart, notwithstanding that all signatures may not appear on the same counterpart.

8. **Authorization.** The City and the County have authorized and approved this Agreement by resolution or order adopted by their respective bodies, and this agreement will be in full force and effect when approved by each party.

9. **Notice.** Any notices given under this Agreement will be effective if (i) forwarded to a Party by hand-delivery; (ii) transmitted to a Party by confirmed telecopy; or (iii) deposited with the U.S. Postal Service, postage prepaid, certified, to the address of the Party indicated below:

COUNTY:	Williamson County 710 Main Street, Suite 101 Georgetown, Texas 78626 Attn: Judge Dan Gattis Telephone: (512) 943-1577
CITY:	City of Jarrell 161 Town Center Blvd. Jarrell, Texas 765374 Attn: City Manager Telephone: (512) 746.4593

IN WITNESS WHEREOF, the Parties have executed and attested this Agreement by their officers thereunto duly authorized.

WILLIAMSON COUNTY

By: _____
Dan A. Gattis, County Judge
Williamson County, Texas

CITY OF JARRELL, TEXAS

By: _____
Larry Bush, Mayor

Commissioners Court - Regular Session **29.**

Meeting Date: 03/07/2017

DA Increase

Submitted By: Tara Raymore, Human Resources

Department: Human Resources

Agenda Category: Regular Agenda Items

Information

Agenda Item

10:00 Conduct public hearing relating to a request from the District Attorney's Office to increase the budgeted salary amount for the position of Intake Division Chief, Position #1789 , in the District Attorney's Office and discuss (1) the reason for the payment in excess of the budgeted amount is being offered to the employee, including the public purpose that will be served by making the excess payment; and (2) the exact amount of the excess payment, the sources of the payment, and the terms for distribution of the payment that effect and maintain the public purpose to be served by making the excess payment.

Background

This is a request by the District Attorney to increase the salary of this position.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:41 AM
Form Started By: Tara Raymore		Started On: 03/02/2017 11:20 AM
Final Approval Date: 03/02/2017		

Commissioners Court - Regular Session **30.**

Meeting Date: 03/07/2017

DA Increase

Submitted By: Tara Raymore, Human Resources

Department: Human Resources

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a request by the District Attorney's Office to increase the budgeted salary amount for the position of Intake Division Chief, position # 1789, in the District Attorney's Office from the budgeted annual salary amount of $93,505.10 to the increased salary amount of $100,831.12.

Background

The District Attorney is requesting a pay increase for this position.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:41 AM
Form Started By: Tara Raymore		Started On: 03/02/2017 11:32 AM
Final Approval Date: 03/02/2017		

Commissioners Court - Regular Session **31.**

Meeting Date: 03/07/2017

DA New Position Request

Submitted By: Ashlie Koenig, Budget Office

Department: Budget Office

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a new position request (Discovery Clerk) for the District Attorney's Office.

Background

Please see attached.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

DA Emerg Request

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:09 AM
Form Started By: Ashlie Koenig		Started On: 03/02/2017 10:53 AM
Final Approval Date: 03/02/2017		

SALARY INCREASES FOR THREE POSITIONS:

	PCN	Current	Requested	Start Date	Difference	Prorated 1/2 year
B40	1319	$93,505.01	$100,831.12	2/1/2017	$7,326.11	$3,663.06
B37	71	$80,665.09	$100,831.36	3/1/2017	$20,166.27	$10,083.14
B36	1321	$76,789.46	$85,000.00	4/1/2017	$8,210.54	$4,105.27
					$35,702.92	$17,851.46
					FICA	$1,365.64
					RETIREMENT	$2,386.74
				Total requested for Salary Increases		**$21,603.84**

NEW POSITION REQUEST:

			Unallocated	Total		Prorated 1/2 year
B18	Discovery Clerk	$ 31,521.23	$ 7,879.77	$ 39,401.00	$	19,700.50
				FICA	$	1,507.09
Bottom of the grade is $31,521.23; requesting additional unallocated				RETIREMENT	$	2,633.96
to bring this salary up to $39,401				INSURANCE	$	4,260.00
			Total Requested for New Position		**$**	**28,101.55**

OVERTIME REQUEST:

Requesting Overtime Monies to work three investigators 8 hours every weekend between now and September 30th
If approved a transfer would be made from unallocated law enforcements salaries to the overtime line item

Total Requested for Overtime **$** -

TOTAL FUNDING REQUEST FROM COURT: **$49,705.39**

Commissioners Court - Regular Session **32.**

Meeting Date: 03/07/2017

Overtime Request for DA Investigators

Submitted By: Ashlie Koenig, Budget Office

Department: Budget Office

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a request to move District Attorney Law Enforcement Unallocated to the Overtime Line to facilitate overtime for the investigators to work a backlog of cases/files.

Background

See attached.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

DA Emerg Request

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:09 AM
Form Started By: Ashlie Koenig		Started On: 03/02/2017 10:55 AM
Final Approval Date: 03/02/2017		

SALARY INCREASES FOR THREE POSITIONS:

	PCN	Current	Requested	Start Date	Difference	Prorated 1/2 year
B40	1319	$93,505.01	$100,831.12	2/1/2017	$7,326.11	$3,663.06
B37	71	$80,665.09	$100,831.36	3/1/2017	$20,166.27	$10,083.14
B36	1321	$76,789.46	$85,000.00	4/1/2017	$8,210.54	$4,105.27
					$35,702.92	$17,851.46
					FICA	$1,365.64
					RETIREMENT	$2,386.74
				Total requested for Salary Increases		**$21,603.84**

NEW POSITION REQUEST:

			Unallocated	Total		Prorated 1/2 year
B18	Discovery Clerk	$ 31,521.23	$ 7,879.77	$ 39,401.00	$	19,700.50
				FICA	$	1,507.09
Bottom of the grade is $31,521.23; requesting additional unallocated				RETIREMENT	$	2,633.96
to bring this salary up to $39,401				INSURANCE	$	4,260.00
			Total Requested for New Position		**$**	**28,101.55**

OVERTIME REQUEST:

Requesting Overtime Monies to work three investigators 8 hours every weekend between now and September 30th
If approved a transfer would be made from unallocated law enforcements salaries to the overtime line item

Total Requested for Overtime **$** -

TOTAL FUNDING REQUEST FROM COURT: **$49,705.39**

Commissioners Court - Regular Session **33.**

Meeting Date: 03/07/2017

DA Salary Increase for three new positions

Submitted By: Ashlie Koenig, Budget Office

Department: Budget Office

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a request from the District Attorney to increase the annual salary on three new positions.

Background

See attached.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

DA Emerg Request

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:09 AM
Form Started By: Ashlie Koenig		Started On: 03/02/2017 10:58 AM
Final Approval Date: 03/02/2017		

SALARY INCREASES FOR THREE POSITIONS:

	PCN	Current	Requested	Start Date	Difference	Prorated 1/2 year
B40	1319	$93,505.01	$100,831.12	2/1/2017	$7,326.11	$3,663.06
B37	71	$80,665.09	$100,831.36	3/1/2017	$20,166.27	$10,083.14
B36	1321	$76,789.46	$85,000.00	4/1/2017	$8,210.54	$4,105.27
					$35,702.92	$17,851.46
					FICA	$1,365.64
					RETIREMENT	$2,386.74
				Total requested for Salary Increases		**$21,603.84**

NEW POSITION REQUEST:

			Unallocated	Total		Prorated 1/2 year
B18	Discovery Clerk	$ 31,521.23	$ 7,879.77	$ 39,401.00	$	19,700.50
				FICA	$	1,507.09
Bottom of the grade is $31,521.23; requesting additional unallocated				RETIREMENT	$	2,633.96
to bring this salary up to $39,401				INSURANCE	$	4,260.00
			Total Requested for New Position		**$**	**28,101.55**

OVERTIME REQUEST:

Requesting Overtime Monies to work three investigators 8 hours every weekend between now and September 30th
If approved a transfer would be made from unallocated law enforcements salaries to the overtime line item

Total Requested for Overtime **$** -

TOTAL FUNDING REQUEST FROM COURT: **$49,705.39**

Commissioners Court - Regular Session **34.**

Meeting Date: 03/07/2017

CARTS

Submitted For: Dan Gattis **Submitted By:** Rebecca Clemons, County Judge

Department: County Judge

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider, and take appropriate action on appointing a member of the Commissioners Court to serve as a representative on the Capital Areal Rural Transportation System Board.

Background

Williamson County currently contributes $10,000 to this organization.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst. (Originator)	Wendy Coco	03/01/2017 11:24 AM
Form Started By: Rebecca Clemons		Started On: 03/01/2017 10:25 AM
Final Approval Date: 03/01/2017		

Commissioners Court - Regular Session **35.**

Meeting Date: 03/07/2017

ESD 11

Submitted For: Cynthia Long **Submitted By:** Kathy Pierce, Commissioner Pct. #2

Department: Commissioner Pct. #2

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on appointing Barbara G. Keese to Place 5 of the Emergency Services District (ESD) #11 Board of Directors to complete a two year term that began on January 1, 2015 and ending on December 31, 2018.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Keese Resume

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 10:22 AM
Form Started By: Kathy Pierce		Started On: 03/02/2017 08:33 AM
Final Approval Date: 03/02/2017		

Barbara G. Keese

1516 Shenandoah Drive • Cedar Park, TX 78613 • (512) 636-7168 • bkeese@austin.rr.com

Professional Summary

Known for developing, creating, organizing work places that are conducive to development. Recognized for being a team player and willingness to try new ideas and approaches. Key skills include:

Curriculum Writing	Train-the-Trainer	Public Speaking
Employee Training	Administration	Recruitment/Staffing
Customer Relationships	Event Planning	Policies & Procedures

Career Highlights

Project Management

Evaluated the contents of textbooks by multiple publishers and analyzed their coordination to specific information and compliance with state standards. **Results:** School districts throughout the state were able to identify textbooks for use by their history departments that were aligned to state standards thus obtaining materials that were best suited to their particular students' needs.

Set-up, arranged and established computer system for business. This included the purchasing of hardware and software, attendance at training on new acquisitions and instruction of use for peers in the use of new computer system. **Results:** Updating of accounting system as well as incorporation of word processing and databases for small business increasing efficiency and accuracy.

Supervised and managed clinic. My tasks included, but were not limited to, the scheduling of staff and clients, ensuring good customer relations, supporting staff, and the hiring and firing of employees. **Results:** Increased satisfaction among staff and clients increasing client volume.

Curriculum Design

Created and wrote curriculum for multiple grade levels. **Results:** Curriculum aligned to Common Core and State standards. Assessments were created to include rigor and higher level thinking.

Collaborative Material Development/Implementation

Served on teams that organized and wrote documentation for the accreditation of institutions by multiple accrediting bodies. My specific duties included the gathering of written materials and interviewing of colleagues/users and producing pertinent, comprehensive materials and information that met or exceeded expectations of supervisors and reviewers. **Results:** Every institution has received high praise from reviewers and has received accreditation.

Training/Instruction

Instructed and trained users of newly acquired software. Instructions included not only the actual operation of the application but also what procedures and routines to follow in order to produce reliable, accurate and timely materials for management. **Results**: Efficient grading software and parent notification.

Train-the-Trainer

Created and implemented training for teachers. **Results:** Training clarified needs of students and demystified approaches to, and dealings with gifted students and students with unidentified learning styles.

Assessment/Performance Appraisal

Assessed individual needs and established development plans for success as well as customizing curriculum for different types and ages of learners. Issues addressed were learning styles, language proficiency, learning abilities, time devoted to learning, and achievable outcomes. **Results:** Improved learning climate, support of supervisors and colleagues.

Work Experience

Curriculum Writer

AESA, Austin, TX (June 2016-Sept 2016)

Created and developed several high school courses for use with the school's on-line, international school. These courses included United States History, American Government. Each class, aligned to national standards, included content, videos, a writing component, and assessment materials.

Lincoln Learning Solutions, Rochester, PA (Sept 2014-October 2015)
Created and developed African-American and U.S. History on-line courses for high school grades 11-12. Curriculum aligned to national standards. Course included content, lesson checkups and unit assessments.

Tango Software, Austin, TX (2014-2015)
Created and developed assessment items that aligned with TEKS for various grades and topics of history.

Accelerate Education, Seattle, WA (2012-2014)
Created and developed assessment items for World History on-line course. Adhered to state and national standards.

Words and Numbers, Baltimore, MD (2012-2013)
Created and developed curriculum for middle school World History on-line course. Adhered to state and national standards. Included variety of interactive activities and assessments.

Joseph and Susanne Dickinson Hannig Museum, Austin, TX (2011-12)
Created curriculum used with a traveling exhibit available to K-12 teachers and students. Materials included primary sources and a PowerPoint presentation.

Briscoe Center for American History, The University of Texas at Austin (2009)
Collaborated in the writing of curriculum used by K-12 teachers and students using primary source documents, images and artifacts from the Center's extensive collection. Communicated with educators concerning resources available for classroom learning experiences. Used various software applications including PowerPoint, Fireworks, and iWork. Member of technology team tasked with updating design of Center's website including the adaptation of educational materials to be accessible on Center's website.

Secondary Teacher
Renaissance Academy, Austin, TX (2013-2014) Grades 6-11
Round Rock Christian Academy, Round Rock, TX (1999-2007) Grades 6-11
Hopewell Middle School, Round Rock, TX (1998-1999) Grade 6
O'Henry Middle School, Austin, TX (1994-1998) Grade 7
Taught history to regular and honor classes as well as Advanced Placement U.S. and World History classes. Developed curriculum for these classes. Mentored teachers. Led in-service professional development. Assessed students' performance. Served on State of Texas and local school textbook adoption committees.

Interim Vice President of Administration and Student Services
Texas College of Traditional Chinese Medicine, Austin, TX (2008-2009)
Managed facilities and services for the college and clinic. Oversaw hiring and training of staff. Managed continuing education program. Managed and contributed to writing of numerous handbooks and catalogs. Oversaw completion of documents for accreditation.

Adjunct Professor
University of Phoenix, Austin, TX (2004-2006)
Taught online courses in synchronized classroom. Provided lectures as well as feedback to students. Graded hands-on assessments.

Education

M.Ed., Curriculum and Development/Secondary Education, Southwest Texas State University (San Marcos, TX)
Bachelor of Liberal Studies in History, St. Edward's University (Austin, TX)
Texas Teaching Certificate: History Grades: 6-12
Gifted and Talented Education Grades: 6-12

Volunteering Opportunities

- Commissioner, City of Round Rock Historic Preservation Commission 2014-2016
- Board of Directors for Austin ACCESS to Learning, Inc. Chair of Summer Institute 2010-2012
- Curriculum writing for the Joseph and Susanna Dickinson-Hannig Museum, Austin, TX 2011-2012
- State of Texas Textbook Adoption Committee 2005
- ACSI-School Certification Team member 2004-2005
-

Commissioners Court - Regular Session **36.**

Meeting Date: 03/07/2017

Veterans Treatment Court

Submitted For: Cynthia Long **Submitted By:** Kathy Pierce, Commissioner Pct. #2

Department: Commissioner Pct. #2

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on approving two new grant funded part-time Court Coordinators to service the Veterans Court and DWI Court.

Background

This change is requested in order to create better efficiency of the Court Coordinator functions in the DWI and Veterans Courts. The duties were previously performed by one position and it has been determined that two part time positions will better meet the goals of the two Courts. The change will have no fiscal impact on the County, as the DWI and Veterans Treatment Court grants through the Governor's Office will continue to pay the court coordinators salary.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Court Coordinator Duties

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:10 AM
Form Started By: Kathy Pierce		Started On: 03/02/2017 10:18 AM
Final Approval Date: 03/02/2017		

Specialty Court Coordinator

- Work closely with project teams consisting of a Judge, Prosecutor, Defense Attorney and representatives from the VA, substance abuse treatment and Bluebonnet Trails MHMR
- Interview eligible applicants referred from the ACA to review/explain the program and its requirements
- Monitor and document candidate's application process and upon approval for admission into the program, schedule the plea in date with the CCL#2 Court Administrator• Establish and maintain effective working relationships with representatives of outside agencies, other county employees and officials, community outreach and other organizations, clinical and other social service providers and the public
- Conduct agency site visits
- Plan, organize and participate in special projects, including outreach efforts and public speaking
- Organize and arrange training opportunities for the project teams
- Participate in and network with the Texas Association of Specialty Courts and the National Association of Drug Court Professionals
- Compile statistical information and monitor grant condition compliance
- Research funding sources for program sustainability
- Coordinate and disseminate specialty court information
- Arrange for commencement ceremony refreshments and gifts

Commissioners Court - Regular Session **37.**

Meeting Date: 03/07/2017

HCL Agreement Extension

Submitted For: Cynthia Long **Submitted By:** Kathy Pierce, Commissioner Pct. #2

Department: Commissioner Pct. #2

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on a Second Amendment to Interlocal Agreement Between Williamson County, Texas and Bluebonnet Trails Community MHMR Center Regarding the Healthcarelink Project, which extends the term of the agreement until December 31, 2017.

Background

The second extension of the agreement with Bluebonnet Trails will continue the services of HealthCareLink, which is a DSRIP project operated under the Mobile Outreach Team, until December 31, 2017. Hal Hawes has reviewed the extension.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Agreement Extension

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:41 AM
Form Started By: Kathy Pierce		Started On: 03/02/2017 11:06 AM
Final Approval Date: 03/02/2017		

SECOND AMENDMENT TO INTERLOCAL AGREEMENT BETWEEN WILLIAMSON COUNTY, TEXAS AND BLUEBONNET TRAILS COMMUNITY MHMR CENTER d/b/a BLUEBONNET TRAILS COMMUNITY SERVICES REGARDING THE HEALTHCARELINK PROJECT

This Second Amendment to Interlocal Agreement Between Williamson County, Texas and Bluebonnet Trails Community MHMR Center Regarding the Healthcarelink Project ("Second Amendment") is entered into effective as of the date of the last party's execution hereof.

RECITALS

WHEREAS, Williamson County, Texas ("County") and Bluebonnet Trails Community MHMR Center d/b/a Bluebonnet Trails Community Services ("Bluebonnet") executed that certain agreement entitled Interlocal Agreement Between Williamson County, Texas and Bluebonnet Trails Community MHMR Center Regarding the HealthCareLink Project (the "Agreement"), which became effective as of July 2, 2013;

WHEREAS, County and Bluebonnet thereafter executed that certain First Amendment to Interlocal Agreement Between Williamson County, Texas and Bluebonnet Trails Community MHMR Center Regarding the HealthCareLink Project, which became effective as of September 23, 2016;

WHEREAS, the County and Bluebonnet would like to extend the term of the Agreement, thus, it has become necessary to amend the Agreement in order to effectuate such extension; and

NOW, THEREFORE, premises considered, County and Bluebonnet agree that the Agreement is amended as follows:

AGREEMENTS

1. County and Bluebonnet hereby agree to extend the term of the Agreement until December 31, 2017.

2. Each party represents and warrants that it has due power and lawful authority to execute and deliver this Second Amendment and to perform its obligations under the Agreement; and, furthermore, the Agreement and all prior amendments are the valid, binding and enforceable obligations of such party.

3. All other terms of the Agreement and any prior amendments thereto which have not been specifically amended herein shall remain the same and shall continue in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Second Amendment to be signed by their duly authorized representatives on behalf of such party, to be effective as of the date of the last party's execution hereof.

WILLIAMSON COUNTY, TEXAS:

By:_____
Dan A. Gattis, County Judge

_____ ____, 20___

BLUEBONNET TRAILS COMMUNITY MHMR CENTER d/b/a BLUEBONNET TRAILS COMMUNITY SERVICES:

By: Andrea Richardson
Signature

Andrea Richardson
Printed Name

Executive Director
Title

March 2, 2017
Date

SECOND AMENDMENT TO INTERLOCAL AGREEMENT BETWEEN WILLIAMSON COUNTY, TEXAS AND BLUEBONNET TRAILS COMMUNITY MHMR CENTER d/b/a BLUEBONNET TRAILS COMMUNITY SERVICES REGARDING THE HEALTHCARELINK PROJECT

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WILLIAMSON COUNTY, TEXAS:

By:_____
Dan A. Gattis, County Judge

_____ ____, 20___

BLUEBONNET TRAILS COMMUNITY MHMR CENTER d/b/a BLUEBONNET TRAILS COMMUNITY SERVICES:

By: Andrea Richardson
Signature

Andrea Richardson
Printed Name

Executive Director
Title

March 2, 2017
Date

SECOND AMENDMENT TO INTERLOCAL AGREEMENT BETWEEN WILLIAMSON COUNTY, TEXAS AND BLUEBONNET TRAILS COMMUNITY MHMR CENTER d/b/a BLUEBONNET TRAILS COMMUNITY SERVICES REGARDING THE HEALTHCARELINK PROJECT

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WILLIAMSON COUNTY, TEXAS:

By:_____
Dan A. Gattis, County Judge

_____ ____, 20___

BLUEBONNET TRAILS COMMUNITY MHMR CENTER d/b/a BLUEBONNET TRAILS COMMUNITY SERVICES:

By: Andrea Richardson
Signature

Andrea Richardson
Printed Name

Executive Director
Title

March 2, 2017
Date

Commissioners Court - Regular Session **38.**

Meeting Date: 03/07/2017

Process for citizen appointments to boards and commissions by Commissioners Court

Submitted For: Terry Cook **Submitted By:** Garry Brown, Commissioner Pct. #1

Department: Commissioner Pct. #1

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider, and take appropriate action on approving a process for citizen appointments made by the Williamson County Commissioners Court.

Background

The Central Texas Regional Mobility Authority's (CTRMA) mission to provide innovative, multi-modal transportation solutions to help combat traffic congestion, provide routes to affordable housing and provide a better quality of life for people throughout our region. This organization has the authority to issue bonds by resolution, impose tools and fees for their projects and manage the funds to, in theory, pay for the projects. They have primarily been the driving force behind toll road construction but bike and pedestrian trails and walkways have been included.

When the agenda items for appointments to the CTRMA were brought forward at the February 7, 2017 Williamson County Commissioners Court Session, I noted that there wasn't a process for for the Commissioners Court for these kind of citizen appointments. This is my proposal to make these appointments more transparent, to give the Court Members the ability to cast a wider net for the best candidates we can find, and for each Commissioner and the County Judge to vet the best of the best.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Process for citizen appointments by Court

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:09 AM
Form Started By: Garry Brown		Started On: 03/02/2017 10:30 AM
Final Approval Date: 03/02/2017		

Process for Citizen Appointments made by the Williamson County Commissioners Court

When an appointment to any board* must be made by the Williamson County Commissioners Court:

1. An open call for resumes with letters of interest (and an application if there is one) from interested persons will be announced officially by the Commissioners Court, along with a deadline of not less than one week from the initial open call for resumes to reach members of the Commissioners Court. The Williamson County Public Information Office will send out this notice to all media outlets covering the County.
2. When the initial Open Call is announced, a screening committee of no less than 3 people will also be announced.
3. The screening committee will consist of:
   - The Public Affairs Manager
   - one person from the county department with a knowledge base of said board
   - At least one other Williamson County employee, who is not an elected official.
4. The screening committee will recommend at least 2 and no more than 5 candidates to the Commissioners Court for interviews.
5. An open call must be made after a person has served for 2 consecutive terms, although that same person may reapply.

*Appointments to CAPCOG and ESD boards are exempt from this policy, except for #5.

Qualifications – and Disqualifications – of a Board Member

A member of the Board must be a resident of Williamson County, unless that board's bylaws state otherwise.

A member of the Board may ***not*** be:

1. An elected official, unless that board's bylaws state otherwise; or
2. An employee of a city or county located wholly or partly within the boundaries of a transportation-related board.

Moreover, a person is ***not*** eligible to serve on transportation-related board if the person or the person's spouse or (step-) child:

1. Is employed by or participates in the management of a business entity or other organization, other than a political subdivision, that is regulated by or receives money from TxDOT or a toll authority;
2. Owns or controls, directly or indirectly, more than a 10 percent interest in a business entity or other organization that is regulated by or receives money from TxDOT or a toll authority, other than compensation for acquisition of turnpike right-of-way;

3. Uses or receives a substantial amount of tangible goods, services, or money from TxDOT or a toll authority, other than compensation or reimbursement authorized by law for Board membership, attendance, or expenses, or for compensation for acquisition of turnpike right-of-way;
4. Is an officer, employee, or paid consultant of a Texas trade association in the field of road construction, maintenance, or operation; or
5. Is required to register as a lobbyist under Chapter 305, Government Code, because of the person's activities for compensation on behalf of a profession related to the operation of TxDOT or a toll authority.

Commissioners Court - Regular Session **39.**

Meeting Date: 03/07/2017

Grant Acceptance LEPC Grant Program

Submitted For: Jarred Thomas **Submitted By:** Cynthia Hood, Emergency Managemer

Department: Emergency Management

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider, and take appropriate action on the acceptance of a grant provided through the Texas Commission on Environmental Quality for the Williamson County Local Emergency Planning Committee (LEPC), administered by the Office of Emergency Management, in the amount of $84,388.23. The grant funds a 12 month position to analyze and plan for chemical emergencies and software to analyze threats and risk.

Background

Williamson County Office of Emergency Management has been awarded $84,388.23 in TCEQ/LEPC funding. This will help Williamson County meet federal mandates for hazardous materials facilities and LEPC planning requirements.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

TCEQ LEPC Grant

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/01/2017 03:21 PM
Form Started By: Cynthia Hood		Started On: 02/27/2017 11:55 AM
Final Approval Date: 03/01/2017		

Texas Commission on Environmental Quality (TCEQ)

Local Emergency Planning Committee (LEPC) Grant Program

CONTRACT SIGNATURE PAGE

Contract Name: Williamson County LEPC

Contract Number: 582-17-71565

Performing Party: Williamson County

Performing Party Identification Number: 17460009784

Maximum Authorized Reimbursement: $84,388.23

Effective Date: ☐ ☒ Date of last signature

Expiration Date: ☒ 12/31/2017 ☐ Last day of Fiscal Year in which the Contract was signed

☐ If checked, this Contract requires matching funds. Match Requirement:

☐ If checked, this Contract is funded with federal funds.

CFDA Number:
Federal Grant Number:

This Contract is entered under: ☐ Gov't Code ch. 771 ☐ Gov't Code ch. 791 ☒ Water Code § 5.124

The Texas Commission on Environmental Quality (TCEQ), an agency of the State of Texas, and the named Performing Party, agree as follows: (a) to be effective, the Contract must be signed by an authorized official of the TCEQ and the Performing Party; (b) this Contract consists of all documents specified in the list of Contract Documents following this page; and (c) TCEQ will reimburse Allowable Costs subject to the Texas Uniform Grant Management Standards (UGMS) and this Contract.

TCEQ

By: _____
Authorized Signature

Kelly Cook
Printed Name

Director, Critical Infrastructure Division
Title

_____
Date

_____
Procurements & Contracts Representative

Arthur L. French, CTCM, CTPM
Printed Name

_____
Date

Williamson County

By: _____
Authorized Signature

Dan A. Gattis
Printed Name

County Judge
Title

_____
Date

CONTRACT DOCUMENTS LIST

This Contract between TCEQ and the Performing Party consists of the Contract Documents listed on this page. Documents on this list include all amendments. In the event of a conflict of terms, the Contract Documents as amended control in the descending order of the list, subject to provisions in the Special Terms and Conditions, if any. All Contract provisions, however, are subject to control by the latest amendment and most specific provision and by the applicable state and federal laws, rules and regulations.

- Contract Signature Page
- Contract Documents List (this page)
- Special Terms and Conditions
- Scope of Work (Includes Cost Budget)
- General Terms and Conditions
- Notices, Project Representatives and Records Locations
- TCEQ – Approved Grant Application (incorporated by reference)
- Attachment A – Financial Status Report (FSR)
- Attachment B – Release of Claims
- Attachment C – Budget Revision Request (BRR)
- Attachment D – Performing Party Performance Evaluation

Special Terms and Conditions

SPECIAL TERMS AND CONDITIONS

ARTICLE 1. SPECIAL CONDITIONS

The Performing Party agrees to these Special Conditions.

ARTICLE 2. DEFINITIONS

Unless defined herein, terms in this Agreement will have their plain meaning. The following terms have the meanings indicated.

2.1 Approved Grant Application- The grant application submitted by the Performing Party listing the requested grant activities proposed for grant funding, including any amendments or supplemental conditions added to the application. The Application is used to develop the Scope of Work of this contract. In case of conflict between the application and the Scope of Work, the Scope of Work will take precedence.

2.2 Approved Grant Application Summary- The contract document listing the Grant Activities from the Approved Grant Application that have been approved for funding, also referred to in this contract as the Scope of Work.

2.3 Financial Status Report (FSR) – Form and supporting documentation tracking overall budget compliance and documenting expenditure of grant funds. Term may be used interchangeable with Request for Reimbursement for projects where funds have been advanced to the Performing Party.

2.4 Grant Activities – activities the Performing Party has agreed to perform under this contract that are detailed in the Scope of Work.

2.5 Request for Reimbursement (RFR) – Forms and documentation required to be submitted in order to receive reimbursement for allowable costs incurred and paid by the Performing Party, also referred to in this contract as an "invoice". For grants where advance payments have been provided, this term is synonymous with Financial Status Report.

ARTICLE 3. PERFORMING PARTY'S CERTIFICATIONS.

By signing this Contract, the Performing Party certifies that the following are true and acknowledges that the Contract may be terminated and payment may be withheld if these certifications are inaccurate. Performing Party agrees to give prompt written notice to the TCEQ if there is any material change in these representations or certifications."

a. **Debt to State**. The Performing Party is not indebted to the state and does not have an outstanding tax delinquency. The Performing Party understands that the Texas Comptroller is precluded by state law from paying any person who is indebted to the state or has a tax delinquency. The Performing Party must comply with all state and federal tax laws and fee requirements and is solely responsible for filing all required state and federal tax and fee forms.

b. **Child Support Payments**. The Performing Party is neither an individual nor a business organization with an ownership interest of at least 25% by an individual who is in arrears on child support payments. Under Texas Family Code Section 231.006 (relating to child support), the Performing Party certifies that the individual or business entity named in this contract is not ineligible to receive the specified grant and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate. If the Performing Party is subject to § 231.006, prior to signing this Contract, Performing Party must provide TCEQ the names and Social Security numbers of each person with at least 25% ownership of the Performing Party.

c. **Nondiscrimination.** The Performing Party will comply with all state and federal statutes relating to nondiscrimination.

d. **Grant Administration**. The Performing Party will maintain an appropriate grant management administration system to ensure that all terms, conditions, and specifications of the Contract, including these certifications and assurances, are met.

e. **Contracting with a Current or Former Executive Head of a State Agency**. The Performing Party certifies that it complies with Texas Government Code Section 669.003, relating to contracting with a current or former executive head of a state agency. Performing Party represents that no person who is serving or in the past four years served as an executive head of the TCEQ or any other state agency was involved with or has any interest in this Contract, including being an employee of the Performing Party. If the Performing Party employs or has used the services of a current or former executive head of TCEQ or other state agency, the Performing Party will provide the following information to TCEQ prior to executing this Contract: Name of Former Executive, Name of State Agency, Date of Separation from State Agency, Position with Performing Party, and Date of Employment with Performing Party.

f. **Suspension, Debarment, and Terrorism**. The Performing Party certifies that it and its principals are eligible to participate in this Contract and have not been subjected to suspension, debarment, or similar ineligibility determined by any federal, state or local governmental entity, and that the Performing Party is in compliance with the State of Texas statutes and rules relating to procurement, and that the Performing Party is not listed on the federal government's terrorism watch list as described in Executive Order 13224.

g. **Hurricane Katrina and Other Natural Disasters**. Under Section 2155.006(b) of the Texas Government Code, a state agency may not award a grant that includes proposed financial participation by a person who, during the five-year period preceding the date of the award, has been: (1) convicted of violating a federal law in connection with a contract awarded by the federal government for relief, recovery, or reconstruction efforts as a result of Hurricane Rita, as defined by Section 39.459, Texas Utilities Code, Hurricane Katrina, or any other disaster occurring after September 24, 2005; or (2) assessed a penalty in federal civil or administrative enforcement action in connection with a contract awarded by the federal government for relief, recovery, or reconstruction efforts as a result of Hurricane Rita, Hurricane Katrina, or any other disaster occurring after September 24, 2005. Under Section 2155.006, Government Code, the vendor certifies that the Performing Party is not ineligible to receive the specified contract and acknowledges that this contract may be terminated and payment withheld if this certification is inaccurate.

h. **Texas Government Code Chapter 573**. Performing Party must comply with Texas Government Code Chapter 573, by ensuring that no officer, employee, or member of the Performing Party's governing body or of the Performing Party's contractor shall vote or confirm the employment of any person related within the second degree of affinity or the third degree of consanguinity to any member of the governing body or to any other officer or employee authorized to employ or supervise such person. This prohibition shall not prohibit the employment of a person who shall have been continuously employed for a period of two years, or such other period stipulated by local law, prior to the election or appointment of the officer, employee, or governing body member related to such person in the prohibited degree.

ARTICLE 4. ADVANCE PAYMENT

4.1 The TCEQ may provide the funds in advance of the Performing Party's incurring anticipated costs of Contract Activities.

4.2 By paying advance payments the TCEQ does not waive any requirements for the reimbursement of costs. The TCEQ may at any time before or after any advance payment request additional evidence concerning costs. The TCEQ may audit the records of the Performing Party and may also audit the Performing Party's performance as to any Contract activity and any other Contract requirement.

4.3 Advance Payments are conditioned on the approval of a Financial Status Report (FSR). If the FSR does not demonstrate Performing Party has complied with the Contract requirements, the TCEQ may withhold approval or reject the FSR.

4.4 If the Performing Party falls behind in the schedule of the Grant Activities or fails to utilize the amount of any Advance Payment, the TCEQ may reduce the amount of the next Advance Payment by a comparable sum or require the return of previously advanced funds.

4.5 All advanced funds must be expended by December 31, 2017. Upon submission and approval of the final FSR, any remaining unobligated Advance Payment must be returned to the TCEQ by February 15, 2018, unless retention of funds is authorized by the TCEQ. Upon written notice by the TCEQ, any unspent

Advance Payment must be returned to the TCEQ within the TCEQ's 30 day notice to the Performing Party.

ARTICLE 5. ELIGIBILITY FOR COST REIMBURSEMENT

5.1. The TCEQ will reimburse the Performing Party for those costs which are eligible for reimbursement in accordance with all requirements of this Contract. Costs are considered eligible for reimbursement when the TCEQ, in its sole discretion, determines that the costs are the reasonable, necessary, actual, and allowable costs of implementing the Grant Activities approved by the TCEQ. Costs must be included in the Scope of Work to be eligible for reimbursement. Determinations of eligibility for reimbursement are solely within the discretion of the TCEQ.

Procurement

5.2. The requirements of the Texas Uniform Grants Management Standards (UGMS), Part III. State Uniform Administrative Requirements for Grants, Subpart C, Post-Award Requirements ___.36 Procurement, will apply within the discretion of the TCEQ.

Reasonable Costs

5.3. To be reimbursable, a cost must be reasonable. Criteria for determining reasonableness of costs include the following:

5.3.1. Whether it is the type of cost generally recognized as ordinary and necessary for the conduct of the Performing Party's business or the performance of the Grant Activities;

5.3.2. Generally accepted sound business practices, competitive procurement, arm's length bargaining, and Federal and State laws and regulations;

5.3.3. The Performing Party's responsibilities to the TCEQ, other customers, the owners of the business, employees, and the public at large; and

5.3.4. Any significant deviations from accepted industry-established practices.

5.4. In general, for the cost of the Performing Party's goods and services to be reasonable, they must be procured through a competitive process in which bids, quotes, or proposals are solicited from an adequate number of qualified suppliers. Where competition is not feasible, UGMS ___.36 permits non-competitive procurement. For non-competitively procured items, the reasonableness of the Performing Party's costs must be established through a price analysis, which the Performing Party shall submit to the TCEQ upon request. A price analysis analyzes a vendor's price in comparison to other market prices for similar goods and services. A price analysis should compare at least three vendors' prices. For non-competitively procured items, the Performing Party must perform a cost analysis analyzing the vendor's costs to produce the goods & services, which the Performing Party shall submit to the TCEQ upon request.

Necessary Costs

5.5. Necessary costs include costs which are directly attributable to the implementation of the Grant Activities and must be included in the original application and the Scope of Work.

Actual Costs

5.6. The criteria for actual costs include:

5.6.1. the direct costs paid for implementing the Grant Activities; or

5.6.2. the true price charged by a vendor/contractor to the Performing Party for implementing the Grant Activities.

5.7. Unless expressly authorized by the TCEQ, actual costs do not include:

5.7.1. amounts which the Performing Party owes or agrees to pay the vendor or contractor for any purpose other than the implementation of Grant Activities;

5.7.2. amounts in the charges which the vendor/contractor intends to return to the Performing Party in the form of cash, goods, services, gifts, intangibles, discounts or any other items of value; and

5.7.3. amounts which are reimbursed by other public sources or for which tax credits or other public financial incentives are received by the Performing Party.

5.8. The Performing Party's and its subcontractors' documentation of expenses is required under the General Conditions.

Allowable Costs

5.9. In order to be allowable, costs must be included in the Scope of Work, and must satisfy the requirements of: this Contract, the UGMS, state agency rules, and all applicable state and federal laws.

5.10. If travel costs are authorized in the Scope of Work, reimbursement of travel costs may not exceed the amounts explained in this section.

5.10.1. Reimbursement for lodging and meals within the State of Texas is to be equal to the rates allowed for state employees under the State of Texas Travel Allowance Guide.

5.10.2. Reimbursement for lodging and meals when traveling outside of the State of Texas is to be equal to the rates allowed for state employees under the State of Texas Travel Allowance Guide and may not exceed the maximum established in the federal General Services Administration travel regulations.

5.10.3. Mileage reimbursement rates are also established in the State of Texas Travel Allowance Guide.

5.10.4. Expenses for lodging and meals are limited to only actual expenses and must be supported by receipts to be reimbursable.

Indirect Costs

5.11. Indirect costs are not reimbursable under the terms of this Contract.

Preapproval of Costs

5.12. If the specific details of costs to be incurred under the "Travel," "Equipment," "Contractual," or "Other" costs categories are not already explained in the Scope of Work, then prior to incurring those costs, the Performing Party must submit revised forms to show those details and receive authorization from the TCEQ for those expenses.

5.13. Upon TCEQ request, prior to signing a subcontract to be funded under this Contract, the Performing Party must submit the subcontract to the TCEQ for review and must receive approval from the TCEQ before entering into the subcontract.

Additional Evidence

5.14. The TCEQ may at any time before or after receiving invoices, as necessary in its sole discretion, request additional evidence concerning costs.

Additional Criteria for Reimbursement

5.15. The TCEQ may at any time, in its sole discretion, establish additional criteria and requirements for reimbursement of costs as serves the best interest of the State.

Costs in Scope of Work are Maximum Amounts, Not a Guarantee

5.16. Amounts of costs stated in the Scope of Work are maximum amounts of reimbursement. By stating the amounts, the TCEQ does not 1) guarantee payment of those amounts or 2) waive the requirements for invoicing which must subsequently and continually be satisfied by the Performing Party. The amount of costs for which invoices may be submitted is the lesser of: 1) the costs stated in the Scope of Work or 2) the actual eligible costs.

No Entitlement to Funds

5.17. The Performing Party has a continuing obligation to satisfy the requirements for reimbursement. Neither a request for reimbursement nor the TCEQ's payment of reimbursement nor any other action will establish an entitlement in the Performing Party to payment from the TCEQ.

5.18. By paying a request for reimbursement or advancing funds, the TCEQ does not waive any requirements for the reimbursement of costs. The TCEQ may at any time before or after reimbursement, in its sole discretion, request additional evidence concerning costs. The TCEQ may audit the records of the Performing Party and may also audit the Performing Party's performance as to the Grant Activities, and the Administrative Requirements.

Offsets for debts owed to the State

5.19. The TCEQ may offset against reimbursement payments, any amounts owed by the Performing Party or its principals to the TCEQ, the State of Texas, or for child support.

ARTICLE 6. REQUEST FOR REIMBURSEMENT

6.1. In order to receive reimbursement for eligible expenses and document expenditure of advanced funds, the Performing Party shall submit monthly, a completed TCEQ Request for Reimbursement (RFR) form, to be made available to the Performing Party by the TCEQ. The RFR shall be submitted no later than 15 days after the end of the following month. Each RFR shall be accompanied by a properly completed FSR for each activity for which reimbursement is requested. For a RFR solely documenting expenditure of advanced funds and not requesting payment, only submission of an FSR is necessary. The request and forms shall be mailed or delivered to:

Texas Commission on Environmental Quality

ATTN: Deanna Sivek

Critical Infrastructure Division, MC-177

Texas LEPC Grant Program

PO Box 13087

Austin, TX 78711-3087

6.2 Performing Party may submit requests and forms electronically via email. The scanned copies of the request, forms, and Supporting Documents in pdf format shall be emailed to LEPCGRANTS@tceq.texas.gov

6.3. All RFR's shall be completed on forms provided by the TCEQ. The report shall also list and explain any additional financial incentive received by the Performing Party that directly offsets the activity costs reported by the PERFORMING PARTY, including tax credits or deductions, other grants, or any other public financial assistance.

6.4. If not previously required to be submitted prior to execution of this Contract, a properly completed Texas Application for Payee Identification Number must be completed and submitted with the first invoice, or prior to request for advanced funds.

6.5. A final RFR, indicating in the appropriate box that it is the final request, shall be submitted to the TCEQ by no later than forty-five (45) days after the date listed in Article 4.5 of the Special Terms of this Contract.

6.6. All RFR's shall contain sufficient identification of and information concerning the costs incurred and paid so as to enable the TCEQ to ascertain the eligibility of a particular cost and to enable subsequent audit thereof. Supporting documentation materials, as directed by the TCEQ in the instructions accompanying the forms, shall be attached to the report forms to clearly show that the cost was incurred and paid.

6.7. If an RFR does not satisfactorily demonstrate the accomplishment of the required tasks, or that costs are allowable, eligible, actual, and incurred and paid costs, the TCEQ may reject the RFR, or FSR in the case of advanced funds, until such time as the deficiencies have been corrected. Satisfactory accomplishment of a task is within the judgment of the TCEQ; however, such judgment must be reasonable.

6.8. The TCEQ is not obligated to make payment until the RFR is approved by the TCEQ. Further, the TCEQ reserves the right to suspend or withhold all or part of a payment or all payments as authorized by the Contract.

6.9. All RFR's under this Contract shall be submitted in accordance with the requirements set forth in this Contract. Such submittals shall contain sufficient detail for audit thereof.

6.10. The TCEQ may at any time before or after approval of the RFR or FSR, as necessary in its sole discretion, request additional evidence concerning costs.

6.11. The reimbursement of funds is contingent upon the Performing Party's satisfactory adherence to the terms of this Contract. Failure to adhere to the terms of this Contract, in particular those requirements concerning progress and financial reporting or the documentation of reported expenditures, shall be grounds for the TCEQ to: suspend payments pending the Performing Party's satisfactory completion, revision, or correction of services or reports; request return of unexpended advanced funds; or for termination of this Contract in accordance with the General Conditions and for such other remedies as are allowed by law.

6.12. Required Forms: The Performing Party, and any subcontractor or subrecipient if any, in order to obtain reimbursement for those expenditures authorized under this Contract, shall submit, pursuant to the Grant Activities, a fully completed and legible:

6.12.1. Progress Report;

6.12.2. Reimbursement Forms, including an FSR;

6.12.3. Supplemental Request for Reimbursement Form(s) for those budget categories with expenses; and

6.12.4. Release of Claims (the PERFORMING PARTY only and only with final RFR).

Reimbursement Forms

6.13. Request for Reimbursement: Each filed TCEQ RFR shall contain sufficient identification of, and information concerning, the costs incurred so as to enable the TCEQ to ascertain the eligibility of a particular expenditure and to enable subsequent audit thereof. Each RFR shall indicate, for each budget category the Performing Party's project expenditures for the period in question, the cumulative expenditures with respect to each budget category, and the balance remaining in each budget category following reimbursement of the amount being requested.

6.14. Historically Underutilized Business (HUB): The Performing Party will use its best efforts to provide opportunities for HUBs to participate in subcontracting under this Contract. The Performing Party must notify the TCEQ of the steps it has taken to provide opportunities for HUBs to participate, and the extent to which HUBs are being utilized as subcontractors under this Contract.

6.15. Required Documentation: When the Performing Party is required to attach source documentation for a reimbursable cost that documentation shall:

6.15.1. be legible;

6.15.2. identify the specific equipment received or the services provided;

6.15.3. clearly identify the vendor or subcontractor who provided the equipment or services (the Performing Party shall require all subcontractors to use the Financial Status Report forms and Request for Reimbursement forms to file for reimbursement of services and equipment); and

6.15.4. confirm the reimbursable amount listed on the form.

The documentation shall consist of a dated invoice that shows the amount billed to the Performing Party, any "past due" amount from previous invoices, and explanation of services provided. The Performing Party or subcontractor must provide any other documentation requested by the TCEQ. Although canceled checks represent the preferred types of documentation for purposes of this section, the Performing Party or subcontractor may substitute/attach other records or documents that provide the same type of information, such as issued purchase orders and/or invoices marked "received/paid", or other evidence of payment. The Performing Party or subcontractor shall not intentionally break up single orders of identical or similar items, materials, or supplies simply for the purpose of avoiding the above requirement to provide confirming documentation when submitting reimbursement requests to the TCEQ.

6.16. Vendor or Subgrantee Services Not Procured Using Price Competition: Information detailing the expenses incurred shall be submitted along with an explanation of the services provided. For any expenses (goods or services) which are not procured using price competition, the Performing Party must perform a price or cost analysis to determine the reasonableness of the price and maintain documentation of such analysis which shall be produced to the TCEQ upon request.

6.17. All requests for reimbursement of expenditures that fall within either the Personnel/Salary categories of the Scope of Work, if authorized and included, shall be itemized by the Performing Party or subcontractor.

6.17.1. Personnel/Salary: No supporting documentation is required to be attached invoice with respect to reported "Personnel/Salary" expenditures on the invoice. The Performing Party or subcontractor is expected to maintain signed time sheets that can serve to verify the total, overall hours of staff time being directly billed to this Contract.

6.18. Travel: If employee travel costs are authorized and included in the Scope of Work, all costs listed in the invoices must be documented with information that identifies the name of the traveler(s), dates of travel, purpose/location of travel, costs for meals, transportation, and lodging to substantiate the reported reimbursable costs. If TCEQ waives the requirement for submitting the following travel documentation with the RFR, documentation which must be maintained by the Performing Party or subcontractor and

made available during an on-site audit/monitoring visit, or upon request, for the purpose of substantiating travel-related costs, includes the following: (1) legible copies of the Performing Party- or subcontractor-approved travel vouchers, or other equivalent documentation, signed by the employees who traveled; and (2) any travel-related expenses under this Contract borne directly by the Performing Party or subcontractor (and for which reimbursement by the Performing Party to the traveler was not required). Receipts should be separate and show, at a minimum, the traveler's name, the travel location, and the travel date(s).

6.19. All RFR's with expenditures that fall within the Equipment, Supplies, Other, Contractual, and Construction categories of the Scope of Work shall be itemized by the Performing Party or subcontractor on the RFR. In addition, the Performing Party or subcontractor shall attach, for each reimbursable cost listed, documentation as specified in the Required Documentation paragraph in this section. An updated equipment inventory shall be attached to reimbursement requests with equipment purchases.

6.20. The TCEQ may reject requests for reimbursement that fail to demonstrate that costs are eligible for reimbursement or which fail to conform to the requirements of the Contract.

6.21. In determining the amount of the final payment, the TCEQ may withhold from reimbursement the amount of any over payment and any reasonable amount until the TCEQ is satisfied that all conditions and requirements are completed and accepted.

6.22. All RFR's must be signed by an authorized representative of the Performing Party.

6.23. Documentation of Project Expenses. The Performing Party shall maintain accurate and detailed documentation to evidence the payment of expenses. The Performing Party shall provide such documentation upon request and for any audit purposes. This documentation shall be maintained for at least three (3) years after the end of this Contract.

ARTICLE 7. PERFORMING PARTY'S PERFORMANCE EVALUATION

Performance evaluations are a part of the TCEQ review of the Performing Party and may be a factor in the selection of future grants. TCEQ may provide this information to state agencies and, upon request, to others. The Performing Party consents to the disclosure of any information or opinion contained in the evaluations. (Attachment D)

Scope of Work

Scope of Work

I. Facts and Purpose

The Texas Commission on Environmental Quality (TCEQ) proposes to grant Williamson County LEPC funding to purchase goods and services listed in Table 1 to allow the Local Emergency Planning Committee (LEPC) to establish, maintain, and/or improve their implementation of Emergency Planning and Community Right-to-Know Act (EPCRA).

Purchases must be made in accordance to the application amounts and quotes attached in Exhibit A. Any purchases made that differ from the quotes submitted must be approved, in writing, by the Grant Manager prior to purchase. The LEPC must retain documentation of these purchases and submit them with the monthly Financial Status Report (FSR).

All Terms and Conditions listed in this grant contract must be followed. It is the responsibility of the grantee to follow all grant Terms and Conditions. This Scope of Work does not override any of the Terms and Conditions listed in this grant contract.

Table 1. Approved Purchase List

Item Number	Budget Category	Item Description	Cost per unit	Unit	Quantity	Application Total
1	31 - Salaries	Analyst	$79,688.23	year	1	$79,688.23
2	54 - Equipment	ESRI Arc GIS Software	$4,700.00	Per Package	1	$4,700.00
					Total	$84,388.23

II. TCEQ Responsibilities/Designation of Staff

A. TCEQ responsibilities:

- Review all FSRs within 30 days of receipt and request any edits necessary for approval.
- Complete a performance evaluation after the contract is closed out.

B. Designation of staff

- Deanna Sivek (512) 239-5074 or Deanna.Sivek@tceq.texas.gov will be the Grant Manager and point of contact for this contract. Other TCEQ staff will be available in her absence.
- Paul Groves (512) 239-6761 or Paul.Groves@tceq.texas.gov will be the Contract Manager.

III. Description of Deliverables

A. Purchase goods and services in accordance with grant application.

B. Follow all terms and conditions listed in this contract.

C. Effectively communicate with the Grant Manager any questions, comments, issues, or deficiencies.

D. Submit FSRs in accordance with the contract terms. This will be within 15 days of the last day of each month unless otherwise specified from the Grant Manager in writing.

E. Submit and retain all documentation associated with this grant application and make documentation available upon request from the Grant Coordinator. An FSR must be submitted, in writing, to the TCEQ Grant Coordinator no later than 15 calendar days after the end of each calendar month with all supporting documentation (i.e. receipts, training certificates, invoices, receiving receipts, etc.) with the exception of the final invoice which is due within 45 days after the close of the contract.

F. All funds must be expended or returned to the TCEQ in accordance with the deadlines stated within Section 4.5 of the Special Terms and Conditions of the Contract.

G. All travel and services must take place during the contract period.

IV. Budget Control and Transfers

A. **Cumulative transfers less than 10% of the Total Budget.** The Performing Party may transfer amounts between the approved purchase items listed above so long as cumulative transfers between the line items during the Contract do not exceed ten percent (10%) of the total contract amount. The Performing Party must timely submit a Budget Revision Request Form reflecting the revised budget. (Attachment C)

B. **Cumulative transfers greater than 10% of the Total Budget.** TCEQ must pre-approve all budget revisions that result in the cumulative transfer of funds greater than 10% of the Total Budget during a Contract. A Contract Amendment is required before the Performing Party incurs these costs.

C. All Requests for Reimbursement or Financial Status Reports must be submitted in a format that clearly shows how this budget control requirement is being met.

General Terms and Conditions

GENERAL TERMS AND CONDITIONS

1. CONTRACT PERIOD

1.1. **Contract Period**. The Contract begins on the Effective Date and ends on the Expiration Date as provided on the Contract Signature Page. If no Effective Date is provided, the Effective Date of the Contract is the date of last signature. If no Expiration Date is provided, the Expiration Date is August 31 of the same Fiscal Year in which the Contract is signed.

1.2. **Amendments.** This Contract may be amended by mutual agreement. Except as specifically allowed by the Contract, all changes to the Contract require a written amendment and agreement by both parties.

1.3. **Extensions**. TCEQ may by unilateral written amendment extend the Expiration Date for a period of up to 180 days. Unless otherwise indicated in the applicable Contract Amendment, an extension does not extend any other deadlines or due dates other than the expiration of the Contract Period.

2. FUNDS

2.1. **Availability of Funds.** This Contract and all claims, suits or obligations arising under or related to this Contract are subject to the receipt and availability of funds appropriated by the Texas Legislature for the purposes of this Contract or the respective claim, suit or obligation, as applicable. The Performing Party will ensure that this article is included in any subcontract it awards.

2.2. **Maximum Authorized Reimbursement.** The total amount of funds provided by TCEQ for the Contract will not exceed the amount of the Maximum Authorized Reimbursement as shown on the Contract Signature Page.

2.3. **Fiscal Year Restrictions.** In order to be reimbursed under this Contract, costs must be incurred during the Contract Period and within the time limits applicable to the funds from which the Contract is being paid. TCEQ is under no obligation to offer deadline extensions which extend to the maximum availability of the Contract funding source.

2.4. **Grants.** If this Contract was entered under TCEQ's authority to award grants, TCEQ is providing financial assistance to the recipient to undertake its own project.

2.5. **No Debt against the State.** This Contract is contingent on the continuing appropriation of funds. This Contract will not be construed to create debt against the State of Texas.

3. ALLOWABLE COSTS

3.1. **Conforming Activities.** TCEQ will reimburse the Performing Party for necessary and reasonable Allowable Costs that are incurred and paid by the Performing Party in performance of the Scope of Work as authorized by this Contract.

3.2. **UGMS.** Allowable Costs are restricted to costs that comply with the Texas Uniform Grant Management Standards (UGMS) and applicable state and federal rules and law. THE PARTIES AGREE THAT ALL THE REQUIREMENTS OF THE UGMS APPLY TO THIS CONTRACT, INCLUDING THE CRITERIA FOR PROCUREMENT AND ALLOWABLE COSTS. Additional federal requirements apply if this Contract is funded, in whole or in part, with federal funds.

4. REIMBURSEMENT

4.1. **Reimbursement Requests.** The Performing Party will invoice TCEQ to request reimbursement for its Allowable Costs for performing the Scope of Work. The Performing Party's invoice will conform to all reimbursement requirements specified by TCEQ.

4.2. **Conditional Payments.** Reimbursements are conditioned on the Scope of Work being performed in compliance with the Contract. The Performing Party will return payment to TCEQ for either overpayment or activities undertaken that are not compliant with the Scope of Work. This does not limit or waive any other TCEQ remedy.

4.3. **No Interest for Delayed Payment**. Because the Performing Party is not a vendor of goods and services within the meaning of Texas Government Code Chapter 2251, no interest is applicable in the case of late payments.

4.4. **Release of Claims.** As a condition to final payment or settlement, or both, the Performing Party will execute and deliver to TCEQ a release of all claims against TCEQ for payment under this Contract. (Attachment B)

5. Financial Records, Access and Audits

5.1. **Audit of Funds.** The Performing Party understands that acceptance of funds under this Contract acts as acceptance of the authority of the State Auditor's Office, or any successor agency, to conduct an audit or investigation in connection with those funds. The Performing Party further agrees to fully cooperate with the State Auditor's Office or its successor in the conduct of the audit or investigation, including providing all records requested. The Performing Party will ensure that this clause concerning the audit of funds accepted under this Contract is included in any subcontract it awards.

5.2. **Financial Records.** The Performing Party will establish and maintain financial records including records of costs of the Scope of Work in accordance with generally accepted accounting practices. Upon request the Performing Party will submit records in support of reimbursement requests. The Performing Party will allow access during business hours to its financial records by TCEQ and other state agencies for the purpose of inspection and audit. Financial records regarding this Contract will be retained for a period of three years after date of submission of the final reimbursement request.

6. Performing Party's Responsibilities

6.1. **Performing Party's Responsibility for the Scope of Work.** The Performing Party undertakes performance of the Scope of Work as its own project and does not act in any capacity on behalf of TCEQ nor as a TCEQ agent or employee. The Performing Party agrees that the Scope of Work is furnished and performed at the Performing Party's sole risk as to the means, methods, design, processes, procedures and performance.

6.2. **Independent Contractor.** The parties agree that the Performing Party is an independent contractor. Nothing in this Contract will create an employee-employer relationship between the Performing Party and TCEQ. Nothing in this Contract will create a joint venture between TCEQ and the Performing Party.

6.3. **Performing Party's Responsibilities for Subcontractors.** All acts and omissions of subcontractors, suppliers and other persons and organizations performing or furnishing any of the Scope of Work under a direct or indirect Contract with the Performing Party will be considered to be the acts and omissions of the Performing Party.

6.4. **No Third Party Beneficiary.** TCEQ does not assume any duty to exercise any of its rights and powers under the Contract for the benefit of third parties. Nothing in this Contract will create a contractual relationship between TCEQ and any of the Performing Party's subcontractors, suppliers or other persons or organizations with a contractual relationship with the Performing Party.

7. Time

7.1. **Time is of the Essence.** The Performing Party's timely performance is a material term of this Contract.

7.2. **Delays.** Where the Performing Party's performance is delayed, except by Force Majeure or act of TCEQ, TCEQ may withhold or suspend reimbursement, terminate the Contract for cause, or enforce any of its other rights (termination for convenience may be effected even in case of Force Majeure or act of TCEQ).

8. Conflict of Interest

The Performing Party will timely notify TCEQ in writing of any actual, apparent, or potential conflict of interest regarding the Performing Party or any related entity or individual. No entity or individual with any actual, apparent, or potential conflict of interest will take part in the performance of any portion of the Scope of Work, nor have access to information regarding any portion of the Scope of Work, without TCEQ's written consent in the form of a unilateral amendment. The Performing Party agrees that TCEQ has sole discretion to determine whether a conflict exists, and that a conflict of interest is grounds for termination for cause.

9. Data and Quality

9.1. **Quality and Acceptance.** All work performed under this Contract must be complete and satisfactory in the reasonable judgment of TCEQ. All materials and equipment will be handled

in accordance with instructions of the applicable supplier, except as otherwise provided in the Contract.

9.2. **Quality Assurance.** All work performed under this Contract that involves the acquisition of environmental data will be performed in accordance with a TCEQ-approved Quality Assurance Project Plan (QAPP) meeting all applicable TCEQ and EPA requirements. Environmental data includes any measurements or information that describes environmental processes, location, conditions, ecological or health effects and consequences. Environmental data includes information collected directly from measurements, produced from models, and compiled from other sources such as databases or literature. No data collection or other work covered by this requirement will be implemented prior to the Performing Party's receipt of the QAPP signed by TCEQ and, if necessary, the EPA. Without prejudice to any other remedies available to TCEQ, TCEQ may refuse reimbursement for any environmental data acquisition performed prior to approval of a QAPP by TCEQ and, if necessary, the EPA. Also, without prejudice to any other remedies available to TCEQ, the Performing Party's failure to meet the terms of the QAPP may result in TCEQ's suspension of associated activities and non-reimbursement of expenses related to the associated activities.

9.3. **Laboratory Accreditation.** Any laboratory data or analyses provided under this Contract must be prepared by a laboratory that is accredited by TCEQ according to 30 Texas Administrative Code Chapter 25, subchapters A and B, unless TCEQ agrees in writing to allow one of the regulatory exceptions specified in 30 Texas Administrative Code Section 25.6.

10. INTELLECTUAL PROPERTY

10.1. **Third Party Intellectual Property.** Unless specifically modified in an amendment or waived in a unilateral amendment, the Performing Party must obtain all intellectual property licenses expressly required in the Scope of Work, or incident to the use or possession of any deliverable under the Contract. The Performing Party Will obtain and furnish to TCEQ: documentation on the use of such intellectual property, and a perpetual, irrevocable, enterprise-wise license to reproduce, publish, otherwise use, or modify such intellectual property and associated user documentation, and to authorize others to reproduce, publish, otherwise use, or modify such intellectual property for TCEQ non-commercial purposes, and other purposes of the State of Texas.

10.2. **Grant of License.** The Performing Party grants to TCEQ a nonexclusive, perpetual, irrevocable, enterprise-wide license to reproduce, publish, modify or otherwise use for any non-commercial TCEQ purpose any preexisting intellectual property belonging to the Performing Party that is incorporated into any new works created as part of the Scope of Work, intellectual property created under this Contract, and associated user documentation.

11. INSURANCE AND INDEMNIFICATION

11.1. **Insurance.** Unless prohibited by law, the Performing Party will obtain and maintain during the Contract Period adequate insurance coverage sufficient to protect the Performing Party and TCEQ from all claims and liability for injury to persons and for damage to property arising from the Contract. Unless specifically waived by TCEQ, sufficient coverage will include Workers Compensation and Employer's Liability Insurance, Commercial Automobile Liability Insurance, and Commercial General Liability Insurance.

11.2. **Indemnification.** TO THE EXTENT AUTHORIZED BY LAW, THE PERFORMING PARTY AND ANY SUBCONTRACTORS PERFORMING CONTRACT ACTIVITIES ON BEHALF OF PERFORMING PARTY AGREE TO INDEMNIFY, DEFEND, AND HOLD HARMLESS THE TCEQ AND ITS OFFICERS, AND EMPLOYEES, FROM AND AGAINST ALL LOSSES, LIABILITIES, DAMAGES, AND OTHER CLAIMS OF ANY TYPE ARISING FROM THE PERFORMANCE OF CONTRACT ACTIVITIES BY THE PERFORMING PARTY OR ITS SUBCONTRACTORS, SUPPLIERS AND AGENTS, INCLUDING THOSE ARISING FROM DEFECT IN DESIGN, WORKMANSHIP, MATERIALS, OR FROM INFRINGEMENT OF ANY PATENT, TRADEMARK OR COPYRIGHT; OR FROM A BREACH OF APPLICABLE LAWS, REGULATIONS, SAFETY STANDARDS OR DIRECTIVES. THE DEFENSE OF TCEQ WILL BE SUBJECT TO THE AUTHORITY OF THE OFFICE OF THE ATTORNEY GENERAL OF TEXAS TO REPRESENT TCEQ. THIS CONVENANT SURVIVES THE TERMINATION OF THE CONTRACT.

12. TERMINATION

12.1. **Termination for Cause.** TCEQ may, upon providing 10 days written notice and the opportunity to cure to the Performing Party, terminate this Contract for cause if the Performing

Party materially fails to comply with the Contract including any one or more of the following acts or omissions: nonconforming work, or existence of a conflict of interest. Termination for cause does not prejudice TCEQ's other remedies authorized by this Contract or by law.

12.2. **Termination for Convenience.** TCEQ may, upon providing 10 days written notice to the Performing Party, terminate this Contract for convenience. Termination will not prejudice any other right or remedy of TCEQ or the Performing Party. The Performing Party may request reimbursement for: conforming work and timely, reasonable costs directly attributable to termination. The Performing Party will not be paid for: work not performed, loss of anticipated profits or revenue, consequential damages or other economic loss arising out of or resulting from the termination.

12.3. If, after termination for cause by TCEQ, it is determined that the Performing Party had not materially failed to comply with the Contract, the termination will be deemed to have been for the convenience of TCEQ.

13. DISPUTES, CLAIMS AND REMEDIES

13.1. **Payment of a Release.** Neither payment by TCEQ nor any other act or omission other than an explicit written release, in the form of a unilateral amendment, constitutes a release of the Performing Party from liability under this Contract.

13.2. **Schedule of Remedies available to TCEQ.** In accordance with Texas Government Code Chapter 2261 the following Schedule of Remedies applies to this Contract. In the event of the Performing Party's nonconformance, TCEQ may do one or more of the following:

13.2.1. Issue notice of nonconforming performance;

13.2.2. Reject nonconforming performance and request corrections without charge to TCEQ;

13.2.3. Reject a reimbursement request or suspend further payments, or both, pending accepted revision of the nonconformity;

13.2.4. Suspend all or part of the Contract Activities or payments, or both, pending accepted revision of the nonconformity;

13.2.5. Demand restitution and recover previous payments where performance is subsequently determined nonconforming;

13.2.6. Terminate the Contract without further obligation for pending or further payment by TCEQ and receive restitution of previous payments.

13.3. **Opportunity to Cure.** The Performing Party will have a reasonable opportunity to cure its nonconforming performance, if possible under the circumstances.

13.4. **Cumulative Remedies.** Remedies are cumulative; the exercise of any remedy under this Contract or applicable law does not preclude or limit the exercise of any other remedy available under this Contract or applicable law.

14. SOVEREIGN IMMUNITY

The parties agree that this Contract does not waive any sovereign immunity to which either party is entitled by law.

14.1. **Survival of Obligations.** Except where a different period is specified in this Contract or applicable law, all representations, indemnifications, and warranties made in, required by or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, survive for four (4) years beyond the termination or completion of the Contract, or until four (4) years after the end of a related proceeding. A related proceeding includes any litigation, legal proceeding, permit application, or State Office of Administrative Hearings proceeding, which is brought in relation to the Contract or which in TCEQ's opinion is related to the subject matter of the Contract. Either party will notify the other of any related proceeding if notice of the proceeding has not been provided directly to that other party.

15. CONTRACT INTERPRETATION

15.1 **Definitions.** The word "include" and all forms such as "including" mean "including but not limited to" in the Contract and in documents issued in accordance with the Contract, such as Work Orders or Proposals for Grant Activities (PGAs).

15.2 **Headings.** The headings of the sections contained in this Contract are for convenience only and do not control or affect the meaning or construction of any provision of this Contract.

15.3 **Delivery of Notice.** Notices are deemed to be delivered three working days after postmarked if sent by U.S. Postal Service certified or registered mail, return receipt requested. Notices delivered by other means are deemed delivered upon receipt by the addressee. Routine communications may be made by first class mail, facsimile transmission, email, or other commercially accepted means.

15.4 **Interpretation of Time.** All days are calendar days unless stated otherwise. Days are counted to exclude the first and include the last day of a period. If the last day of the period is a Saturday or Sunday or a state or federal holiday, it is omitted from the computation.

15.5 **State, Federal Law.** This Contract is governed by, and interpreted under the laws of the State of Texas, as well as applicable federal law.

15.6 **Severability.** If any provision of this Contract is found by any court, tribunal or administrative body of competent jurisdiction to be wholly or partly illegal, invalid, void or unenforceable, it will be deemed severable (to the extent of such illegality, invalidity or unenforceability) and the remaining part of the provision and the rest of the provisions of this Contract will continue in full force and effect. If possible, the severed provision will be deemed to have been replaced by a valid provision having as near an effect to that intended by the severed provision as will be legal and enforceable.

15.7 **Assignment.** No delegation of the obligations, rights, or interests in the Contract, and no assignment of payments by the Performing Party will be binding on TCEQ without its written consent, except as restricted by law. No assignment will release or discharge the Performing Party from any duty or responsibility under the Contract.

15.8 **Venue.** The Performing Party agrees that the Contract is being performed in Travis County, Texas, because this Contract has been performed or administered, or both, in Travis County, Texas. The Performing Party agrees that any cause of action involving this Contract arises solely in Travis County, Texas.

15.9 **Publication.** The Performing Party agrees to notify TCEQ five days prior to the publication or advertisement of information related to this Contract. The Performing Party agrees not to use the TCEQ logo or the TCEQ graphic as an advertisement or endorsement without written permission signed by the appropriate TCEQ authority.

15.10 **Waiver.** With the exception of an express, written waiver in the form of a unilateral amendment signed by TCEQ, no act or omission will constitute a waiver or release of the Performing Party's obligation to perform conforming Contract Activities. No waiver on one occasion, whether expressed or implied, will be construed as a waiver on any other occasion.

15.11 **Compliance with Laws.** TCEQ relies on the Performing Party to perform all Contract Activities in conformity with all applicable laws, regulations, and rules and obtain all necessary permits and licenses.

15.12 **Counterparts.** This Contract may be signed in any number of copies. Each copy when signed is deemed an original and each copy constitutes one and the same Contract.

15.13 **Accessibility.** All electronic content and documents created as deliverables under this Contract must meet the accessibility standards prescribed in 1 Texas Administrative Code sections 206.50 and 213 for state agency web pages, web content, software, and hardware, unless TCEQ agrees that exceptions or exemptions apply.

Notices, Representatives & Records Locations

NOTICES, REPRESENTATIVES, AND RECORDS LOCATION

Contract Number: 582-17-71565 Contract Name: Williamson County LEPC

1. **Representatives**. The individual(s) named below are the representatives of TCEQ and Contractor. They are authorized to give and receive communications and directions on behalf of the TCEQ and Contractor as indicated below. All communications including official contract notices must be addressed to the appropriate representative or his or her designee.
2. **Changes in Representatives.** Either party may change its representatives by unilateral amendment.
3. **TCEQ Representatives.**

TCEQ CONTRACT MANAGER
(for Contractual Matters)

Paul Groves

Contract Specialist 177
(Title) (Mail Code)

Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
Telephone No.: (512)239-6761
Facsimile No.: (512)239-0404

TCEQ PROJECT MANAGER
(For Technical Matters)

Deanna Sivek

Grant Manager 177
(Title) (Mail Code)

Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087
Telephone No.: (512)239-5074
Facsimile No.: (512)239-0404

4. **Contractor Representatives.**

For Contractual Matters:

Jarred Thomas
(Name)

LEPC Chair
(Title)
PO Box 2659
(Mailing Address)
Georgetown TX 78627
(City) (State) (Zip Code)

Telephone No.: (512) 864-8269
Facsimile No.: (512) 864-8227

For Technical Matters:

Cindy Hood
(Name)

Emergency Management Specialist
(Title)
PO Box 2659
(Mailing Address)
Georgetown TX 78627
(City) (State) (Zip Code)

Telephone No.: (512) 864-8267
Facsimile No.: (512) 864-8227

5. **Invoice Submittal. Invoices must be submitted to the TCEQ Contract Manager.**
6. **Designated Location for Records Access and Review. Contractor designates the physical location indicated below for record access and review pursuant to any applicable provision of this contract:**

Williamson County Auditor's Office

(Physical Location Address Line 1)

710 W. Main St., Ste. 201

(Physical Location Address Line 2)

Georgetown, TX 78626

(City),(State),(Zip Code)

Attachment A

Texas Commission on Environmental Quality
FINANCIAL STATUS REPORT

1. STATE AGENCY ORGANIZATION UNIT TO WHICH REPORT IS SUBMITTED:	
2. GRANT/CONTRACT TITLE:	
3. PAYEE IDENTIFICATION NUMBER:	4. RECIPIENT ORGANIZATION (NAME AND COMPLETE ADDRESS, INCLUDING ZIP CODE) :
5. TCEQ CONTRACT NUMBER:	
6. FINAL REPORT: YES NO	
7. ACCOUNTING BASIS: CASH ACCRUAL	
8. TOTAL PROJECT/GRANT PERIOD: FROM TO	9. PERIOD COVERED BY THIS REPORT: FROM TO

10. Item Description:	Approved Budget	Project Cost This Report	Cumulative Project Cost	Balance **
Total:				

*List (Itemize) on the appropriate supplemental form all component expenses comprising the total for each of these categories. Please attach receipts, as required, in accordance with Attachment B of your contract.

**Negative balances in any of the budget categories should be explained in a brief accompanying narrative.

11. CERTIFICATION I certify to the best of my knowledge and belief that this report is correct and complete and that all outlays and unliquidated obligations are for the purposes set forth in the award document.

_____
Signature of Authorized Certifying Official

_____
Typed or Printed Name and Title

_____
Telephone (Area code, number and ext.) Date Submitted

ITEMIZATION OF EQUIPMENT AND CONTRACTUAL COSTS

All PURCHASES (during this report period)

NUMBER PURCHASED	ITEM DESCRIPTION (Should match description provided for approval)	UNIT COST	TOTAL COST
TOTAL EQUIPMENT EXPENDITURES (must agree with each line item on Form 20248)			$

* LEGIBLE PURCHASE ORDER AND/OR INVOICES MUST BE ATTACHED TO THIS FORM FOR EACH LISTED ITEM OR EXPENDITURE.

*LEGIBLE DOCUMENTATION MUST BE ATTACHED FOR ALL LISTED EXPENDITURES.

*LEGIBLE RECEIPTS OR OTHER SUBSTANTIATING DOCUMENTATION MAY BE ATTACHED FOR EXPENDITURES THAT EQUAL OR EXCEED $500.

* SUBSTANTIATING DOCUMENTATION (time sheets, travel receipts, etc.) MAY BE REQUIRED TO BE ATTACHED TO THIS FORM

Financial Status Report Preparation Instructions

1. The PERFORMING PARTY, in order to obtain reimbursement for those expenditures authorized under this Contract, shall submit, a completed, legible TCEQ Financial Status Report (TCEQ Form 20248) and any required TCEQ Supplemental 20248 forms. Unless directed otherwise in the Contract, the PERFORMING PARTY shall submit such payment request documents by not later than twenty-one (21) days after the close of each state fiscal year quarter. The reporting periods shall also correspond to the State of Texas fiscal year quarters (September-November; December-February, March-May; June-August). Each Financial Status Report shall indicate, for each budget sub-category the PERFORMING PARTY'S project expenditures for the period in question, the cumulative expenditures with respect to each budget sub-category, and the balance remaining in each budget sub-category following reimbursement of the amount being requested. A quarterly Financial Status Report is required even if no expenses were incurred during the report period.

2. All requests for reimbursement of expenditures that fall within either the "Equipment" or "Contractual" categories of the Contracts Cost Budget shall be itemized by the PERFORMING PARTY on Supplemental Form 20248-1 and identified with respect to the major tasks or objectives, set forth in the Scope of Work, that such expenditures support or satisfy. In addition, the PERFORMING PARTY shall attach, for each reimbursable cost listed on Supplemental Form 20248-1, legible documentation that (1) serves to further identify the specific piece of equipment received or the services provided, (2) clearly identifies the vendor or subcontractor who provided the equipment or services, and (3) that confirms the reimbursable amount listed on the form. In the case of equipment purchases, the attached documentation shall be either a purchase order marked "received/paid" or a vendor-submitted invoice similarly marked. In the case of subcontractor provided services, the documentation shall consist of a dated invoice that shows the amount billed to the PERFORMING PARTY and any "past due" amount from previous invoices.

3. All requests under this Contract for the reimbursement of expenditures that fall within the "Construction" category of the Contracts Cost Budget shall be itemized by the PERFORMING PARTY on Supplemental Form 20248-2 and identified with respect to the major tasks or objectives, set forth in the Scope of Work, that such expenditures support or satisfy. In addition, the PERFORMING PARTY shall attach, for each reimbursable cost listed on Supplemental Form 20248-2, legible documentation that (1) serves to further identify the specific cost, (2) clearly identifies the vendor or subcontractor who provided the construction related materials or services, and (3) that confirms the reimbursable amount listed on the form. The attached documentation shall be either a purchase order marked "received/paid" or an invoice similarly marked. In the case of subcontractor provided construction services, the documentation shall consist of a dated invoice that shows the amount billed to the PERFORMING PARTY and any "past due" amount from previous invoices.

4. All requests for the reimbursement of expenditures that fall within either the "Supply" or "Other" categories of the Contracts Cost Budget shall be itemized by the PERFORMING PARTY on Supplemental Form 20248-3 and identified with respect to the major tasks or objectives, set forth in the Scope of Work, that such expenditures support or satisfy. In addition, for any single-listed item or service costing more than $500, the PERFORMING PARTY shall attach, for each reimbursable cost listed on Supplemental Form 20248-3, legible documentation that (1) serves to further identify the specific items or services, (2) clearly identifies the vendor or subcontractor who provided the items or services, and (3) that confirms the reimbursable amount listed on the form. Although issued purchase orders and/or invoices marked "received/paid" represent the preferred types of documentation for purposes of this section, the PERFORMING PARTY may substitute/attach other records or documents that provide the same type of information. The PERFORMING PARTY shall not intentionally break up single orders of identical or similar items, materials or supplies simply for the purpose of avoiding the above requirement to provide confirming documentation when submitting reimbursement requests to the TCEQ.

5. All requests for reimbursement of expenditures that fall within either the "Personnel/Salary" or "Travel" categories of the Contracts Cost Budget shall be itemized by the PERFORMING PARTY on Supplemental Form 20248-4 and identified with respect to the major tasks or objectives, set forth in the Scope of Work, that such expenditures support or satisfy. Although no supporting documentation is required to be attached to Supplemental Form 20248-4 with respect to reported "Personnel/Salary" expenditures in order to receive reimbursement, the PERFORMING PARTY is expected to maintain signed time sheets that can serve to verify the total, overall hours of staff time being directly billed to this Contract. With respect to employee travel, all costs listed on Form 20248-4 must be supported by attached documentation that identifies the name of the traveler's, and that substantiates the reported reimbursable costs. Documentation, for the purpose of substantiating travel-related costs, includes the following: (1) legible copies of the PERFORMING PARTY-approved travel vouchers, signed by the employees who traveled, and (2) for any travel-related expenses under this contract borne directly by the PERFORMING PARTY (and thus for which reimbursement by the PERFORMING PARTY to the traveler was not required) separate receipts showing, at a minimum, the traveler's name, the travel location, and the travel date(s).

6. When a single expenditure supports or satisfies more than one task or objective, the PERFORMING PARTY need not breakdown that particular expenditure by specific contract task or objective but may simply identify, in relative cost order, the various tasks or objectives supported.

Attachment B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Release of Claims

_____ hereby releases the Texas Commission on Environmental Quality (TCEQ), its officers, agents, and employees from any and all future claims arising under or by virtue of TCEQ Contract Number _____.

_____ further certifies that all subcontractors, suppliers, employees and any party which has performed or provided service for this Contract has been paid in full and satisfied.

All services and tasks required to be completed under the referenced Contract have been completed.

Prompt payment, therefore, of any and all funds which may have been "retained" by TCEQ in accordance with said Contract is requested.

Executed on this _____day of _____, 20__.

By: _____
(signature)

_____
(name, typed or printed)

_____
(title)

Attachment C

BUDGET REVISION REQUEST FORM

Purpose: For TCEQ review and approval of recipient organization proposed budget changes to ensure project deliverables are met and fiscal accountability. Prior TCEQ review and approval is required before incurring specific costs which would result in cumulative transfers of 10% or more of total budget.
Instructions: Fill in each line item from your grant contract as shown in your Scope of Work. If this document does not have enough room for all the line items, please request a customized form from the Grant Manager.

1. Recipient Organization (Name & Complete Address Including Zip Code):

2. Grant/ Contract Title:		3. Payee Identification No.:	
4. TCEQ Contract No.:		5. Total Project/ Grant Period:	
6. Item Description:	7. Approved Budget	8. Change Requested (+ or -)	9. New or Revised Budget
Total:			

Justification (Attach additional sheets, if necessary):

Budget Revision Request must contain both the TCEQ Grant Manager and TCEQ Contract Manager signatures to be valid.

Signature of Authorized Representative Date — Type or Printed Name and Title

Signature of TCEQ Grant Manager Date — Type or Printed Name and Title

Signature of TCEQ Contract Manager Date — Type or Printed Name and Title

Attachment D

PERFORMING PARTY'S PERFORMANCE EVALUATION REPORT

☐ Final Report *(Check only if the Agreement has ended and this is the last Performance Report)*
Report No _____ of _____
Grantee: _____
Project Name (*if applicable*) _____
Date of Last Report: _____

Today's Date:
Evaluation Period: From _____ to
Contract No./ Purchase Order No.
Phase *(if applicable)*:
Date of Program's Last Site Visit (*if applicable)*:

Brief Description of Work / Services (*optional*): _____

Performance Category	**Ratings**				**Comments**
	Exceeds Expectations Score=3	**Satisfactory Performance** Score=2	**Marginal Performance** Score=1	**Unsatisfactory Performance** Score=0	Please provide a narrative description for ratings of one or below (*attachments are acceptable.*)
Quality & Accuracy					
Timeliness					
Reports					
HUB (for Quarterly Reporting, complete this portion only and return)					
Communication					
Cost Control					
Technology					
Other (describe) ***XXX***					

Evaluator's Name: _____ Signature: _____
(Printed or Typed)

Division: _____ Section: _____

XXX Requires an attachment describing category and rating description which corresponds.

Note: Please see reverse side for specific definitions for each performance category and an explanation for each score.

Attachment D (contd)

PERFORMING PARTY's PERFORMANCE EVALUATION REPORT - Category Descriptions

PERFORMANCE CATEGORY	EXCEEDS EXPECTATIONS (Score = 3)	SATISFACTORY PERFORMANCE (Score = 2)	MARGINAL PERFORMANCE (Score = 1)	UNSATISFACTORY PERFORMANCE (Score = 0)
1. Quality and Accuracy Quality, sufficiency, and accuracy of contract-required work, including work or Tasks performed by subcontractors	Work product always, with rare exceptions, of excellent quality. Revisions rarely or never required.	Work product of satisfactory quality with only typical errors and omissions, which were corrected upon request.	Work product is acceptable, although many errors and/or omissions had to be corrected prior to product being acceptable.	Work product not acceptable or of very low quality, with many errors and omissions noted. Not all errors and omissions corrected.
2. Timeliness Timeliness with respect to completing Contract-required work and/or work-related Tasks, including work performed by subcontractors	All Tasks and Contract deliverables on time or ahead of schedule. Quality of work did not suffer as a result of the time line.	Some intermediate Task delays, not expected to cause major deadlines to be missed or to require Contract extension. Prior approval granted for any other delays.	Some major work performance delays caused (or expected to cause) delivery schedules to be missed.	Required work product not completed on time, due to factors that should have been under contractor's control.
3. Reports Accuracy, adequacy, and timeliness of Contract-required activity/progress reports, notifications, financial reports, invoices, pay requests and other required documents, excluding HUB reports	All reports accurate and complete, as well as on time. No rewrites or additional information required.	Reports satisfactory with respect to both quality and timeliness. Contractor responded quickly and appropriately to questions or comments raised.	Numerous errors and/or omissions corrected prior to reports being acceptable (or reminders of reports due were required to be sent). Reports not later than 5 working days.	Reports consistently of poor quality and/or late. Contents inadequate to permit interpretation or analysis. Reports more than 5 working days late.

FOR HUB PROGRAM USE ONLY: **4. HUB and/or DBE/ MBE/ WBE*** Contractor's achievement of (or continued responsiveness toward) Contract-contained HUB Subcontracting Plan (HSP) and/or Good Faith Effort (GFE) requirements, including timely and accurate submittal of Contract-required HUB related reports. *When the term HUB is used, include evaluation of Contractor's performance of DBE/MBE/WBE requirements.	Contractor consistently meets or exceeds the HSP and/or GFE requirements. All reports accurate and complete, as well as on time. No rewrites or additional information required.	Contractor satisfactorily meets the HSP and/or GFE requirements. Reports satisfactory with respect to both quality and timeliness. Contractor responded quickly and appropriately to questions or comments raised.	Contractor marginally meets the HSP and/or GFE requirements. Numerous errors and/or omissions corrected prior to reports being acceptable (or reminders of reports due were required to be sent). Reports frequently late.	Contractor did not adequately meet the HSP and/or GFE requirements. Reports consistently of poor quality and/or late. Contents inadequate to permit interpretation or analysis. Reports habitually late.
5. Communication Contractor's accessibility, responsiveness, and cooperativeness with respect to any Contract-related concerns communicated by the Contract Manager; plus contractor's demonstrated relationship with subcontractors	Contractor consistently maintains excellent standing with subcontractors, including timely payments. Works as a team member and is flexible and responsive to changes in circumstances or scope of work.	Contractor is usually flexible and responsive to changes in circumstances or scope of work. Generally maintains good standing with subs, and ensures that they are paid promptly.	Contractor is only intermittently responsive to changes in Contract scope or other circumstances. Marginal team player. Failed to make timely payments to subs on one or two occasions.	Not flexible to changes in scope or other circumstances. Not cooperative or accessible. Failed to maintain good standing with subs and failed to make payments on more than two occasions.

6. Cost Control* Contractor's ability to observe current cost levels; compare them with Contract or Work Order budget, as applicable; and institute corrective action to keep cost within budget. ***Do not include consideration of Contract or Work Order budget amount changes requested or caused by TCEQ.	Contractor took strong initiative to observe current cost levels; compare them with Contract or Work Order budget, as applicable; and institute corrective action to keep cost within budget.	Contractor observed current cost levels; compared them with Contract or Work Order budget, as applicable; and instituted corrective action to keep cost within budget.	Contractor sometimes failed to observe current cost levels; compare them with Contract or Work Order budget, as applicable; and institute corrective action to keep cost within budget.	Contractor failed to observe current cost levels; compare them with Contract or Work Order budget, as applicable; and institute corrective action to keep cost within budget.
7. Technology Contractor's demonstrated technical competence and/or expertise (including competence and expertise of subcontractors); plus contractor's innovativeness and willingness to apply, within the limitations of the Contract, new techniques or technologies	Contractor is comfortable with and applies current proven technology. But is familiar with, and willing to use, latest techniques and solutions where such are appropriate.	Contractor is capable of applying current proven technology. Is aware of, but not experienced in the use of latest techniques and solutions.	Contractor usually uses more basic technology to solve Contract problems. Is aware of, but has little or no experience in the use of more current proven techniques and solutions.	Contractor can only apply basic technology to Tasks. Requires direction concerning appropriate technology and solutions.
8. Other DESCRIBE	DESCRIBE	DESCRIBE	DESCRIBE	DESCRIBE

Commissioners Court - Regular Session **40.**

Meeting Date: 03/07/2017

IP Simulcast Upgrade and Granger Site Add Motorola No-Cost Change Order 1

Submitted By: Catherine Roberts, Radio Communication System

Department: Radio Communication System

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and approve the Motorola, no-cost change order, as it relates to the open project for the Williamson County IP Simulcast Conversion and Granger simulcast completion.

Background

Project was approved and funded in 2015 to convert the County's Radio Communication System from circuit based to IP and to complete the tower site addition of Granger tower #8 to the network. To date all tower network equipment has been installed and ready for turn up and two out of the three dispatch centers affected have been migrated to IP, however due to delays with local vendors (i.e. IXC, LECs) to provide ethernet service for both the County's Prime site #1 and the ESOC 911 CEB, we have been at almost 12 month stand still for service to be provided. We are now moving forward and we have finally procured a carrier, however Motorola is requesting a NO-Cost change order acknowledgement for documentation to show reason for the delay in the project. The change order reflects a new estimated completion date of 8-31-17, however we optimistically anticipating it to be much earlier.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Motorola CO1

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:31 AM
Form Started By: Catherine Roberts		Started On: 03/02/2017 11:14 AM
Final Approval Date: 03/02/2017		

MOTOROLA SOLUTIONS

CHANGE ORDER

TX-14I179A-001

Change Order No.	TX-14I179A-001
Date:	2/28/2017
Project Name:	WILCO IP Simulcast and Granger Site Add project
Customer Name:	Williamson County
Customer Project Mgr:	Catherine Roberts

The purpose of this Change Order is to:

This is a ***no cost*** change order to extend the completion date for this project due to delays:

1. Primarily the customer delay in obtaining an Ethernet backhaul from the Williamson County Twin Towers Prime site to CTECC (still in process as of 2/28/2017)
2. An increase in scope to add the Cedar Park, Round Rock and Williamson Co. Dispatch Centers T1 to Ethernet conversion, and
3. A new customer requirement for a 30-day burn-in period after the Acceptance Test and similar changes in the project.

The original completion date was 06/30/16 and it is now requested to be 8/31/2017. However, *every effort will be made by the Motorola Solutions Systems Integration team to work with Williamson County to complete this project as soon as possible.*

Contract # Contract/PO# 159373 **Contract Date:** **12-03-2015**

In accordance with the terms and conditions of the contract identified above between Williamson County and Motorola Solutions, Inc., the following changes are approved:

Contract Price Adjustments

Original Contract Value:	$ 1,923,278.00
Previous Change Order amounts for Change Order numbers 001 through 001	$ 0.00
This Change Order:	$ 0.00
New Contract Value:	$ 1,923,278.00

Completion Date Adjustments

Original Completion Date:	06-30-2016
Current Completion Date prior to this Change Order:	06-30-2017
New Completion Date:	**08-31-2017**

MOTOROLA SOLUTIONS

CHANGE ORDER

TX-14I179A-001

Changes in Equipment:
Six additional HP 2626 network switches were procured for the three Dispatch Centers' transition from T1 to Ethernet *at no additional cost* to Williamson County.

Changes in Services:
Over 12 months of additional Motorola Solutions Systems Integration (SI) Engineering, System Technologist and Project Manager time *at no additional cost* to Williamson County.

Schedule Changes:
The schedule was updated to reflect the delays due to the reasons stated above. New completion date is 8/31/2017 (or sooner – the Motorola project team is focused on completion of this project as soon as possible).

Pricing Changes:
No changes to pricing.

Customer Responsibilities:
No change.

Payment Schedule for this Change Order:
No change.

Unless amended above, all other terms and conditions of the Contract shall remain in full force. If there are any inconsistencies between the provisions of this Change Order and the provisions of the Contract, the provisions of this Change Order will prevail.

IN WITNESS WHEREOF the parties have executed this Change Order as of the last date signed below.

Motorola Solutions, Inc.		**Customer**	
By:		By:	
Printed Name:	Mark A. Thor	Printed Name:	
Title:	Regional Services Mgr.	Title:	
Date:	02/28/2017	Date:	

Reviewed by: James P. Sullivan Date: 2/28/2017
Motorola Solutions Project Manager

Commissioners Court - Regular Session **41.**

Meeting Date: 03/07/2017

RCS Associates Agreement between Williamson County RCS and Georgetown Independent School District

Submitted By: Catherine Roberts, Radio Communication System

Department: Radio Communication System

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and approve the adoption of Georgetown Independent School District as an RCS Associate customer under the County radio system.

Background

With the April 12, 2016 commissioner court approval of the RCS Associates agreement as an extension of the 2008 ILA. This agreement allows for contract services between the RCS and the subscriber providing substantial backing for the County's RCS invoices. Georgetown ISD will be migrating off of their existing radio system and has opted to work collaboratively with Williamson County to work towards a plan to bring schools to a level public safety interoperability communications with local agencies. Adopting this customer onto the County radio system, will add to our growing subscribers which help maintain the radio system as well as adding to the repertoire of growing schools (i.e Hutto ISD, Leander ISD) for which we already support. Their intent is to start with administration radios first, then adding at the school level as funding for units permits as well as a transition of their bus line.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

RCS Associates Agreement GTISD

Form Review

Inbox	Reviewed By	Date
Hal Hawes	Hal Hawes	03/02/2017 02:06 PM
County Judge Exec Asst.	Wendy Coco	03/03/2017 04:08 PM
Form Started By: Catherine Roberts		Started On: 03/02/2017 11:39 AM
Final Approval Date: 03/03/2017		

WILLIAMSON COUNTY
RADIO COMMUNICATIONS SYSTEM
ASSOCIATES AGREEMENT FOR USE OF THE
WILLIAMSON COUNTY RADIO COMMUNICATIONS SYSTEM
BY THE ORGANIZATION KNOWN AS, GEORGETOWN INDEPENDENT SCHOOL DISTRICT

This Williamson County Radio Communications System Associates Agreement ("Agreement") for Use of The Williamson County Radio Communications System ("RCS") by the organization known as. Georgetown Independent School District, ("RCS Associate") entered into by and between ("RCS Associate") and Williamson County, Texas ("County"), being collectively referred to as "the Parties", for the purpose of outlining the Parties' mutual obligations with respect to the organization becoming an RCS Associate in the Williamson County Radio Communications System ("RCS"). Accordingly, the Parties set forth their intent and understandings as follows:

RECITALS

WHEREAS, County and the organization known as; Georgetown Independent School District are parties to the Interlocal Agreement for the Establishment, Operation and Maintenance of the Williamson County Radio Communications System ("RCS"), as may be amended from time to time in accordance with the terms thereof ("RCS ILA Agreement"), which provides for the organizational and management structure for the ongoing administration, operation and maintenance of the RCS, and to create a budget process, funding processes, strategic planning and budget forecasting processes, and allocation of costs associated with operating, maintaining and upgrading the RCS;

WHEREAS, both County and RCS Associate are authorized pursuant to TEX. GOV'T CODE ANN., Chapter 791, to enter into an Interlocal Cooperation Agreement for the purpose described in this Agreement;

WHEREAS, the RCS ILA Agreement authorizes County to enter into Interlocal Cooperation Agreements for use of the RCS with organizations that are eligible under FCC rules and regulations to use the licensed frequencies of the RCS;

WHEREAS, the organization known as, Georgetown Independent School District, has requested to become a RCS Associate, as that term is defined in the RCS ILA Agreement;

WHEREAS, the purpose of this Agreement is to allow the organization known as, Georgetown Independent School District, to become a RCS Associate and thereby be provided with access to and use of the RCS;

NOW, THEREFORE, the Parties agree to the following terms and conditions:

1.0 DEFINITIONS

Capitalized terms used in this Agreement and not otherwise defined herein shall have the same meanings given to them in the RCS ILA Agreement.

2.0 TERMS AND CONDITIONS

2.1 The RCS ILA Agreement, as attached hereto as Exhibit "A" and incorporated herein by reference as though fully set forth herein, and the terms and conditions contained therein shall apply to this Agreement. In the event of any conflict between the provisions of this Agreement and the RCS ILA Agreement, the provisions of the most current, adopted revision of the, RCS ILA Agreement shall prevail.

2.2 RCS Associate hereby agrees to comply with all terms, conditions, covenants and obligations set forth in the RCS ILA Agreement and all such terms, conditions, covenants and obligations shall accrue and apply with equal effect to RCS Associate under the RCS ILA Agreement.

2.3 RCS Associate shall be afforded all of the rights and privileges afforded to "RCS Associates" under the RCS ILA Agreement.

2.4 RCS Associate shall perform all of the duties, responsibilities and obligations applicable to RCS Associates under the RCS ILA Agreement.

2.5 Pursuant to the RCS ILA Agreement, RCS Associate shall not be afforded any of the rights or privileges that are afforded to RCS Parties under the RCS ILA Agreement.

2.6 RCS Associate is authorized to access and use the type and quantity of Subscriber Units described in Exhibit "B", which is attached hereto and incorporated herein. RCS Associate shall not use any additional equipment or units on the RCS.

2.7 RCS Associate shall pay, in accordance with the terms of the RCS ILA Agreement, for the Subscriber Units authorized in Exhibit "B" based on the rates set forth therein.

2.8 If the number of Subscriber Units set forth on Exhibit "B" is amended during a Fiscal Year, RCS Associate shall pay County the amount due, which shall be based on the amended number of units and/or Subscriber Unit Fee, for the remainder of that Fiscal Year.

2.9 RCS Associate acknowledges and agrees that the Subscriber Unit Fee shall be adjusted, in accordance with the terms of the RCS ILA Agreement. RCS Associate further agrees to pay such adjusted fee in accordance with the RCS ILA Agreement and that RCS Associate shall be subject to any of the remedies set forth under the RCS ILA Agreement for any failure to make a payment.

2.10 In the event the governing body of RCS Associate fails to ratify and execute any subsequent amendments that are adopted in accordance with the terms of the RCS Agreement, the RCS Associate may, at the discretion of the Program Manager/Williamson County, under the guided recommendation of the RCS Advisory Board, as well as quorum recommendation from the Williamson County Commissioners Court, the RCS Associate may be restricted or suspended from using the RCS until such time as approval and/or ratification is obtained.

3.0 TERM

3.1 Contingent Term. This Agreement is contingent upon both the continuation of the RCS Agreement and County's continued right to use the RCS under the RCS ILA Agreement. If County becomes no longer eligible to use the RCS for any reason or if the RCS ILA Agreement is otherwise terminated pursuant to its terms, this Agreement shall automatically terminate.

3.2 Initial Term. This Agreement shall commence on the date in which it is signed by the RCS Associate (intended) and executed Williamson County.

3.3 Automatic Renewal. If neither of the contingencies in 3.1 have occurred, this Agreement shall automatically renew on October 1st of each year for terms of one (1) year each.

3.4 Withdraw or Termination of Agreement. This Agreement can be terminated upon a minimum 90 day notification from the RCS Associate, in writing to the Program

Manager/Williamson County, and the RCS Advisory Board. Notwithstanding anything contained herein to the contrary, upon the withdrawal or termination of an RCS Associate in accordance with Section 18 of the RCS ILA Agreement, herein, the withdrawing or terminated RCS Associate shall have no claim to any RCS Infrastructure Equipment or any property, real or personal, that is owned by Williamson County or that becomes the property of Williamson County under this Agreement

4.0 MISCELLANEOUS PROVISIONS

4.1. Severability. If any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof, but rather this entire Agreement will be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligations of all Parties shall be construed and enforced in accordance therewith. All Parties acknowledge that if any provision of this Agreement is determined to be invalid or unenforceable, it is the desire and intention of each that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, give effect to the intent of this Agreement and be deemed to be valid and enforceable.

4.2. Construction. Each party hereto acknowledges that it and its counsel have reviewed this Agreement, and that there will be no presumption that any ambiguities will be resolved against the drafting party in the interpretation of this Agreement.

4.3. Incorporation of Exhibits and Attachments. All of the exhibits and attachments referred to in this Agreement are incorporated by reference as if set forth herein verbatim.

4.4. No Waiver of Immunities. Nothing in this Agreement shall be deemed to waive, modify or amend any legal defense available at law or in equity to the Parties, or their past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. the Parties do not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

4.5. Choice of Law; Jurisdiction and Venue. This Agreement shall be performable in Williamson County, Texas. This Agreement and all of the rights and obligations of the Parties and all of the terms and conditions shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas, without reference to its conflicts of law provisions. Williamson County shall be the sole place of jurisdiction and venue for any legal action arising from or related to this Agreement.

4.6. Assignment. RCS Associate may not assign or transfer its interest in or obligations under this Agreement without the prior written consent of County. Any authorized assignment or delegation of such rights or duties shall be consistent with the terms of any contracts, resolutions, indemnities, and other obligations of this Agreement and the RCS ILA Agreement. This Agreement shall ensure to the benefit of, and be binding upon, the successors and assigns of the Parties.

4.7. No Personal Benefit. No party to this Agreement intends to (1) benefit any person who is not either named as an RCS Party or otherwise added as an RCS Associate; (2) assume any special duty to supervise the operations of another RCS Party or Associate; (3) provide for the safety of any specific person; or (4) assume any other duty other than that imposed by this Agreement and general law.

4.8. Notice. Any notice given hereunder shall be in writing, and shall be delivered by personal delivery, or by registered or certified mail, with return receipt requested, at the address of the respective parties indicated below:

Williamson County RCS
Program Manager/System Manager
508 Holly Street
Georgetown, Texas 78626

RCS Advisory Board
508 Holly Street
Georgetown, Texas 78626

Williamson County
c/o: Williamson County Judge
710 S. Main Street, Suite 101
Georgetown, Texas 78626

Georgetown Independent School District
c/o Donnie Bruton
603 Lakeway Drive
Georgetown, Texas 78628

The above addresses for notice may be changed at any time by delivering written notice of change to the Program Manager/Williamson County, the Advisory Board, and to all RCS Parties in accordance with the notice requirements of this provision.

4.9. Gender, Number and Headings. Words of any gender used in this Agreement shall be held and construed to include any other gender, and words in the singular number shall be held to include the plural, unless the context otherwise requires. The headings and section numbers are for convenience only and shall not be considered in interpreting or construing this Agreement.

4.10. Attorney's Fees. In any lawsuit concerning this Agreement, the prevailing party shall be entitled to recover reasonable attorneys' fees from the non-prevailing party, plus out-of-pocket expenses such as deposition costs, telephone calls, travel expenses, expert witness fees, court costs, and other reasonable expenses.

4.11. Compliance with Applicable Laws. The Parties agree to comply with all applicable federal, state and local ordinances, laws, rules, regulations, and lawful orders of any public authority. Nothing in this Agreement is intended to conflict with the RCS Associate's zoning, franchise, or health and safety authority.

4.12. Dispute Resolution. Should dispute arise between the Parties to this Agreement concerning the terms of this Agreement, the dispute shall be first presented for resolution to the Advisory Board. If the Advisory Board cannot timely resolve the issue, the Advisory Board shall then recommend that the Program Manager/Williamson County retain a certified mediator to attempt to mediate a resolution to the conflict. Any costs of mediation will be shared equally by parties involved in the dispute subject of the mediation. If a resolution cannot be obtained through such mediation, the Parties may then litigate the dispute in a court of competent jurisdiction.

The Parties hereby expressly agree that no claims or disputes between the Parties arising out of or relating to this Agreement or a breach thereof shall be decided by any arbitration proceeding, including without limitation, any proceeding under the Federal Arbitration Act (9 USC Section 1-14) or any applicable state arbitration statute.

4.13. Abatement of Costs. RCS Associate shall not be entitled to any damages, nor to any

abatement or reduction of its Subscriber Unit Fees for any repairs, alterations, additions or temporary failures of the RCS.

4.14. Independent Relationships. The Parties shall act in individual capacities and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of any other party for any purposes whatsoever.

4.15. Execution in Multiple Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be considered an original, and all of which shall be considered as one original fully executed as of the date when all the Parties have executed an identical counterpart, notwithstanding the fact that all signatures may not appear on the same counterpart.

4.16. Entire Agreement. This Agreement and the RCS ILA Agreement constitute the entire agreement between the Parties, and supersedes all other oral and/or written negotiations, agreements, and understandings of every kind. The Parties understand, agree, and declare that no promise, warranty, statement, or representation of any kind whatsoever which is not expressly stated in this Agreement has been made by any party, or its respective officers, employees, or other agents to induce execution of this Agreement.

IN WITNESS WHEREOF, the Parties have set their hands on this _____ day of _____, 201__.

WILLIAMSON COUNTY

By: _____
Dan Gattis,
Williamson County Judge

APPROVED AS TO FORM:

_____ Date _____
_____ (Print)
Williamson
County Attorney

_____ Date _____
_____ (Print)
Williamson County
Contract Auditor

GEORGETOWN INDEPENDENT SCHOOL DISTRICT

By: _____
Steve West
Chief Financial Officer

ATTEST:

By: _____
Pam Sanchez

Exhibit "A"

Williamson County
Radio Communications System (RCS)
OFFICIAL NOTIFICATION
4-1-16

Members:
Judge Dan Gattis, Chairperson, Williamson County
John Sneed, Program Manager
Catherine Roberts, System Manager
Rick White, Round Rock (Primary)
Leigh Carrico, Round Rock (Alternate)
Patrick Hurley, Georgetown (Primary)
Clay Shell, Georgetown (Alternate)
Marvin Harris, Cedar Park (Primary)
James Mallinger (Alternate)
Nate Spraggins, Hutto (Primary)
Rob Bocanegra, ESD 3 (Alternate)

RE: Radio Subscriber Fee FY 2017

This Official Notification is to allow for preparation of all agencies for the FY 20167 with regards to their budget allowances for radio subscriber fees. In accordance with the ILA drafted in 2008 for the establishment, operation and maintenance of The Williamson County Radio Communications System reference Subsection 14.02 "Cost for RCS Party or Associate to Participate in RCS during First Five Fiscal Years."

Subsection 14.02: Cost for RCS Party or Associate to Participate in RCS During First Five Fiscal Years. *For the first five Fiscal Years of this Agreement, beginning October 1, 2007, the only cost chargeable to RCS Parties and Associates is $17.50 per Subscriber Unit per month in order for the RSC Party or Associate to gain and enjoy full participation in the RSC System. All parties expressly acknowledge and agree that the annual Subscriber Unit Fee shall, without exception, be frozen at $17.50 per Subscriber Unit per month for the first five Fiscal Years of this Agreement, beginning October 1, 2007.*

Please note at this time the County is exercising its right for potential increase set forth in Subsection 14.05.

Subsection 14.05: Potential Increases in Subscriber Unit Fees. *Following the first five Fiscal Years of this Agreement, during which time the annual Subscriber Unit Fees will have remained frozen at $17.50 per Subscriber Unit per month, the annual Subscriber Unit Fee which is assessed for each Subscriber Unit may be increased by the Program Manager/Williamson County in an amount not to exceed ten percent (10%) per year per Subscriber Unit.*

In the event that the Program Manager/Williamson County makes a determination that an increase is necessary which exceeds such ten percent (10%) limit, then and in that event the Program Manager/Williamson County shall submit the matter to the Advisory Board. After a hearing, the Advisory Board shall make known in written form its determination as to whether an increase above such ten percent (10%) limit is warranted and, if so, an appropriate percentage of increase to the Subscriber Unit Fee. Following receipt of such determination by the Advisory Board, the Williamson County Commissioner's Court shall set the actual amount of increase, if any. The Program Manager/Williamson County shall notify the RCS Parties and Associates of same.

Subscriber fees set forth for the FY 2017 will be as such: $28.18 per subscribing unit per month.

You may direct any questions or concerns regarding this increase to the RCS System Manager Catherine Roberts 512-943-3575 or Julie Kiley at County Auditor's office 512-943-1552.

Exhibit "B"

RCS Initial Subscriber Units (ISU) and Initial Rate Schedule

Agency Known as: GEORGETOWN INDEPENDENT SCHOOL DISTRICT

The initial number of ISUs and per unit monthly rate is as followed:

Cost Category	Number of ISU	Monthly Fee per each	Total Monthly Cost
RCS System Operations & Maintenance	**Subscriber Units No. 5**	**$ 28.18**	**$140.90**

Reference Section 2, Subsection 2.9 related to approved changes to per unit Monthly cost

Commissioners Court - Regular Session **42.**

Meeting Date: 03/07/2017

Supplemental Agreement No 6 BLGY North Campus Project

Submitted For: Randy Barker **Submitted By:** Teri Jeffries, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on authorizing Supplemental Agreement No 6 with BLGY, North Campus Project, for additional necessary services to renovate the existing vehicle impound building in the amount of $33,012.34, under 15RFQ102.

Background

Supplement Agreement No 6 attached for review.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

BLGY Supplement Agreement No 6

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Teri Jeffries		Started On: 02/24/2017 07:50 AM
Final Approval Date: 02/27/2017		

SUPPLEMENTAL AGREEMENT NO. 6 TO AGREEMENT FOR ARCHITECTURAL AND ENGINEERING SERVICES

WILLIAMSON COUNTY NORTH CAMPUS PROJECT ("Project")

This Supplemental Agreement No. 6 to Agreement for Architectural and Engineering Services ("Supplemental Agreement No. 6") is by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and BLGY, Inc. (the "A/E").

RECITALS

WHEREAS, the County and the A/E previously executed an Agreement for Architectural and Engineering Services (the "Agreement"), dated effective November 12, 2015, wherein A/E agreed to perform certain professional architectural and engineering services in connection with the Williamson County North Campus Project ("Project");

WHEREAS, following execution of the Agreement, County and the A/E executed Supplemental Agreement Nos. 1, 2, 3, 4 & 5 to Agreement for Architectural and Engineering Services in order to add Additional Services to the Agreement's Basic Services;

WHEREAS, County now must add Additional Services that are necessary in order to renovate the existing vehicle impound building (metal building) so that it may house the Williamson County Signage Shop and material storage;

WHEREAS, Section III of the Agreement requires the parties to execute a contract modification for the performance of Additional Services not specifically described as Basic Services in the Agreement;

WHEREAS, this Supplemental No. 6 sets forth the scope of the Additional Services and the Additional Services compensation for A/E's professional services; and

WHEREAS, it has become necessary to supplement, modify and amend the Agreement in accordance with the Agreement.

AGREEMENT

NOW, THEREFORE, premises considered, the County and the A/E agree that the Agreement is supplemented, amended and modified as follows:

I. Scope of Additional Services

A/E hereby agrees to provide the Additional Services set forth in Exhibit "A", Scope of Additional Services, which is attached hereto and incorporated herein by reference.

II. Additional Services Compensation

A/E will perform the Additional Services set out in Exhibit "A" for the lump sum amount of **$33,012.34**.

III. Terms of Agreement Control and Extent of Supplemental Agreement No. 6

All Additional Services described herein will be performed in accordance with the terms and conditions of the Agreement. All other terms of the Agreement and any prior amendments or supplements thereto which have not been specifically amended herein shall remain the same and shall continue in full force and effect.

The County reserves the right and sole discretion to determine the controlling provisions where there is any conflict between the terms of the Agreement, this Supplemental Agreement No. 6 and/or the terms of any document attached hereto as exhibits.

IN WITNESS WHEREOF, the County and the A/E have executed this Supplemental Agreement No. 6, in duplicate, to be effective as of the date of the last party's execution below.

A/E:

BLGY, Inc.

By: _____

Printed Name: Mark Daniel Brown

Title: Vice-President

Date: February 21 ____, 2017

COUNTY:

Williamson County, Texas

By: _____

Printed Name: _____

Title: _____

Date: _____ ____, 20____

EXHIBIT "A"

A/E will provide the following Additional Services:

- Standard complete MEP (Mechanical, Electrical and Plumbing) Scope in order to renovate the existing vehicle impound building (metal building) so that it may house the Williamson County Signage Shop and material storage. (Fee: $8,100.00)
- Technology design and contract administration (CA) services. The newly renovated Williamson County Signage Shop building will be connected via fiber to County's network. Technology systems will include an IDF, data outlets, wireless network access, access control, door contacts, and security CCTV. New conditioned spaces include an office, work area, restroom, kitchenette, and communication/electrical lose. (Fee: $4,550.00)
- Design survey of the impound yard building and surrounding area. Field tie improvements and site topography from the impound yard building to the nearest fence line of the impound yard on the north, east, and west side of the building and 100' to the south of the building. (Fee: $1,890.00)
- Prepare one paving/dimension control plan. This plan will include dimension controls sufficient for construction of pavement curb lines and applicable parking. This item excludes a detailed paving joint layout plan. (Fee: $2,021.00)
- Prepare one grading/drainage plan sheet. This plan will show existing and proposed ground contour lines and spot elevations needed to grade the site for drainage. This task includes grading for vehicular areas. This task does not include grading within the building limits or landscape areas. (Fee: $1,403.00)
- Prepare one erosion control plan in conjunction with the building site and drainage design. This task is for the preparation of design drawings and associated details only. (Fee: $867.00)
- Construction Administration- Review and provide written responses to contractor submittals and RFI's on construction drawings and specifications. Attend onsite meeting and construction observation. One (1) site visit is budgeted for this task. (Fee: $2,002.00)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-169335

Date Filed:
02/21/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

BLGY Architecture
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

Williamson County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

15RFQ102
Architectural & engineering design services for interior remodel of existing building.

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

FALICIA K. MEDINA PEREZ
Notary Public, State of Texas
Comm. Expires 04-28-2020
Notary ID 130641260

Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said Mark D. Brown, this the 21st day of February, 20 17, to certify which, witness my hand and seal of office.

Signature of officer administering oath	Printed name of officer administering oath	Title of officer administering oath
	Falicia K Medina-Perez	Notary Public

Commissioners Court - Regular Session **43.**

Meeting Date: 03/07/2017

Authorizing Renewal of Asphalt Emulsions

Submitted For: Randy Barker **Submitted By:** Sydney Richardson, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on authorizing the renewal of Asphalt Emulsions, Contract #15IFB111, for the same pricing, terms and conditions as the existing Contract for the term of April 4, 2014 – October 13, 2017, with Ergon Asphalt & Emulsions, Inc.

Background

This is the second extension of two (2) possible, renewal options. The User Department submitted an annual Vendor Performance Report (VPR) that reflected the Vendor meeting our requirements on this Contract, and request to renew for a six (6) month period.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

1 - Renewal Form

2 - Form 1295

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 10:02 AM
Form Started By: Sydney Richardson		Started On: 02/24/2017 02:23 PM
Final Approval Date: 02/27/2017		

WILLIAMSON COUNTY
1848

Summary Agreement for Renewal of Williamson County Contract

Purchase/Contract Type:	Goods/Services	**Department:**	Road & Bridge
Vendor Name:	Ergon Asphalt & Emulsions, Inc.		
Vendor Address:	11612 RM 2244, Building 1, Suite 250, Austin, Texas 78738		
Purpose/Intended Use of Product or Service (summary):			
Asphalt Emulsions			
P.O./Contract Number:	15IFB111	**Effective Date:**	04/14/17
Purchaser/Contract Specialist:	Sydney Richardson	**Expiration Date:**	10/13/17
Requested By:	Doug Woodall, Road & Bridge Director		

Detailed description of renewal of product and/or service.

- **Williamson County wishes to extend this bid for the same pricing, terms and conditions as the existing contract, for a period of six (6) months.**
- PLEASE INCLUDE THE FOLLOWING:
  - COMPLETED 1295 FORM; AND
  - RENEWED INSURANCE CERTIFICATE IF IT WAS REQUIRED IN BID/PROPOSAL.
- **Extend Contract for the second of two (2) renewal option periods:**

Renewal Option Period 2	April 14, 2017 – October 13, 2017
Renewal Option Period 1	April 14, 2016 – April 13, 2017
Initial Contract Period	April 14, 2015 – April 13, 2016

BY SIGNING BELOW, THE PARTIES AGREE TO THE TERMS OF EXTENSION SET OUT HEREIN

Vendor ERGON ASPHALT & EMULSIONS, INC.

Name CODY R. CHAMBLISS

Title AREA SALES MANAGER

Signature Cody R Chambliss

Date FEBRUARY 20, 2017

Williamson County, 710 Main St., Georgetown, TX 78626

Dan A. Gattis

Williamson County Judge

Signature _____

Date _____

Two (2) Signed Originals & One (1) photocopy must be submitted

WILLIAMSON COUNTY
1848

WILLIAMSON COUNTY AFFIDAVIT AUTHORIZED VENDOR REPRESENTATIVE

I hereby swear, affirm and represent to Williamson County that my signature below represents that I am authorized to bind the bidder/proposer to fully comply with the pricing, terms and conditions for the Contract listed below and any extension thereof, if applicable.

Note: If Signature is by an agent, other than the Sole Proprietor(s) or an officer of a Corporation, Limited Liability Company, General Partner or a member of a Genera Partnership, a Power of Attorney or equivalent document must be submitted to the Williamson County Purchasing Department prior to being recommended for award of the contract or renewal.

Contract Number:	15IFB111
Contract Name:	Asphalt Emulsions
Name of Company:	Ergon Asphalt & Emulsions, Inc.
Contact Person:	CODY R. CHAMBLISS
Phone:	(512) 469-9292
Email:	cody.chambliss@ergon.com
Date:	FEBRUARY 20 , 20 17
Printed Name of Person Submitting Affidavit:	CODY R. CHAMBLISS
Signature of Person Submitting Affidavit:	C R Chambliss

On this, the 20th day of February, 2017, before me a notary public, the undersigned officer, personally appeared Cody R. Chambliss, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that she/he executed the same for the purposes therein contained.

In witness hereof, I hereunto set my hand and official seal.

Elizabeth K. Roe

Notary Public

My Commission Expires: 12/05/19

ELIZABETH K. ROE
NOTARY PUBLIC
STATE OF TEXAS
EXPIRES
12-5-2019

Two (2) Signed Originals & One (1) photocopy must be submitted

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-168932

Date Filed:
02/20/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Ergon Asphalt & Emulsions, Inc.
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

Williamson County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

Contract 15IFB111
Asphalt Emulsions

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

ELIZABETH K. ROE NOTARY PUBLIC STATE OF TEXAS EXPIRES 12-5-2019

AFFIX NOTARY STAMP/SEAL ABOVE

Signature of authorized agent of contracting business entity

Sworn to and subscribed before me, by the said Cody R. Chambliss, this the 20th day of February, 2017, to certify which, witness my hand and seal of office.

Signature of officer administering oath	Printed name of officer administering oath	Title of officer administering oath
Elizabeth K. Roe	Elizabeth K. Roe	Notary Public

Commissioners Court - Regular Session **44.**

Meeting Date: 03/07/2017

Advertise for renovations to 355 Texas Avenue RFP 1701-139

Submitted For: Randy Barker **Submitted By:** Teri Jeffries, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action to authorize the Purchasing Agent to advertise and receive proposals on RFP 1701-139, for renovations to 355 Texas Avenue facility.

Background

The estimated budget for this renovation is $1,900,000.00. Bid Packet attached. Summary of work includes Exterior: re-surfacing of parking lot, replacement of roof parts, HVAC replacement, exterior finish repairs, installation of backup generator. Interior: demolition of interior, re-configure floor plan and reconstruct.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

RFP 1701-139 Bid Packet

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Teri Jeffries		Started On: 02/27/2017 12:57 PM
Final Approval Date: 02/27/2017		

Solicitation 1701-139

Renovations to 355 Texas Avenue Facility in Round Rock, TX

Bid Designation: Public

Williamson County, Texas

Bid 1701-139
Renovations to 355 Texas Avenue Facility in Round Rock, TX

Bid Number	1701-139
Bid Title	Renovations to 355 Texas Avenue Facility in Round Rock, TX
Bid Start Date	In Held
Bid End Date	Mar 29, 2017 10:00:00 AM CDT
Question & Answer End Date	Mar 27, 2017 2:00:00 PM CDT
Bid Contact	Teri Jeffries Senior Purchasing Specialist 512-**943**-1553 Teri.jeffries@wilco.org
Contract Duration	**1 year**
Contract Renewal	Not Applicable
Prices Good for	**180 days**
Pre-Bid Conference	**Mar 16, 2017 11:00:00 AM CDT** **Attendance is mandatory** **Location: The meeting will be held 335 Texas Avenue, Round Rock, Texas.** **This is a MANDATORY meeting. Failure to attend will prohibit your firm from submitting a qualifying proposal. Additionally, it is suggested that due to the electrical concerns and specifications, the Contractor also bring the electrician that will be indicated in its proposal to the meeting.**
Bid Comments	**Williamson County is seeking proposals from qualified contractors to complete the renovations to 355 Texas Avenue, Round Rock, Texas, (sometimes referred to as the Williamson County and Cities Health District). The remodel is to be completed per the specifications provided by Haddon & Cowan Architects, provided with this RFP1701-139, along with directions from the County Project Manager.** **A summary of the scope of work to be completed is as follows, however, this is only a cursory description. Work performance shall be as defined in the specifications and as required by the County personnel.** **SUMMARY OF WORK:** ***Exterior Scope of Work*** **Resurfacing and re-striping of existing asphalt parking lot** **Construction of (2) accessible ramps to the back entrances** **Replacement of existing metal roof fasteners and various flashing connections** **HVAC replacement** **Various exterior finish repairs** **Installation of a back-up generator to serve specific areas of the building** ***Interior Scope of Work*** **Demolition of all floor finishes, ceilings, lighting, HVAC, and select wall, door, electrical, IT/AV and millwork demolition** **Installation of new floor finishes, ceilings, lights, HVAC, new paint and various other new finishes** **Various renovations to existing wall configurations to accommodate new layouts** **Installation of new plumbing lines to accommodate new exam rooms, new toilet room and lab areas** **Modifications to various existing doors, frames and hardware to meet Williamson County standards** **Installation of foam insulation system to the underside of the existing metal roof** **New electrical wiring throughout the building, new receptacles and power in various areas**

MANDATORY Pre-Proposal Meeting : The meeting will be held at 335 Texas Avenue, Round Rock, Texas. Failure to attend will prohibit your firm from submitting a qualifying proposal. Additionally, it is suggested that due to the electrical concerns and specifications, the Contractor also bring the electrician that will be indicated in its proposal to the meeting.

Additional Stipulations:

Please fully review the attached ensuing agreement for all insurance requirements. Insurance certifications will be required within 30 days of the award of the contract. If you can provide those with your proposal that would appreciated, but not necessary.

Please fully review the evaluation criteria, to ensure full compliance. Please fully read the attached ensuing construction contract and required terms and conditions, to ensure you can fully comply with all insurance requirements.

Item Response Form

Item	**1701-139--01-01 -** Add all required documents and proposal to this line item.
Quantity	**1 each**
Unit Price	
Delivery Location	**Williamson County, Texas** Purchasing Department 901 S. Austin Avenue Georgetown TX 78626 **Qty** 1

Description

Please add all documents and proposal to this line item.

PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

WILLIAMSON COUNTY PURCHASING DEPARTMENT
SOLICIATION 1701-139
Renovations to 355 Texas Avenue Facility in Round Rock, TX

PROPOSALS MUST BE RECEIVED ON OR BEFORE:
Mar 29, 2017 10:00:00 AM CDT

PROPOSAL WILL BE PUBLICLY OPENED:
Mar 29, 2017 10:00:00 AM CDT

Notice is hereby given that sealed Proposals for the above-mentioned goods and/or services will be accepted by the Williamson County Purchasing Department. Williamson County uses BidSync to distribute and receive proposals. Specifications for this RFP may be obtained by registering at www.bidsync.com.

Williamson County prefers and requests electronic submittal of this Proposal.

All electronic proposal must be submitted via: www.bidsync.com

Electronic proposals are requested, however paper proposals will currently still be received, until further notice and may be mailed or delivered to the address listed below.

Respondents are strongly encouraged to carefully read this entire RFP.

All interested Respondents are invited to submit a Proposal in accordance with the Instructions and General Requirements, Proposal Format, Proposal Specifications, and Definitions, Terms and Conditions stated in this RFP.

Please note that a complete package must be submitted choosing one of the above two methods. Split packages submitted will be considered "unresponsive" and will not be accepted or evaluated.

Williamson County will not accept any Proposals received after the submittal deadline, and shall return such Proposals unopened to the Respondent.

General Information:

- If mailed or delivered in person, Proposal and Proposal addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed above for this RFP, to:

  Williamson County Purchasing Department
  Attn: **PROPOSAL NAME AND NUMBER**
  901 South Austin Avenue
  Georgetown, Texas 78626

  - Respondents should list the Proposal Number, Proposal Name, Name and Address of Respondent, and the Date of the Proposal opening on the outside of the box or envelope and note "Sealed Proposal Enclosed."
  - Respondent should submit one (1) original.
  - Williamson County will NOT be responsible for unmarked or improperly marked envelopes.
  - Williamson County will not accept any responsibility for Proposals being delivered by third party carriers.
  - Facsimile transmittals will NOT be accepted.

- Proposals will be opened publicly in a manner; however, to avoid public disclosure of contents, only the names of Respondents and pricing will be read aloud.

- All submitted questions with their answers will be posted and updated on www.bidsync.com.

- It is the Respondent's responsibility to review all documents in BidSync, including any Addenda that may have been added after the document packet was originally released and posted.

  - Any Addenda and/or other information relevant to the RFP will be posted on www.bidsync.com.

  - The Williamson County Purchasing Department takes no responsibility to ensure any interested Respondent has obtained any outstanding addenda or additional information.

Texas Avenue Facility Office Renovations

Located at 355 Texas Avenue, Round Rock, TX

RFP 1701-139

Summary Scope of Work

Below is a general overview/summary of the project. This is in no way intended to be diagnostic. Please ensure you fully read and respond based upon the attached specifications, conditions and requirements.

Exterior Scope of Work

- Resurfacing and re-striping of existing asphalt parking lot
- Construction of (2) accessible ramps to the back entrances
- Replacement of existing metal roof fasteners and various flashing connections
- HVAC replacement
- Various exterior finish repairs
- Installation of a back-up generator to serve specific areas of the building

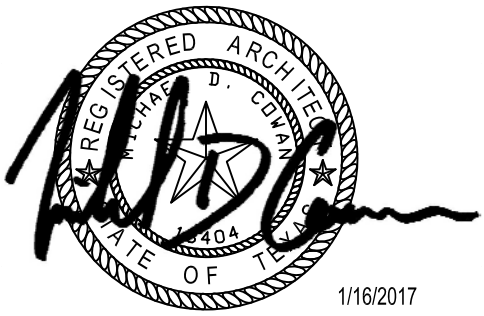
Interior Scope of Work

- Demolition of all floor finishes, ceilings, lighting, HVAC, and select wall, door, electrical, IT/AV and millwork demolition
- Installation of new floor finishes, ceilings, lights, HVAC, new paint and various other new finishes
- Various renovations to existing wall configurations to accommodate new layouts
- Installation of new plumbing lines to accommodate new exam rooms, new toilet room and lab areas
- Modifications to various existing doors, frames and hardware to meet Williamson County standards
- Installation of foam insulation system to the underside of the existing metal roof
- New electrical wiring throughout the building, new receptacles and power in various areas

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas 78664

Project Manual
Issued 1.16.17



1/16/2017

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Edwards + Mulhausen
INTERIOR DESIGN
2301 E. Riverside Drive, Building A, Suite 80
Austin, Texas 78741 Ph. 512.291.6657

SECTION 00 0102
PROJECT INFORMATION

PART 1 GENERAL

1.01 PROJECT IDENTIFICATION

A. Project Name: WCCHD Office Renovations, located at 355 Texas Avenue, Round Rock, TX 78664.

B. The Owner, hereinafter referred to as Owner: Williamson County

C. Owner's Project Manager: Bob Lubecker.
   1. Department: Williamson County Facilities.
   2. Address: 3101 SE Inner Loop.
   3. City, State, Zip: Georgetown, TX 78626.
   4. Phone/Fax: 512-943-1625.

1.02 NOTICE TO PROSPECTIVE BIDDERS

A. These documents constitute an Invitation to Bid to General Contractors for the construction of the project described below.

1.03 PROJECT DESCRIPTION

A. Summary Project Description: Renovations to existing 2-story office building. Exterior renovations to include new secondary entry, ADA/TAS compliant ramps, replacement of existing roof attachments and sealing/striping existing parking lot. Interior work is to include new finishes, new hvac, lighting, flooring, data/AV and miscellaneous partition changes.

1.04 PROJECT CONSULTANTS

A. The Architect, hereinafter referred to as Architect: Haddon+Cowan Architects.
   1. Address: 2301 E. Riverside Drive, Bldg A, Suite 80.
   2. City, State, Zip: Austin, TX 78741.
   3. Phone/Fax: 512-374-9120.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 00 0110

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END OF SECTION

SECTION 01 1000
SUMMARY

PART 1 GENERAL

1.01 PROJECT

A. Project Name: WCCHD Renovations

B. Owner's Name: Williamson County.

C. Architect's Name: Haddon+Cowan Architects.

1.02 DESCRIPTION OF ALTERATIONS WORK

A. Scope of demolition and removal work is shown on drawings and specified in Section 02 4100.

B. Scope of alterations work is shown on drawings.

1.03 WORK BY OWNER

A. Items noted NIC (Not in Contract) will be supplied and installed by Owner before Substantial Completion.

1.04 OWNER OCCUPANCY

A. Owner intends to occupy the Project upon Substantial Completion.

B. Cooperate with Owner to minimize conflict and to facilitate Owner's operations.

C. Schedule the Work to accommodate Owner occupancy.

1.05 CONTRACTOR USE OF SITE AND PREMISES

A. Construction Operations: Limited to areas noted on Drawings.

B. Provide access to and from site as required by law and by Owner:
   1. Emergency Building Exits During Construction: Keep all exits required by code open during construction period; provide temporary exit signs if exit routes are temporarily altered.
   2. Do not obstruct roadways, sidewalks, or other public ways without permit.

C. Utility Outages and Shutdown:
   1. Prevent accidental disruption of utility services to other facilities.

1.06 WORK SEQUENCE

A. Coordinate construction schedule and operations with Owner.

END OF SECTION

SECTION 01 2000
PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Procedures for preparation and submittal of applications for progress payments.

1.02 SCHEDULE OF VALUES

A. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit draft to Architect for approval.

B. Forms filled out by hand will not be accepted.

C. Submit Schedule of Values in duplicate within 15 days after date of Owner-Contractor Agreement.

D. Format: Utilize the Table of Contents of this Project Manual. Identify each line item with number and title of the specification Section. Identify site mobilization and bonds and insurance.

E. Revise schedule to list approved Change Orders, with each Application For Payment.

1.03 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Electronic media printout including equivalent information will be considered in lieu of standard form specified; submit sample to Architect for approval.

C. Forms filled out by hand will not be accepted.

D. For each item, provide a column for listing each of the following:
   1. Item Number.
   2. Description of work.
   3. Scheduled Values.
   4. Previous Applications.
   5. Work in Place and Stored Materials under this Application.
   6. Authorized Change Orders.
   7. Total Completed and Stored to Date of Application.
   8. Percentage of Completion.
   9. Balance to Finish.
   10. Retainage.

E. Execute certification by signature of authorized officer.

F. Submit three copies of each Application for Payment.

G. Include the following with the application:
   1. Partial release of liens from major Subcontractors and vendors.
   2. Affidavits attesting to off-site stored products.

H. When Architect requires substantiating information, submit data justifying dollar amounts in question.

1.04 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Sum or Contract Time, Architect will issue instructions directly to Contractor.

B. For changes for which advance pricing is desired, Architect will issue a document that includes a detailed description of a proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor shall prepare and submit a fixed price quotation within 5 days.

C. Contractor may propose a change by submitting a request for change to Architect, describing the proposed change and its full effect on the Work, with a statement describing the reason for

the change, and the effect on the Contract Sum and Contract Time with full documentation . Document any requested substitutions in accordance with Section 01 6000.

D. Computation of Change in Contract Amount: As specified in the Agreement and Conditions of the Contract.

E. Substantiation of Costs: Provide full information required for evaluation.
   1. On request, provide the following data:
      a. Quantities of products, labor, and equipment.
      b. Taxes, insurance, and bonds.
      c. Overhead and profit.
      d. Justification for any change in Contract Time.
      e. Credit for deletions from Contract, similarly documented.
   2. Support each claim for additional costs with additional information:
      a. Dates and times work was performed, and by whom.
      b. Invoices and receipts for products, equipment, and subcontracts, similarly documented.

F. Execution of Change Orders: Architect will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

G. After execution of Change Order, promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Sum.

H. Promptly enter changes in Project Record Documents.

1.05 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Sum, previous payments, and sum remaining due.

B. Application for Final Payment will not be considered until the following have been accomplished:
   1. All closeout procedures specified in Section 01 7000.

END OF SECTION

SECTION 01 3000
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.
B. Progress meetings.
C. Construction progress schedule.
D. Coordination drawings.
E. Submittals for review, information, and project closeout.
F. Submittal procedures.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Attendance Required:
   1. Owner.
   2. Architect.
   3. Contractor.
B. Agenda:
   1. Execution of Owner-Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract, _____ and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.
C. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.
B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
C. Attendance Required:
   1. Contractor.
   2. Owner.
   3. Architect.
   4. Contractor's Superintendent.
   5. Major Subcontractors as required or requested by Architect/Owner.
D. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Maintenance of progress schedule.
   7. Corrective measures to regain projected schedules.

8. Planned progress during succeeding work period.
9. Maintenance of quality and work standards.
10. Effect of proposed changes on progress schedule and coordination.
11. Other business relating to Work.

E. Record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

A. Within 10 days after date of the Agreement, submit preliminary schedule .

B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
1. Include written certification that major contractors have reviewed and accepted proposed schedule.

D. Within 10 days after joint review, submit complete schedule.

E. Submit updated schedule with each Application for Payment.

3.04 COORDINATION DRAWINGS

A. Review drawings prior to submission to Architect. Uncoordinated submittals will be rejected out of hand.

3.05 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them for review:
1. Product data.
2. Shop drawings.
3. Samples for selection.
4. Samples for verification.

B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.

C. Samples will be reviewed only for aesthetic, color, or finish selection.

D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below .

3.06 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
1. Design data.
2. Certificates.
3. Test reports.
4. Inspection reports.
5. Manufacturer's instructions.
6. Manufacturer's field reports.
7. Other types indicated.

B. Submit for Architect's knowledge as contract administrator or for Owner.

3.07 SUBMITTALS FOR PROJECT CLOSEOUT

A. Submit Correction Punch List for Substantial Completion.

B. Submit Final Correction Punch List for Substantial Completion.

C. When the following are specified in individual sections, submit them at project closeout:
1. Project record documents.
2. Operation and maintenance data.
3. Warranties.
4. Bonds.
5. Other types as indicated.

D. Submit for Owner's benefit during and after project completion.

3.08 NUMBER OF COPIES OF SUBMITTALS

A. Electronic Documents: Submit one electronic copy in PDF format; an electronically-marked up file will be returned. Create PDFs at native size and right-side up; illegible files will be rejected.

B. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
   1. After review, produce duplicates.
   2. Retained samples will not be returned to Contractor unless specifically so stated.

3.09 SUBMITTAL PROCEDURES

A. Shop Drawing Procedures:
   1. Prepare accurate, drawn-to-scale, original shop drawing documentation by interpreting the Contract Documents and coordinating related Work.
   2. Generic, non-project specific information submitted as shop drawings do not meet the requirements for shop drawings.

B. Transmit each submittal with a copy of approved submittal form.

C. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

D. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

E. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

F. Schedule submittals to expedite the Project, and coordinate submission of related items.

G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.

H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

I. Provide space for Contractor and Architect review stamps.

J. When revised for resubmission, identify all changes made since previous submission.

K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

L. Submittals not requested will not be recognized or processed.

END OF SECTION

SECTION 01 5000
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Security requirements.

B. Waste removal facilities and services.

1.02 BARRIERS

A. Provide barriers to prevent unauthorized entry to construction areas, to prevent access to areas that could be hazardous to workers or the public and to protect existing facilities and adjacent properties from damage from construction operations and demolition.

B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.

1.03 EXTERIOR ENCLOSURES

A. Provide temporary weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.04 SECURITY - SEE SECTION 01 3553

A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.

1.05 WASTE REMOVAL

A. Provide waste removal facilities and services as required to maintain the site in clean and orderly condition.

B. Provide containers with lids. Remove trash from site weekly.

C. If materials to be recycled or re-used on the project must be stored on-site, provide suitable non-combustible containers; locate containers holding flammable material outside the structure unless otherwise approved by the authorities having jurisdiction.

D. Open free-fall chutes are not permitted. Terminate closed chutes into appropriate containers with lids.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Re-use of existing products.

B. Transportation, handling, storage and protection.

C. Product option requirements.

D. Substitution limitations and procedures.

E. Maintenance materials, including extra materials, spare parts, tools, and software.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions: Requirements for VOC-restricted product categories.

1.03 REFERENCE STANDARDS

A. EN 15804 - Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products; 2012.

B. GreenScreen (LIST) - GreenScreen for Safer Chemicals List Translator; Clean Production Action; www.greenscreenchemicals.org.

C. GreenScreen (METH) - GreenScreen for Safer Chemicals Method v1.2; Clean Production Action; www.greenscreenchemicals.org.

D. ISO 14025 - Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures; 2006.

E. ISO 14040 - Environmental management -- Life cycle assessment -- Principles and framework; 2006.

F. ISO 14044 - Environmental management -- Life cycle assessment -- Requirements and guidelines; 2006.

G. ISO 21930 - Sustainability in building construction -- Environmental declaration of building products; 2007.

1.04 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.

C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
   1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

1.05 QUALITY ASSURANCE

A. Environmental Product Declaration (EPD): Publicly available, critically reviewed life cycle analysis having at least a cradle-to-gate scope.
   1. Good: Product-specific; compliant with ISO 14044.
   2. Better: Industry-wide, generic; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.

3. Best: Commercial-product-specific; compliant with ISO 21930, or with ISO 14044, ISO 14040, ISO 14025, and EN 15804; Type III third-party certification with external verification, in which the manufacturer is recognized as the program operator.
4. Where demonstration of impact reduction below industry average is required, submit both industry-wide and commercial-product-specific declarations; or submit at least 5 declarations for products of the same type by other manufacturers in the same industry.

B. GreenScreen Chemical Hazard Analysis: All ingredients of 100 parts-per-million or greater evaluated using GreenScreen (METH).
1. Good: GreenScreen (LIST) evaluation to identify Benchmark 1 hazards; a Health Product Declaration includes this information.
2. Better: GreenScreen Full Assessment.
3. Best: GreenScreen Full Assessment by GreenScreen Licensed Profiler.
4. Acceptable Evidence: GreenScreen report.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Existing materials and equipment indicated to be removed, but not to be re-used, relocated, reinstalled, delivered to the Owner, or otherwise indicated as to remain the property of the Owner, become the property of the Contractor; remove from site.

B. Specific Products to be Reused: The reuse of certain materials and equipment already existing on the project site is indicated on drawings.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

B. DO NOT USE products having any of the following characteristics:
1. Made using or containing CFC's or HCFC's.
2. Made of wood from newly cut old growth timber.
3. Containing lead, cadmium, asbestos.

C. Where all other criteria are met, Contractor shall give preference to products that:
1. If used on interior, have lower emissions, as defined in Section 01 6116.
2. If wet-applied, have lower VOC content, as defined in Section 01 6116.
3. Have a published GreenScreen Chemical Hazard Analysis.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not named.

2.04 MAINTENANCE MATERIALS

A. Furnish extra materials, spare parts, tools, and software of types and in quantities specified in individual specification sections.

B. Deliver and place in location as directed; obtain receipt prior to final payment.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

B. A request for substitution constitutes a representation that the submitter:
1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
2. Agrees to provide the same warranty for the substitution as for the specified product.
3. Agrees to coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.

4. Waives claims for additional costs or time extension that may subsequently become apparent.

C. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.

D. Substitution Submittal Procedure (after contract award):
1. Submit three copies of request for substitution for consideration. Limit each request to one proposed substitution.
2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
3. Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

A. Package products for shipment in manner to prevent damage; for equipment, package to avoid loss of factory calibration.

B. If special precautions are required, attach instructions prominently and legibly on outside of packaging.

C. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.

D. Transport and handle products in accordance with manufacturer's instructions.

E. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.

F. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.

G. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage, and to minimize handling.

H. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.

B. Store and protect products in accordance with manufacturers' instructions.

C. Store with seals and labels intact and legible.

D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.

E. For exterior storage of fabricated products, place on sloped supports above ground.

F. Protect products from damage or deterioration due to construction operations, weather, precipitation, humidity, temperature, sunlight and ultraviolet light, dirt, dust, and other contaminants.

G. Comply with manufacturer's warranty conditions, if any.

H. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.

I. Prevent contact with material that may cause corrosion, discoloration, or staining.

J. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.

K. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 6116
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for Indoor-Emissions-Restricted products.

B. Requirements for VOC-Content-Restricted products.

1.02 DEFINITIONS

A. Indoor-Emissions-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings.
   2. Interior adhesives and sealants, including flooring adhesives.
   3. Thermal and acoustical insulation.

B. VOC-Content-Restricted Products: All products in the following product categories, whether specified or not:
   1. Interior paints and coatings.
   2. Interior adhesives and sealants, including flooring adhesives.

C. Interior of Building: Anywhere inside the exterior weather barrier.

D. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

E. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

F. Inherently Non-Emitting Materials: Products composed wholly of minerals or metals, unless they include organic-based surface coatings, binders, or sealants; and specifically the following:
   1. Concrete.
   2. Clay brick.
   3. Metals that are plated, anodized, or powder-coated.
   4. Glass.
   5. Ceramics.
   6. Solid wood flooring that is unfinished and untreated.

1.03 REFERENCE STANDARDS

A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; current edition.

B. ASTM D3960 - Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings; 2005 (Reapproved 2013).

C. CARB (SCM) - Suggested Control Measure for Architectural Coatings; California Air Resources Board; 2007.

D. SCAQMD 1113 - South Coast Air Quality Management District Rule No.1113; current edition; www.aqmd.gov.

E. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: For each VOC-restricted product used in the project, submit evidence of compliance.

1.05 QUALITY ASSURANCE

A. VOC Content Test Method: 40 CFR 59, Subpart D (EPA Method 24), or ASTM D3960, unless otherwise indicated.

1. Evidence of Compliance: Acceptable types of evidence are:
    a. Report of laboratory testing performed in accordance with requirements.
    b. Published product data showing compliance with requirements.
    c. Certification by manufacturer that product complies with requirements.

B. Testing Agency Qualifications: Independent firm specializing in performing testing and inspections of the type specified in this section.

PART 2 PRODUCTS

2.01 MATERIALS

A. All Products: Comply with the most stringent of federal, State, and local requirements, or these specifications.

B. VOC-Content-Restricted Products: VOC content not greater than required by the following:
1. Adhesives, Including Flooring Adhesives: SCAQMD 1168 Rule.
2. Joint Sealants: SCAQMD 1168 Rule.
3. Paints and Coatings: Each color; most stringent of the following:
    a. 40 CFR 59, Subpart D.
    b. SCAQMD 1113 Rule.
    c. CARB (SCM).

PART 3 EXECUTION

3.01 FIELD QUALITY CONTROL

A. Owner reserves the right to reject non-compliant products, whether installed or not, and require their removal and replacement with compliant products at no extra cost to Owner.

B. Additional costs to restore indoor air quality due to installation of non-compliant products will be borne by Contractor.

END OF SECTION

SECTION 01 7000
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Examination, preparation, and general installation procedures.

B. Requirements for alterations work, including selective demolition, except removal, disposal, and/or remediation of hazardous materials and toxic substances.

C. Cutting and patching.

D. Cleaning and protection.

E. Closeout procedures, including Contractor's Correction Punch List, except payment procedures.

1.02 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
   1. Structural integrity of any element of Project.
   2. Integrity of weather exposed or moisture resistant element.
   3. Efficiency, maintenance, or safety of any operational element.
   4. Work of Owner or separate Contractor.

1.03 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

C. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 6000 - Product Requirements.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.

B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.

C. Examine and verify specific conditions described in individual specification sections.

D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or misfabrication.

E. Verify that utility services are available, of the correct characteristics, and in the correct locations.

F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

A. Clean substrate surfaces prior to applying next material or substance.

B. Seal cracks or openings of substrate prior to applying next material or substance.

C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 LAYING OUT THE WORK

A. Promptly notify Architect of any discrepancies discovered.

B. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:
   1. Site improvements including pavements; stakes for grading, fill and topsoil placement; utility locations, slopes, and invert elevations; and ramp layouts.
   2. Grid or axis for structures.
   3. Building foundation, column locations, ground floor elevations.

C. Periodically verify layouts by same means.

3.04 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.05 ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of alterations work constitutes acceptance of existing conditions.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
   1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
   2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.
   2. Relocate items indicated on drawings.
   3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
   4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.

D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.

2. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
    a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
    b. Provide temporary connections as required to maintain existing systems in service.
4. Verify that abandoned services serve only abandoned facilities.
5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.

E. Protect existing work to remain.
1. Prevent movement of structure; provide shoring and bracing if necessary.
2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
3. Repair adjacent construction and finishes damaged during removal work.

F. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

G. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.

H. Refinish existing surfaces as indicated:
1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.

I. Clean existing systems and equipment.

J. Remove demolition debris and abandoned items from alterations areas and dispose of off-site; do not burn or bury.

K. Do not begin new construction in alterations areas before demolition is complete.

L. Comply with all other applicable requirements of this section.

3.06 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. See Alterations article above for additional requirements.

C. Perform whatever cutting and patching is necessary to:
1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-conforming work.

D. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

E. Employ skilled and experienced installer to perform cutting for weather exposed and moisture resistant elements, and sight exposed surfaces.

F. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval.

G. Restore work with new products in accordance with requirements of Contract Documents.

H. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.

I. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material , to full thickness of the penetrated element.

J. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
   2. Match color, texture, and appearance.
   3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.07 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.

C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.

D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.08 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.

D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.

E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.

F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.

G. Remove protective coverings when no longer needed; reuse or recycle coverings if possible.

3.09 ADJUSTING

A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.10 FINAL CLEANING

A. Use cleaning materials that are nonhazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

E. Clean filters of operating equipment.

F. Clean debris from roofs, gutters, downspouts, scuppers, overflow drains, area drains, and drainage systems.

G. Clean site; sweep paved areas, rake clean landscaped surfaces.

H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.11 CLOSEOUT PROCEDURES

A. Make submittals that are required by governing or other authorities.

B. Accompany Project Coordinator on preliminary inspection to determine items to be listed for completion or correction in the Contractor's Correction Punch List for Contractor's Notice of Substantial Completion.

C. Notify Architect when work is considered ready for Architect's Substantial Completion inspection.

D. Submit written certification containing Contractor's Correction Punch List, that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Architect's Substantial Completion inspection.

E. Conduct Substantial Completion inspection and create Final Correction Punch List containing Architect's and Contractor's comprehensive list of items identified to be completed or corrected and submit to Architect.

F. Correct items of work listed in Final Correction Punch List and comply with requirements for access to Owner-occupied areas.

G. Notify Architect when work is considered finally complete and ready for Architect's Substantial Completion final inspection.

H. Complete items of work determined by Architect listed in executed Certificate of Substantial Completion.

END OF SECTION

SECTION 01 7419
CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible.

D. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

E. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

F. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

1.02 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling, repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 3 EXECUTION

2.01 WASTE MANAGEMENT PROCEDURES

A. See Section 01 3000 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

B. See Section 01 5000 for additional requirements related to trash/waste collection and removal facilities and services.

C. See Section 01 6000 for waste prevention requirements related to delivery, storage, and handling.

D. See Section 01 7000 for trash/waste prevention procedures related to demolition, cutting and patching, installation, protection, and cleaning.

2.02 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor, Owner, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings, particularly at:
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

END OF SECTION

SECTION 01 7800
CLOSEOUT SUBMITTALS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Project Record Documents.

B. Operation and Maintenance Data.

C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

A. Section 01 3000 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.

B. Individual Product Sections: Specific requirements for operation and maintenance data.

C. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

A. Project Record Documents: Submit documents to Architect with claim for final Application for Payment.

B. Operation and Maintenance Data:
   1. Submit two copies of preliminary draft or proposed formats and outlines of contents before start of Work. Architect will review draft and return one copy with comments.
   2. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
   3. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
   4. Submit two sets of revised final documents in final form within 10 days after final inspection.

C. Warranties and Bonds:
   1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
   2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
   3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 3 EXECUTION

2.01 PROJECT RECORD DOCUMENTS

A. Maintain on site one set of the following record documents; record actual revisions to the Work:
   1. Drawings.
   2. Addenda.
   3. Change Orders and other modifications to the Contract.

B. Ensure entries are complete and accurate, enabling future reference by Owner.

C. Store record documents separate from documents used for construction.

D. Record information concurrent with construction progress.

E. Record Drawings : Legibly mark each item to record actual construction including:
   1. Field changes of dimension and detail.
   2. Details not on original Contract drawings.

2.02 OPERATION AND MAINTENANCE DATA

A. Source Data: For each product or system, list names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.

B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.

C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.

D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

2.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES

A. For Each Product, Applied Material, and Finish:

B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

C. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

2.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS

A. For Each Item of Equipment and Each System:
   1. Description of unit or system, and component parts.
   2. Identify function, normal operating characteristics, and limiting conditions.
   3. Include performance curves, with engineering data and tests.
   4. Complete nomenclature and model number of replaceable parts.

B. Where additional instructions are required, beyond the manufacturer's standard printed instructions, have instructions prepared by personnel experienced in the operation and maintenance of the specific products.

C. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.

D. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

E. Provide servicing and lubrication schedule, and list of lubricants required.

F. Include manufacturer's printed operation and maintenance instructions.

G. Include sequence of operation by controls manufacturer.

H. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.

I. Additional Requirements: As specified in individual product specification sections.

2.05 ASSEMBLY OF OPERATION AND MAINTENANCE MANUALS

A. Assemble operation and maintenance data into durable manuals for Owner's personnel use, with data arranged in the same sequence as, and identified by, the specification sections.

B. Where systems involve more than one specification section, provide separate tabbed divider for each system.

C. Binders: Commercial quality, 8-1/2 by 11 inch three D side ring binders with durable plastic covers; 2 inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

D. Cover: Identify each binder with typed or printed title OPERATION AND MAINTENANCE INSTRUCTIONS; identify title of Project; identify subject matter of contents.

E. Project Directory: Title and address of Project; names, addresses, and telephone numbers of Architect, Consultants, Contractor and subcontractors, with names of responsible parties.

F. Tables of Contents: List every item separated by a divider, using the same identification as on the divider tab; where multiple volumes are required, include all volumes Tables of Contents in each volume, with the current volume clearly identified.

G. Dividers: Provide tabbed dividers for each separate product and system; identify the contents on the divider tab; immediately following the divider tab include a description of product and major component parts of equipment.

H. Text: Manufacturer's printed data, or typewritten data on 20 pound paper.

I. Drawings: Provide with reinforced punched binder tab. Bind in with text; fold larger drawings to size of text pages.

2.06 WARRANTIES AND BONDS

A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until Date of Substantial completion is determined.

B. Verify that documents are in proper form, contain full information, and are notarized.

C. Co-execute submittals when required.

D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

SECTION 02 4100
DEMOLITION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Selective demolition of built site elements.

B. Selective demolition of building elements for alteration purposes.

1.02 RELATED REQUIREMENTS

A. Section 01 1000 - Summary: Limitations on Contractor's use of site and premises.

B. Section 01 1000 - Summary: Sequencing and staging requirements.

C. Section 01 1000 - Summary: Description of items to be salvaged or removed for re-use by Contractor.

D. Section 01 5000 - Temporary Facilities and Controls: Site fences, security, protective barriers, and waste removal.

E. Section 01 6000 - Product Requirements: Handling and storage of items removed for salvage and relocation.

F. Section 01 7000 - Execution and Closeout Requirements: Project conditions; protection of bench marks, survey control points, and existing construction to remain; reinstallation of removed products; temporary bracing and shoring.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Site Plan: Showing:
   1. Areas for temporary construction and field offices.

C. Project Record Documents: Accurately record actual locations of capped and active utilities and subsurface construction.

PART 3 EXECUTION

2.01 SCOPE

A. Remove portions of existing buildings in the following sequence:
   1. as indicated on demolition drawings. Refer to Architectural, MEP and Technology demolition plans for items to be removed or relocated..

B. Remove other items indicated, for salvage and relocation.

C. Fill excavations, open pits, and holes in ground areas generated as result of removals, using specified fill; compact fill as required so that required rough grade elevations do not subside within one year after completion.

2.02 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.
   1. Obtain required permits.
   2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
   3. Provide, erect, and maintain temporary barriers and security devices.
   4. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
   5. Do not close or obstruct roadways or sidewalks without permit.
   6. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.

7. Obtain written permission from owners of adjacent properties when demolition equipment will traverse, infringe upon or limit access to their property.

B. Do not begin removal until receipt of notification to proceed from Owner.

C. Do not begin removal until built elements to be salvaged or relocated have been removed.

D. Protect existing structures and other elements that are not to be removed.
   1. Provide bracing and shoring.
   2. Prevent movement or settlement of adjacent structures.
   3. Stop work immediately if adjacent structures appear to be in danger.

E. If hazardous materials are discovered during removal operations, stop work and notify Architect and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

2.03 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements; obtain required permits.

B. Protect existing utilities to remain from damage.

C. Do not disrupt public utilities without permit from authority having jurisdiction.

D. Do not close, shut off, or disrupt existing life safety systems that are in use without at least 7 days prior written notification to Owner.

E. Do not close, shut off, or disrupt existing utility branches or take-offs that are in use without at least 3 days prior written notification to Owner.

F. Locate and mark utilities to remain; mark using highly visible tags or flags, with identification of utility type; protect from damage due to subsequent construction, using substantial barricades if necessary.

G. Remove exposed piping, valves, meters, equipment, supports, and foundations of disconnected and abandoned utilities.

2.04 SELECTIVE DEMOLITION FOR ALTERATIONS

A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
   1. Verify that construction and utility arrangements are as shown.
   2. Report discrepancies to Architect before disturbing existing installation.
   3. Beginning of demolition work constitutes acceptance of existing conditions that would be apparent upon examination prior to starting demolition.

B. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.

C. Remove existing work as indicated and as required to accomplish new work.
   1. Remove items indicated on drawings.

D. Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove existing systems and equipment as indicated.
   1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
   2. Verify that abandoned services serve only abandoned facilities before removal.
   3. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification.

E. Protect existing work to remain.
   1. Prevent movement of structure; provide shoring and bracing if necessary.
   2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
   3. Repair adjacent construction and finishes damaged during removal work.
   4. Patch as specified for patching new work.

2.05 DEBRIS AND WASTE REMOVAL

A. Remove debris, junk, and trash from site.

B. Leave site in clean condition, ready for subsequent work.

C. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 3000
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concrete formwork.

B. Floors and slabs on grade.

C. Concrete reinforcement.

D. Joint devices associated with concrete work.

E. Miscellaneous concrete elements, including equipment pads and concrete ramps and plumbing repair work.

F. Concrete curing.

1.02 RELATED REQUIREMENTS

A. Section 07 9200 - Joint Sealants: Products and installation for sealants for saw cut joints and isolation joints in slabs.

1.03 REFERENCE STANDARDS

A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; 1991 (Reapproved 2009).

B. ACI 301 - Specifications for Structural Concrete; 2010 (Errata 2012).

C. ACI 302.1R - Guide for Concrete Floor and Slab Construction; 2004 (Errata 2007).

D. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; 2000.

E. ACI 308R - Guide to Curing Concrete; 2001 (Reapproved 2008).

F. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; 2014 (Errata 2016).

G. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2016.

H. ASTM C39/C39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2016b.

I. ASTM C150/C150M - Standard Specification for Portland Cement; 2016.

J. ASTM C1059/C1059M - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 2013.

K. NSF 61 - Drinking Water System Components - Health Effects; 2014 (Errata 2015).

L. NSF 372 - Drinking Water System Components - Lead Content; 2011.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Mix Design: Submit proposed concrete mix design.

1. Indicate proposed mix design complies with requirements of ACI 318, Chapter 5 - Concrete Quality, Mixing and Placing.

1.05 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

PART 2 PRODUCTS

2.01 FORMWORK

A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.

1. Form Facing for Exposed Finish Concrete: Contractor's choice of materials that will provide smooth, stain-free final appearance.

2.02 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi).

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150/C150M, Type I - Normal Portland type.
   1. Acquire all cement for entire project from same source.

B. Fine and Coarse Aggregates: ASTM C 33.

C. Water: Clean and not detrimental to concrete.

2.04 BONDING AND JOINTING PRODUCTS

A. Latex Bonding Agent: Non-redispersable acrylic latex, complying with ASTM C1059/C1059M, Type II.

B. Waterstops: Bentonite and butyl rubber, complying with NSF 61 and NSF 372.

C. Slab Isolation Joint Filler: 1/2 inch thick, height equal to slab thickness, with removable top section that will form 1/2 inch deep sealant pocket after removal.

D. Slab Contraction Joint Device: Preformed linear strip intended for pressing into wet concrete to provide straight route for shrinkage cracking.

E. Slab Construction Joint Devices: Combination keyed joint form and screed, galvanized steel, with minimum 1 inch diameter holes for conduit or rebars to pass through at 6 inches on center; ribbed steel stakes for setting.

2.05 CONCRETE MIX DESIGN

A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.

B. Normal Weight Concrete:
   1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,000 pounds per square inch.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.
   1. Use latex bonding agent only for non-load-bearing applications.

C. In locations where new concrete is doweled to existing work, drill holes in existing concrete, insert steel dowels and pack solid with non-shrink grout.

D. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.

3.03 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.04 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

B. Place concrete for floor slabs in accordance with ACI 302.1R.

C. Ensure reinforcement, inserts, waterstops, embedded parts, and formed construction joint devices will not be disturbed during concrete placement.

D. Finish floors level and flat, unless otherwise indicated, within the tolerances specified below.

3.05 SLAB JOINTING

A. Locate joints as indicated on the drawings.

B. Anchor joint fillers and devices to prevent movement during concrete placement.

C. Isolation Joints: Use preformed joint filler with removable top section for joint sealant, total height equal to thickness of slab, set flush with top of slab.

3.06 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:
   1. Exposed Concrete Floors: 1/8 inch in 10 feet.
   2. Under Seamless Resilient Flooring: 1/8 inch in 10 feet.
   3. Under Carpeting: 1/8 inch in 10 feet.

B. Correct the slab surface if tolerances are less than specified.

C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.07 CONCRETE FINISHING

A. Concrete Slabs: Finish to requirements of ACI 302.1R, and as follows:
   1. Other Surfaces to Be Left Exposed: Trowel as described in ACI 302.1R, minimizing burnish marks and other appearance defects.

3.08 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.

C. Surfaces Not in Contact with Forms:
   1. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water ponding, water-saturated sand, water-fog spray, or saturated burlap.
   2. Final Curing: Begin after initial curing but before surface is dry.

3.09 DEFECTIVE CONCRETE

3.10 PROTECTION

A. Do not permit traffic over unprotected concrete floor surface until fully cured.

END OF SECTION

SECTION 05 5000
METAL FABRICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Shop fabricated steel items.

1.02 REFERENCE STANDARDS

A. SSPC-Paint 15 - Steel Joist Shop Primer/Metal Building Primer; Society for Protective Coatings; 1999 (Ed. 2004).

B. SSPC-SP 2 - Hand Tool Cleaning; Society for Protective Coatings; 1982 (Ed. 2004).

PART 2 PRODUCTS

2.01 MATERIALS - STEEL

A. Shop and Touch-Up Primer: SSPC-Paint 15, complying with VOC limitations of authorities having jurisdiction.

2.02 FINISHES - STEEL

A. Prime paint steel items.

B. Prepare surfaces to be primed in accordance with SSPC-SP2.

C. Clean surfaces of rust, scale, grease, and foreign matter prior to finishing.

D. Prime Painting: Two coats.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

3.03 INSTALLATION

A. Install items plumb and level, accurately fitted, free from distortion or defects.

B. Provide for erection loads, and for sufficient temporary bracing to maintain true alignment until completion of erection and installation of permanent attachments.

C. Obtain approval prior to site cutting or making adjustments not scheduled.

END OF SECTION

SECTION 05 5213
PIPE AND TUBE RAILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Stair railings and guardrails.

B. Free-standing railings at steps.

1.02 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. ASTM E935 - Standard Test Methods for Performance of Permanent Metal Railing Systems and Rails for Buildings; 2013.

C. ASTM E985 - Standard Specification for Permanent Metal Railing Systems and Rails for Buildings; 2000 (Reapproved 2006).

PART 2 PRODUCTS

2.01 RAILINGS - GENERAL REQUIREMENTS

A. Design, fabricate, and test railing assemblies in accordance with the most stringent requirements of ASTM E985 and applicable local code.

B. Distributed Loads: Design railing assembly, wall rails, and attachments to resist distributed force of 75 pounds per linear foot applied to the top of the assembly and in any direction, without damage or permanent set. Test in accordance with ASTM E935.

C. Allow for expansion and contraction of members and building movement without damage to connections or members.

D. Dimensions: See drawings for configurations and heights.
   1. Top Rails and Wall Rails: 1-1/2 inches diameter, round.
   2. Intermediate Rails: 1-1/2 inches diameter, round.
   3. Posts: 1-1/2 inches diameter, round.

E. Provide anchors and other components as required to attach to structure, made of same materials as railing components unless otherwise indicated; where exposed fasteners are unavoidable provide flush countersunk fasteners.

F. Provide welding fittings to join lengths, seal open ends, and conceal exposed mounting bolts and nuts, including but not limited to elbows, T-shapes, splice connectors, flanges, escutcheons, and wall brackets.

2.02 FABRICATION

A. Accurately form components to suit specific project conditions and for proper connection to building structure.

B. Fit and shop assemble components in largest practical sizes for delivery to site.

C. Fabricate components with joints tightly fitted and secured.

D. Welded Joints:
   1. Exterior Components: Continuously seal joined pieces by continuous welds. Drill condensate drainage holes at bottom of members at locations that will not encourage water intrusion.
   2. Grind exposed joints flush and smooth with adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to small uniform radius.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field conditions are acceptable and are ready to receive work.

3.02 PREPARATION

A. Clean and strip primed steel items to bare metal where site welding is required.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects, with tight joints.

C. Install railings in compliance with ADA Standards for accessible design at applicable locations.

D. Anchor railings securely to structure.

END OF SECTION

SECTION 06 1000
ROUGH CARPENTRY

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Concealed wood blocking, nailers, and supports.

B. Miscellaneous wood nailers, furring, and grounds.

1.02 REFERENCE STANDARDS

A. PS 20 - American Softwood Lumber Standard; 2010.

1.03 DELIVERY, STORAGE, AND HANDLING

A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
   1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
   2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.

B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

PART 3 EXECUTION

3.01 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.

3.03 BLOCKING, NAILERS, AND SUPPORTS

A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.

B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.

C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.

D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.

E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.

F. Provide the following specific non-structural framing and blocking:
   1. Cabinets and shelf supports.
   2. Wall brackets.
   3. Handrails.
   4. Grab bars.
   5. Towel and bath accessories.
   6. Wall-mounted door stops.
   7. Joints of rigid wall coverings that occur between studs.

END OF SECTION

SECTION 06 4100
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Specially fabricated cabinet units.

B. Countertops.

C. Cabinet hardware.

1.02 REFERENCE STANDARDS

A. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards; 2014.

B. BHMA A156.9 - American National Standard for Cabinet Hardware; 2010.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate materials, component profiles, fastening methods, jointing details, and accessories.

1.04 QUALITY ASSURANCE

A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Protect units from moisture damage.

1.06 FIELD CONDITIONS

A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Single Source Responsibility: Provide and install this work from single fabricator.

2.02 CABINETS

A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI/AWMAC/WI (AWS) for Custom Grade.

B. Plastic Laminate Faced Cabinets: Custom grade.

C. Breakroom Cabinets: Plastic laminate faced, Custom grade.

D. Cabinets at Lobby counters:
   1. Finish - Exposed Exterior Surfaces: Decorative laminate.

2.03 WOOD-BASED COMPONENTS

A. Wood fabricated from old growth timber is not permitted.

2.04 LAMINATE MATERIALS

A. Manufacturers:
   1. Wilsonart; ____: www.wilsonart.com.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.05 COUNTERTOPS

A. Plastic Laminate Countertops: Medium density fiberboard substrate covered with HPDL, conventionally fabricated and self-edge banded.

2.06 ACCESSORIES

A. Adhesive: Type recommended by fabricator to suit application.

2.07 HARDWARE

A. Hardware: BHMA A156.9, types as recommended by fabricator for quality grade specified.

B. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4 inch centers.

C. Cabinet Locks: Keyed cylinder, two keys per lock, master keyed, steel with chrome finish.

D. Drawer Slides:
   1. Type: Extension types as required.
   2. Stops: Integral type.
   3. Features: Provide self closing/stay closed type.

E. Hinges: European style concealed self-closing type, steel with polished finish.

2.08 FABRICATION

A. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners. Slightly bevel arises. Locate counter butt joints minimum 2 feet from sink cut-outs.
   1. Cap exposed plastic laminate finish edges with material of same finish and pattern.

B. Mechanically fasten back splash to countertops as recommended by laminate manufacturer at 16 inches on center.

C. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

B. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.

3.03 ADJUSTING

A. Adjust installed work.

B. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

END OF SECTION

SECTION 07 2119
FOAMED-IN-PLACE INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Foamed-in-place insulation.

B. Protective intumescent coating.

1.02 REFERENCE STANDARDS

A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2015.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.

C. ASTM E283 - Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen; 2004 (Reapproved 2012).

D. ASTM E2178 - Standard Test Method for Air Permeance of Building Materials; 2013.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meeting: Convene one week prior to commencing work of this section.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide product description, insulation properties, and preparation requirements.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products of the type specified in this section, with not less than three years of documented experience.

1.06 FIELD CONDITIONS

A. Do not apply foam when temperature is below that specified by the manufacturer for ambient air and substrate.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Foamed-In-Place Insulation:
   1. Johns Manville; JM ocSPF Open Cell Spray Polyurethane Foam: www.jm.com/sle.
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Foamed-In-Place Insulation: Low-density, flexible, open celled, water vapor permeable polyurethane foam; foamed on-site, using blowing agent of water or non-ozone-depleting gas.
   1. Aged Thermal Resistance: R-value of 3 (deg F hr sq ft)/Btu, minimum, when tested at 1 inch thickness in accordance with ASTM C518 after aging for 180 days at 41 degrees F.
   2. Air Permeance: 0.004 cfm/sq ft, maximum, when tested at intended thickness in accordance with ASTM E2178 or ASTM E283 at 1.5 psf.
   3. Surface Burning Characteristics: Flame spread/Smoke developed index of 25/450, maximum, when tested in accordance with ASTM E84.
   4. Products:
      a. Johns Manville; JM ocSPF Open Cell Spray Polyurethane Foam: www.jm.com/sle.

2.03 ACCESSORIES

A. Primer: As required by insulation manufacturer.

B. Overcoat: Intumescent coating of type recommended by insulation manufacturer and as required to comply with applicable codes.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify work within construction spaces or crevices is complete prior to insulation application.

B. Verify that surfaces are clean, dry, and free of matter that may inhibit insulation or overcoat adhesion.

3.02 PREPARATION

A. Mask and protect adjacent surfaces from over spray or dusting.

B. Apply primer in accordance with manufacturer's instructions.

3.03 APPLICATION

A. Apply insulation in accordance with manufacturer's instructions.

B. Apply insulation by spray method, to a uniform monolithic density without voids.

C. Apply to achieve a thermal resistance R-value of 25.

D. Apply overcoat monolithically, without voids to fully cover foam insulation.

E. Patch damaged areas.

3.04 FIELD QUALITY CONTROL

A. Inspection will include verification of insulation and overcoat thickness and density.

3.05 PROTECTION

A. Do not permit subsequent construction work to disturb applied insulation.

END OF SECTION

SECTION 07 9200
JOINT SEALANTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Nonsag gunnable joint sealants.

B. Joint backings and accessories.

1.02 REFERENCE STANDARDS

A. ASTM C834 - Standard Specification for Latex Sealants; 2010.

B. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2014.

C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.

D. SCAQMD 1168 - South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Non-Sag Sealants: Permits application in joints on vertical surfaces without sagging or slumping.
   1. Adhesives Technology Corporation; _____: www.atcepoxy.com.
   2. BASF Construction Chemicals-Building Systems; _____: www.buildingsystems.basf.com.
   3. Dow Corning Corporation: www.dowcorning.com/construction/sle.
   4. Franklin International, Inc; ____: www.titebond.com.
   5. Hilti, Inc; _____: www.us.hilti.com/#sle.
   6. Tremco Global Sealants; _____: www.tremcosealants.com.
   7. Sherwin-Williams Company; _____: www.sherwin-williams.com.
   8. Substitutions: See Section 01 6000 - Product Requirements.

2.02 JOINT SEALANT APPLICATIONS

A. Scope:
   1. Exterior Joints: Seal open joints, whether or not the joint is indicated on the drawings, unless specifically indicated not to be sealed. Exterior joints to be sealed include, but are not limited to, the following items.
      a. Joints between door, window, and other frames and adjacent construction.
      b. Joints between different exposed materials.
      c. Other joints indicated below.
   2. Interior Joints: Do not seal interior joints unless specifically indicated to be sealed. Interior joints to be sealed include, but are not limited to, the following items.
      a. Joints between door, window, and other frames and adjacent construction.
      b. Other joints indicated below.
   3. Do not seal the following types of joints.
      a. Joints indicated to be treated with manufactured expansion joint cover or some other type of sealing device.
      b. Joints where sealant is specified to be provided by manufacturer of product to be sealed.
      c. Joints where installation of sealant is specified in another section.
      d. Joints between suspended panel ceilings/grid and walls.

B. Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.

C. Interior Joints: Use non-sag polyurethane sealant, Type ____, unless otherwise indicated.
   1. Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
   2. Floor Joints in Wet Areas: Non-sag polyurethane "non-traffic-grade" sealant suitable for continuous liquid immersion.

D. Interior Wet Areas: restrooms; fixtures in wet areas include plumbing fixtures and countertops.

2.03 JOINT SEALANTS - GENERAL

A. Sealants and Primers: Provide products having lower volatile organic compound (VOC) content than indicated in SCAQMD 1168.

2.04 NONSAG JOINT SEALANTS

A. Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 50 percent, minimum.
   2. Color: Match adjacent finished surfaces.

B. Polyurethane Sealant: ASTM C920, Grade NS, Uses M and A; single or multi-component; not expected to withstand continuous water immersion or traffic.
   1. Movement Capability: Plus and minus 25 percent, minimum.
   2. Color: Match adjacent finished surfaces.

C. Polyurethane Sealant for Continuous Water Immersion: ASTM C920, Grade NS, Uses M and A; single or multi-component; explicitly approved by manufacturer for continuous water immersion; suitable for traffic exposure when recessed below traffic surface .
   1. Movement Capability: Plus and minus 35 percent, minimum.
   2. Color: Match adjacent finished surfaces.

D. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
   1. Color: Standard colors matching finished surfaces, Type OP (opaque).

2.05 ACCESSORIES

A. Backer Rod: Cylindrical cellular foam rod with surface that sealant will not adhere to, compatible with specific sealant used, and recommended by backing and sealant manufacturers for specific application.

B. Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.

C. Masking Tape: Self-adhesive, nonabsorbent, non-staining, removable without adhesive residue, and compatible with surfaces adjacent to joints and sealants.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that joints are ready to receive work.

B. Verify that backing materials are compatible with sealants.

C. Verify that backer rods are of the correct size.

3.02 PREPARATION

A. Remove loose materials and foreign matter that could impair adhesion of sealant.

B. Clean joints, and prime as necessary, in accordance with manufacturer's instructions.

C. Perform preparation in accordance with manufacturer's instructions and ASTM C1193.

D. Mask elements and surfaces adjacent to joints from damage and disfigurement due to sealant work; be aware that sealant drips and smears may not be completely removable.

3.03 INSTALLATION

A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.

B. Perform installation in accordance with ASTM C1193.

C. Install bond breaker backing tape where backer rod cannot be used.

D. Install sealant free of air pockets, foreign embedded matter, ridges, and sags, and without getting sealant on adjacent surfaces.

E. Do not install sealant when ambient temperature is outside manufacturer's recommended temperature range, or will be outside that range during the entire curing period, unless manufacturer's approval is obtained and instructions are followed.

F. Nonsag Sealants: Tool surface concave, unless otherwise indicated; remove masking tape immediately after tooling sealant surface.

3.04 FIELD QUALITY CONTROL

A. Perform field quality control inspection/testing as specified in PART 1 under QUALITY ASSURANCE article.

B. Remove and replace failed portions of sealants using same materials and procedures as indicated for original installation.

END OF SECTION

SECTION 08 1217
PRE-FINISHED STEEL DOOR FRAMES

PART 1 - GENERAL

1.01 WORK INCLUDED

The work under this section shall include the furnishing of all items shown on the drawings and as specified, including but not limited to, the following:

1. Knocked down, site assembled pre-finished steel door frames

1.02 RELATED SECTIONS

A. Section 08 71 00 - Hardware

1.03 REFERENCES

A. ASTM A653 - Standard for hot dipped galvanized steel material

B. UBC 7-2-97, UBC 7-4-97 Positive Pressure Fire Test Certification

C. UL 10B Fire test of Door Assemblies and UL10C Standard for Positive Pressure Fire Tests of Door Assemblies

D. NFPA 80 - Fire Doors and Windows (Latest Edition)

E. NFPA-101 - Life Safety Codes (Latest Edition)

F. ASTM D2197 - Standard Test Method for Adhesion of Organic Coatings by Scrape Adhesion.

G. ASTM D2247 - Practice for Testing Water Resistance of Coatings in 100% Relative Humidity.

H. ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).

I. ASTM D3361 - Standard Practice for Unfiltered Open-Flame Carbon-Arc exposures of Paint and Related Coatings.

J. ASTM B117 - Standard test for salt spray testing

1.04 SUBMITTALS

A. Section 01 33 00: Submittal procedures.

B. Product Data: Indicate frame material, gage, configuration and finishes.

C. Shop Drawings: See section 08 06 00. Indicate frame elevations, details of frame anchorage, reinforcements required, rough opening requirements, location of hardware embosses, and finishes. Detail each floor of the building separately.

D. Samples: Submit 1 standard frame samples, illustrating factory finished frame colors.

E. Manufacturer's Installation Instructions: Provide installation instructions for all products under this section.

F. Manufacturer's Certificate of Warranty: Provide manufacturer’s standard warranty certificate stating material is warranted for a period of one year from date of building occupancy

1.05 QUALITY ASSURANCE

Quality Standards

1. Material free from defects in material and according to project specifications for pre-engineered opening systems
2. Proven durability of factory finishes allowing for bending and shaping of material after finish is applied

Fire Rated Frame Construction

1. Conform to ASTM E152, NFPA 252, UL 10B and 10C.

Installed Frame Assembly: Conform to NFPA 80

1. Use only installers familiar with installation of pre-finished opening systems and applied casing frame installation

1.06 DELIVERY, STORAGE AND HANDLING

A. Transport, handle, store, and protect products in a dry area off the ground.

B. Accept frames on site in manufacturer's box packaging with identification labels intact. Inspect for damage.

C. Do not open individual boxes until installation is to begin.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Timely Industries, A Division of SDS Industries, Inc., 10241 Norris Avenue, Pacoima, CA, 91331-2292; Phone toll free: 800-247-6242; Fax: 818-492-3530. Web site: www.timelyframes.com <http://www.timelyframes.com>.

B. Dunbarton Door and Entry Systems <http://www.cmdgroup.com/companies/2923/dunbarton-door-and-entry-systems/>, 1101 Technology Drive, Dothan, AL 36303
Phone: (334) 794-0661 Fax: (334) 793-3462 Website: www.dunbarton.com <http://www.dunbarton.com/> Rediframe

C. Frames: Provide all interior frames for project from same manufacturer. Provide exterior frames as shown on plans

D. Substitutions: Refer to Section 01 60 00

2.02 FRAMES

A. Frame Material: Hot dipped galvanized steel, for interior frames in normal atmospheric exposures.

B. Frame Material: Hot dipped galvanized steel for all frames used in the following locations:

1. Exterior Locations

2. Public and Private Restrooms

3. Coastal locations for both interior and exterior applications exposed to salt air or salt spray within 10 miles of any ocean or salt water lake

C. Frame Throat Opening: As shown on plan details to suit finished wall thickness.

D. Fire rated frames and Office Entry frames to be CK series with kerf formed into frame profile with factory installed, pre-mitered smoke/sound control gasket

E. Frame Profile - Unequal Rabbet profile, standard with manufacturer

F. Casings

1. Provide steel or aluminum casings formed to be applied to heat treated clips on frame face after frame is anchored to wall

2. Standard Steel - TA-8 with 6 mm (1/4 inch) reveal, on steel, stainless steel, and/or brass frames. Fit factory assembled units with MiterGard corner alignment clips.

2.03 FRAME REINFORCEMENT AND ACCESSORIES

A. Provide reinforcements shipped loose to project site for hardware application

1. TA-10 - Regular arm closers, casing mounted coordinators

2. TA-12 - Parallel arm closers, Rim Exit device strikes, other stop mounted surface hardware

3. TA-47 - For CK frame, Parallel arm closers, Rim Exit device strikes, other stop mounted surface hardware

4. TA-25 - Double acting spring hinges, continuous hinges, other surface mounted hardware on door rabbet or cased opening frame

5. Provide hinge reinforcement (TA-11) of 14 gage steel pierced to create depth of thread for hinge screws equal to or exceeding 7 gage steel.

B. Prepare frames for ASA 4-7/8" strikes where required. Provide minimum ¼" depth of threads in factory tapped screw holes

C. Installation fasteners (Provided by others)
   1. Interior Frames: #6 Drywall type length sufficient to penetrate studs or structure at least ½".
   2. Exterior Frames: Drywall type, corrosion resistant coating, same as G.1 above

2.04 FABRICATION

A. Openings for single swing, pair, borrowed light and sidelight frames to be pre- cut, notched and fabricated at the manufacturer's facility.

B. Provide minimum 14 gage hinge reinforcement plate tapped for machine screws supplied with hinges. Hinge plate to be mechanically attached to hinge emboss on frame

C. Casing Clips: Fabricate frames with factory applied, heat treated clips to ensure no deflection in the clip upon application or removal of casing. Attachment clips may not be of same material as frame

D. Provide notches, tabs and/or stops for positive alignment of frame parts at all corners

E. Mullions to be notched as required to provide tight joints

F. Provide manufacturer's standard mullion brackets for positive connection of frame and mullion parts

G. Provide manufacturer's standard steel glass stop pre-cut to exact length. Fire rated glazed openings to have hole for installation screw within 2" of each end of stop piece

H. Provide insert channel full width of borrowed lights installed on finish floor. Provide full width head channel for ceiling height units.

I. Provide adequate structural support (by others) for ceiling insert channel for ceiling height frames

J. Attach approved mylar label to each fire-rated frame indicating fire rating details

K. Factory install TA-46 smoke gasket on all pre-finished, CK series frames. Install with factory mitered corners to ensure adequate seal and pleasing appearance

2.05 FINISHING

A. Frame Units: Pre-finished with factory applied impact resistant, polyurethane baked enamel finish or optional electrostatic applied water based paint system

B. Frames for high humidity areas to be hot dipped galvanized prior to pre-finishing See 2.02.B for specific locations

C. Casing Finishes
   1. Steel: Prefinished with factory applied impact resistant, polyurethane baked enamel finish.
   2. Aluminum: Prefinished with factory applied impact resistant, polyurethane baked enamel finish or Clear anodized for Alumatone (SC108) paint finished frames

D. Colors: Architect to select from Manufacturer's standard color line.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify acceptability of existing conditions before starting work.

B. Verify that opening sizes and wall thicknesses are within specified tolerances. Verify that all finished walls are in plane to ensure proper door alignment.

3.02 INSTALLATION

A. Install frames in accordance with manufacturer's requirements.

B. Anchor frames with screws located at every casing clip or every 11” as shown on manufacturer’s instructions. Field verify quantity and location of fasteners prior to installing casing.

C. Install Pre-finished frames near end of the project after wall painting and wall coverings are applied.

D. Install frames using qualified installers familiar with installation of pre-finished drywall frames.

E. Coordinate installation of glass and glazing in glazed units.

F. Coordinate installation of frames with installation of hardware specified in Section 08 71 00.

G. Touch-up blemishes on finished frames with factory prepared touch up paint.

END OF SECTION

SECTION 08 3313
COILING COUNTER DOORS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Non-fire-rated coiling counter doors and operating hardware.

1.02 REFERENCE STANDARDS

A. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Submit manufacturer's standard literature showing materials and details of construction and finish.

C. Shop Drawings: Indicate rough and actual opening dimensions, anchorage methods, hardware locations, and installation details.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Coiling Counter Doors:
   1. Alpine Overhead Doors, Inc; _____: www.alpinedoors.com.
   2. C.H.I. Overhead Doors; Model 6522 (steel): www.chiohd.com/sle.
   3. Substitutions: See Section 01 6000 - Product Requirements.

2.02 COILING COUNTER DOORS

A. Coiling Counter Doors, Non-Fire-Rated: Aluminum slat curtain.
   1. Mounting: Between jambs, within prepared opening.
   2. Nominal Slat Size: 1-1/4 inches wide.
   3. Slat Profile: Flat, perforated.
   4. Finish: Anodized.
   5. Guides: Formed track; same material and finish unless otherwise indicated.
   6. Hood Enclosure: Manufacturer's standard; primed steel.

2.03 MATERIALS

A. Curtain Construction: Interlocking, single thickness slats.
   1. Slat Ends: Alternate slats fitted with end locks to act as wearing surface in guides and to prevent lateral movement.
   2. Curtain Bottom: Fitted with angles to provide reinforcement and positive contact in closed position.
   3. Aluminum Slats: ASTM B221 (ASTM B221M), aluminum alloy Type 6063; minimum thickness 0.05 inch.

B. Guide Construction: Continuous, of profile to retain door in place, with mounting brackets of same metal.
   1. Aluminum Guides: Extruded aluminum channel, with wool pile runners along inside.

C. Hood Enclosure: Internally reinforced to maintain rigidity and shape.

D. Lock Hardware:
   1. Latching Mechanism: Inside mounted, adjustable keeper, spring activated latch bar feature to keep in locked or retracted position.
   2. Latch Handle: Manufacturer's standard.

E. Roller Shaft Counterbalance: Steel pipe and torsion steel spring system, capable of producing torque sufficient to ensure smooth operation of curtain from any position and capable of holding position at mid-travel; with adjustable spring tension; requiring 25 lb nominal force to operate.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that opening sizes, tolerances and conditions are acceptable.

3.02 INSTALLATION

A. Install units in accordance with manufacturer's instructions.

B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.

C. Securely and rigidly brace components suspended from structure.

D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.

E. Install perimeter trim as indicated.

3.03 TOLERANCES

A. Maintain dimensional tolerances and alignment with adjacent work.

B. Maximum Variation From Plumb: 1/16 inch.

C. Maximum Variation From Level: 1/16 inch.

D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft straight edge.

3.04 ADJUSTING

A. Adjust operating assemblies for smooth and noiseless operation.

3.05 CLEANING

A. Clean installed components.

B. Remove labels and visible markings.

END OF SECTION

SECTION 08 4313
ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Aluminum-framed storefront, with vision glass.

B. Weatherstripping.

C. Door hardware.

1.02 REFERENCE STANDARDS

A. AAMA CW-10 - Care and Handling of Architectural Aluminum From Shop to Site; 2015.

B. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).

C. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

D. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2013.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work, expansion and contraction joint location and details, and field welding required.

C. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification numbers in Contract Documents.

D. Warranty: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of type specified and with at least three years of documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Handle products of this section in accordance with AAMA CW-10.

B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.06 FIELD CONDITIONS

A. Do not install sealants when ambient temperature is less than 40 degrees F. Maintain this minimum temperature during and 48 hours after installation.

1.07 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Correct defective Work within a five year period after Date of Substantial Completion.

C. Provide five year manufacturer warranty against failure of glass seal on insulating glass units, including interpane dusting or misting. Include provision for replacement of failed units.

D. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provision for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 STOREFRONT

A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashings, anchorage and attachment devices.
   1. Glazing Rabbet: For 1 inch insulating glazing.

2. Glazing Position: Centered (front to back).
3. Finish: Class II natural anodized.
   a. Factory finish all surfaces that will be exposed in completed assemblies.
4. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
5. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
6. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
7. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
8. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
9. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.

2.02 COMPONENTS

A. Aluminum Framing Members: Tubular aluminum sections, thermally broken with interior section insulated from exterior, drainage holes and internal weep drainage system.
   1. Glazing Stops: Flush.

2.03 MATERIALS

A. Extruded Aluminum: ASTM B221 (ASTM B221M).

B. Fasteners: Stainless steel.

C. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.

2.04 FINISHES

A. Class II Natural Anodized Finish: AAMA 611 AA-M12C22A31 Clear anodic coating not less than 0.4 mils thick.

2.05 HARDWARE

A. For each door, include weatherstripping, sill sweep strip, and threshold.

B. Weatherstripping: Wool pile, continuous and replaceable; provide on all doors.

C. Sill Sweep Strips: Resilient seal type, retracting, of neoprene; provide on all doors.

D. Threshold: Extruded aluminum, one piece per door opening, ribbed surface; provide on all doors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify dimensions, tolerances, and method of attachment with other work.

B. Verify that wall openings and adjoining air and vapor seal materials are ready to receive work of this section.

3.02 INSTALLATION

A. Install wall system in accordance with manufacturer's instructions.

B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.

C. Provide alignment attachments and shims to permanently fasten system to building structure.

D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.

E. Provide thermal isolation where components penetrate or disrupt building insulation.

F. Install sill flashings. Turn up ends and edges; seal to adjacent work to form water tight dam.

G. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.

H. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

I. Set thresholds in bed of sealant and secure.

J. Install hardware using templates provided.

K. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.

3.03 TOLERANCES

A. Maximum Variation from Plumb: 0.06 inches every 3 ft non-cumulative or 1/16 inches per 10 ft, whichever is less.

B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.04 ADJUSTING

A. Adjust operating hardware and sash for smooth operation.

3.05 CLEANING

A. Remove protective material from pre-finished aluminum surfaces.

3.06 PROTECTION

A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION

SECTION 08 5659
SERVICE AND TELLER WINDOW UNITS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Service window units.

1.02 REFERENCE STANDARDS

A. AAMA 611 - Voluntary Specification for Anodized Architectural Aluminum; 2014 (2015 Errata).

B. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.

C. ASTM B221M - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric); 2013.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordinate work with adjacent materials specified in other sections and as indicated on drawings and approved shop drawings.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate configuration, sizes, rough-in, mounting, anchors and fasteners, and installation clearances.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver units in manufacturer's original packaging and unopened containers with identification labels intact.

B. Store units in area protected from exposure to weather and vandalism.

PART 2 PRODUCTS

2.01 SERVICE AND TELLER WINDOW UNITS

A. Pass-Through Window:
   1. Location: Interior.
   2. Window: Single horizontal sliding.
      a. Operation: Manual, self-closing.
      b. Mounting: Projected from the wall surface.
      c. Size: As indicated on drawings.
      d. Material: Aluminum.
      e. Finish: Natural anodized.
   3. Glazing: Single (monolithic), clear.
      a. Tempered safety glazing.

2.02 MATERIALS

A. Aluminum Extrusions: Minimum 1/8 inch thick frame and sash material complying with ASTM B221 and ASTM B221M.

2.03 FINISHES

A. Class II Natural Anodized Finish: AAMA 611 AA-M12C22A31 Clear anodic coating not less than 0.4 mils thick.

B. Color: To be selected by Architect from manufacturer's standard range.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that window openings are ready for installation of windows.

B. Notify Architect if conditions are not suitable for installation of units; do not proceed until conditions are satisfactory.

3.02 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install units in correct orientation (inside/outside or secure/non-secure).

C. Anchor units securely in manner so as to achieve performance specified.

3.03 ADJUSTING

A. Adjust operating components for smooth operation while also maintaining a secure, weather-tight enclosure and a tight fit at the contact points; lubricate operating hardware.

3.04 CLEANING

A. Remove protective material from factory finished surfaces.

B. Clean exposed surfaces promptly after installation without damaging finishes.

END OF SECTION

SECTION 08710
FINISH HARDWARE

PART 1 – GENERAL:

1.01 SUMMARY:

A. Section includes the supply and installation of the Finish Hardware.

B. Related Sections
1. Openings – Division 8 / Division 8
2. Electrical – Division 16 / Division 26
3. Security – Division 16 / Division 28

1.02 REFERENCES:

A. Documents and Institutes that shall be used in estimating, detailing and installing the items specified.
1. International Building Code – Current/Adopted Edition
2. ICC/ANSI A117.1 – Accessible and Usable Building and Facilities -
3. Current/Adopted Edition
4. NFPA80 –Standards For Fire Doors and Fire Windows – Current/Adopted Edition
5. NFPA101 – Life Safety Code – Current/Adopted Edition
6. NFPA105 – Installation of Smoke-Control Door Assemblies – Current/Adopted Edition.
7. ANSI - American National Standards Institute
8. BHMA – Builders Hardware Manufacturers Association
9. UL – Underwriters Labratory
10. Texas Accessibility Standards – Current Adopted Edition
11. Local Building Codes

1.03 SUBMITTALS

A. Comply with pertinent provisions of Section 01300.

B. Finish Hardware Schedule to be in vertical format to include:
1. Heading #/Hardware Set
2. Door #, Location, Hand, Degree of Opening, Door Size and Type, Frame Size and Type, Fire Rating
3. Quantity, type, style, function, product, product number, size, fasteners, finish and manufacturer of each hardware item.
4. Location of hardware set cross-referenced to indications on Drawings both on floor plans and in door and frame schedule.
5. Keying schedule
6. Title Sheet, Index, Abbreviations, Manufacturers List, Template List and Templates.
7. Mounting locations for hardware.
8. Explanation of abbreviations, symbols, and codes contained in schedule.

C. Product Data: Provide product data in the form of a binder, manufacturer’s technical product fact sheets for each item of hardware. Include whatever information may be necessary to show compliance with requirements, including instructions for installation and for maintenance of operating parts and finish.

D. Wiring Diagrams: Provide Riser/Elevation and Point to Point Wiring Diagrams for all openings with electrified hardware. Include all information that is necessary for coordination with other trades.

E. Samples: Provide samples as requested by owner or architect with Heading # and Door# marked on boxes. All samples will be returned to the contractor and used on doors for which they were marked.

F. Templates: Provide templates of finish hardware items to each fabricator of doors, frames and other work to be factory or shop prepared for the installation of hardware.

G. Keying Schedule: After meeting with the Owner, a keying schedule shall be submitted using keyset symbols referenced in DHI manual “Keying Systems and Nomenclature." The keying schedule shall be indexed by door number, keyset, hardware heading number, cross keying instructions and special key stamping instructions.

H. Operations and maintenance data: At the completion of the job, provide to the owner two copies of an Owner’s operation and maintenance manual. The manual shall consist of a labeled hardcover three ring binder with the following technical information:
1. Title page containing: Project name, address and phone numbers. Supplier’s name, address and phone numbers.
2. Table of Contents.
3. Copy of final Finish Hardware Schedule and Keying Schedule
4. Maintenance instruction for each item of hardware.
5. Catalog pages for each product.
6. Installation Instructions and Parts List for all Locks, Exit Devices and Door Closers.

1.04 QUALITY ASSURANCES

A. Substitutions: Request for substitutions shall not be accepted within this project. Architect, owner and Hardware Consultant have selected one (1) specified and two (2) equals listed hereinafter in the Hardware Schedule. By this selection process they have established three (3) equal products for competitive pricing, while insuring no unnecessary delays by a substitution process. If any specified product is listed as a “No Substitution” product, this product will be supplied as specified, with no alteration or request of substitution. The reason for this is to comply with the uniformity established at this project. Parts and supplies are inventoried for these particular products for ease and standardization of replacement.

B. Supplier Qualifications: Supplier shall be recognized architectural finish hardware supplier, with warehousing facilities, who have been furnishing hardware in the project vicinity for a period of not less than 2 year and who is or employs a DHI Certified AHC or person with a minimum of 10 years of experience as a hardware supplier. This person shall be available at reasonable times during the course of the work for consultation about products hardware requirements, to the owner, architect and contractor.

C. Installer Qualifications (Mechanical Hardware): All finish hardware shall be installed by the finish hardware installer with a minimum of at least two (2) years documented experience. Installer shall attend a pre-installation meeting between the contractor, finish hardware suppier, hardware manufacturers representative for locks, closers and exit devices, all door / frame suppliers. The finish hardware installer shall be responsible for the proper installation and function of all doors and hardware.

D. Installer Qualifications (Electrified Hardware): All electrified finish hardware (power, load, switch, conductor and monitoring device) shall be installed by a Electronic Access

Control installer licensed by the Texas Department of Public Safety. The electrified finish hardware installer shall have a minimum of at least two (2) years of documented experience. Installer shall attend a pre-installation meeting between the contractor, finish hardware supplier, electrical contractor, fire alarm contractor, security contractor, hardware manufacturers representative for locks, closers and exit devices, all door / frame suppliers. The electrified finish hardware installer shall be responsible for the proper installation and function of all doors and hardware. Installation shall include wiring all electrified products (including the required wire to the power supply and/or junction box).

1.05 DELIVERY, STORAGE AND HANDLING

A. Marking and packaging: Mark each item or package separately, with identification related to hardware set number, door number and keyset symbol.

B. Delivery:
1. Deliver individually packaged and properly marked finish hardware at the proper time and location to avoid any delays in construction or installation.
2. At time of delivery, inventory hardware jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.

C. Storage: Store hardware in enclosed, dry and locked area.

1.06 WARRANTY

A. All finish hardware products shall be covered by a 1 year factory warranty from the date of substantial completion of the project. Exit Devices shall carry a 3-year warranty, Mechanical Door Closers shall carry a 10-year warranty.

B. Supply warranty verification to the owner for all products that provide factory warranty.

1.07 MAINTENANCE:

A. Maintenance Service
1. None

B. Extra Materials:
1. All extra screws, fasteners, and all special installation tools furnished with the hardware shall be turned over to the owner at the completion of the job.

PART 2 – PRODUCTS

2.01 MATERIALS

A. Screws and Fasteners:
1. All closers and exit devices provided for exterior doors, hollow metal doors, and all other required shall be provided with thru-bolts.
2. All finish hardware shall be installed to manufacturer’s recommendations, using screws, attachments and installation tools provided with the hardware. No other screws or attachments are acceptable.
3. All other products to meet door and frame conditions.

B. Hinges:
1. Template: Provide templated units only.
2. Exterior: All exterior hinges shall be stainless steel base and finish.

3. Interior: All interior hinges steel based, satin chrome finish.
4. Iterior corrosive: All interior hinges at corrosive areas shall be stainless steel base and finish.
5. Exit devices: All hinges on doors with exit devices shall be heavy weight.
6. Elecctric Hinge : Provide 8 wire.
7. Provide non-removable pins for outswinging doors that are locked or are lockable.
8. All hinges on doors with door closers shall be ball bearing.
9. All hinges shall be five knuckle.
10. All hinges shall be full mortise.
11. Size: Provide 4 ½ x 4 ½ hinges on doors up to 3'0" in width. Provide 5 x 4 ½ hinges on door from 3'2" to 4'0" in width. Reference manufacturers catalog for all other sizes.
12. Number of Hinges: Provide number of hinges indicated but not less than 3 hinges for door leaf for doors 90" or less in height and one additional hinge for each 30" of additional height.
13. The width of hinge shall be sufficient to clear all trim.
14. Supply from the following list of manufacturers:

Ives	IVE	www.ives.ingersollrand.com
Hager	HAG	www.hagerhinge.com
Bommer	BOM	www.bommer.com

C. Cylindrical Locks/Latches
1. Provide cylindrical locksets that comply with ANSI A156.2, Series 4000, Grade 1 and 2. Functions as listed in Hardware Sets.
2. Provide cylindrical locksets that meet ANSI A117.1, Accessibility Code.
3. Provide cylindrical locksets that meet UL A label; to have a minimum listing for single doors 4' x 8'
4. Levers are to be solid. Manufacturers utilizing fillers of any kind are not acceptable.
5. Latchbolt to be steel with minimum ½" throw deadlatch on keyed and exterior functions; ¾" throw anti-friction latchbolt on pairs of doors.
6. Strike to be ANSI curved lip, 1 ¼" x 4 7/8", 16 gauge, with 1" deep box construction.
7. Supply from the following list of manufacturers:

Best	BES	www.bestaccess.com	93K/7KC Series
Falcon	FAL		T/B Series
Sargent	SAR		10/6500 Line

D. Exit Devices
1. All exit device types on this project should be manufactured by the same manufacturer.
2. Exit devices are to be architectural grade touch bar type. Mechanism case to be smooth.
3. Exit devices shall meet ANSI A156.3, 1994, Grade 1. All exit devices are UL listed for Accident Hazard or Fire Exit Hardware.
4. All lever trim to match lock trim in design and finish.
5. Dogging: All non-rated devices are to be provided with dogging. Cylinder dogging as shown in hardware sets.
6. Exit devices are to be supplied and installed with thru-bolts for exterior, hollow metal doors, or as required for application.
7. Provide proper power supply for exit devices as required.
8. Push pads shall be metal, no plastic inserts allowed.
9. Exit devices shall have a flush end cap.
10. Exit devices shall be ordered with the correct strike for application.
11. Exit devices shall be order in the proper length to meet door width.

12. Exit devices shall have deadlatching.
13. Install exit devices with fastners supplied by exit device manufacturer.
14. Provide glass bead kits as required.
15. Provide proper concealed vertical rods for wood or hollow metal doors as required.
16. Supply from the following list of manufacturers:

Von Duprin	VON	www.vonduprin.com	99 Series
Monarch/Falcon	FAL	www.falconlock.com	25 Series
Detex	DET	www.detex.com	Advantex

E. Door Closers
1. All door closers on this project should be manufactured by the same manufacturer.
2. Door closers shall meet the minimum requirements of the 1990 ADA act, in lieu of ANSI Standard A156.4 and ANSI, Grade 1 on interior fire rated openings.
3. Door closers shall be furnished with standard cover. Provide full cover as shown in hardware sets.
4. Size in accordance with the manufacturers recommendations for door size and condition.
5. Door closers shall be furnished with backcheck, delayed action, hold-open and advanced backcheck as listed in the Hardware Sets.
6. Door closers shall be mounted out of the line of sight wherever possible (i.e., room side of corridor doors, etc.) with parallel arm mounting on out swinging doors.
7. Provide and mount closer top jamb or on brackets and/or drop plates, where special conditions call for it.
8. All closer installation shall include thru bolts on exterior, hollow metal doors or where required for application.
9. Supply from the following list of manufacturers

LCN	LCN	www.lcnclosers.com
Doromatic/Falcon	DOR/FAL	www.falconlock.com
Norton	NOR	www.nortondoorcontrols.com

I. Door Protection Plates
1. Protective plates shall meet ANSI A156.6 requirements for .050 thickness.
2. Protection plates should be fabricated from stainless steel.
3. Kickplates shall be 10” by 2” less than door width on single door and 1” less than door width on pair of doors or as indicated in hardware sets. Beveled 3 edges.
4. Provide kickplate on all wood doors with closers, unless not required for aesthetic reasons.
5. Supply from the following list of manufacturers:

Ives	IVE	www.ives.ingersollrand.com
Rockwood	ROC	www.rockwoodmfg.com
Trimco	TRI	www.trimcobbw.com

I. Door Stops and Holders:
1. Wall and Floor Stops: Supply wall stops where needed to protect doors or door hardware. When wall conditions do not permit use of wall stop provide floor stops with risers as needed to adjust for floor conditions.
2. Overhead Stops: Where wall or floors stops are not applicable provide concealed or surface overhead stops. Provide concealed in public, jury or judges area. Provide surface in all others.
3. Exterior Stops: Provide security floor stop.
4. Supply from the following list of manufacturers:

Ives	IVE	www.ives.ingersollrand.com

Glynn Johnson	GLY	www.glynn-johnson.com
Trimco	TRI	www.trimcobbw.com

J. Silencers
1. Provide silencers on all doors without seal. 3 for single doors and 2 for pairs.
2. Provide silencers as required for frame conditions. SR64 for hollow metal frames. SR65 for wood frames.
3. Supply from the following list of manufacturer's

Ives	IVE	www.ives.ingersollrand.com
Rockwood	ROC	www.rockwoodmfg.com
Trimco	TRI	www.trimcobbw.com

K. Thresholds/Weatherstripping
1. All thresholds shall conform to state and local handicap codes.
2. Smoke seal shall be teardrop design bulb seal.
3. Exterior seal/thresholds shall be silicone or brush as shown in hardware sets.
4. Sound seal shall be neoprene.
5. Drip strips shall protrude 2 ½".
6. Provide door sweeps.
7. Provide UL meeting stile gasketing for fire rated doors.
8. Supply from the following list of manufacturer's

National Guard	NGP	www.ngpinc.com
Hager Hinge Company	HAG	www.hagerhinge.com
Pemko	PEM	www.pemko.com

2.03 KEYING:

A. General: Finish Hardware Supplier shall meet in person with owner to finalize keying requirements and match existing or start a new Best Restricted and Patented Master Key System for the project.

B. Cylinders: All cylinder/cores on this project should be manufactured and providing in the same keyway.

C. Cylinders: Provide the correct and quantity of cylinders for all applications.

D. Keys: Provide nickel silver keys only. Furnish 2 change keys for each lock: 5 control keys: 5 master keys for each master system and 5 grandmaster keys for each grandmaster key system. Deliver all keys to owners' representative.

E. Cores and keys shall be provided with identification stamping.

F. Provide construction keying / construction cores for this project with constructions keys.

PART 3 – EXECUTION:

3.01 EXAMINATION:

A. Examine doors, frames and related items for conditions that would prevent the proper application of any finish hardware items. Do not proceed with installation until all defects are corrected.

3.02 INSTALLATION:

A. Follow Door and Hardware Institute Publication for:
Recommended Location for Architectural Hardware for Standard Steel Doors and Frames
Recommended Location for Builder's Hardware for Custom Steel Doors and Frames

Recommended Locations for Architectural Hardware for Wood Flush Door

B. Follow ANSI A117.1-1998 Accessible and Usable Building and Facilities

C. Review mounting locations with Architect.

D. Pre Installation meeting required with attendees to include Architect, Contractor, Mechanical Hardware and Electrified Hardware Installer, Finish Hardware Supplier and Manufacturer's Representative for Exit Device, Locks and Closers before installation begins.

3.03 FIELD QUALITY CONTROL:

A. After installation has been completed, obtain the services of an Architectural Hardware Consultant to check for proper installation of finish hardware, according to the finish hardware schedule and keying schedule. In addition, check all hardware for adjustments and proper operation.

3.04 ADJUST AND CLEAN:

A. Adjust, clean and inspect all hardware, to ensure proper operation and function of every opening. Replace items, which cannot be adjusted to operate freely and smoothly as intended for the application made.

3.05 PROTECTION:

A. The general contractor shall use all means at his disposal to protect all finish hardware items from abuse, corrosion and other damage until the owner accepts the project as complete.

3.07 TRAINING

A. After installation has been completed, provide training to the Owner on the operation of finish hardware and programming of any access control items.

3.06 HARDWARE SCHEDULE

A. These hardware set shown below are for use as a guideline. Provide hardware as required to meet the requirements of the openings, security, and code requirements.

HW SET: 00.01
DOOR NUMBER:

104	114	114A	115	127	129
130	131	137	137A	155	204
218	220	221	222	223	224
226	226A				

EACH TO HAVE:

1	EA	ENTRANCE LOCK	73KC 7AB 16 D S3	626	BES
1	EA	WALL STOP	W406/407CCV @ 127 137 155	630	IVE
3	EA	SILENCERS	SR64 @ 127 137 155	GRY	IVE

VERIFY IN FIELD PRIOR TO BID DATE THAT NEW HARDWARE SPECIFIED CAN BE INSTALLED ON EXISTING DOOR/FRAME AND THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.02
DOOR NUMBER:

116	121	126	145	149	150
152	153	202	209	236	239

EACH TO HAVE:

1	EA	STOREROOM LOCK	73KC 7D 16 D S3	626	BES
1	EA	WALL STOP	W406/407CCV @ 239	630	IVE
3	EA	SILENCERS	SR64 @ 239	GRY	IVE

VERIFY IN FIELD PRIOR TO BID DATE THAT NEW HARDWARE SPECIFIED CAN BE INSTALLED ON EXISTING DOOR/FRAME AND THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.03
DOOR NUMBER:

135	151

EACH TO HAVE:

2	EA	DUMMY TRIM	73KC 01DT 16 D	626	BES
1	EA	INDICATOR DEADBOLT	D271	626	FAL
1	EA	WALL STOP	W406/407CCV @ 135	630	IVE
3	EA	SILENCERS	SR64 @ 135	GRY	IVE

PROVIDE FASTENERS REQUIRED TO MOUNT DUMMY LEVER BACK TO BACK. VERIFY IN FIELD PRIOR TO BID DATE THAT NEW HARDWARE SPECIFIED CAN BE INSTALLED ON EXISTING DOOR/FRAME AND THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD

HW SET: 00.04
DOOR NUMBER:

102	110	111	117	118	119
120	122	123	124	125	132
133	134	134A	139	140	141
142	144	159	160	161	162
164	165	166	C103	C104	210
215	216	219	225	227	230
231	232	241			

EACH TO HAVE:

1	EA	PASSAGE SET	73KC 0N 16 D S3	626	BES
1	EA	WALL STOP	W406/407CCV @ 111 142 144 C103 225 227 230 232	630	IVE
3	EA	SILENCERS	SR64 @ 111 142 144 C103 225 227 230 232	GRY	IVE

VERIFY IN FIELD PRIOR TO BID DATE THAT NEW HARDWARE SPECIFIED CAN BE INSTALLED ON EXISTING DOOR/FRAME AND THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE INSTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.05
DOOR NUMBER:

147	147A

EACH TO HAVE:

1	EA	PANIC HARDWARE	99-L-07	628	VON
1	EA	CYLINDER	1E72	626	BES

VERIFY IN FIELD PRIOR TO BID DATE THAT NEW HARDWARE SPECIFIED CAN BE INSTALLED ON EXISTING DOOR/FRAME AND THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. PROVIDE CLOSER IF NOT EXISTING. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.06
DOOR NUMBER:

C202	C203

EACH TO HAVE:

1	EA	ELECTRIC HINGE	5BB1 WEIGHT/SIZE AS REQD TW8	652	IVE
1	EA	EU STOREROOM LOCK	93K 7DEU 16 D S3 RQE	626	BES
1	EA	WALL STOP	W406/407CCV @ 127 137 155	630	IVE
3	EA	SILENCERS	SR64 @ 127 137 155	GRY	IVE

VERIFY IN FIELD PRIOR TO BID DATE THAT NEW HARDWARE SPECIFIED CAN BE INSTALLED ON EXISTING DOOR/FRAME AND THAT BALANCE OF EXISTING HARDWARE

OPERATES PROPERLY. PROVIDE CLOSER IF NOT EXISITNG. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.07
DOOR NUMBER:

103	128	143	157	228	233
234	C201				

EACH TO HAVE:

1	EA	WALL STOP	W406/407CCV	630	IVE
3	EA	SILENCERS	SR64	GRY	IVE

VERIFY IN FIELD PRIOR TO BID DATE THAT NEW HARDWARE SPECIFIED CAN BE INSTALLED ON EXISTING DOOR/FRAME AND THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.08
DOOR NUMBER:

ST1B	ST2C

EACH TO HAVE:

1	EA	PANIC HARDWARE	99-L-BE-F-07	628	VON
1	EA	ELECTROMAGNETIC HOLD OPEN	SEM7800 SERIES	689	LCN
			BALANCE OF HARDWARE EXISTING		

PROVIDE MAGNETIC HOLD OPEN IN DIMENSION REQUIRED. VERIFY IN FIELD PRIOR TO BID DATE THAT THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.09
DOOR NUMBER:
ST2A

EACH TO HAVE:

1	EA	PANIC HARDWARE	99-L-F-07	628	VON
1	EA	CYLINDER	1E72	626	BES
			BALANCE OF HARDWARE EXISTING		

VERIFY IN FIELD PRIOR TO BID DATE THAT THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.10
DOOR NUMBER:
ST2B E101

EACH TO HAVE:

1	EA	PANIC HARDWARE	99-NL	628	VON
1	EA	CYLINDER	1E72	626	BES
			BALANCE OF HARDWARE EXISTING		

VERIFY IN FIELD PRIOR TO BID DATE THAT THAT BALANCE OF EXISTING HARDWARE OPERATES PROPERLY. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE ISNTALLED ON EXISTING DOOR FRAME. PROVIDE COST IN PROPOSAL TO REPLACE ANY EXISTING HARDWARE THAT IS NOT OPERATING PROPERLY. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD. COVER, FILL, PAINT HOLES THAT REMAIN AFTER EXISTING HARDWARE REMOVED AND NEW HARDWARE ISNTALLED.

HW SET: 03.01
DOOR NUMBER:
163

EACH TO HAVE:

3	EA	HINGE	5PB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE LOCK	73KC 7AB 16 D S3	626	BES
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCERS	SR64	GRY	IVE

HW SET: 03.02
DOOR NUMBER:
E123

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	ENTRANCE LOCK	93K 7AB 16 D S3	626	BES
1	EA	CLOSER	SC71 SS	689	FAL
1	EA	FLOOR STOP	FS18L	BLK	IVE
1	EA	DOOR SWEEP	200SA	AL	NGP
1	EA	THRESHOLD	425	AL	NGP

PROVIDE MOUNTING ACCESSORIES FOR CLOSER, COORDINATE WITH DOOR/FRAME SUPPLIER. SEAL PROVIDED BY DOOR/FRAME MANUFACTURER.

HW SET: 06.01
DOOR NUMBER:

ST1A

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	73KC 0N 16 D S3	626	BES
1	EA	SURFACE CLOSER	SC81 RW/PA	689	FAL
1	EA	ELECTROMAGNETIC HOLD OPEN	SEM7800 SERIES	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	5050	BWN	NGP

PROVIDE MAGNETIC HOLD OPEN IN DIMENSION REQUIRED.

HW SET: 08.01
DOOR NUMBER:
C101

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10	626	VON
1	EA	PASSAGE SET WITH RQE	93K 0N 16 D S3 RQE	626	BES
1	EA	DELAYED EGRESS MAGNETIC LOCK	M490DE	AL	SCE
1	EA	SURFACE CLOSER	SC81 RW/PA	689	FAL
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCERS	SR64	GRY	IVE

1008.1.9.7 Delayed egress locks. *Approved, listed,* delayed egress locks shall be permitted to be installed on doors serving any occupancy except Group A, E and H occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1. or an approved automatic smoke or heat detection system installed in accordance with Section 907, provide that the doors unlock in accordance with Items 1 through 6 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an *exit.*

1. The doors unlock upon actuation of the *automatic sprinkler system* or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 second to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.
   Exception: Where approved, a delay of not more than 30 seconds is permitted.
5. A sign shall be provided on the door located above and within 12 inches (305 mm) of the release devices reading: PUSH UNTIL ALARM SOUNDS, DOOR CAN BE OPENED IN 15 [30] SECONDS.
6. Emergency lighting shall be provided at the door.

HW SET: 08.02
DOOR NUMBER:
C102

EACH TO HAVE:

2	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	THROUGH WIRE HINGE	5BB1 4.5 X 4.5 TW8	652	IVE
1	EA	FAIL SECURE LOCK WITH RQE	93K 7DEU 16 D S3 RQE	626	BES
1	EA	SURFACE CLOSER	SC81 RW/PA	689	FAL
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCERS	SR64	GRY	IVE

END OF SECTION

SECTION 08 8000
GLAZING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Insulating glass units.

B. Glazing units.

1.02 REFERENCE STANDARDS

A. ASTM C1036 - Standard Specification for Flat Glass; 2011.

B. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012.

C. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.

D. ASTM C1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 2015.

E. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2016.

F. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2010.

G. GANA (SM) - GANA Sealant Manual; 2008.

H. NFRC 100 - Procedure for Determining Fenestration Product U-factors; 2014.

I. NFRC 200 - Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence; 2014.

J. NFRC 300 - Test Method for Determining the Solar Optical Properties of Glazing Materials and Systems; 2014.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Warranty Documentation: Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.

1.04 QUALITY ASSURANCE

A. Installer Qualifications: Company specializing in performing work of the type specified and with at least three years documented experience.

1.05 FIELD CONDITIONS

A. Do not install glazing when ambient temperature is less than 40 degrees F.

B. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.

1.06 WARRANTY

A. See Section 01 7800 - Closeout Submittals, for additional warranty requirements.

B. Insulating Glass Units: Provide a five (5) year manufacturer warranty to include coverage for seal failure, interpane dusting or misting, including replacement of failed units.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Glass Fabricators:
   1. JE Berkowitz, LP; _____: www.jeberkowitz.com.
   2. Trulite Glass & Aluminum Solutions, LLC; _____: www.trulite.com.
   3. Viracon, Inc; _____: www.viracon.com.
   4. Substitutions: Refer to Section 01 6000 - Product Requirements.

B. Float Glass Manufacturers:

1. Pilkington North America Inc; _____: www.pilkington.com/na.
2. PPG Industries, Inc; _____: www.ppgideascapes.com.
3. Substitutions: Refer to Section 01 6000 - Product Requirements.

2.02 PERFORMANCE REQUIREMENTS - EXTERIOR GLAZING ASSEMBLIES

A. Provide type and thickness of exterior glazing assemblies to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of glass.
   1. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
   2. Provide glass edge support system sufficiently stiff to limit the lateral deflection of supported glass edges to less than 1/175 of their lengths under specified design load.
   3. Glass thicknesses listed are minimum.

B. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.
   1. In conjunction with vapor retarder and joint sealer materials described in other sections.

C. Thermal and Optical Performance: Provide glass products with performance properties as indicated. Performance properties are in accordance with manufacturer's published data as determined with the following procedures and/or test methods:
   1. Center of Glass U-Value: Comply with NFRC 100 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
   2. Center of Glass Solar Heat Gain Coefficient (SHGC): Comply with NFRC 200 using Lawrence Berkeley National Laboratory (LBNL) WINDOW 6.3 computer program.
   3. Solar Optical Properties: Comply with NFRC 300 test method.

2.03 GLASS MATERIALS

A. Float Glass: Provide float glass based glazing unless noted otherwise.
   1. Annealed Type: ASTM C1036, Type I - Transparent Flat, Class 1 - Clear, Quality-Q3.
   2. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS and FT.
   3. Tinted Type: ASTM C1036, Class 2 - Tinted, Quality-Q3, color and performance characteristics as indicated.
   4. Thicknesses: As indicated; provide greater thickness as required for exterior glazing wind load design.

2.04 INSULATING GLASS UNITS

A. Manufacturers:
   1. Pilkington North America Inc; _____: www.pilkington.com/na.
   2. PPG Industries, Inc; _____: www.ppgideascapes.com.
   3. Viracon, Apogee Enterprises, Inc; _____: www.viracon.com.
   4. Substitutions: Refer to Section 01 6000 - Product Requirements.

B. Insulating Glass Units: Types as indicated.
   1. Durability: Certified by an independent testing agency to comply with ASTM E2190.
   2. Coated Glass: Comply with requirements of ASTM C1376 for pyrolytic (hard-coat) or magnetic sputter vapor deposition (soft-coat) type coatings on flat glass; coated vision glass, Kind CV; coated overhead glass, Kind CO; or coated spandrel glass, Kind CS.
   3. Spacer Color: Black.
   4. Edge Seal:
   5. Color: Black.
   6. Purge interpane space with dry air, hermetically sealed.

2.05 BASIS OF DESIGN - INSULATING GLASS UNITS

A. Basis of Design - Insulating Glass Units: Vision glazing, with Low-E coating.
   1. Applications: Exterior insulating glass glazing unless otherwise indicated.
   2. Space between lites filled with air.
   3. Total Thickness: 1 inch.

2.06 GLAZING UNITS

A. Monolithic Interior Vision Glazing:
   1. Applications: Interior glazing unless otherwise indicated.
   2. Glass Type: Fully tempered float glass.
   3. Tint: Clear.
   4. Thickness: 1/4 inch, nominal.

PART 3 EXECUTION

3.01 VERIFICATION OF CONDITIONS

A. Verify that openings for glazing are correctly sized and within tolerances, including those for size, squareness, and offsets at corners.

B. Verify that surfaces of glazing channels or recesses are clean, free of obstructions that may impede moisture movement, weeps are clear, and support framing is ready to receive glazing system.

3.02 PREPARATION

A. Clean contact surfaces with appropriate solvent and wipe dry within maximum of 24 hours before glazing. Remove coatings that are not tightly bonded to substrates.

B. Seal porous glazing channels or recesses with substrate compatible primer or sealer.

C. Prime surfaces scheduled to receive sealant where required for proper sealant adhesion.

3.03 INSTALLATION, GENERAL

A. Install glazing sealants in accordance with ASTM C1193, GANA (SM), and manufacturer's instructions.

3.04 CLEANING

A. Remove excess glazing materials from finish surfaces immediately after application using solvents or cleaners recommended by manufacturers.

B. Remove non-permanent labels immediately after glazing installation is complete.

C. Clean glass and adjacent surfaces after sealants are fully cured.

D. Clean glass on both exposed surfaces not more than 4 days prior to Date of Substantial Completion in accordance with glass manufacturer's written recommendations.

3.05 PROTECTION

A. After installation, mark pane with an 'X' by using removable plastic tape or paste.

B. Remove and replace glass that is damaged during construction period prior to Date of Substantial Completion.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Acoustic insulation.

B. Gypsum wallboard.

C. Joint treatment and accessories.

1.02 REFERENCE STANDARDS

A. ASTM C475/C475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2015.

B. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

C. ASTM C840 - Standard Specification for Application and Finishing of Gypsum Board; 2013.

D. ASTM C1396/C1396M - Standard Specification for Gypsum Board; 2014a.

E. GA-216 - Application and Finishing of Gypsum Board; 2013.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 BOARD MATERIALS

A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
   1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
   2. Thickness:
      a. Vertical Surfaces: 1/2 inch.

2.03 ACCESSORIES

A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: _____ inch.

B. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.

END OF SECTION

SECTION 09 3000
TILING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Tile for floor applications.

B. Tile for wall applications.

C. Ceramic trim.

1.02 REFERENCE STANDARDS

A. ANSI A108/A118/A136.1 - American National Standard Specifications for the Installation of Ceramic Tile (Compendium); 2013.1.

B. ANSI A108.1a - American National Standard Specifications for Installation of Ceramic Tile in the Wet-Set Method, with Portland Cement Mortar; 2014.

C. ANSI A108.1b - American National Standard Specifications for Installation of Ceramic Tile on a Cured Portland Cement Mortar Setting Bed with Dry-Set or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

D. ANSI A108.5 - American National Standard Specifications for Installation of Ceramic Tile with Dry-Set Portland Cement Mortar or Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

E. ANSI A108.6 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy; 1999 (Reaffirmed 2010).

F. ANSI A108.8 - American National Standard Specifications for Installation of Ceramic Tile with Chemical Resistant Furan Resin Mortar and Grout; 1999 (Reaffirmed 2010).

G. ANSI A108.9 - American National Standard Specifications for Installation of Ceramic Tile with Modified Epoxy Emulsion Mortar/Grout; 1999 (Reaffirmed 2010).

H. ANSI A108.10 - American National Standard Specifications for Installation of Grout in Tilework; 1999 (Reaffirmed 2010).

I. ANSI A108.11 - American National Standard for Interior Installation of Cementitious Backer Units; 2010 (Revised).

J. ANSI A108.12 - American National Standard for Installation of Ceramic Tile with EGP (Exterior Glue Plywood) Latex-Portland Cement Mortar; 1999 (Reaffirmed 2010).

K. ANSI A108.13 - American National Standard for Installation of Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone; 2005 (Reaffirmed 2010).

L. ANSI A118.3 - American National Standard Specifications for Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive; 2013 (Revised).

M. ANSI A118.7 - American National Standard Specifications for High Performance Cement Grouts for Tile Installation; 2010 (Revised).

N. ANSI A137.1 - American National Standard Specifications for Ceramic Tile; 2013.1.

O. ASTM C373 - Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products, Ceramic Tiles, and Glass Tiles; 2014a.

P. TCNA (HB) - Handbook for Ceramic, Glass, and Stone Tile Installation; 2016.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide manufacturers' data sheets on tile, mortar, grout, and accessories. Include instructions for using grouts and adhesives.

1.04 QUALITY ASSURANCE

A. Maintain one copy of and ANSI A108/A118/A136.1 and TCNA (HB) on site.

B. Manufacturer Qualifications: Company specializing in manufacturing the types of products specified in this section, with minimum five years of documented experience.

C. Installer Qualifications: Company specializing in performing tile installation, with minimum of five years of documented experience.

PART 2 PRODUCTS

2.01 TILE

A. Manufacturers: All products by the same manufacturer.
   1. Dal-Tile Corporation: www.daltile.com.

B. Ceramic Mosaic Tile, Type Keystone Mosaic: ANSI A137.1, standard grade.
   1. Moisture Absorption: 0 to 0.5 percent as tested in accordance with ASTM C373.
   2. Size: 2 by 2 inch, nominal.
   3. Shape: Square.
   4. Edges: Square.
   5. Surface Finish: Unglazed.
   6. Color(s): As shown on drawings.

C. Glazed Wall Tile, Type Dal-Tile Matte Wall Tile: ANSI A137.1, standard grade.
   1. Moisture Absorption: 7.0 to 20.0 percent as tested in accordance with ASTM C373.
   2. Size: 4-1/4 by 4-1/4 inch, nominal.
   3. Edges: Cushioned.
   4. Surface Finish: Matte glaze.
   5. Color(s): As scheduled.

2.02 TRIM AND ACCESSORIES

A. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
   1. Manufacturers: Same as for tile.

2.03 SETTING MATERIALS

A. Manufacturers:
   1. Custom Building Products; _____: www.custombuildingproducts.com.

B. Epoxy Adhesive and Mortar Bond Coat: ANSI A118.3.
   1. Products:
      a. Custom Building Products; EBM-Lite Epoxy Bonding Mortar: www.custombuildingproducts.com.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2.04 GROUTS

A. Manufacturers:
   1. Custom Building Products; _____: www.custombuildingproducts.com.

B. Polymer Modified Grout: ANSI A118.7 polymer modified cement grout.
   1. Applications: Use this type of grout where indicated and where no other type of grout is indicated.
   2. Use sanded grout for joints 1/8 inch wide and larger; use unsanded grout for joints less than 1/8 inch wide.
   3. Color(s): As selected by Architect from manufacturer's full line.
   4. Products:
      a. Custom Building Products; Fusion Pro Single Component Grout: www.custombuildingproducts.com.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within the tolerances specified for that type of work and are ready to receive tile.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive tile.

C. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of setting materials to sub-floor surfaces.

D. Verify that concrete sub-floor surfaces are ready for tile installation by testing for moisture emission rate and alkalinity; obtain instructions if test results are not within limits recommended by tile manufacturer and setting materials manufacturer.

E. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Protect surrounding work from damage.

B. Vacuum clean surfaces and damp clean.

C. Seal substrate surface cracks with filler. Level existing substrate surfaces to acceptable flatness tolerances.

3.03 INSTALLATION - GENERAL

A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1a through ANSI A108.13, manufacturer's instructions, and TCNA (HB) recommendations.

B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

C. Cut and fit tile to penetrations through tile, leaving sealant joint space. Form corners and bases neatly. Align floor joints.

D. Place tile joints uniform in width, subject to variance in tolerance allowed in tile size. Make grout joints without voids, cracks, excess mortar or excess grout, or too little grout.

E. Form internal angles square and external angles bullnosed.

F. Sound tile after setting. Replace hollow sounding units.

G. Keep control and expansion joints free of mortar, grout, and adhesive.

H. Prior to grouting, allow installation to completely cure; minimum of 48 hours.

I. Grout tile joints unless otherwise indicated. Use standard grout unless otherwise indicated.

J. At changes in plane and tile-to-tile control joints, use tile sealant instead of grout, with either bond breaker tape or backer rod as appropriate to prevent three-sided bonding.

3.04 INSTALLATION - WALL TILE

END OF SECTION

SECTION 09 5100
SUSPENDED ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Suspended metal grid ceiling system.

B. Acoustical units.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

1.03 REFERENCE STANDARDS

A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.

B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2013.

C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2014.

D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Sequence work to ensure acoustical ceilings are not installed until building is enclosed, sufficient heat is provided, dust generating activities have terminated, and overhead work is completed, tested, and approved.

B. Do not install acoustical units until after interior wet work is dry.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on suspension system components.

C. Samples: Submit two full size samples illustrating material and finish of acoustical units.

D. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Acoustical Units: Quantity equal to 5 percent of total installed.

1.06 FIELD CONDITIONS

A. Maintain uniform temperature of minimum 60 degrees F, and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acoustic Tiles/Panels:
   1. Armstrong World Industries, Inc; as shown on drawings: www.armstrong.com.

B. Suspension Systems:
   1. Same as for acoustical units.

2.02 ACOUSTICAL UNITS

A. Acoustical Units - General: ASTM E1264, Class A.

B. Acoustical Tile Type Dune 1774: Painted mineral fiber, ASTM E1264 Type III, with the following characteristics:
   1. Size: 24 by 24 inches.
   2. Thickness: 5/8 inches.
   3. Edge: Beveled tegular.
   4. Surface Color: White.

2.03 SUSPENSION SYSTEM(S)

A. Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.

B. Exposed Steel Suspension System Type Prelude XL : Formed steel, commercial quality cold rolled; heavy-duty.
   1. Profile: Tee; 15/16 inch wide face.
   2. Construction: Double web.
   3. Finish: As shown on the drawings.

2.04 ACCESSORIES

A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.

B. Perimeter Moldings: Same material and finish as grid.
   1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.

C. Touch-up Paint: Type and color to match acoustical and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.

B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

C. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.

D. Install after major above-ceiling work is complete. Coordinate the location of hangers with other work.

E. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

F. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

G. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

H. Support fixture loads using supplementary hangers located within 6 inches of each corner, or support components independently.

I. Do not eccentrically load system or induce rotation of runners.

J. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

3.03 INSTALLATION - ACOUSTICAL UNITS

A. Install acoustical units in accordance with manufacturer's instructions.

B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.

C. Fit border trim neatly against abutting surfaces.

D. Install units after above-ceiling work is complete.

E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.

F. Cutting Acoustical Units:
   1. Make field cut edges of same profile as factory edges.

3.04 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet.

B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 09 6500
RESILIENT FLOORING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Resilient tile flooring.

B. Resilient base.

C. Resilient stair accessories.

D. Installation accessories.

1.02 RELATED REQUIREMENTS

A. Section 09 0561 - Common Work Results for Flooring Preparation: Independent agency testing of concrete slabs, removal of existing floor coverings, cleaning, and preparation.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Verification Samples: Submit two samples, 3 by 3 inch in size illustrating color and pattern for each resilient flooring product specified.

D. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning, stripping, and re-waxing.

E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Materials: Quantity equivalent to 5 percent of each type and color.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Upon receipt, immediately remove any shrink-wrap and check materials for damage and the correct style, color, quantity and run numbers.

B. Store all materials off of the floor in an acclimatized, weather-tight space.

C. Maintain temperature in storage area between 55 degrees F and 90 degrees F.

1.05 FIELD CONDITIONS

A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 TILE FLOORING

A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness.
   1. Manufacturers:
      a. Armstrong World Industries, Inc; Standard Excelon: www.armstrong.com.
      b. Substitutions: See Section 01 6000 - Product Requirements.
   2. Minimum Requirements: Comply with ASTM F1066, of Class corresponding to type specified.
   3. Size: 12 by 12 inch.
   4. Thickness: 0.125 inch.
   5. Pattern: Solid color.

B. Rubber Tile: Homogeneous color and pattern throughout thickness.
   1. Manufacturers:
      a. Johnsonite, a Tarkett Company; _____: www.johnsonite.com.
      b. Substitutions: See Section 01 6000 - Product Requirements.

2. Minimum Requirements: Comply with ASTM F1344, of Class corresponding to type specified.
3. Design: as shown on drawings.
4. Size: 24 by 24 inch.
5. Total Thickness: 1/8 inch.
6. Pattern: Solid color.

2.02 STAIR COVERING

A. Stair Treads: Rubber; full width and depth of stair tread in one piece; tapered thickness; nosing not less than 1-5/8 inch deep.
1. Manufacturers:
a. Johnsonite, a Tarkett Company; Visually Impaired Rubber Stair Tread with Integraded Riser: www.johnsonite.com.
2. Style: Contrasting color strips full width.
3. Color: Solid.

2.03 RESILIENT BASE

A. Resilient Base: ASTM F1861, Type TS rubber, vulcanized thermoset; top set Style B, Cove.
1. Manufacturers:
a. Johnsonite, a Tarkett Company; Traditional Wall Base: www.johnsonite.com.
2. Height: 4 inch.
3. Thickness: 0.125 inch thick.
4. Finish: Satin.
5. Length: Roll.
6. Color: as shown on drawings.

2.04 ACCESSORIES

A. Subfloor Filler: White premix latex; type recommended by adhesive material manufacturer.

B. Primers, Adhesives, and Seam Sealer: Waterproof; types recommended by flooring manufacturer.

C. Moldings, Transition and Edge Strips: Same material as flooring.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.

B. Verify that wall surfaces are smooth and flat within the tolerances specified for that type of work, are dust-free, and are ready to receive resilient base.

C. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for resilient flooring installation by testing for moisture and pH.

3.02 PREPARATION

A. Prepare floor substrates for installation of flooring in accordance with Section 09 0561.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install in accordance with manufacturer's written instructions.

C. Spread only enough adhesive to permit installation of materials before initial set.

D. Fit joints and butt seams tightly.

E. Set flooring in place, press with heavy roller to attain full adhesion.

F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.

G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.

H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.

3.04 TILE FLOORING

A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless otherwise indicated in manufacturer's installation instructions.

3.05 RESILIENT BASE

A. Fit joints tightly and make vertical. Maintain minimum dimension of 18 inches between joints.

B. Install base on solid backing. Bond tightly to wall and floor surfaces.

3.06 STAIR COVERINGS

A. Adhere over entire surface. Fit accurately and securely.

3.07 CLEANING

A. Remove excess adhesive from floor, base, and wall surfaces without damage.

B. Clean in accordance with manufacturer's written instructions.

3.08 PROTECTION

A. Prohibit traffic on resilient flooring for 48 hours after installation.

END OF SECTION

SECTION 09 6813
TILE CARPETING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Carpet tile, fully adhered.

B. Removal of existing carpet tile.

1.02 RELATED REQUIREMENTS

A. Section 01 6116 - Volatile Organic Compound (VOC) Content Restrictions.

B. Section 01 7419 - Construction Waste Management and Disposal: Reclamation/Recycling of new carpet tile scrap, removed carpet tile, and _____.

1.03 REFERENCE STANDARDS

A. ASTM D2859 - Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials; 2016.

B. ASTM F710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2011.

C. CRI 104 - Standard for Installation of Commercial Carpet; 2015.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; sizes, patterns, colors available, and method of installation.

C. Samples: Submit two carpet tiles illustrating color and pattern design for each carpet color selected.

D. Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and _____.

E. Maintenance Data: Include maintenance procedures, recommended maintenance materials, and suggested schedule for cleaning.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Carpet Tiles: Quantity equal to 5 percent of total installed of each color and pattern installed.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing specified carpet tile with minimum three years documented experience.

B. Installer Qualifications: Company specializing in installing carpet tile with minimum three years documented experience and approved by carpet tile manufacturer.

1.06 FIELD CONDITIONS

A. Store materials in area of installation for minimum period of 24 hours prior to installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Tile Carpeting:
   1. Tandus; ____: www.tandus.com.

2.02 MATERIALS

A. Tile Carpeting, Type as shown on drawings: Tufted, manufactured in one color dye lot.
   1. Product: Overlay Accent II manufactured by Tandus.
   2. Product: [Syllabus] manufactured by [Tandus].

3. Tile Size: 24 by 24 inch, nominal.
4. Thickness:.187 inch.
5. Color: as shown on drawings.
6. Primary Backing Material: non woven synthetic fiber.
7. Secondary Backing Material: ER3 Modular.

2.03 ACCESSORIES

A. Sub-Floor Filler: White premix latex; type recommended by flooring material manufacturer.

B. Edge Strips: Embossed aluminum, _____ color.

C. Adhesives:

D. Carpet Tile Adhesive: Recommended by carpet tile manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that sub-floor surfaces are smooth and flat within tolerances specified for that type of work and are ready to receive carpet tile.

B. Verify that sub-floor surfaces are dust-free and free of substances that could impair bonding of adhesive materials to sub-floor surfaces.

C. Cementitious Sub-floor Surfaces: Verify that substrates are dry enough and ready for flooring installation by testing for moisture and pH.
   1. Obtain instructions if test results are not within limits recommended by flooring material manufacturer and adhesive materials manufacturer.

D. Verify that required floor-mounted utilities are in correct location.

3.02 PREPARATION

A. Remove existing carpet tile.

B. Prepare floor substrates for installation of flooring in accordance with Section 09 0561.

3.03 INSTALLATION

A. Starting installation constitutes acceptance of sub-floor conditions.

B. Install carpet tile in accordance with manufacturer's instructions.

C. Blend carpet from different cartons to ensure minimal variation in color match.

D. Cut carpet tile clean. Fit carpet tight to intersection with vertical surfaces without gaps.

E. Lay carpet tile in square pattern, with pile direction parallel to next unit, set parallel to building lines.

F. Fully adhere carpet tile to substrate.

G. Trim carpet tile neatly at walls and around interruptions.

H. Complete installation of edge strips, concealing exposed edges.

3.04 CLEANING

A. Remove excess adhesive without damage, from floor, base, and wall surfaces.

B. Clean and vacuum carpet surfaces.

END OF SECTION

SECTION 09 7733
GLASS FIBER REINFORCED PLASTIC PANELS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Glass fiber reinforced plastic panels.

B. Trim.

1.02 REFERENCE STANDARDS

A. ASTM D5319 - Standard Specification for Glass-Fiber Reinforced Polyester Wall and Ceiling Panels; 2012.

B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2016.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.

C. Samples: Submit two samples __4__by__4__ inch in size illustrating material and surface design of panels.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Glass Fiber Reinforced Plastic Panels:
   1. CS Acrovyn Wall Protection
   2. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PANEL SYSTEMS

A. Wall Panels:
   1. Panel Size: 4 by 12 feet.
   2. Panel Thickness: 0.10 inch.
   3. Surface Design: Suede.
   4. Color: 262 Driftwood.
   5. Attachment Method: Adhesive only, with trim and sealant in joints.

2.03 MATERIALS

A. Panels: Glass fiber reinforced plastic (FRP), complying with ASTM D5319.
   1. Surface Burning Characteristics: Maximum flame spread index of 25 and smoke developed index of 450; when system tested in accordance with ASTM E84.

B. Trim: Vinyl; color coordinating with panel.

C. Adhesive: Type recommended by panel manufacturer.

D. Sealant: Type recommended by panel manufacturer; white.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions and substrate flatness before starting work.

B. Verify that substrate conditions are ready to receive the work of this section.

3.02 INSTALLATION - WALLS

A. Install panels in accordance with manufacturer's instructions.

B. Cut and drill panels with carbide tipped saw blades, drill bits, or snips.

C. Apply adhesive to the back side of the panel using trowel as recommended by adhesive manufacturer.

D. Apply panels to wall with seams plumb and pattern aligned with adjoining panels.
E. Install panels with manufacturer's recommended gap for panel field and corner joints.
F. Place trim on panel before fastening edges, as required.
G. Fill channels in trim with sealant before attaching to panel.
H. Install trim with adhesive and screws or nails, as required.
I. Seal gaps at floor, ceiling, and between panels with applicable sealant to prevent moisture intrusion.
J. Remove excess sealant after paneling is installed and prior to curing.

END OF SECTION

SECTION 09 9123
INTERIOR PAINTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Field application of paints, stains, and varnishes.

C. Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
   1. Mechanical and Electrical:
      a. In finished areas, paint insulated and exposed pipes, conduit, boxes, insulated and exposed ducts, hangers, brackets, collars and supports, mechanical equipment, and electrical equipment, unless otherwise indicated.

D. Do Not Paint or Finish the Following Items:
   1. Items factory-finished unless otherwise indicated; materials and products having factory-applied primers are not considered factory finished.
   2. Items indicated to receive other finishes.
   3. Items indicated to remain unfinished.
   4. Fire rating labels, equipment serial number and capacity labels, bar code labels, and operating parts of equipment.
   5. Floors, unless specifically indicated.
   6. Glass.
   7. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

A. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials; 2007.

B. MPI (APSM) - Master Painters Institute Architectural Painting Specification Manual; Current Edition, www.paintinfo.com.

C. SSPC-SP 1 - Solvent Cleaning; 2015.

D. SSPC-SP 6 - Commercial Blast Cleaning; 2007.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide complete list of products to be used, with the following information for each:
   1. Manufacturer's name, product name and/or catalog number, and general product category (e.g. "alkyd enamel").
   2. MPI product number (e.g. MPI #47).
   3. Cross-reference to specified paint system(s) product is to be used in; include description of each system.
   4. Manufacturer's installation instructions.
   5. If proposal of substitutions is allowed under submittal procedures, explanation of substitutions proposed.

C. Samples: Submit three paper "draw down" samples, 8-1/2 by 11 inches in size, illustrating range of colors available for each finishing product specified.
   1. Where sheen is specified, submit samples in only that sheen.
   2. Where sheen is not specified, submit each color in each sheen available.

D. Certification: By manufacturer that paints and finishes comply with VOC limits specified.

E. Manufacturer's Instructions: Indicate special surface preparation procedures.

F. Maintenance Data: Submit data including finish schedule showing where each product/color/finish was used, product technical data sheets, material safety data sheets

(MSDS), care and cleaning instructions, touch-up procedures, repair of painted and finished surfaces, and color samples of each color and finish used.

G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Paint and Finish Materials: 1 gallon of each color; from the same product run, store where directed.
   3. Label each container with color in addition to the manufacturer's label.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified, with minimum three years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.

C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and a maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

1.06 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

B. Follow manufacturer's recommended procedures for producing best results, including testing of substrates, moisture in substrates, and humidity and temperature limitations.

C. Provide lighting level of 80 ft candles measured mid-height at substrate surface.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Provide paints and finishes used in any individual system from the same manufacturer; no exceptions.

B. Paints:
   1. Sherwin-Williams Company: www.sherwin-williams.com.

C. Transparent Finishes:
   1. Sherwin-Williams Company: www.sherwin-williams.com.

D. Stains:
   1. Sherwin-Williams Company: www.sherwin-williams.com.

E. Substitutions: See Section 01 6000 - Product Requirements.

2.02 PAINTS AND FINISHES - GENERAL

A. Paints and Finishes: Ready mixed, unless intended to be a field-catalyzed paint.
   1. Provide paints and finishes of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
   2. Supply each paint material in quantity required to complete entire project's work from a single production run.
   3. Do not reduce, thin, or dilute paint or finishes or add materials unless such procedure is specifically described in manufacturer's product instructions.

B. Sheens: Provide the sheens specified; where sheen is not specified, sheen will be selected later by Architect from the manufacturer's full line.

2.03 PAINT SYSTEMS - INTERIOR

A. Paint I-OP - Interior Surfaces to be Painted, Unless Otherwise Indicated: Including gypsum board, concrete, concrete masonry units, brick, wood, plaster, uncoated steel, shop primed steel, galvanized steel, and aluminum.
   1. Two top coats and one coat primer.
   2. Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, 144, 145, 146, 147, or 148.
   3. Top Coat Sheen:
      a. Flat: MPI gloss level 1; use this sheen for ceilings and other overhead surfaces.
      b. Velvet: MPI gloss level 2; use this sheen at all locations.
      c. Eggshell: MPI gloss level 3; use this sheen at all locations.
      d. Satin: MPI gloss level 4; use this sheen for items subject to frequent touching by occupants, including door frames and railings.
      e. Semi-Gloss: MPI gloss level 5; use this sheen at all locations.
      f. Gloss: MPI gloss level 6; use this sheen at all locations.
   4. Primer: As recommended by top coat manufacturer for specific substrate.

B. Paint I-OP-MD-DT - Medium Duty Door/Trim: For surfaces subject to frequent contact by occupants, including metals and wood:
   1. Two top coats and one coat primer.
   2. Top Coat(s): Interior Epoxy-Modified Latex; MPI #115 or 215.

C. Paint I-OP-MD-WC - Medium Duty Vertical and Overhead: Including gypsum board, plaster, concrete, concrete masonry units, uncoated steel, shop primed steel, galvanized steel, and aluminum.
   1. Two top coats and one coat primer.
   2. Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, 144, 145, 146, 147, or 148.

D. Paint I-OP-DF - Dry Fall: Metals; exposed structure and overhead-mounted services in utilitarian spaces, including shop primed steel deck, structural steel, metal fabrications, galvanized ducts, galvanized conduit, galvanized piping, and _____.
   1. Shop primer by others.
   2. One top coat _____.
   3. Top Coat: Latex Dry Fall; MPI #118, 155, or 226.

E. Paint I-TR -W - Transparent Finish on Wood.

2.04 PRIMERS

A. Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.

2.05 ACCESSORY MATERIALS

A. Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.

B. Patching Material: Latex filler.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin application of paints and finishes until substrates have been properly prepared.

B. Verify that surfaces are ready to receive work as instructed by the product manufacturer.

C. Examine surfaces scheduled to be finished prior to commencement of work. Report any condition that may potentially effect proper application.

D. Test shop-applied primer for compatibility with subsequent cover materials.

E. Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:

1. Gypsum Wallboard: 12 percent.
2. Plaster and Stucco: 12 percent.
3. Masonry, Concrete, and Concrete Masonry Units : 12 percent.
4. Interior Wood: 15 percent, measured in accordance with ASTM D4442.

3.02 PREPARATION

A. Clean surfaces thoroughly and correct defects prior to application.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.

D. Seal surfaces that might cause bleed through or staining of topcoat.

E. Masonry:

F. Gypsum Board: Fill minor defects with filler compound. Spot prime defects after repair.

G. Plaster: Fill hairline cracks, small holes, and imperfections with latex patching plaster. Make smooth and flush with adjacent surfaces. Wash and neutralize high alkali surfaces.

H. Aluminum: Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.

I. Galvanized Surfaces:
   1. Remove surface contamination and oils and wash with solvent according to SSPC-SP 1.

J. Ferrous Metal:
   1. Solvent clean according to SSPC-SP 1.
   2. Shop-Primed Surfaces: Sand and scrape to remove loose primer and rust. Feather edges to make touch-up patches inconspicuous. Clean surfaces with solvent. Prime bare steel surfaces. Re-prime entire shop-primed item.
   3. Remove rust, loose mill scale, and other foreign substances using using methods recommended in writing by paint manufacturer and blast cleaning according to SSPC-SP 6 "Commercial Blast Cleaning". Protect from corrosion until coated.

K. Wood Surfaces to Receive Opaque Finish: Wipe off dust and grit prior to priming. Seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after primer has dried; sand between coats. Back prime concealed surfaces before installation.

L. Wood Surfaces to Receive Transparent Finish: Wipe off dust and grit prior to sealing, seal knots, pitch streaks, and sappy sections with sealer. Fill nail holes and cracks after sealer has dried; sand lightly between coats. Prime concealed surfaces with gloss varnish reduced 25 percent with thinner.

3.03 APPLICATION

A. Remove unfinished louvers, grilles, covers, and access panels on mechanical and electrical components and paint separately.

B. Apply products in accordance with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual".

C. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.

D. Apply each coat to uniform appearance in thicknesses specified by manufacturer.

E. Dark Colors and Deep Clear Colors: Regardless of number of coats specified, apply as many coats as necessary for complete hide.

F. Sand wood and metal surfaces lightly between coats to achieve required finish.

G. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.

H. Wood to Receive Transparent Finishes: Tint fillers to match wood. Work fillers into the grain before set. Wipe excess from surface.

I. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.

3.04 PROTECTION

A. Protect finishes until completion of project.

B. Touch-up damaged finishes after Substantial Completion.

3.05 SCHEDULE - PAINT SYSTEMS

END OF SECTION

SECTION 10 2113.16
PLASTIC-LAMINATE-CLAD TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Plastic laminate toilet compartments.

B. Urinal and Vestibule screens.

1.02 RELATED REQUIREMENTS

A. Section 05 1200 - Structural Steel Framing: Concealed steel support members.

B. Section 05 5000 - Metal Fabrications: Concealed steel support members.

C. Section 06 1000 - Rough Carpentry: Blocking and supports.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.

C. Product Data: Provide data on panel construction, hardware, and accessories.

D. Samples: Submit two samples of partition panels, 3 x 3 inch in size illustrating panel finish, color, and sheen.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Plastic Laminate Toilet Compartments:
   1. Global Steel Products Corp; ____: www.globalpartitions.com.
   2. Substitutions: Section 01 6000 - Product Requirements.

2.02 MATERIALS

A. Particleboard for Core: ANSI A208.1; composed of wood chips, sawdust or flakes, made with waterproof resin binder; of grade to suit application; sanded faces.

B. Plastic Laminate: NEMA LD 3, HGS.

2.03 COMPONENTS

A. Toilet Compartments: Plastic laminate finished, floor-mounted unbraced.

B. Doors, Panels, and Pilasters: Plastic laminate adhesive and pressure bonded to faces and edges of particleboard core, with beveled corners and edges; edges of cut-outs sealed.
   1. Plastic Laminate Color: as shown on drawings, textured, low gloss finish.

C. Door and Panel Dimensions:
   1. Thickness: 1 inch.
   2. Door Width: 24 inch.
   3. Door Width for Handicapped Use: 36 inch, out-swinging.
   4. Height: 58 inch.
   5. Thickness of Pilasters: 1-1/4 inch.

D. Urinal Screens: Wall mounted with two panel brackets, and floor-to-ceiling vertical upright consisting of pilaster anchored to floor and ceiling.

2.04 ACCESSORIES

A. Pilaster Shoes: Formed chromed steel with polished finish, 3 inches high, concealing floor fastenings.

1. Provide adjustment for floor variations with screw jack through steel saddles integral with pilaster.
2. Provide ceiling attachment using two adjustable hanging studs, attached to above-ceiling framing.

B. Head Rails: Hollow chrome plated steel tube, 1 x 1-5/8 inch size, with anti-grip strips and cast socket wall brackets.

C. Wall and Pilaster Brackets: Polished stainless steel.

D. Attachments, Screws, and Bolts: Stainless steel, tamper proof type.
1. For attaching panels and pilasters to brackets: Through-bolts and nuts; tamper proof.

E. Hardware: Polished stainless steel:
1. Pivot hinges, gravity type, adjustable for door close positioning; two per door.
2. Thumb turn door latch with exterior emergency access feature.
3. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
4. Coat hook with rubber bumper; one per compartment, mounted on door.
5. Provide door pull for outswinging doors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify correct spacing of and between plumbing fixtures.

C. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

B. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.

C. Attach panel brackets securely to walls using anchor devices.

D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.

E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

A. Maximum Variation From True Position: 1/4 inch.

B. Maximum Variation From Plumb: 1/8 inch.

3.04 ADJUSTING

A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.

B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.

C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 10 2113.19
PLASTIC TOILET COMPARTMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Solid plastic toilet compartments.

B. Urinal and vestibule screens.

1.02 RELATED REQUIREMENTS

A. Section 05 1200 - Structural Steel Framing: Concealed steel support members.

B. Section 05 5000 - Metal Fabrications: Concealed steel support members.

C. Section 06 1000 - Rough Carpentry: Blocking and supports.

1.03 REFERENCE STANDARDS

A. NFPA 286 - Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate the work with placement of support framing and anchors in walls and ceilings.

1.05 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate partition plan, elevation views, dimensions, details of wall supports, door swings.

C. Product Data: Provide data on panel construction, hardware, and accessories.

D. Samples: Submit two samples of partition panels, 3 by 3 inch in size illustrating panel finish, color, and sheen.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Solid Plastic Toilet Compartments:
   1. Scranton Products (Santana/Comtec/Capital); Hiny Hiders: www.scrantonproducts.com.
   2. Substitutions: Section 01 6000 - Product Requirements.

2.02 SOLID PLASTIC TOILET COMPARTMENTS

A. Toilet Compartments: Factory fabricated doors, pilasters, and divider panels made of solid molded high density polyethylene (HDPE), tested in accordance with NFPA 286, floor-mounted unbraced.
   1. Color: as shown on drawings.

B. Doors:
   1. Thickness: 1 inch.
   2. Width: 24 inch.
   3. Width for Handicapped Use: 36 inch, out-swinging.
   4. Height: 55 inch.

C. Panels:
   1. Thickness: 1 inch.
   2. Height: 55 inch.

D. Pilasters:
   1. Thickness: 1 inch.
   2. Width: As required to fit space; minimum 3 inch.

E. Screens: Without doors; to match compartments; mounted to wall with two panel brackets.

2.03 ACCESSORIES

A. Pilaster Shoes: Formed chromed steel with polished finish, 3 in high, concealing floor fastenings.

B. Pilaster Brackets: Polished stainless steel.

C. Wall Brackets: Continuous type, polished stainless steel.

D. Attachments, Screws, and Bolts: Stainless steel, tamper proof type.

E. Hardware: Polished stainless steel:
   1. Pivot hinges, gravity type, adjustable for door close positioning; two per door.
   2. Door Latch: Slide type with exterior emergency access feature.
   3. Door strike and keeper with rubber bumper; mounted on pilaster in alignment with door latch.
   4. Coat hook with rubber bumper; one per compartment, mounted on door.
   5. Provide door pull for outswinging doors.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify correct spacing of and between plumbing fixtures.

C. Verify correct location of built-in framing, anchorage, and bracing.

3.02 INSTALLATION

A. Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.

B. Maintain 3/8 to 1/2 inch space between wall and panels and between wall and end pilasters.

C. Attach panel brackets securely to walls using anchor devices.

D. Attach panels and pilasters to brackets. Locate head rail joints at pilaster center lines.

E. Field touch-up of scratches or damaged finish will not be permitted. Replace damaged or scratched materials with new materials.

3.03 TOLERANCES

A. Maximum Variation From True Position: 1/4 inch.

B. Maximum Variation From Plumb: 1/8 inch.

3.04 ADJUSTING

A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch.

B. Adjust hinges to position doors in partial opening position when unlatched. Return out-swinging doors to closed position.

C. Adjust adjacent components for consistency of line or plane.

END OF SECTION

SECTION 12 2113
HORIZONTAL LOUVER BLINDS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Horizontal slat louver blinds.

B. Operating hardware.

1.02 RELATED REQUIREMENTS

A. Section 06 1000 - Rough Carpentry: Concealed wood blocking for attachment of headrail brackets.

1.03 REFERENCE STANDARDS

A. WCMA A100.1 - Safety of Corded Window Covering Products; Current Edition, Including All Revisions.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Provide data indicating physical and dimensional characteristics.

C. Shop Drawings: Indicate opening sizes, tolerances required, method of attachment, clearances, and operation.

D. Samples: Submit two samples, 6 inch long illustrating slat materials and finish, cord type and color.

E. Manufacturer's Installation Instructions: Indicate special procedures.

F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 01 6000 - Product Requirements, for additional provisions.
   2. Extra Blind Assemblies: One of each size.
   3. Extra Slats: 20 of each type and size.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Horizontal Louver Blinds Without Side Guides:
   1. Bali.

2.02 BLINDS WITHOUT SIDE GUIDES

A. Description: Horizontal slat louvers hung from full-width headrail with full-width bottom rail.

B. Manual Operation: Control of raising and lowering by cord with full range locking; blade angle adjustable by control wand.

C. Metal Slats: Spring tempered pre-finished aluminum; square slat corners, with manufacturing burrs removed.
   1. Width: 1/2 inch.
   2. Thickness: 0.008 inch.
   3. Color: As indicated on drawings.

D. Slat Support: Woven polypropylene cord, ladder configuration.

E. Head Rail: Pre-finished, formed aluminum box, with end caps; internally fitted with hardware, pulleys, and bearings for operation; same depth as width of slats.
   1. Color: Same as slats.

F. Bottom Rail: Pre-finished, formed PVC with top side shaped to match slat curvature; with end caps.

1. Color: Same as headrail.

G. Lift Cord: Braided nylon; continuous loop; complying with WCMA A100.1.
1. Free end weighted.
2. Color: As selected by Architect.

H. Control Wand: Extruded hollow plastic; hexagonal shape.
1. Non-removable type.
2. Length of window opening height less 3 inch.
3. Color: Clear.

I. Headrail Attachment: Wall brackets.

J. Accessory Hardware: Type recommended by blind manufacturer.

2.03 FABRICATION

A. Determine sizes by field measurement.

B. Fabricate blinds to cover window frames completely.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify that openings are ready to receive the work.

3.02 INSTALLATION

A. Install blinds in accordance with manufacturer's instructions.

B. Secure in place with flush countersunk fasteners.

3.03 TOLERANCES

A. Maximum Variation of Gap at Window Opening Perimeter: 1/4 inch.

B. Maximum Offset From Level: 1/8 inch.

3.04 ADJUSTING

A. Adjust blinds for smooth operation.

3.05 CLEANING

A. Clean blind surfaces just prior to occupancy.

END OF SECTION

SECTION 21 13 13
WET PIPE SPRINKLER SYSTEM

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. The Basic Materials and Methods, Section 22 02 00, are included as a part of this Section as though written in full in this document.

C. Refer to Section 21 00 00 for integral requirements.

1.02 SCOPE

A. Scope of the work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for owner's use.

B. The scope and work shall include the complete flushing of the fire protection piping and providing treatment for MIC (Microbiologically Influenced Corrosion). The initial system fill shall be with treated water, biocides and corrosion inhibitors.

C. The Fire Protection Contractor shall provide the Owner with a periodic plan for the testing of the system’s water.

1.03 REGULATORY CODES

A. Work in accordance with:

1. NFPA.
2. Local municipal codes that have jurisdiction.

B. Products in accordance with:

1. United Laboratories (UL) listed.
2. Factory Mutual (FM) approved.

1.04 CERTIFICATE OF TESTING

A. Furnish Owner with test certificate certifying the system approved by:

1. City Fire Marshall.
2. Insurance Services Officials

PART 2 - PRODUCTS

2.01 FIRE SPRINKLER SYSTEM

A. GENERAL:

1. Work Included:
   a. Design, coordination and installation of inside and outside piping, including sprinkler heads, valves, hangers and supports sleeves.
   b. The sprinkler system is a wet type and is designed to provide coverage

for entire building. The Contract Drawings indicate the extent and general arrangement, and the various occupancy classifications.

c. Sprinkler heads are not shown.

d. The plans provide a preliminary layout with riser assembly location, flow switch locations, valve locations, and fire department Siamese connections. These are a guide for subsequent preparation of the Contractor's detailed working drawings.

e. Interface system with building fire and smoke alarm system.

2. Quality Assurance: Equipment and installation to meet requirements of NFPA Number 13, latest edition and local authority having jurisdiction. All components of the completed system shall be UL listed for the intended service.

2.02 SUBMITTALS:

A. Submit shop drawings in accordance with Section 22 02 00.

B. Submit preliminary layout showing only head locations for review by Architect/Engineer. Furnish additional heads which may be required for coordinated ceiling pattern without added cost, even though number of heads may exceed minimum code requirements.

C. Submit shop drawings of entire sprinkler system including hydraulic calculations to Architect/Engineer.

D. Provide Architect with six complete sets of final approved shop drawings before starting the installation. Include details of the sprinkler system showing sections, light fixtures, air conditioning, ducts, and a plan giving fire department connections, location of all exposed structures within twenty feet of this structure, and other equipment to be used. Drawings shall bear the stamp of review of the local fire insurance rating organization having jurisdiction.

E. Service Utility Diagram: Furnish Architect with an accurately marked print showing location of underground pipes and valves as installed upon completion of underground Work.

F. Provide a printed sheet giving brief instructions relative to all necessary aspects of sprinkler controls and emergency procedures next to sprinkler riser mains. Instruction sheet to be protected by glass or a transparent plastic cover.

G. Materials:

1. Piping:

a. All piping above grade shall be:
- schedule 10 black steel pipe with a rolled groove ends, joined with mechanical coupling and cut groove cast iron fittings for pipe 2-1/2” and greater.
- schedule 40 black steel threaded pipe and fittings for pipe 2” and smaller.

b. Acceptable manufacturer:
- American Tube
- Wheatland Tube
- Gem Sprinkler

c. Acceptable mechanical coupling manufacturer:
- Victaulic
- Grinnell
- Reliable
- Gruvlok

2. Sprinkler Heads:
   a. Suspended Ceiling Type: Standard Concealed pendant type with white cover plate.
   b. Exposed Area Type: Standard upright type with brass finish.
   c. Sidewall Type: Chrome plated finish with matching escutcheon.
   d. Temperature rating on fusible links to suit specific hazard area with minimum margin or safety 50 degrees F.
   e. Sprinkler heads of the “O”-ring seal type are not acceptable.
   f. In natatoriums and pool equipment rooms provide chrome plated or wax coated heads for corrosive environments.
   g. Flexible type sprinkler head connection systems are not acceptable.
   h. Acceptable manufacturer:
      - Reliable
      - Grinnell
      - Viking
3. Sprinkler Alarm Valve:
   a. Provide approved automatic sprinkler valve with one or two pole (as required) flow detectors, pressure switch, [outside water motor gong], [outside electric gongs], and inside electric gong and circuit breaker.
   b. Acceptable manufacturer:
      - Reliable
      - Grinnell
      - Viking
4. Valves:
   a. 2” and smaller: bronze, rising stem, inside screw, solid wedge, U.L. listed valve.
   b. 2-1/2” and larger: iron body, bronze trim, rising stem, OS&Y, solid wedge, U.L. listed valve.
   c. Check valve: cast iron flanged body, bronze fitted, non-slam type.
   d. Install valves with stems upright or horizontal, not inverted.
   e. Acceptable manufacturer:
      - Nibco
      - Grinnell
      - Stockham
      - Victaulic
5. Fire Department Connection: Refer to Section 21 00 00.
6. Insulation:
   a. All piping and valves exposed to the weather or within building and exposed to the weather shall be insulated with Phenolic foam with ASJ and all joints sealed. Insulation density shall not be less than 1.5 pounds per cubic foot, and conductivity (K) not higher than 0.25 and 75°F mean temperature difference, with factory applied all weather vapor barrier jacket.
   b. All insulated pipe and valves subject to damage shall be protected with an aluminum jacket with sealed joints.
   c. Refer to Section 22 07 19 for detailed specification.
7. Products:
   a. All piping, fitting, equipment, sprinkler heads, and valves shall be by a domestic manufacturer.

PART 3 - EXECUTION

3.01 All equipment shall be installed in accordance with the manufacturer’s recommendations and printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans

or in the specifications. Provide all items as required by NFPA and installed as per manufacturer's recommendations.

3.03 DESIGN

A. Design spacing of sprinkler heads and selection sizes shall conform to the requirement of NFPA 13 for the indicated occupancy.

B. Uniform discharge density design shall be based on hydraulic calculations utilizing the method outlined in NFPA 13. Density of discharge from sprinkler heads shall conform to NFPA 13.

C. Friction losses in pipe will be based on a value of "C" =120 in the Hazen - Williams formula.

D. Design and install the system so that no part will interfere with doors, windows, heating, plumbing, or electrical equipment. Do not locate sprinkler heads within 6 inches of lighting fixtures, HVAC diffusers and other obstructions. Sprinkler piping cannot penetrate ductwork or lighting fixtures.

E. The Contractor shall conform to the National Fire Protection Association's Fire Code No. 13, latest edition. Special attention shall be given to Article 1-9, working plans. It shall be the Registered Fire Protection Engineer's responsibility to determine if any deficiency or deviations, such as an inadequate water supply, or any other item which would materially affect the acceptability of the system.

3.04 INSTALLATION

A. Install all items in accordance with applicable codes.

B. Install piping so that mains and branches are not located directly underneath HVAC equipment or other items needing access.

C. All sprinkler heads shall be located as near the center of ceiling tiles as is practical (±1/2"). Location shall present a uniform pattern with all heads aligned when completely installed.

D. Run piping concealed above furred ceilings and in joists to minimize obstructions. Expose only heads. Exact routing of piping shall be approved by Architect or relocated as required at no additional cost to Owner.

E. Wire guards on all pendant or upright sprinklers heads in mechanical rooms, gymnasiums, athletic areas, wood and metal shops.

F. Protect sprinkler heads against mechanical injury with standard guards.

G. Locate outside alarms on wall of building adjacent to siamese fire department connection.

H. Provide on wall near sprinkler valve, cabinet containing four extra sprinkler heads of each type and wrench suitable for each head type.

I. Provide 1 inch diameter nipple and 1 inch x 1/2 inch reducing fitting for each upright head.

J. Painting shall be as follows:

1. Exposed sprinkler riser, alarm valve and all related piping shall be painted red.
2. Exposed sprinkler piping in finished areas shall be painted as directed by Architect.

3.05 REPLACEMENT

Upon receipt of written notice of failure of any part of the guaranteed equipment during the guaranteed period, the Contractor will replace the affected part or parts promptly at no additional cost.

3.06 TESTING

A. Prior to testing, the entire sprinkler system shall be thoroughly flushed clean.

B. Upon completion of the installation and flushing, test the system and obtain approval of the local fire insurance rating organization having jurisdiction. Particular attention is called to the requirements of NFPA 13 pamphlet.

3.07 TRAINING

A. Owner's people shall be fully briefed in the normal start-up of the system, operation, normal and emergency shutdown, and maintenance of the system.

B. Routine maintenance, yearly maintenance, winterization, and spring start-up shall be fully discussed and documented.

C. Names of those instructed and dates, as well as a list of information handed over to the owner, shall be included in the final report.

END OF SECTION

SECTION 22 02 00
BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all Work herein.

B. The Contract Drawings indicate the extent and general arrangement of the systems. If any departure from the Contract Drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore, shall be submitted to the Architect for approval as soon as practicable. No such departures shall be made without the prior written approval of the Architect.

C. Notwithstanding any reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, such reference shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgment of the Architect, expressed in writing, is equal to that specified.

1.02 SCOPE OF WORK

A. The Work included under this Contract consists of the furnishing and installation of all equipment and material necessary and required to form the complete and functioning systems in all of its various phases, all as shown on the accompanying Drawings and/or described in these Specifications. The contractor shall review all pertinent drawings, including those of other contracts prior to commencement of Work.

B. This Division requires the furnishing and installing of all items Specified herein, indicated on the Drawings or reasonably inferred as necessary for safe and proper operation; including every article, device or accessory (whether or not specifically called for by item) reasonably necessary to facilitate each system's functioning as indicated by the design and the equipment specified. Elements of the work include, but are not limited to, materials, labor, supervision, transportation, storage, equipment, utilities, all required permits, licenses and inspections. All work performed under this Section shall be in accordance with the Project Manual, Drawings and Specifications and is subject to the terms and conditions of the Contract.

C. The approximate locations of Mechanical (HVAC) and Plumbing items are indicated on the Drawings. These Drawings are not intended to give complete and accurate details in regard to location of outlets, apparatus, etc. Exact locations are to be determined by actual measurements at the building, and will in all cases be subject to the Review of the Owner or Engineer, who reserves the right to make any reasonable changes in the locations indicated without additional cost to the Owner.

D. Items specifically mentioned in the Specifications but not shown on the Drawings and/or items shown on Drawings but not specifically mentioned in the Specifications shall be installed by the Contractor under the appropriate section of work as if they were both specified and shown.

E. All discrepancies between the Contract Documents and actual job-site conditions shall be reported to the Owner or Engineer so that they will be resolved prior to the bidding, where this cannot be done at least 7 working days prior to bid; the greater or more costly of the

discrepancy shall be bid. All labor and materials required to perform the work described shall be included as part of this Contract.

F. It is the intention of this Section of the Specifications to outline minimum requirements to furnish the Owner with a turn-key and fully operating system in cooperation with other trades.

G. It is the intent of the above "Scope" to give the Contractor a general outline of the extent of the Work involved; however, it is not intended to include each and every item required for the Work. Anything omitted from the "Scope" but shown on the Drawings, or specified later, or necessary for a complete and functioning heating, ventilating and air conditioning system shall be considered a part of the overall "Scope".

H. The Contractor shall rough-in fixtures and equipment furnished by others from rough-in and placement drawings furnished by others. The Contractor shall make final connection to fixtures and equipment furnished by others.

I. The Contractor shall participate in the commissioning process as required. Including, but not limited to meeting attendance, completion of checklists and participation in functional testing.

1.03 SCHEMATIC NATURE OF CONTRACT DOCUMENTS

A. The contract documents are schematic in nature in that they are only to establish scope and a minimum level of quality. They are not to be used as actual working construction drawings. The actual working construction drawings shall be the approved shop drawings.

B. All piping or equipment locations as indicated on the documents do not indicate every transition, offset, or exact location. All transitions, offsets clearances and exact locations shall be established by actual field measurements, coordination with the structural, architectural and reflected ceiling plans, and other trades. Submit shop drawings for approval.

C. All transitions, offsets and relocations as required by actual field conditions shall be performed by the contractor at no additional cost to the owner.

D. Additional coordination with electrical contractor may be required to allow adequate clearances of electrical equipment, fixtures and associated appurtenances. Contractor to notify Architect and Engineer of unresolved clearances, conflicts or equipment locations.

1.04 SITE VISIT AND FAMILIARIZATION

A. Before submitting a bid, it will be necessary for each Contractor whose work is involved to visit the site and ascertain for himself the conditions to be met therein in installing his work and make due provision for same in his bid. It will be assumed that this Contractor in submitting his bid has visited the premises and that his bid covers all work necessary to properly install the equipment shown. Failure on the part of the Contractor to comply with this requirement shall not be considered justification for the omission or faulty installation of any work covered by these Specifications and Drawings.

B. Understand the existing utilities from which services will be supplied; verify locations of utility services, and determine requirements for connections.

C. Determine in advance that equipment and materials proposed for installation fit into the confines indicated.

1.05 WORK SPECIFIED IN OTHER SECTIONS

A. Finish painting is specified. Prime and protective painting are included in the work of this Division.

B. Owner and General Contractor furnished equipment shall be properly connected to Plumbing systems.

C. Furnishing and installing all required Plumbing equipment control relays and electrical interlock devices, conduit, wire and J-boxes are included in the Work of this Division.

1.06 PERMITS, TESTS, INSPECTIONS

A. Arrange and pay for all permits, fees, tests, and all inspections as required by governmental authorities.

1.07 DATE OF FINAL ACCEPTANCE

A. The date of final acceptance shall be the date of owner occupancy, or the date all punch list items have been completed or final payment has been received. Refer to Division 01 for additional requirements.

B. The date of final acceptance shall be documented in writing and signed by the architect, owner and contractor.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

B. Deliver products to the project at such time as the project is ready to receive the equipment, pipe or valves properly protected from incidental damage and weather damage.

C. Damaged equipment, valves or pipe shall be promptly removed from the site and new, undamaged equipment, pipe and valves shall be installed in its place promptly with no additional charge to the Owner.

1.09 NOISE AND VIBRATION

A. The pumping systems and the component parts there of, shall be guaranteed to operate without objectionable noise and vibration.

B. Provide foundations, supports and isolators as specified or indicated, properly adjusted to prevent transmission of vibration to the Building structure, piping and other items.

C. Carefully fabricate pipe and fittings with smooth interior finish to prevent turbulence and generation or regeneration of noise.

D. All equipment shall be selected to operate with minimum of noise and vibration. If, in the opinion of the Architect, objectionable noise or vibration is produced or transmitted to or through the building structure by equipment, piping or other parts of the Work, the Contractor shall rectify such conditions without extra cost to the Owner.

1.10 APPLICABLE CODES

A. Obtain all required permits and inspections for all work required by the Contract Documents and pay all required fees in connection thereof.

B. Arrange with the serving utility companies for the connection of all required utilities and pay all charges, meter charges, connection fees and inspection fees, if required.

C. Comply with all applicable codes, specifications, local ordinances, industry standards, utility company regulations and the applicable requirements of the following nationally accepted codes and standards:

1. American Society of Plumbing Engineers, ASPE.
2. American Standards Association, ASA.
3. American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., ASHRAE.
4. American Society of Mechanical Engineers, ASME.
5. American Society of Plumbing Engineers, ASPE.
6. American Society of Testing Materials, ASTM.
7. American Water Works Association, AWWA.
8. National Fire Protection Association, NFPA.
9. Underwriters' Laboratories, Inc., UL.
10. International Energy Conservation Code, IECC.

D. Where differences existing between the Contract Documents and applicable state or city building codes, state and local ordinances, industry standards, utility company regulations and the applicable requirements of the above listed nationally accepted codes and standards, the more stringent or costly application shall govern. Promptly notify the Engineer in writing of all differences.

E. When directed in writing by the Engineer, remove all work installed that does not comply with the Contract Documents and applicable state or city building codes, state and local ordinances, industry standards, utility company regulations and the applicable requirements of the above listed nationally accepted codes and standards, correct the deficiencies, and complete the work at no additional cost to the Owner.

1.11 DEFINITIONS AND SYMBOLS

A. General Explanation: A substantial amount of construction and Specification language constitutes definitions for terms found in other Contract Documents, including Drawings which must be recognized as diagrammatic and schematic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in Contract Documents are defined generally in this article, unless defined otherwise in Division 01.

B. Definitions and explanations of this Section are not necessarily either complete or exclusive, but are general for work to the extent not stated more explicitly in another provision of the Contract Documents.

C. Indicated: The term "Indicated" is a cross-reference to details, notes or schedules on the Drawings, to other paragraphs or schedules in the Specifications and to similar means of recording requirements in Contract Documents. Where such terms as "Shown", "Noted", "Scheduled", "Specified" and "Detailed" are used in lieu of "Indicated", it is for the purpose of helping the reader locate cross-reference material, and no limitation of location is intended except as specifically shown.

D. Directed: Where not otherwise explained, terms such as "Directed", "Requested", "Accepted", and "Permitted" mean by the Architect or Engineer. However, no such implied meaning will be interpreted to extend the Architect's or Engineer's responsibility into the Contractor's area of construction supervision.

E. Reviewed: Where used in conjunction with the Engineer's response to submittals, requests for information, applications, inquiries, reports and claims by the Contractor the meaning of the term "Reviewed" will be held to limitations of Architect's and Engineer's responsibilities and duties as specified in the General and Supplemental Conditions. In no case will "Reviewed" by Engineer be interpreted as a release of the Contractor from responsibility to fulfill the terms and requirements of the Contract Documents.

F. Furnish: Except as otherwise defined in greater detail, the term "Furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

G. Install: Except as otherwise defined in greater detail, the term "Install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance.

H. Provide: Except as otherwise defined in greater detail, the term "Provide" is used to mean "Furnish and Install", complete and ready for intended use, as applicable in each instance.

I. Installer: Entity firm engaged by the Contractor or its subcontractor or Sub-contractor for performance of a particular unit of work at the project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance. It is a general requirement that such entities (Installers) be expert in the operations they are engaged to perform.

J. Imperative Language: Used generally in Specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by the Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor, or when so noted by other identified installers or entities.

K. Minimum Quality/Quantity: In every instance, the quality level or quantity shown or specified is intended as minimum quality level or quantity of work to be performed or provided. Except as otherwise specifically indicated, the actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable tolerance limits. In complying with requirements, indicated or scheduled numeric values are either minimums or maximums as noted or as appropriate for the context of the requirements. Refer instances of uncertainty to Owner or Engineer via a request for information (RFI) for decision before proceeding.

L. Abbreviations and Symbols: The language of Specifications and other Contract Documents including Drawings is of an abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self explanatory nature have been included in text of Specifications and Drawings. Specific abbreviations and symbols have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of Specification requirements with notations on Drawings and in Schedules. These are frequently defined in Section at first instance of use or on a Legend and Symbol Drawing. Trade and industry association names and titles of generally recognized industry standards are

frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of Contract Documents so indicate. Except as otherwise indicated, graphic symbols and abbreviations used on Drawings and in Specifications are those recognized in construction industry for indicated purposes. Where not otherwise noted symbols and abbreviations are defined by 2009 ASHRAE Fundamentals Handbook, chapter 34 "Abbreviations and Symbols", ASME and ASPE published standards.

1.12 DRAWINGS AND SPECIFICATIONS

A. These Specifications are intended to supplement the Drawings and it will not be the province of the Specifications to mention any part of the work which the Drawings are competent to fully explain in every particular and such omission is not to relieve the Contractor from carrying out portions indicated on the Drawings only.

B. Should items be required by these Specifications and not indicated on the Drawings, they are to be supplied even if of such nature that they could have been indicated thereon. In case of disagreement between Drawings and Specifications, or within either Drawings or Specifications, the better quality or greater quantity of work shall be estimated and the matter referred to the Architect or Engineer for review with a request for information and clarification at least 7 working days prior to bid opening date for issuance of an addendum.

C. The listing of product manufacturers, materials and methods in the various sections of the Specifications, and indicated on the Drawings, is intended to establish a standard of quality only. It is not the intention of the Owner or Engineer to discriminate against any product, material or method that is equal to the standards as indicated and/or specified, nor is it intended to preclude open, competitive bidding. The fact that a specific manufacturer is listed as an acceptable manufacturer should not be interpreted to mean that the manufacturers' standard product will meet the requirements of the project design, Drawings, Specifications and space constraints.

D. The Architect or Engineer and Owner shall be the sole judge of quality and equivalence of equipment, materials and methods.

E. Products by other reliable manufacturers, other materials, and other methods, will be accepted as outlined, provided they have equal capacity, construction, and performance. However, under no circumstances shall any substitution by made without the written permission of the Architect or Engineer and Owner. Request for prior approval must be made in writing 10 days prior to the bid date without fail.

F. Wherever a definite product, material or method is specified and there is not a statement that another product, material or method will be acceptable, it is the intention of the Owner or Engineer that the specified product, material or method is the only one that shall be used without prior approval.

G. Wherever a definite material or manufacturer's product is specified and the Specification states that products of similar design and equal construction from the specified list of manufacturers may be substituted, it is the intention of the Owner or Engineer that products of manufacturers that are specified are the only products that will be acceptable and that products of other manufacturers will not be considered for substitution without approval.

H. Wherever a definite product, material or method is specified and there is a statement that "OR EQUAL" product, material or method will be acceptable, it is the intention of the Owner or Engineer that the specified product, material or method or an "OR EQUAL"

product, material or method may be used if it complies with the specifications and is submitted for review to the Engineer as outline herein.

I. Where permission to use substituted or alternative equipment on the project is granted by the Owner or Engineer in writing, it shall be the responsibility of the Contractor or Subcontractor involved to verify that the equipment will fit in the space available which includes allowances for all required Code and maintenance clearances, and to coordinate all equipment structural support, plumbing and electrical requirements and provisions with the Mechanical and Plumbing Design Documents and all other trades, including Division 26.

J. Changes in architectural, structural, electrical, mechanical, and plumbing requirements for the substitution shall be the responsibility of the bidder wishing to make the substitution. This shall include the cost of redesign by the affected designer(s). Any additional cost incurred by affected subcontractors shall be the responsibility of this bidder and not the owner.

K. If any request for a substitution of product, material or method is rejected, the Contractor will automatically be required to furnish the product, material or method named in the Specifications. Repetitive requests for substitutions will not be considered.

L. The Owner or Engineer will investigate all requests for substitutions when submitted in accordance with above and if accepted, will issue a letter allowing the substitutions.

M. Where equipment other than that used in the design as specified or shown on the Drawings is substituted (either from an approved manufacturers list or by submittal review), it shall be the responsibility of the substituting Contractor to coordinate space requirements, building provisions and connection requirements with his trades and all other trades and pay all additional costs to other trades, the Owner, the Architect or Engineer, if any, due to the substitutions.

1.13 SUBMITTALS

A. Coordinate with Division 01 for submittal timetable requirements, unless noted otherwise within thirty (30) days after the Contract is awarded. The Contractor shall submit an electronic copy of a complete set of shop drawings and complete data covering each item of equipment or material. The submittal of each item requiring a submittal must be received by the Architect or Engineer within the above thirty day period. The Architect or Engineer shall not be responsible for any delays or costs incurred due to excessive shop drawing review time for submittals received after the thirty (30) day time limit. The Architect and Engineer will retain a copy of all shop drawings for their files. All literature pertaining to items subject to Shop Drawing submittal shall be submitted at one time. Submittals shall be placed in one electronic file in PDF 8.0 format and bookmarked for individual specification sections. Individual electronic files of submittals for individual specifications shall not be permitted. Each submittal shall include the following items:

1. A cover sheet with the names and addresses of the Project, Architect, MEP Engineer, General Contractor and the Subcontractor making the submittal. The cover sheet shall also contain the section number covering the item or items submitted and the item nomenclature or description.
2. An index page with a listing of all data included in the Submittal.
3. A list of variations page with a listing all variations, including unfurnished or additional required accessories, items or other features, between the submitted equipment and the specified equipment. If there are no variations, then this page shall state "NO VARIATIONS". Where variations affect the work of other Contractors, then the Contractor shall certify on this page that these variations

have been fully coordinated with the affected Contractors and that all expenses associated with the variations will be paid by the submitting Contractor. This page will be signed by the submitting Contractor.

4. Equipment information including manufacturer's name and designation, size, performance and capacity data as applicable. All applicable Listings, Labels, Approvals and Standards shall be clearly indicated.
5. Dimensional data and scaled drawings as applicable to show that the submitted equipment will fit the space available with all required Code and maintenance clearances clearly indicated and labeled at a minimum scale of 1/4" = 1'-0", as required to demonstrate that the alternate or substituted product will fit in the space available.
6. Identification of each item of material or equipment matching that indicated on the Drawings.
7. Sufficient pictorial, descriptive and diagrammatic data on each item to show its conformance with the Drawings and Specifications. Any options or special requirements or accessories shall be so indicated. All applicable information shall be clearly indicated with arrows or another approved method.
8. Additional information as required in other Sections of this Division.
9. Certification by the General Contractor and Subcontractor that the material submitted is in accordance with the Drawings and Specifications, signed and dated in long hand. Submittals that do not comply with the above requirements shall be returned to the Contractor and shall be marked "REVISE AND RESUBMIT".

B. Refer to Division 01 for additional information on shop drawings and submittals.

C. Equipment and materials submittals and shop drawings will be reviewed for compliance with design concept only. It will be assumed that the submitting Contractor has verified that all items submitted can be installed in the space allotted. Review of shop drawings and submittals shall not be considered as a verification or guarantee of measurements or building conditions.

D. Where shop drawings and submittals are marked "REVIEWED", the review of the submittal does not indicate that submittals have been checked in detail nor does it in any way relieve the Contractor from his responsibility to furnish material and perform work as required by the Contract Documents.

E. Shop drawings shall be reviewed and returned to the Contractor with one of the following categories indicated:

1. REVIEWED: Contractor need take no further submittal action, shall include this submittal in the O&M manual and may order the equipment submitted on.
2. REVIEWED AS NOTED: Contractor shall submit a letter verifying that required exceptions to the submittal have been received and complied with including additional accessories or coordination action as noted, and shall include this submittal and compliance letter in the O&M manual. The contractor may order the equipment submitted on at the time of the returned submittal providing the Contractor complies with the exceptions noted.
3. NOT APPROVED: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is not approved, the Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or drawings. Contractor shall not order equipment that is not approved. Repetitive requests for substitutions will not be considered.
4. REVISE AND RESUBMIT: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked

revise and resubmit, the Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or provide as noted on previous shop drawings. Contractor shall not order equipment marked revise and resubmit. Repetitive requests for substitutions will not be considered.

5. CONTRACTOR'S CERTIFICATION REQUIRED: Contractor shall resubmit submittal on material, equipment or method of installation. The Contractor's stamp is required stating the submittal meets all conditions of the contract documents. The stamp shall be signed by the General Contractor. The submittal will not be reviewed if the stamp is not placed and signed on all shop drawings.
6. MANUFACTURER NOT AS SPECIFIED: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked manufacturer not as specified, the Contractor will automatically be required to furnish the product, material or method named in the specifications. Contractor shall not order equipment where submittal is marked manufacturer not as specified. Repetitive requests for substitutions will not be considered.

F. Materials and equipment which are purchased or installed without shop drawing review shall be at the risk of the Contractor and the cost for removal and replacement of such materials and equipment and related work which is judged unsatisfactory by the Owner or Engineer for any reason shall be at the expense of the Contractor. The responsible Contractor shall remove the material and equipment noted above and replace with specified equipment or material at his own expense when directed in writing by the Architect or Engineer.

G. Shop Drawing Submittals shall be complete and checked prior to submission to the Engineer for review.

H. Submittals are required for, but not limited to, the following items:

1. Basic Materials.
2. Plumbing Fixture and Valves.
3. Support and Couriers.
4. Floor Drain, Roof Drain and Cleanouts.
5. Interceptors/Traps (All Types).
6. Water Heaters
7. Water Softeners.
8. Water Treatment.
9. Domestic Water Booster Pumps.
10. Fire Pumps and Jockey Pumps.
11. Fire Pump Controllers
12. Backflow Preventers.
13. Plumbing Piping.
14. Expansion Compensation.
15. Variable Frequency Drives.
16. Noise and Vibration Controls.
17. Portable Pipe Hanger and Equipment Supports.
18. Plumbing Specialties.
19. Water Filters.
20. Test, Adjust and Balance Reports.
21. Testing, Adjusting and Balancing Contractor Qualifications.
22. Coordination Drawings.

I. Refer to Division 26 sections for additional shop drawing requirements. Provide samples of actual materials and/or equipment to be used on the Project upon request of the Owner or Engineer.

1.14 COORDINATION DRAWINGS

A. Prepare coordination drawings to a scale of 1/4"=1'-0" or larger; detailing major elements, components, and systems of mechanical equipment and materials in relationship with other systems, installations, and building components. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are of importance to the efficient flow of the Work, including (but not necessarily limited to) the following:

1. Indicate the proposed locations of pipe, equipment, and other materials. Include the following:
   a. Wall and type locations.
   b. Clearances for installing and maintaining insulation.
   c. Locations of light fixtures and sprinkler heads.
   d. Clearances for servicing and maintaining equipment, including tube removal and space for equipment disassembly required for periodic maintenance.
   e. Equipment connections and support details.
   f. Exterior wall and foundation penetrations.
   g. Routing of storm, sanitary sewer piping and plumbing piping.
   h. Fire-rated wall and floor penetrations.
   i. Sizes and location of required concrete pads and bases.
   j. Valve stem movement.
   k. Structural floor, wall and roof opening sizes and details.
2. Indicate scheduling, sequencing, movement, and positioning of large equipment into the building during construction.
3. Prepare floor plans, elevations, and details to indicate penetrations in floors, walls, and ceilings and their relationship to other penetrations and installations.

B. This Contractor shall be responsible for coordination of all items that will affect the installation of the work of this Division. This coordination shall include, but not be limited to: voltage, ampacity, capacity, electrical and piping connections, space requirements, sequence of construction, building requirements and special conditions.

C. By submitting shop drawings on the project, this Contractor is indicating that all necessary coordination has been completed and that the systems, products and equipment submitted can be installed in the building and will operate as specified and intended, in full coordination with all other Contractors and Subcontractors.

1.15 RECORD DOCUMENTS

A. Prepare record documents in accordance with the requirements in Special Project Requirements, in addition to the requirements specified in Division 23, indicate the following installed conditions:

1. Mains and branches of piping systems, with valves and control devices located and numbered, concealed unions located, and with items requiring maintenance located (i.e., traps, strainers, expansion compensators, tanks, etc.). Valve location diagrams, complete with valve tag chart. Indicate actual inverts and horizontal locations of underground piping.
2. Equipment locations (exposed and concealed), dimensioned from prominent building lines.
3. Approved substitutions, Contract Modifications, and actual equipment and materials installed.
4. Contract Modifications, actual equipment and materials installed.

B. Engage the services of a Land Surveyor or Professional Engineer registered in the state in which the project is located as specified herein to record the locations and invert elevations of underground installations.

C. The Contractor shall maintain a set of clearly marked black line record "AS-BUILT" prints on the job site on which he shall mark all work details, alterations to meet site conditions and changes made by "Change Order" notices. These shall be kept available for inspection by the Owner, Architect or Engineer at all times.

D. Refer to Division 01 for additional requirements concerning record drawings. If the Contractor does not keep an accurate set of as-built drawings, the pay request may be altered or delayed at the request of the Architect. Mark the drawings with a colored pencil. Delivery of as-built prints and reproducibles is a condition of final acceptance.

E. The record prints shall be updated on a daily basis and shall indicate accurate dimensions for all buried or concealed work, precise locations of all concealed pipe or duct, locations of all concealed valves, controls and devices and any deviations from the work shown on the Construction Documents which are required for coordination. All dimensions shall include at least two dimensions to permanent structure points.

F. Submit three prints of the tracings for approval. Make corrections to tracings as directed and delivered "Auto Positive Tracings" to the architect. "As-Built" drawings shall be furnished in addition to shop drawings.

G. When the option described in paragraph F., above is not exercised then upon completion of the work, the Contractor shall transfer all marks from the submit a set of clear concise set of reproducible record "AS-BUILT" drawings and shall submit the reproducible drawings with corrections made by a competent draftsman and three (3) sets of black line prints to the Architect or Engineer for review prior to scheduling the final inspection at the completion of the work. The reproducible record "AS-BUILT" drawings shall have the Engineers Name and Seal removed or blanked out and shall be clearly marked and signed on each sheet as follows:

CERTIFIED RECORD DRAWINGS

DATE:

(NAME OF GENERAL CONTRACTOR)

BY:_____
(SIGNATURE)

(NAME OF SUBCONTRACTOR)

BY:_____
(SIGNATURE)

1.16 OPERATING MANUALS

A. Prepare maintenance manuals in accordance with Division 01 and in addition to the requirements specified in Division 01, include the following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
4. Servicing instructions and lubrication charts and schedules.

1.17 CERTIFICATIONS AND TEST REPORTS

A. Submit a detailed schedule for completion and testing of each system indicating scheduled dates for completion of system installation and outlining tests to be performed and schedule date for each test. This detailed completion and test schedule shall be submittal at least 90 days before the projected Project completion date.

B. Test result reporting forms shall be submitted for review no later than the date of the detailed schedule submitted.

C. Submit 4 copies of all certifications and test reports to the Architect or Engineer for review adequately in advance of completion of the Work to allow for remedial action as required to correct deficiencies discovered in equipment and systems.

D. Certifications and test reports to be submitted shall include, but not be limited to those items outlined in Section of Division 22.

1.18 MAINTENANCE MANUALS

A. Coordinate with Division 01 for maintenance manual requirements, unless noted otherwise bind together in “D ring type” binders by National model no. 79-883 or equal, binders shall be large enough to allow ¼” of spare capacity. Three (3) sets of all approved shop drawing submittals, fabrication drawings, bulletins, maintenance instructions, operating instructions and parts exploded views and lists for each and every piece of equipment furnished under this Specification. All sections shall be typed and indexed into sections and labeled for easy reference and shall utilize the individual specification section numbers shown in the Plumbing Specifications as an organization guideline. Bulletins containing information about equipment that is not installed on the project shall be properly marked up or stripped and reassembled. All pertinent information required by the Owner for proper operation and maintenance of equipment supplied by Division 22 shall be clearly and legibly set forth in memoranda that shall, likewise, be bound with bulletins.

B. Prepare maintenance manuals in accordance with Special Project Conditions, in addition to the requirements specified in Division 22, include the following information for equipment items:

1. Identifying names, name tags designations and locations for all equipment.
2. Valve tag lists with valve number, type, color coding, location and function.
3. Reviewed shop drawing submittals with exceptions noted compliance letter.
4. Fabrication drawings.
5. Equipment and device bulletins and data sheets clearly highlighted to show equipment installed on the project and including performance curves and data as

applicable, i.e., description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and model numbers of replacement parts.

6. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
7. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions, servicing instructions and lubrication charts and schedules.
8. Equipment and motor name plate data.
9. Wiring diagrams.
10. Exploded parts views and parts lists for all equipment and devices.
11. Color coding charts for all painted equipment and conduit.
12. Location and listing of all spare parts and special keys and tools furnished to the Owner.
13. Furnish recommended lubrication schedule for all required lubrication points with listing of type and approximate amount of lubricant required.

C. Refer to Division 1 for additional information on Operating and Maintenance Manuals.

D. Operating and Maintenance Manuals shall be turned over to the Owner or Engineer a minimum of 14 working days prior to the beginning of the operator training period.

1.19 OPERATOR TRAINING

A. The Contractor shall furnish the services of factory trained specialists to instruct the Owner's operating personnel. The Owner's operator training shall include 12 hours of on site training in three 4 hour shifts.

B. Before proceeding with the instruction of Owner Personnel, prepare a typed outline in triplicate, listing the subjects that will be covered in this instruction, and submit the outline for review by the Owner. At the conclusion of the instruction period obtain the signature of each person being instructed on each copy of the reviewed outline to signify that he has a proper understanding of the operation and maintenance of the systems and resubmit the signed outlines.

C. Refer to other Division 22 Sections for additional Operator Training requirements.

1.20 FINAL COMPLETION

A. At the completion of the work, all equipment and systems shall be tested and faulty equipment and material shall be repaired or replaced. Refer to Sections of Division 26 for additional requirements.

B. Clean and adjust all valves and operational devices and replace faulty parts immediately prior to final acceptance.

C. Touch up and/or refinish all scratched equipment and devices immediately prior to final acceptance.

1.21 CONTRACTOR'S GUARANTEE

A. Use of the Plumbing systems to provide temporary service during construction period will not be allowed without permission from the Owner in writing and if granted shall not be cause warranty period to start, except as defined below.

B. Contractor shall guarantee to keep the entire installation in repair and perfect working order for a period of one year after its completion and final acceptance, and shall furnish free of additional cost to the Owner all materials and labor necessary to comply with the above guarantee throughout the year beginning from the date of issue of Substantial Completion, Beneficial Occupancy by the Owner or the Certificate of Final Payment as agreed upon by all parties.

C. This guarantee shall not include cleaning or changing equipment except as required by testing, adjusting and balancing.

D. All air compressors shall have parts and labor guarantees for a period of not less than 5 years beyond the date of final acceptance.

E. Refer to Sections in Division 22 for additional guarantee or warranty requirements.

1.22 TRANSFER OF ELECTRONIC FILES

A. Project documents are not intended or represented to be suitable for reuse by Architect/Owner or others on extensions of this project or on any other project. Any such reuse or modification without written verification or adaptation by Engineer, as appropriate for the specific purpose intended, will be at Architect/Owner's risk and without liability or legal exposure to Engineer or its consultants from all claims, damages, losses and expense, including attorney's fees arising out of or resulting thereof.

B. Because data stored in electric media format can deteriorate or be modified inadvertently, or otherwise without authorization of the data's creator, the party receiving the electronic files agrees that it will perform acceptance tests or procedures within sixty (60) days of receipt, after which time the receiving party shall be deemed to have accepted the data thus transferred to be acceptable. Any errors detected within the sixty (60) day acceptance period will be corrected by the party delivering the electronic files. Engineer is not responsible for maintaining documents stored in electronic media format after acceptance by the Architect/Owner.

C. When transferring documents in electronic media format, Engineer makes no representations as to the long term compatibility, usability or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by Engineer at the beginning of the Project.

D. Any reuse or modifications will be Contractor's sole risk and without liability or legal exposure to Architect, Engineer or any consultant.

E. The Texas Board of Architectural Examiners (TBAE) has stated that it is in violation of Texas law for persons other than the Architect of record to revise the Architectural drawings without the Architect's written consent.
It is agreed that "MEP" hard copy or computer-generated documents will not be issued to any other party except directly to the Architect/Owner. The contract documents are contractually copyrighted and cannot be used for any other project or purpose except as specifically indicated in AIA B-141 Standard Form of Agreement Between Architect and Owner.
If the client, Architect/Owner, or developer of the project requires electronic media for "record purposes", then an AutoCAD based compact disc ("CD") will be prepared. The "CD" will be submitted with all title block references intact and will be formatted in a "plot" format to permit the end user to only view and plot the drawings. Revisions will not be permitted in this configuration.

F. At the Architect/Owner's request, Engineer will prepare one "CD" of electronic media to assist the contractor in the preparation of submittals. The Engineer will prepare and submit the "CD" to the Architect/Owner for distribution to the contractor. All copies of the "CD" will be reproduced for a cost of reproduction fee of Five Hundred Dollars ($500.00) per "CD".
The "CD" will be prepared and all title blocks, names and dates will be removed. The "CD" will be prepared in a ".dwg" format to permit the end user to revise the drawings.

G. This Five Hundred Dollars ($500.00) per "CD" cost of reproduction will be paid directly from the Contractor to the Engineer. The "CD" will be prepared only after receipt of the Five Hundred Dollars ($500.00). The Five Hundred Dollars ($500.00) per "CD" cost of reproduction is to only recover the cost of the man-hours necessary to reproduce the documents. It is not a contractual agreement between the Contractor and Engineer to provide any engineering services, nor any other service.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Provide materials and equipment manufactured by a domestic United States manufacturer.

B. Access Doors: Provide access doors as required for access to equipment, valves, controls, cleanouts and other apparatus where concealed. Access doors shall have concealed hinges and screw driver cam locks.

C. All access panels located in wet areas such as restrooms, locker rooms, shower rooms, kitchen and any other wet areas shall be constructed of stainless steel.

D. Access Doors: shall be as follows:

1. Plastic Surfaces: Milcor Style K.
2. Ceramic Tile Surface: Milcor Style M.
3. Drywall Surfaces: Milcor Style DW.
4. Install panels only in locations approved by the Architect.

PART 3 - EXECUTION

3.01 ROUGH-IN

A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected via reviewed submittals.

B. Refer to equipment specifications in Divisions 21 through 22 for additional rough-in requirements.

3.02 PLUMBING INSTALLATIONS

A. General: Sequence, coordinate, and integrate the various elements of plumbing and fire systems, materials, and equipment. Comply with the following requirements:

1. Coordinate plumbing systems, equipment, and materials installation with other building components.
2. Verify all dimensions by field measurements.
3. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for plumbing installations.

4. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed.
5. Sequence, coordinate, and integrate installations of plumbing materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing in the building.
6. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide the maximum headroom possible.
7. Coordinate connection of plumbing systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.
8. Install systems, materials, and equipment to conform with architectural action markings on submittal, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, resolve conflicts and route proposed solution to the Architect for review.
9. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
10. Install mechanical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as practical, connect equipment for ease of disconnecting, with minimum of interference with other installations. Extend grease fittings to an accessible location and label.
11. Install access panel or doors where valves and equipment are concealed behind finished surfaces. Access panels and doors are specified.
12. Install systems, materials, and equipment giving right-of-way priority to systems required to be installed at a specified slope.
13. Provide roof curbs for all roof mounted equipment. Coordinate with roof construction for pitched roof. Provide roof curb to match roof slope. Refer to architectural drawings and details.
14. The equipment to be furnished under this Specification shall be essentially the standard product of the manufacturer. Where two or more units of the same class of equipment are required, these units shall be products of a single manufacturer; however, the component parts of the system need not be the product of the same manufacturer.
15. The architectural and structural features of the building and the space limitations shall be considered in selection of all equipment. No equipment shall be furnished which will not suit the arrangement and space limitations indicated.
16. Lubrication: Prior to start-up, check and properly lubricate all bearings as recommended by the manufacturer.
17. Where the word "Concealed" is used in these Specifications in connection with insulating, painting, piping, ducts, etc., it shall be understood to mean hidden from sight as in chases, furred spaces or suspended ceilings. "Exposed" shall be understood to mean the opposite of concealed.
18. Identification of Plumbing Equipment:
    a. Plumbing equipment shall be identified by means of nameplates permanently attached to the equipment. Nameplates shall be engraved laminated plastic or etched metal. Shop drawings shall include dimensions and lettering format for approval. Attachments shall be with escutcheon pins, self-tapping screws, or machine screws.
    b. Tags shall be attached to all valves, including control valves, with nonferrous chain. Tags shall be brass and at least 1-1/2 inches in diameter. Nameplate and tag symbols shall correspond to the identification symbols on the temperature control submittal and the "as-

built" drawings.

3.03 CUTTING AND PATCHING

A. Protection of Installed Work: During cutting and patching operations, protect adjacent installations.

B. Perform cutting, fitting, and patching of plumbing equipment and materials required to:

1. Uncover Work to provide for installation of ill-timed Work.
2. Remove and replace defective Work.
3. Remove and replace Work not conforming to requirements of the Contract Documents.
4. Remove samples of installed Work as specified for testing.
5. Install equipment and materials in existing structures.
6. Upon written instructions from the Engineer, uncover and restore Work to provide for Engineer/Owner's observation of concealed Work, without additional cost to the Owner.
7. Patch existing finished surfaces and building components using new materials matching existing materials and experienced Installers. Patch finished surfaces and building components using new materials specified for the original installation and experienced Installers; refer to the materials and methods required for the surface and building components being patched; Refer to Section "DEFINITIONS" for definition of "Installer."

C. Cut, remove and legally dispose of selected plumbing equipment, components, and materials as indicated, including but not limited to removal of plumbing piping, equipment, plumbing fixtures and trim, and other plumbing items made obsolete by the new Work.

D. Protect the structure, furnishings, finishes, and adjacent materials not indicated or scheduled to be removed.

E. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.

3.04 WORK SEQUENCE, TIMING, COORDINATION WITH OWNER

A. The Owner will cooperate with the Contractor, however, the following provisions must be observed:

1. A meeting will be held at the project site, prior to any construction, between the Owner's Representative, the General Contractor, the Sub-Contractors and the Engineer to discuss Contractor's employee parking space, access, storage of equipment or materials, and use of the Owner's facilities or utilities. The Owner's decisions regarding such matters shall be final.
2. During the construction of this project, normal facility activities will continue in existing buildings until renovated areas are completed. Plumbing, fire protection, lighting, electrical, communications, heating, air conditioning, and ventilation systems will have to be maintained in service within the occupied spaces of the existing building.

3.05 DEMOLITION AND WORK WITHIN EXISTING BUILDINGS

A. In the preparation of these documents every effort has been made to show the approximate locations of, and connections to the existing piping, duct, equipment and other apparatus related to this phase of the work. However, this Contractor shall be

responsible for verifying all of the above information. This Contractor shall visit the existing site to inspect the facilities and related areas. This Contractor shall inspect and verify all details and requirements of all the Contract Documents, prior to the submission of a proposal. All discrepancies between the Contract Documents and actual job-site conditions shall be resolved by his contractor, who shall produce drawings that shall be submitted to the Architect/Engineer for review. All labor and materials required to perform the work described shall be apart of this Contract.

B. All equipment and/or systems noted on the Drawings "To Remain" shall be inspected and tested on site to certify its working condition. A written report on the condition of all equipment to remain, including a copy of the test results and recommended remedial actions and costs shall be made by this Contractor to the Architect/Engineer for review.

C. All equipment and/or systems noted on the Drawings "To Be Removed" shall be removed including, associated pipe and duct pipe and duct hangers and/or line supports. Where duct or pipe is to be capped for future or end of line use, it shall be properly tagged with its function or service appropriately identified. Where existing equipment is to be removed or relocated and has an electric motor or connection, the Electrical Contractor shall disconnect motor or connection, remove wiring to a safe point and this Contractor shall remove or relocate motor or connection along with the equipment.

D. During the construction and remodeling, portions of the Project shall remain in service. Construction equipment, material tools, extension cords, etc., shall be arranged so as to present minimum hazard or interruption to the occupants of the building. None of the construction work shall interfere with the proper operation of the existing facility or be so conducted as to cause harm or danger to persons on the premises. All fire exits, stairs or corridors required for proper access, circulation or exit shall remain clear of equipment, materials or debris. The General Contractor shall maintain barricades, other separations in corridors and other spaces where work is conducted.

E. Certain work during the demolition phase of construction may require overtime or night time shifts or temporary evacuation of the occupants. Coordinate and schedule all proposed down time at least seventy-two (72) hours in advance in writing.

F. Any salvageable equipment as determined by the Owner, shall be delivered to the Owner, and placed in storage at the location of his choice. All other debris shall be removed from the site immediately.

G. Equipment, piping or other potential hazards to the working occupants of the building shall not be left overnight outside of the designated working or construction area.

H. Make every effort to minimize damage to the existing building and the owner's property. Repair, patch or replace as required any damage that might occur as a result of work at the site. Care shall be taken to minimize interference with the Owner's activities during construction and to keep construction disrupted areas to a minimum. Corporate with the Owner and other trades in scheduling and performance of the work.

I. Include in the contract price all rerouting of existing pipe, duct, etc., and the reconnecting of the existing equipment and plumbing fixtures as necessitated by field conditions to allow the installation of the new systems regardless of whether or not such rerouting, reconnecting or relocating is shown on the drawings. Furnish all temporary pipe, duct, controls, etc., as required to maintain heating, cooling, ventilation and plumbing services for the existing areas with a minimum of interruption.

J. All existing plumbing fixtures, pipe, duct, materials, equipment, controls and appurtenances not included in the remodel or alteration areas are to remain in place.

K. Pipe, duct, equipment and controls serving mechanical, plumbing and owner's equipment, etc., which is to remain but which is served by pipe, duct, equipment and controls that are disturbed by the remodeling work, shall be reconnected in such a manner as to leave this equipment in proper operating condition.

L. It is the intention of this Section of the Specifications to outline minimum requirements to furnish the Owner with a turn-key and operating system in cooperation with other trades with a minimum of disruption or downtime.

M. Refer to Architectural "Demolition and/or Alteration" plans for actual location of walls, ceiling, etc., being removed and/or remodeled.

END OF SECTION

SECTION 22 05 29
HANGERS AND SUPPORT FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Pipe, and equipment hangers, supports, and associated anchors.

B. Sleeves and seals.

C. Flashing and sealing equipment and pipe stacks.

1.02 RELATED WORK

A. Section 22 05 29 – Hangers and Support for Plumbing Piping and Equipment.

B. Section 22 07 19 – Plumbing Piping Insulation.

C. Section 22 07 16 – Plumbing Equipment Insulation.

D. Section 21 00 00 - Fire Protection and 21 13 13 Wet Pipe Sprinkler System.

E. Section 22 10 00 - Plumbing System.

F. Section 23 21 13 – Above Ground Hydronic Piping.

G. Section 23 23 00 – Refrigerant Piping

1.03 REFERENCES

A. ANSI/ASME B31.1 - Power Piping.

B. NFPA 13 - Standard for the Installation of Sprinkler Systems.

C. NFPA 14 - Standard for the Installation of Standpipe and Hose Systems.

1.04 QUALITY ASSURANCE

A. Supports for Sprinkler Piping: In conformance with NFPA 13.

B. Supports for Standpipes: In conformance with NFPA 14.

1.05 SUBMITTALS

A. Submit shop drawings and product data under provisions of Division One.

B. Indicate hanger and support framing and attachment methods.

PART 2 - PRODUCTS

2.01 PIPE HANGERS AND SUPPORTS

A. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch Malleable iron, adjustable swivel, split ring.

B. Hangers for Pipe Sizes 2 to 4 Inches Carbon steel, adjustable, clevis.

C. Hangers for Pipe Sizes 6 Inches and Over: Adjustable steel yoke, cast iron roll, double hanger.

D. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods; cast iron roll and stand for pipe sizes 6 inches and over.

E. Wall Support for Pipe Sizes to 3 Inches: Cast iron hook.

F. Wall Support for Pipe Sizes 4 Inches and Over: adjustable steel yoke and cast iron roll.

G. Vertical Support: Steel riser clamp.

H. Floor Support for Pipe Sizes to 4 Inches: Cast iron adjustable pipe saddle, locknut nipple, floor flange, and concrete pier or steel support.

I. Floor Support for Pipe Sizes 6 Inches and Over: Adjustable cast iron roll and stand, steel screws, and concrete pier or steel support.

J. Roof Pipe Supports and Hangers: Galvanized Steel Channel System as manufactured by Portable Pipe Hangers, Inc. or approved equal.

For pipes 2-1/2" and smaller – Type PP10 with roller
For pipes 3" through 8" – Type PS
For multiple pipes – Type PSE - Custom

K. Copper Pipe Support and Hangers: Electro-galvanized with thermoplastic elastomer cushions; Unistrut "Cush-A-Clamp" or equal. Hangers: Plastic coated; Unistrut or equal.

L. For installation of protective shields refer to specification section 22 07 19 -3.03.

M. Shields for Vertical Copper Pipe Risers: Sheet lead.

N. Pipe Rough-In Supports in Walls/Chases: Provide preformed plastic pipe supports, Sioux Chief "Pipe Titan" hold rite or equal.

2.02 HANGER RODS

A. Galvanized Hanger Rods: Threaded both ends, threaded one end, or continuous threaded.

2.03 INSERTS

A. Inserts: Malleable iron case of galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.04 FLASHING

A. Metal Flashing: 20 gage galvanized steel.

B. Lead Flashing: 4 lb./sq. ft. sheet lead for waterproofing; 1 lb./sq. ft. sheet lead for soundproofing.

C. Caps: Steel, 20 gage minimum; 16 gage at fire resistant elements.

D. Coordinate with roofing contractor/architect for type of flashing on metal roofs.

2.05 EQUIPMENT CURBS

A. Fabricate curbs of hot dipped galvanized steel.

2.06 SLEEVES

A. Sleeves for Pipes Through Non-fire Rated Floors: Form with 18 gage galvanized steel, tack welded to form a uniform sleeve.

B. Sleeves for Pipes Through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Form with steel pipe, schedule 40.

C. Sleeves for Pipes Through Fire Rated and Fire Resistive Floors and Walls, and Fireproofing: Prefabricated fire rated steel sleeves including seals, UL listed.

D. Sleeves for Round Ductwork: Form with galvanized steel.

E. Sleeves for Rectangular Ductwork: Form with galvanized steel.

F. Fire Stopping Insulation: Glass fiber type, non-combustible, U.L. listed.

G. Caulk: Paintable 25-year acrylic sealant.

H. Pipe Alignment Guides: Factory fabricated, of cast semi-steel or heavy fabricated steel, consisting of bolted, two-section outer cylinder and base with two-section guiding spider that bolts tightly to pipe. Length of guides shall be as recommended by manufacturer to allow indicated travel.

2.07 FABRICATION

A. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.

B. Design hangers without disengagement of supported pipe.

C. Design roof supports without roof penetrations, flashing or damage to the roofing material.

2.08 FINISH

A. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

PART 3 - EXECUTION

3.01 INSERTS

A. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams. Coordinate with structural engineer for placement of inserts.

B. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.

C. Where concrete slabs form finished ceiling, provide inserts to be flush with slab surface.

D. Where inserts are omitted, drill through concrete slab from below and provide thru-bolt with recessed square steel plate and nut recessed into and grouted flush with slab. Verify with structural engineer prior to start of work.

3.02 PIPE HANGERS AND SUPPORTS

A. Support horizontal piping as follows:

PIPE SIZE	MAX. HANGER SPACING	HANGER DIAMETER
(Steel Pipe)		
1/2 to 1-1/4 inch	7’-0”	3/8"
1-1/2 to 3 inch	10'-0"	3/8"
4 to 6 inch	10'-0"	1/2"
8 to 10 inch	10'-0"	5/8"
12 to 14 inch	10'-0"	3/4"
15 inch and over	10'-0"	7/8"
(Copper Pipe)		
1/2 to 1-1/4 inch	5'-0"	3/8"
1-1/2 to 2-1/2 inch	8'-0"	3/8"
3 to 4 inch	10'-0"	3/8"
6 to 8 inch	10'-0"	1/2"
(Cast Iron)		
2 to 3 inch	5'-0"	3/8"
4 to 6 inch	10'-0"	1/2"
8 to 10 inch	10'-0"	5/8"
12 to 14 inch	10'-0"	3/4"
15 inch and over	10'-0"	7/8"
(PVC Pipe)		
1-1/2 to 4 inch	4'-0"	3/8"
6 to 8 inch	4'-0"	1/2"
10 and over	4'-0"	5/8"

B. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.

C. Place a hanger within 12 inches of each horizontal elbow and at the vertical horizontal transition.

D. Use hangers with 1-1/2 inch minimum vertical adjustment.

E. Support horizontal cast iron pipe adjacent to each hub, with 5 feet maximum spacing between hangers.

F. Support vertical piping at every floor. Support vertical cast iron pipe at each floor at hub.

G. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.

H. Support riser piping independently of connected horizontal piping.

I. Install hangers with nut at base and above hanger; tighten upper nut to hanger after final installation adjustments.

J. Portable pipe hanger systems shall be installed per manufactures instructions.

3.03 Insulated Piping: Comply with the following installation requirements.

A. Clamps: Attach galvanized clamps, including spacers (if any), to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ASME B31.9.

B. Saddles: Install galvanized protection saddles MSS Type 39 where insulation without vapor barrier is indicated. Fill interior voids with segments of insulation that match adjoining pipe insulation.

C. Shields: Install protective shields MSS Type 40 on cold and chilled water piping that has vapor barrier. Shields shall span an arc of 180 degrees and shall have dimensions in inches not less than the following:

NPS	LENGTH	THICKNESS
1/4 THROUGH 3-1/2	12	0.048
4	12	0.060
5 & 6	18	0.060
8 THROUGH 14	24	0.075
16 THROUGH 24	24	0.105

D. Piping 2” and larger provide galvanized sheet metal shields with calcium silicate at hangers/supports.

E. Insert material shall be at least as long as the protective shield.

F. Thermal Hanger Shields: Install where indicated, with insulation of same thickness as piping.

3.04 EQUIPMENT BASES AND SUPPORTS

A. Provide equipment bases of concrete.

B. Provide templates, anchor bolts, and accessories for mounting and anchoring equipment.

C. Construct support of steel members. Brace and fasten with flanges bolted to structure.

D. Provide rigid anchors for pipes after vibration isolation components are installed.

3.05 FLASHING

A. Provide flexible flashing and metal counter flashing where piping and ductwork penetrate weather or waterproofed walls, floors, and roofs.

B. Flash vent and soil pipes projecting 8 inches minimum above finished roof surface with lead worked one inch minimum into hub, 8 inches minimum clear on sides with 24 x 24 inches sheet size. For pipes through outside walls, turn flanges back into wall and caulk, metal counter flash and seal.

C. Flash floor drains in floors with topping over finished areas with lead, 10 inches clear on sides with minimum 36 x 36 inch sheet size. Fasten flashing to drain clamp device.

D. Seal floor shower mop sink and all other drains watertight to adjacent materials.

E. Provide curbs for mechanical roof installations 8 inches minimum high above roofing surface. Contact architect for all flashing details and roof construction. Seal penetrations watertight.

3.06 SLEEVES

A. Set sleeves in position in formwork. Provide reinforcing around sleeves.

B. Extend sleeves through floors minimum one inch above finished floor level. Caulk sleeves full depth with fire rated thermfiber and 3M caulking and provide floor plate.

C. Where piping or ductwork penetrates floor, ceiling, or wall, close off space between pipe or duct and adjacent work with U.L. listed fire stopping insulation and caulk seal air tight. Provide close fitting metal collar or escutcheon covers at both sides of penetration.

D. Fire protection sleeves may be flush with floor of stairways.

END OF SECTION

SECTION 22 05 48
VIBRATION AND SEISMIC CONTROLS FOR PLUMBING PIPING

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Vibration and sound control products.

1.02 RELATED DOCUMENTS

A. Drawings and general provisions of Contract including General and Supplementary Conditions and Division One specification sections, apply to work of this section

B. This section is Division-22 Basic Materials and Methods section, and is part of each Division-22 section making reference to vibration control products specified herein.

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of vibration control products, of type, size, and capacity required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Vibration and sound control products shall conform to ASHRAE criteria for average noise criteria curves for all equipment at full load conditions.

C. Except as otherwise indicated, sound and vibration control products shall be provided by a single manufacturer.

1.04 SUBMITTALS

A. SHOP DRAWINGS: Indicate size, material, and finish. Show locations and installation procedures. Include details of joints, attachments, and clearances.

B. PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures, product variations, and accessories.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Amber/Booth Company, Inc.

B. Mason Industries, Inc.

C. Noise Control, Inc.

2.02 GENERAL

A. Provide vibration isolation supports for equipment, piping and ductwork, to prevent transmission of vibration and noise to the building structures that may cause discomfort to the occupants.

B. Model numbers of Amber/Booth products are included for identification. Products of the additional manufacturers will be acceptable provided they comply with all of the requirements of this specification.

2.03 BASE MOUNTED PUMPS

A. Amber/Booth type SP-NR style E flexplate pad isolators consisting of two layers of 3/8'' thick alternate ribbed neoprene pad bonded to a 16 gage galvanized steel separator plate.

B. Pads shall be sized for approximately 40 PSI loading and 1/8'' deflection.

2.04 PIPING

A. Furnish line size flexible connectors at supply and return of pumps, amber/booth style 2800 single sphere EPDM construction, connector shall include 150 lb. cadmium plated carbon steel floating flanges.

2.05 CORROSION PROTECTION

A. All vibration isolators shall be designed and treated for resistance to corrosion.

B. Steel components: PVC coated or phosphated and painted with industrial grade enamel. Nuts, bolts, and washers: zinc-electroplated.

PART 3 - EXECUTION

3.01 All equipment shall be installed in accordance with the manufacturers recommendations and printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturers requirements.

3.03 The vibration isolation supplier shall certify in writing that he has inspected the installation and that all external isolation materials and devices are installed correctly and functioning properly.

END OF SECTION

SECTION 22 05 53
IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. The Basic Materials and Methods, Section 22 02 00, are included as a part of this Section as though written in full in this document.

1.02 SCOPE

Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for owner's use.

1.03 Refer to Architectural Sections for additional requirements.

PART 2 - PRODUCTS

2.01 VALVE AND PIPE IDENTIFICATION

A. Valves:

1. All valves shall be identified with a 1-1/2" diameter brass disc wired onto the handle. The disc shall be stamped with 1/2" high depressed black filled identifying numbers. These numbers shall be numerically sequenced for all valves on the job.
2. The number and description indicating make, size, model number and service of each valve shall be listed in proper operational sequence, properly typewritten. Three copies to be turned over to Owner at completion.
3. Tags shall be fastened with approved meter seal and 4 ply 0.018 smooth copper wire. Tags and fastenings shall be manufactured by the Seton Name Plate Company or approved equal.
4. All valves shall be numbered serially with all valves of any one system and/or trade grouped together.

B. Pipe Marking:

1. All interior visible piping located in accessible spaces such as above accessible ceilings, equipment rooms, attic space, under floor spaces, etc., shall be identified with all temperature pipe markers as manufactured by W.H. Brady Company, 431 West Rock Ave., New Haven, Connecticut, or approved equal.
2. All exterior visible piping shall be identified with UV and acid resistant outdoor grade acrylic plastic markers as manufactured by Set Mark distributed by Seton nameplate company. Factory location 20 Thompson Road, Branford, Connecticut, or approved equal.
3. Generally, markers shall be located on each side of each partition, on each side of each tee, on each side of each valve and/or valve group, on each side of each piece of equipment, and, for straight runs, at equally spaced intervals not to exceed 75 feet. In congested area, marks shall be placed on each pipe at the points where it enters and leaves the area and at the point of connection of each piece of equipment and automatic control valve. All markers shall have directional arrows.

4. Markers shall be installed after final painting of all piping and equipment and in such a manner that they are visible from the normal maintenance position. Manufacturer's installation instructions shall be closely followed.
5. Markers shall be colored as indicated below per ANSI/OSHA Standards:

SYSTEM	COLOR	LEGEND
Sanitary Sewer	Green	Vent Sanitary Sewer
Storm Drain	Green	Storm Drain
Domestic Water	Green	Domestic Water
Domestic Hot Water Supply	Yellow	Domestic Hot Water Supply
Domestic Hot Water Recirculating	Yellow	Domestic Hot Water Return
Fire Protection	Red	Fire Protection
Automatic Sprinkler	Red	Fire Sprinkler
Gas	Yellow	Natural Gas
Compressed Air	Blue	Compressed Air
Oxygen	Yellow	Oxygen
Nitrogen	Green	Nitrogen
Deionized Water	Green	Deionized Water

C. Pipe Painting:

1. All piping exposed to view shall be painted as indicated or as directed by the Architect in the field. Confirm all color selections with Architect prior to installation.
2. The entire fire protection piping system shall be painted red.
3. All piping located in mechanical rooms and exterior piping shall be painted as indicated below:

System	Color
Storm Sewer	White
Sanitary Sewer Waste and Vent	Light Gray
Domestic Cold Water	Dark Blue
Domestic Hot Water Supply and Return	Orange

PART 3 - EXECUTION

3.01 All labeling equipment shall be installed as per manufacturers printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Contractor’s price shall include all items required as per manufacturers' requirements.

3.03 All piping shall be cleaned of rust, dirt, oil and all other contaminants prior to painting. Install primer and a quality latex paint over all surfaces of pipe.

END OF SECTION

SECTION 22 07 19
PLUMBING PIPING INSULATION

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. The Basic Materials and Methods, Section 22 02 00, are included as a part of this Section as though written in full in this document.

1.02 SCOPE

A. Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for owner's use.

B. Furnish and install piping insulation to:

1. Interior domestic hot and cold water piping.
2. Exterior domestic cold water piping.
3. Drain bodies and horizontal downspouts.
4. Condensate drainage piping.
5. All pipes subject to freezing conditions shall be insulated.

C. Work specified elsewhere.

1. Painting.
2. Pipe hangers and supports.

D. For insulation purpose piping is defined as the complete piping system including supplies and returns, pipes, valves, automatic control valve bodies, fittings, flanges, strainers, thermometer well, unions, reducing stations, and orifice assemblies.

1.03 WARRANTY

A. Warrant the Work specified herein for one year against becoming unserviceable or causing an objectionable appearance resulting from either defective or nonconforming materials or workmanship.

B. Defects shall include, but not be limited to, the following:

1. Mildewing.
2. Peeling, cracking, and blistering.
3. Condensation on exterior surfaces.

1.04 SUBMITTALS

A. SHOP DRAWINGS: Indicate size, material, and finish. Show locations and installation procedures. Include details of joints, attachments, and clearances.

B. PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures, project variations, and accessories.

1.05 DELIVERY AND STORAGE

A. DELIVERY: Deliver undamaged materials in the manufacturer's unopened containers. Containers shall be clearly labeled with the insulation's flame and smoke ratings.

PART 2 - PRODUCTS

2.01 It is the intent of these specifications to secure superior quality workmanship resulting in an absolutely satisfactory installation of insulation from the standpoint of both function and appearance. Particular attention shall be given to valves, fittings, pumps, etc., requiring low temperature insulation to insure full thickness of insulation and proper application of the vapor seal. All flaps of vapor barrier jackets and/or canvas covering must be neatly and securely smoothed and sealed down.

2.02 The type of insulation and its installation shall be in strict accordance with these specifications for each service, and the application technique shall be as recommended by the manufacturer. All insulation types, together with adhesives and finishes shall be submitted and approved prior to installation.

2.03 A sample quantity of each type of insulation and each type application shall be installed and approval secured prior to proceeding with the main body of the work. Condensation caused by improper installation of insulation shall be corrected by Installing Contractor. Any damage caused by condensation shall be made good at no cost to the Owner or Architect/Engineer.

2.04 All insulation shall have composite (insulation, jacket or facing, and adhesive used to adhere the facing or jacket to insulation) fire and smoke hazard as tested by Procedure ASTM E084, NFPA 255 and UL 723 not exceeding:

Flame Spread 25
Smoke Developed 50

2.05 Accessories, such as adhesives, mastics and cements shall have the same component ratings as listed above.

2.06 All products or their shipping cartons shall have a label affixed, indicating flame and smoke ratings do not exceed the above requirements.

2.07 APPROVED MANUFACTURERS

A. Calcium silicate materials shall be as manufactured by Johns Manville.

B. Glass fiber materials shall be as manufactured by Johns Manville or Owens-Corning and shall have the same thermal properties, density, fire rating, vapor barrier, etc., as the types specified herein, subject to review by the Engineer.

C. Adhesives shall be as manufactured by Childers, Foster, HB Fuller or Armstrong, and shall have the same adhesive properties, fire rating, vapor seal, etc., as the types specified herein, subject to review by the Engineer.

D. Armaflex elastomeric cellular thermal insulation by Armstrong.

E. Phenolic foam insulation shall be as manufactured by Kooltherm Insulation (Koolphen).

F. Metal jacketing and fitting covers shall be as manufactured by Childers or RPR Products.

2.08 MATERIALS

A. INTERIOR DOMESTIC WATER PIPE: provide fiberglass pipe insulation with all service jackets with self sealing lap joint.

B. EXTERIOR DOMESTIC WATER PIPE: Provide elastomeric cellular thermal, or preformed phenolic foam pipe insulation with secured metal jacketing.

C. DRAIN BODIES AND DOWN SPOUTS: Insulate horizontal roof drain down spouts, underside of roof drain bodies, chilled water waste lines from drinking fountain to junction with main waste stacks, and branch lines including traps and exposed underside of floor drains receiving cooling coil condensate, same as water piping where exposed to building occupant view. When concealed, insulation may be same as specified for external duct wrap.

D. CONDENSATE DRAINAGE PIPING: Fire resistant fiberglass insulation; insulation not required when piping is exposed on roof.

E. METAL JACKETING: Utilize Childers “Strap-On” jacketing. Provide preformed fitting covers for all elbows and tees.

PART 3 - EXECUTION

3.01 All insulation shall be installed in accordance with the manufacturers’ recommendations and printed installation instructions, including high density inserts at all hangers and pipe supports to prevent compression of insulation.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturers requirements.

3.03 Pipes located outdoors or in tunnels shall be insulated same as concealed piping; and in addition shall have a jacket of 0.016 inch thick, smooth aluminum with longitudinal modified Pittsburg Z-Lock seam and 2 inch overlap. Jacketing shall be easily removed and replaced without damage. All butt joints shall be sealed with gray silicone. Galvanized banding is not acceptable.

3.04 All insulated piping located over driveways shall have an aluminum shield permanently banded over insulation to protect it from damage from car antennas.

3.05 WATER PIPE INSULATION INSTALLATION

A. The insulation shall be applied to clean, dry pipes with all joints firmly butted together. Where piping is interrupted by fittings, flanges, valves or hangers and at intervals not to exceed 25 feet on straight runs, an isolating seal shall be formed between the vapor barrier jacket and the bare pipe. The seal shall be by the applications of adhesive to the exposed insulation joint faces, carried continuously down to and along 4 inches of pipe and up to and along 2 inches of jacket.

B. Pipe fittings and valves shall be insulated with pre-molded or shop fabricated glass fiber covers finished with two brush coats of vapor barrier mastic reinforced with glass fabric.

C. All under lap surfaces shall be clean and free of dust, etc. before the SSL is sealed. These laps shall be firmly rubbed to insure a positive seal. A brush coat of vapor retarder shall be applied to all edges of the vapor barrier jacket.

D. At hangers and supports, provide a high density foam insulation insert that extends 2”

beyond the shield on each side and a protective shield/saddle to prevent compression/damage. Secure shield/saddle to insulation using mastic or strapping tape.

3.06 FIRE RATED INSULATION

A. All pipe penetrations through walls and concrete floors shall be fire rated by applying USG Thermafiber in the space between the concrete and the pipe.

B. The fire rating shall be additionally sealed by using 3M brand model CP 25 or 303 fire barrier caulk and putty.

C. All fire rating material shall be insulated in accordance with manufacturer's printed instructions.

PART 4 - SCHEDULES

4.01 LOW TEMPERATURE SURFACES	MINIMUM INSULATION THICKNESS BASED ON FIBERGLASS
A. Exposed exterior domestic water pipe:	1½ inch
B. Interior domestic cold water pipe:	1 inch
C. Condensate drain lines:	¾ inch
D. Drains receiving condensate:	1 inch
E. Concealed horizontal leader from roof drain:	1½ inch blanket wrap
Exposed horizontal leader from roof drain:	1 inch thick rigid with all service jackets

4.02 HIGH TEMPERATURE SURFACES	MINIMUM INSULATION THICKNESS
A. Hot Water Piping:	
1. Operating temperature 105°F or less:	1 inch
2. Operating temperature higher than 105°F and pipe size 1½ inch or smaller	1 inch
3. Operating temperature higher than 105°F and pipe size more than 1½ inch	2 inch
B. Domestic Hot Water and Hot Water Circulating Piping	1 inch

END OF SECTION

SECTION 22 10 00
PLUMBING PIPING

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Pipe and pipe fittings.

B. Valves.

C. Sanitary sewer piping system.

D. Domestic water piping system.

E. Excavation and backfill.

1.02 RELATED SECTIONS

A. Section 22 05 29 – Hangers and Support for Plumbing Piping and Equipment.

B. Section 22 05 48 – Vibration and Seismic Controls for Plumbing Piping.

C. Section 22 05 53 – Identification for Plumbing Piping and Equipment.

D. Section 22 07 19 – Plumbing Piping Insulation.

E. Section 22 11 19 - Plumbing Specialties.

F. Section 22 30 00 - Plumbing Equipment.

G. Section 22 40 00 - Plumbing Fixtures.

1.03 REFERENCES

A. ANSI B31.1 - Power Piping.

B. ANSI B31.9 - Building Service Piping.

C. ASME - Boiler and Pressure Vessel Code.

D. ASME Sec. 9 - Welding and Brazing Qualifications.

E. ASME B16.1 - Cast Iron Pipe Flanges and Flanged Fittings Class 25, 125, 250 and 800.

F. ASME B16.3 - Malleable Iron Threaded Fittings.

G. ASME B16.4 - Cast Iron Threaded Fittings Class 125 and 250.

H. ASME B16.22 - Wrought Copper and Bronze Solder-Joint Pressure Fittings

I. ASTM A47 - Ferritic Malleable Iron Castings.

J. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.

K. ASTM A74 - Cast Iron Soil Pipe and Fittings.

L. ASTM B32 - Solder Metal.

M. ASTM B42 - Seamless Copper Pipe.

N. ASTM B306 - Copper Drainage Tube (DWV).

O. ASTM D1785 - Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40, 80, and 120.

P. ASTM D2241 - Poly (Vinyl Chloride) (PVC) Plastic Pipe (SDR-PR).

Q. ASTM D2466 - Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40.

R. ASTM D2564 - Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

S. ASTM D2729 - Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings.

T. ASTM D2846 - Chlorinated Polyvinyl Chloride (CPVC) Pipe, Fittings, Solvent Cements and Adhesives for Potable Hot Water Systems.

U. ASTM F493 - Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings.

V. AWWA C111- Rubber-Gasket Joints for Ductile Iron and Gray-Iron Pressure Pipe and Fittings.

W. AWWA C651 - Disinfecting Water Mains.

X. CISPI 301 - Cast Iron Soil Pipe and Fittings for Hubless Cast Iron Sanitary Systems.

Y. CISPI 310 - Joints for Hubless Cast Iron Sanitary Systems.

Z. ASSE 1003 Performance Requirements for Water Pressure Reducing Valves for Domestic Water Distribution Systems.

1.04 SUBMITTALS

A. Submit under provisions of Division One.

B. Product Data: Provide data on pipe materials, Pipe fittings, valves, and accessories. Provide manufacturers catalog information. Indicate valve data and ratings.

1.05 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Division One.

B. Record actual locations of valves.

1.06 OPERATION AND MAINTENANCE DATA

A. Submit under provisions of Division One.

B. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

1.07 QUALITY ASSURANCE

A. Valves: Manufacturer's name and pressure rating cast or marked on valve body.

B. Welding Materials and Procedures: Conform to ASME Code and applicable state labor regulations.

C. Welders Certification: In accordance with ASME Sec 9.

D. Foreign pipe, fittings or valves are unacceptable. All cast iron soil pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute and shall be listed by NSF International.

E. Piping shall be labeled along entire length indicating size, class, material specification, manufacturers name and country of origin.

1.08 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum 5 years documented experience and must be a domestic manufacturer.

B. Installer: Company specializing in performing the work of this section with minimum 5 years documented experience.

1.09 REGULATORY REQUIREMENTS

A. Perform Work in accordance with plumbing and building codes having jurisdiction.

B. Conform to applicable codes for the provision and installation of all required backflow prevention devices.

C. Provide certificate of compliance from authority having jurisdiction indicating approval of installation of backflow prevention devices.

D. No PVC pipe or fittings will be allowed for any areas where pipe is to penetrate a fire rated assembly or to be installed in a return air plenum unless the entire length of all such piping is encased within a minimum 2 hour fire rated enclosure.

E. Provide pressure regulating valve, maintaining 50 to 55 psi building service pressure, when supply pressure at building is greater than 70 psi.

1.10 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Division One.

B. Accept valves on site in shipping containers with labeling in place. Inspect for damage.

C. Provide temporary protective coating on cast iron and steel valves.

D. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

E. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the work, and isolating parts of completed system. Tape will not be allowed as an acceptable end cover.

1.11 EXTRA MATERIALS

A. Furnish under provisions of Division One.

B. Provide two repacking kits for each size valve.

PART 2 - PRODUCTS

2.01 SANITARY SOIL, WASTE AND VENT PIPING, WITHIN BUILDING, ABOVE GRADE

A. Cast Iron Pipe: CISPI 301 or ASTM A 888, hubless, service weight.

1. Fittings: Cast iron, CISPI 301 or ASTM A 888 drainage pattern.
2. Joints: No hub, ASTM C 564 neoprene gaskets with ASTM C1540 wide bodied stainless steel clamp and solid shield assembly constructed of type 300 series stainless steel. Couplings shall have four clamps for pipe sizes up to and including 4” and shall have six clamps for pipe sizes over 4” through 10”. Clamp assemblies shall conform to FM 1680 where required by the administrative authority.

2.02 DOMESTIC WATER PIPING, WITHIN BUILDING, ABOVE GRADE

A. Copper Tubing: ASTM B 88, Type L, hard drawn.

1. Fittings: ASME B 16.18, cast bronze, or ASTM B 16.22 wrought copper alloy.
2. Joints: ASTM B 32, solder.

2.03 FLANGES, UNIONS AND COUPLINGS

A. Pipe size 2 inches and under:

1. Ferrous pipe: ANSI B16.39, 150 psig malleable iron threaded unions.
2. Copper tube and pipe: 150 psig bronze unions with soldered ends.
3. Ferrous pipe: ANSI B16.5, 150 psig forged steel flanges; screwed neck, 1/16" thick preformed neoprene gaskets.

B. Pipe size 2-1/2 inches and larger:

1. Ferrous pipe: 150 psig forged steel slip-on flanges; weld neck, 1/16" thick preformed neoprene gaskets.
2. Copper tube and pipe: 150 psig slip-on bronze flanges; 1/16" thick preformed neoprene gaskets.

C. Dielectric Connections:

1. Pipe size 2 inches and under: Union with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.
2. Pipe size 2-1/2 inch and larger: flange, connection as above, with water impervious isolation barrier.
3. Pipe sizes 1 inch to 8 inches: Dielectric waterway grooved, plain end, or thread end. ASTMA-53 carbon steel or ASTMA-536 ductile iron body, zinc electroplated, with LTHS high temperature stabilized polyolefin polymer linear Victulic style 47.

D. Mechanical Couplings:

1. Grooved mechanical pipe couplings, fittings, valves and other grooved components may be used as an option to soldered or braised methods. Fittings

shall be cast of bronze for copper tubing systems. All grooved components shall be of one domestic manufacturer, and conform to local code approval and/or as listed by ANSI-B-31, B-31.3M B-31.9, ASME, UL/ULC, FM, IAPMO OR BOCA. Grooved end manufacturer to be ISO-9001 certified. Grooved couplings shall meet the requirements of ASTM F-1476. Manufacturer shall be Victaulic or approved equal.

2.04 GATE VALVES

A. Manufacturers:

1. Nibco No. T-111 up to 2-1/2"; F-617-O 3" and over.
2. Other acceptable manufacturers offering equivalent products.
   a. Crane No. 428 up to 2-1/2"; 465-1/2 3" and over.
   b. Stockham No. B-100 up to 2-1/2"; G-623 3" and over.
   c. Milwaukee valve UP148 up to 2", F-2885A 2 ½" and over.
   d. Kitz No. 24 1/2"-3"; No. 72 Flanged 2"-14"

B. Up to and including 2-1/2" Inches: Bronze body – (ASTM B584 C89833), bronze trim – (ASTM B584 C89833), rising stem, handwheel, inside screw, solid wedge threaded ends.

C. Over 3" Inches: Iron body, bronze trim, rising stem, handwheel, OS&Y, solid wedge, flanged ends.

D. Provide bronze tee or cast iron square nut operator for all valves installed below ground.

1. Valves 2-1/2" and smaller shall be equipped with ASTM B62 solid red bronze tee securely affixed to the valve stem.
2. Valves 3" and larger shall be equipped with a standard 2" square combination nut/socket securely affixed to the valve stem.
3. Provide owner with two extended tee handle operating wrenches for each type of valve head installed.

2.05 BALL VALVES

A. Manufacturers:

1. Nibco No. T-685-66-LF
2. Other acceptable manufacturers offering equivalent products.
   a. Crane No. 9303-B
   b. Stockham Model S-216BR-1R-T
   c. Milwaukee valve UPBA-400S
   d. Kitz No. 68M

B. Up to and including 2 Inches: Bronze – (ASTM B584 C8933), two 600 PSI piece body full port, stainless steel ball and stem, Teflon seats and stuffing box ring, lever handle and balancing stops, threaded ends with union.

C. Ball valves used for balancing shall have memory stops.

2.06 SWING CHECK VALVES

A. Manufacturers:

1. Nibco No. T-413-B up to 2-1/2"; F-918 3" and over.
2. Other acceptable manufacturers offering equivalent products.
   a. Crane No. 37 up to 2-1/2"; 372 3" and over.

b. Stockham No. B-319; up to 2-1/2"; G931 3" and over.
c. Kitz No. 22 up to 3"; No. 78 2"-10".
3. Victualic (for grooved systems only).
4. Milwaukee valve UP509 up to 2", F-2974A 2 ½" and over.

B. Up to and including 2-1/2 Inches: Bronze body ASTM B584 C89833, Bronze swing disc, screwed ends.

C. Over 2-1/2 Inches: Iron body, bronze trim, swing disc, renewable disc and seat, flanged ends. Include outside lever and adjustable weight where required for quiet operation.

2.07 SPRING LOADED (SILENT) CHECK VALVES

A. Manufacturers:

1. Nibco No. W-910

2. Other acceptable manufacturers offering equivalent products.
a. Grinnell No. 402
3. Victualic (for grooved systems only).
4. Milwaukee valve 1400 LF.

B. Iron body, bronze trim, stainless steel spring, renewable composition disc, screwed, wafer, grooved, or flanged ends.

2.08 REGULATING VALVES

A. Manufacturers:

1. Watts No. 223-S up to 2-1/2" size valve.
2. Watts No. F127W for 3" and Watts No. F127W-WR for 4" size valve.
3. Other acceptable manufacturers offering equivalent products.

B. Bronze body, teflon seat, stainless steel stem and springs, automatic, direct pressure actuated, capacities ASME certified and labeled.

C. Provide and install pressure regulating valves with inlet strainer and union fittings individually or as integral components of regulator.

D. Install pressure regulating valve within building immediately downstream of building shut-off valve and prior to any building service branch connection. Each building service PRV installation shall include an integral permanent bypass assembly with a normally closed bypass throttling globe or ball valve.

2.09 SOLDER

A. 95.5% tin, 4% copper, 0.5% silver.

B. Lead free, antimony free, zinc-free.

C. Silvabrite 100, by Engelhard Corporation or approved equal.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Coordinate and verify excavations under provisions of Division Two.

B. Verify that all excavations are to the required grade, dry, and not over-excavated.

3.02 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale, oil and dirt, on inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. Install, clean bank sand backfill in trench to a minimum of 6 inches below pipe, and to cover all piping a minimum of 12 inches above pipe.

3.03 INSTALLATION

A. Install all materials in accordance with manufacturer's published instructions.

B. All exposed sewer and water pipe in toilet rooms or other finished areas of the building shall be chromium plated.

C. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

D. Route piping in orderly manner, parallel and perpendicular to building column grid lines, unless indicated otherwise on drawings, and maintain gradients.

E. Install piping to conserve building space and not conflict with other trades or interfere with intended use of space.

F. Group piping whenever practical at common elevations.

G. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

H. Provide clearance for installation of insulation and access to valves and fittings. Valves installed beyond reasonable reach shall be provided with chain operator.

I. Provide access doors where valves and operable fittings are not exposed. Access doors shall be of approved types set in locations pre-approved by submittal to the Architect.

J. Establish elevations of buried piping outside the building to ensure not less than 2 feet of cover, or maximum depth of frost penetration, which ever is the greater.

K. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.

L. Provide encasement for and support of utility meters in accordance with requirements of utility companies.

M. Gate valves installed below grade shall be covered with an adjustable cast iron roadway box extended to grade. Cover shall be cast iron with 'water' cast on top and set flush to finished paving or 2" above finished earthen grade. Box shall be supported from undisturbed soil or concrete base and shall not introduce any stress to piping under all traffic conditions.

N. Prepare pipe, fittings, supports, and accessories not pre-finished, ready for finish painting.

O. Excavate in accordance with Division 22.

P. Backfill in accordance with Division 22.

Q. Install bell and spigot pipe with bell end upstream.

R. Maintain uniformity in the installation of piping materials and joining methods. Do not mix materials types.

S. Install valves with stems upright or horizontal, not inverted.

T. Solder joints shall be wiped clean at each joint, remove excess metal while molten and flux residue when cooled.

U. No PVC pipe or fittings will be allowed for any areas where pipe is installed in return air plenum unless the entire length of all such piping is encased within a minimum 2 hour fire rated enclosure.

V. Installations of thermoplastic piping systems shall be in strict conformity to the manufacturers published instructions. Under ground drainage pipe installations shall be in conformity to ASTM D 2321.

W. Installation of solvent cement joints for PVC piping shall be in strict conformity to the requirements outlined in ASTM D 2855.

X. Waste nipple from wall to tapped tee shall be schedule 40 threaded galvanized steel pipe or brass or copper with threaded adapter.

Y. Provide approved PVC slip by cast iron no hub adaptor at each transition from underground PVC piping to above ground cast iron pipe using heavy duty wide bodied no hub couplings as specified elsewhere in this section. Transition shall be made as close as possible to floor for sanitary DWV piping systems and at test tee “minimum 12 in. A.F.F.” for storm drainage piping. Support vertical cast iron pipe from floor anchors using riser clamp and galvanized all thread rod as specified in section 15140.

Z. Provide bracing to prevent axial movement for all storm drainage piping above ground floor. Provide restraints for all drainage piping at al changes in direction and at all diameter changes greater than two pipe sizes. Braces blocks, rodding and other permanent methods as prescribed by cast iron soil pipe institute.

AA. All grooved components (couplings, fittings, valves, gaskets and specialties) shall be of one domestic manufacturer.

BB. Grooved manufacturer shall provide on-site training for contractor’s field personnel by a factory trained representative in the proper use of grooving tools, application of groove, and product installation. Factory trained representative shall periodically visit the job site and inspect installation. Contractor shall remove and replace any improperly installed products.

3.04 APPLICATION

A. Install union downstream of all valves at equipment or apparatus connections.

B. Install male adapters each side of threaded valves in copper piped system. Sweat solder adapters to tube prior to make-up of threaded connections.

C. Install ball valves for shut-off and to isolate all equipment items, distinct parts of systems, or vertical risers.

D. Each plumbing fixture shall have a shut-off valve on each hot water and cold water supply line.

E. Each plumbing water rough-in stub out shall be fitted with a shut off valve.

F. Install globe, ball or butterfly valves for throttling, bypass, or balancing (manual flow control) services.

G. Ball valves installed in insulated piping shall be fitted with extended lever operators of sufficient length to raise handle above the insulation jacket material. Where valve is used for throttling service valve handle shall be equipped with adjustable memory stop device.

H. Provide spring loaded, non-slam, check valves on discharge of water pumps.

3.05 ERECTION TOLERANCES

A. All drainage lines in the building shall have 1/4 inch to the foot fall where possible and not less than 1/8 inch to the foot fall toward the main sewer. Pipe must be so laid that the slope will be uniform and continuous. Permission shall be secured from the Architect and Engineer before proceeding with any Work where existing conditions prevent the installation at minimum grade specified.

B. Slope all water piping and arrange to drain at low points. Provide loose key operated, polished chrome, sill cock flush to wall where fixture stop will not suffice for this requirement.

3.06 DISINFECTION OF DOMESTIC WATER PIPING SYSTEM

A. Prior to starting work, all domestic water systems shall be complete, thoroughly flushed clean and free of all foreign matter or erection residue.

B. Ensure PH of water to be treated is between 7.4 and 7.6 by adding alkali (caustic soda or soda ash) or acid (hydrochloric).

C. On building side of the main shut off valve, provide a 3/4" connection through which chlorine can be introduced into the water piping

D. Inject disinfectant, free chlorine in liquid, powder, tablet or gas form, in sufficient quantity to obtain 50 to 80 mg/L residual free chlorine solution throughout the entire domestic water piping systems.

E. Bleed water from outlets as required to ensure complete distribution and test for disinfectant residual at a minimum 15 percent of total outlets.

F. Maintain disinfectant in system for 24 hours.

G. If final disinfectant residual tests less than 25 mg/L, repeat treatment.

H. Flush disinfectant from system until residual equal to that of incoming water or 1.0 mg/L.

I. Take samples no sooner than 24 hours after flushing, from 5 percent of outlets and from water entry, and analyze in accordance with AWWA C651.

3.07 SERVICE CONNECTIONS

A. Provide new sanitary and storm sewer services connecting to existing building services or utility lines as shown on the drawings.

B. Before commencing work, field verify invert elevations required for sewer connections, confirm inverts and ensure that these can be properly connected with slope for drainage and cover as required.

C. Provide new domestic water service connecting to existing building services or utility lines as shown on plans. Assure connections are in compliance with requirements of the jurisdiction having authority.

D. Extension of services to the building shall be fabricated from the same materials as the utility service lines or those materials specified herein.

E. Should points of connection vary from those indicated on the drawings contractor shall properly allow for this in the actual connections field fabricated.

3.08 RODDING SEWERS

A. All sanitary soil and waste lines, both in the building and out, shall be rodded out after completion of the installation.

B. This Work shall be done, as part of the contract, to make certain that all lines are clear, and any obstruction that may be discovered shall be removed immediately. Rodding shall be accomplished by utilizing a rotary cutter, which shall be full size of pipe being cleaned.

3.09 TESTING OF PLUMBING PIPING SYSTEMS

A. During the progress of the work and upon completion, tests shall be made as specified herein and as required by Authorities Having Jurisdiction, including Inspectors, Owner or Architect. The Architect or duly authorized Construction Inspector shall be notified in writing at least 2 working days prior to each test or other Specification requirement which requires action on the part of the Construction Inspector.

B. Tests shall be conducted as part of this work and shall include all necessary instruments, equipment, apparatus, and service as required to perform the tests with qualified personnel. Submit proposed test procedures, recording forms, and test equipment for approval prior to the execution of testing.

C. Tests shall be performed before piping of various systems have been covered or furred-in. For insulated piping systems testing shall be accomplished prior to the application of insulation.

D. All piping systems shall be tested and proved absolutely tight for a period of not less than 24 hours. Tests shall be witnessed by the Architect or an authorized representative and pronounced satisfactory before pressure is removed or any water drawn off.

E. Leaks, damage or defects discovered or resulting from test shall be repaired or replaced to a like new condition. Leaking pipe joints, or defective pipe, shall be removed and replaced with acceptable materials. Test shall be repeated after repairs are completed

and shall continue until such time as the entire test period expires without the discovery of any leaks.

F. Wherever conditions permit, each piping system shall thereafter be subjected to its normal operating pressure and temperature for a period of no less than five 5 days. During that period, it shall be kept under the most careful observation. The piping systems must demonstrate the propriety of their installation by remaining absolutely tight during this period.

G. Domestic Water:

1. Pressure test at one and one half times the normal working pressure or 125 psig, which ever is the greater, for 24 hours.

H. Sanitary Soil, Waste and Vents and Storm Sewer:

1. After the rough-in soil, waste and vent and other parts of the sanitary sewer including branch laterals have been set from the lowest level, at point of connection to existing utility lines, to above the floor line, all outlets shall be temporarily plugged or capped, except as are required for testing as described herein. Ground work shall not permit the backfill of trenches to cover any joints until the completion of testing. Back fill shall be limited to mid sections of full joints of piping only. For pipe in ground the piping shall be readied as described herein and filled with water to a verifiable and visible level to 10' above the lowest portions of the system being tested.
2. On multi-level buildings only one floor level shall be tested at a time. Each floor shall be tested from a level below the structure of the floor, or the outlet of the building in the case of the lowest level, to a level of 12 inches above the floor immediately above the floor being tested, or the top of the highest vent in the case of the highest building level. The pipes for the level being tested shall be filled with water to a verifiable and visible level as described above and be allowed to remain so for 24 hours. If after 24 hours the level of the water has been lowered by leakage, the leaks must be found and stopped, and the water level shall again be raised to the level described, and the test repeated until, after a 24 hour retention period, there shall be no perceptible lowering of the water level in the system being tested.
3. Should the completion of these tests leave any reasonable question or doubt of the integrity of the installation, additional tests including peppermint smoke, or other measures shall be performed to demonstrate the reliability of these systems to the complete satisfaction of the Owner's duly authorized representative. Such tests shall be conducted and completed before any joints in plumbing are concealed or made inaccessible.

3.10 COMPLETE FUNCTIONING OF WORK

A. All work fairly implied as essential to the complete functioning of the systems shown on the Drawings and Specification shall be completed as part of the work of this Division unless specifically stated otherwise. It is the intention of the Drawings and Specification to establish the type and function of systems but not to set forth each item essential to the functioning of any system. In case of doubt as to the work intended or in the event of amplification or clarification thereof, the Contractor shall call upon the Architect for Supplementary Instructions and Drawings, etc.

END OF SECTION

SECTION 22 11 19
PLUMBING SPECIALTIES

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. The Basic Materials and Methods, Section 22 02 00, are included as a part of this Section as though written in full in this document.

1.02 SCOPE

A. The scope of the work shall include the furnishing and complete installation of the specialties covered by this Section, with all appurtenances, ready for the Owner's use.

B. Include the following work in addition to items normally part of this Section:

1. Water Hammer Arrestors
2. Strainers and Filters
3. Thermostatic Mixing Valves
4. Floor Drains and Floor Sinks
5. Cleanouts
6. Trap Primers

1.03 RELATED WORK

A. Section 22 05 29 – Hangers and Support for Plumbing Piping and Equipment

B. Section 22 10 00 – Plumbing Piping

C. Section 22 30 00 – Plumbing Equipment

D. Section 22 40 00 – Plumbing Fixtures

1.04 REFERENCES

A. ANSI/ASSE 1011 – Performance Requirements for Hose Connection Vacuum Breakers

B. ANSI/ASSE 1012 – Performance Requirements for Backflow Preventers with an Intermediate Atmospheric Vent

C. ANSI/ASSE 1013 –- Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers

D. ANSI/ASSE 1015 – Performance Requirements for Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies

E. ANSI/ASSE 1019 – Performance Requirements for Wall Hydrants with Backflow Protection and Freeze Resistance

F. ANSI/ASSE 1057 – Performance Requirements for Freeze Resistant Sanitary Yard Hydrants with Backflow Protection

G. ASME A112.6.3 – Floor Drains and Trench Drains

H. ASME A112.6.7 – Sanitary Floor Sinks

I. ASME A112.6.4 – Roof, Deck, and Balcony Drains

J. ASME A112.14.1 – Backwater Valves

K. ASME A112.14.3 – Grease Interceptors

L. ASME/ANSI A112.26.1 – Water Hammer Arresters

M. PDI WH-201 Water Hammer Arresters

N. AWWA C506 – Standard for Backflow Prevention Devices – Reduced Pressure Principle and Double Check Valve Types

O. AWWA C510 – Standard for Double Check Valve Backflow Prevention Assembly

P. ASSE 1069 – Performance Requirements for Automatic Temperature Control Mixing Valves

Q. ASSE 1070 – Performance Requirements for Water Temperature Limiting Devices

R. PDI G-101 – Testing and Rating Procedure for Hydro Mechanical Grease Interceptors

1.05 QUALITY ASSURANCE

A. Manufacturer: For each product specified, provide components by the same manufacturer throughout.

1.06 SUBMITTALS

A. Submit under provisions of Division One.

B. Submit shop drawings and product data under provisions of Division One.

C. Include component sizes, rough-in requirements, service sizes, and finishes.

D. Manufacturer's Installation Instructions: Indicate assembly and support requirements.

1.07 PROJECT RECORD DOCUMENTS

A. Submit under provisions of Division One.

B. Record actual locations of equipment and backflow preventers.

1.08 OPERATION AND MAINTENANCE DATA

A. Submit under provisions of Division One.

B. Operation Data: Indicate frequency of treatment required for interceptors and separators.

C. Maintenance Data: Include installation instructions, spare parts lists, exploded assembly views.

D. Provide backflow prevention assembly test and maintenance report for all devices. A printed and signed form by the licensed tester that performed the work shall be provided both to the Owner and to the Public Water System in accordance with TCEQ (Texas Commission on Environmental Quality) requirements.

1.09 DELIVERY, STORAGE, AND HANDLING

A. DELIVERY: Deliver clearly labeled specialties to; and store, protect and handle products on site in accordance with the provisions of Division One.

B. TIMING AND COORDINATION: Arrange for delivery of materials to allow for minimum storage time at the project site. Coordinate with the scheduled time of installation.

C. ACCEPTANCE: Accept specialties on site in original factory packaging. Inspect for damage. Damaged specialties shall not be acceptable.

D. STORAGE: Store materials in a clean, dry location, protected from weather and damage.

1.10 EXTRA MATERIALS

A. Furnish under provisions of Division One.

B. Provide two loose keys for hose bibbs and hydrants and spare hose end vacuum breakers.

1.11 OPERATIONS PERSONNEL TRAINING

A. Provide a training session for the owner’s operations personnel. Training session shall be performed by a qualified person who is knowledgeable in the subject system/equipment. Submit a training agenda two weeks prior to the proposed training session for review and approval. Training session shall include at the minimum:

1. Purpose of equipment.
2. Principle of how the equipment works.
3. Important parts and assemblies.
4. How the equipment achieves its purpose and necessary operating conditions.
5. Most likely failure modes, causes, and corrections.
6. On site demonstration.

PART 2 - PRODUCTS

2.01 RECESSED VALVE BOX

A. Refrigerator: Pre-formed plastic rough-in box with brass long shank valve with wheel or quarter-turn handle and matching secured faceplate.

B. ACCEPTABLE MANUFACTURERS:

1. Guy Gray
2. Mifab

3. Sioux Chief
4. Oatey

2.02 BACKFLOW PREVENTERS

A. Reduced Pressure Backflow Preventers: ANSI/ASSE 1013; Bronze or FDA approved epoxy coated cast iron body with corrosion resistant internal parts and stainless steel springs; two independently operating, spring loaded check valves; intermediate internal pressure intermediate relief valve with water outlet; test cocks and isolation valves.

B. Double Check Valve Assemblies: ANSI/ASSE 1015; Cast copper alloy or FDA approved epoxy coated cast iron body with corrosion resistant internal parts and stainless steel springs; two independently operating check valves, test cocks and isolation valves.

C. Dual Check Valve with Intermediate Atmospheric Vent: ANSI/ASSE 1012; Brass body with corrosion resistant internal parts and stainless steel springs; two independently operating check valves with intermediate atmospheric vent.

D. ACCEPTABLE MANUFACTURERS:

1. Watts
2. Wilkins
3. Ames
4. Febco
5. Beeco
6. Conbraco

2.03 WATER HAMMER ARRESTORS

A. ANSI A112.26.1; sized and located in accordance with PDI WH-201, pre-charged suitable for operation in temperature range -100 to 300 degrees F and maximum 250 psig (1700 kPa) working pressure.

B. ACCEPTABLE MANUFACTURERS:

1. J.R. Smith
2. Zurn
3. Mifab
4. Watts
5. Wade
6. Josam
7. P.P.P.
8. Sioux Chief

2.04 THERMOSTATIC MIXING VALVES

A. Provide thermostatic mixing valves in accordance with manufacturer’s recommendations and as indicated and scheduled on Drawings. Unless scheduled otherwise, all units other than under-counter point of use units shall be provided complete in lockable cabinet of 16 gage (1.5 mm) prime coated steel when located in finished areas.

B. ACCEPTABLE MANUFACTURERS:

1. Bradley
2. Powers
3. Symmons

4. Lawler

2.05 FLOOR DRAINS AND FLOOR SINKS

A. Provide floor drains and floor sinks in accordance with manufacturer's recommendations, as appropriate for floor construction, and as indicated and scheduled on Drawings.

B. Provide clamping devices for all drains in membrane floor areas.

C. ACCEPTABLE MANUFACTURERS:

1. J.R. Smith
2. Zurn
3. Mifab
4. Watts
5. Wade
6. Josam

2.06 CLEANOUTS

A. General: Provide cleanouts as indicated and scheduled on Drawings and also as required by the prevailing code, whether shown on the Drawings or not.

B. Construction: All cleanouts shall have tapered bronze plugs.

C. Provide clamping devices for all cleanouts in membrane floor areas.

D. Provide cleanouts of suitable and compatible material for specialized piping systems conveying acid waste.

E. Types:

1. Finished floor cleanouts: Provide cast iron body, with adjustable floor level assembly, and round nickel bronze scoriated top.
2. Resilient or tile finished floor cleanouts: Provide cast iron body, with adjustable floor level assembly, and round nickel-bronze top with gasketed water tight cover and depressed top to receive flooring finish material.
3. Interior finished wall cleanouts: Provide cast iron tee body or cleanout ferrule as required for wall construction and provide counter-sunk bronze plug with stainless steel access cover and securing screw(s).
4. Interior unfinished accessible cleanouts: Calked or threaded type. Provide bolted stack cleanouts on vertical rainwater leaders.

F. ACCEPTABLE MANUFACTURERS:

1. J.R. Smith
2. Zurn
3. Mifab
4. Watts
5. Wade
6. Josam

2.07 TRAP PRIMERS

A. General: Provide trap primers as indicated and scheduled on Drawings and in accordance with manufacturer's recommendations.

B. ACCEPTABLE MANUFACTURERS:

1. J.R. Smith
2. Zurn
3. Mifab
4. Watts
5. Wade
6. Josam
7. P.P.P.
8. Sioux Chief

PART 3 - EXECUTION

3.01 INSTALLATION AND APPLICATION

A. Install specialties in accordance with manufacturer's instructions to provide intended performance.

B. The contractor shall provide water hammer arrestors as shown on Drawings and also in accordance with PDI Standard WH-201, whether shown on Drawings or not. Water hammer arrestors shall be PDI certified and sized and placed as recommended by manufacturer. Provide above ceiling or otherwise accessible location complete with isolation valve to facilitate replacement.

C. Provide strainers at all backflow preventers.

D. Contractor shall certify all newly installed backflow preventers and provide proof of certification to the Owner.

E. Pipe relief line from backflow preventer via manufacturer’s air gap assembly, full size to nearest drain. Such routing shall not pose a trip hazard.

F. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanouts for rodding of drainage system.

G. All cleanouts outside of building on grade shall be set in an 18" x 18" x 4" thick concrete pad, flush with final grade/paving.

H. Coordinate with casework to ensure that all interceptors are readily accessible and removable for servicing and cleaning.

I. Provide approved sampling well downstream of centralized interceptors and separators.

END OF SECTION

SECTION 22 30 00
PLUMBING EQUIPMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Water Heaters.

1.02 RELATED SECTIONS

A. Section 22 05 29 – Hangers and Support for Plumbing Piping and Equipment.

B. Section 22 05 48 – Vibration and Seismic Controls for Plumbing Equipment.

C. Section 22 10 00 - Plumbing Piping.

D. Section 22 11 19 - Plumbing Specialties.

E. Section 26 05 19 - Wire, Cable, and Related Materials.

1.03 REFERENCES

A. ANSI/ASHRAE 90A - Energy Conservation in New Building Design.

B. ASME Section VIIID - Pressure Vessels; Boiler and Pressure Vessel Codes.

C. ANSI/NFPA 54 - National Fuel Gas Code.

D. ANSI/NFPA 70 - National Electrical Code.

E. ANSI/UL 1453 - Electric Booster and Commercial Storage Tank Water Heaters.

1.04 SUBMITTALS

A. Submit under provisions of Division One.

B. Shop Drawings:

1. Include water heater dimensions. size of tappings, and performance data.
2. Include dimensions of tanks, tank lining methods, anchors, attachments, lifting points, tappings, and drains.

C. Product Data:

1. Include dimension drawings of water heaters indicating components and connections to other equipment and piping.
2. Indicate pump type, capacity, power requirements, and affected adjacent construction.
3. Submit certified pump curves showing pump performance characteristics with pump and system operating point plotted. Include NPSH curve when applicable.
4. Provide electrical characteristics and connection requirements.

D. Manufacturer's Installation Instructions.

1.05 OPERATION AND MAINTENANCE DATA

A. Submit under provisions of Division 22.

B. Include operation, maintenance, and inspection data, replacement part numbers and availability, and service depot location and telephone number.

1.06 QUALITY ASSURANCE

A. Perform Work in accordance with authorities having jurisdiction.

B. Provide pumps with manufacturer's name, model number, and rating/capacity identified.

C. Ensure products and installation of specified products are in conformance with recommendations and requirements of the following organizations:

1. American Gas Association (AGA).
2. National Sanitation Foundation (NSF).
3. American Society of Mechanical Engineers (ASME).
4. National Board of Boiler and Pressure Vessel Inspectors (NBBPVI).
5. National Electrical Manufacturers' Association (NEMA).
6. Underwriters Laboratories (UL).
7. American Society of Plumbing Engineers (ASPE)

D. Ensure pumps operate at specified system fluid temperatures without vapor binding and cavitation, are non-overloading in parallel or individual operation, operate within 25 percent of midpoint of published maximum efficiency curve.

1.07 REGULATORY REQUIREMENTS

A. Conform to AGA NSF ANSI/NFPA 54 ANSI/NFPA 70 ANSI/UL 1453 requirements for water heaters.

B. Conform to ASME Section VIIID for manufacture of pressure vessels for heat exchangers.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Section Division One.

B. Provide temporary inlet and outlet caps. Maintain caps in place until installation.

1.09 WARRANTY

A. Provide five year warranty under provisions of Division One.

B. Warranty: Include coverage of domestic water heaters, water storage tanks, and packaged water heating systems.

1.10 EXTRA MATERIALS

A. Furnish under provisions of Division One.

B. Provide two sets of electric heater elements.

1.11 OPERATIONS PERSONNEL TRAINING

A. Provide a training session for the owner's operations personnel. Training session shall be performed by a qualified person who is knowledgeable in the subject system/equipment. Submit a training agenda two weeks prior to the proposed training session for review and approval. Training session shall include at the minimum:

1. Purpose of equipment.
2. Principle of how the equipment works
3. Important parts and assemblies
4. How the equipment achieves its purpose and necessary operating conditions
5. Most likely failure modes, causes and corrections
6. On site demonstration

PART 2 - PRODUCTS

2.01 COMMERCIAL ELECTRIC WATER HEATERS

A. Manufacturers:

1. A.O. Smith
2. Other acceptable manufacturers offering equivalent products.
   a. State
   b. Rheem.
   c. Bradford White.
   d. Bock.

B. Type: Factory-assembled and wired, electric, vertical storage.

C. Tank: Glass lined welded steel; 4 inch diameter inspection port (when applicable), thermally insulated with minimum 2 inches glass fiber encased in corrosion-resistant steel jacket; baked-on enamel finish.

D. Controls: Automatic immersion water thermostat; externally adjustable temperature range from 60 to 180 degrees F, flanged or screw-in nichrome elements, high temperature limit thermostat.

E. Accessories: Brass water connections and dip tube, drain valve, high-density magnesium anode, and ASME rated temperature and pressure relief valve.

F. Provide training per 1.11.

PART 3 - EXECUTION

3.01 WATER HEATER INSTALLATION

A. Install water heaters in accordance with manufacturer's instructions and to AGA NSF ANSI/NFPA 54 UL requirements.

B. Coordinate with plumbing piping and related work to achieve operating system.

END OF SECTION

SECTION 22 40 00
PLUMBING FIXTURES

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. The Basic Materials and Methods, Section 22 02 00, are included as a part of this Section as though written in full in this document.

1.02 SCOPE

A. The scope of the work shall include the furnishing and complete installation of the fixtures covered by this Section, with all appurtenances, ready for the Owner's use.

B. Include the following work in addition to items normally part of this Section:

1. Plumbing Fixtures
2. Fixture Carriers
3. Faucets, Supplies, and Trim
4. Flushometers

1.03 RELATED WORK

A. Section 22 05 29 – Hangers and Support for Plumbing Piping and Equipment

B. Section 22 10 00 – Plumbing Piping

C. Section 22 11 19 – Plumbing Specialties

D. Section 22 30 00 – Plumbing Equipment

1.04 REFERENCES

A. ASME A112.4.3 – Plastic Fittings for Connecting Water Closets to the Sanitary Drainage System

B. ASME A112.6.1M – Floor Affixed Supports for Off-the-Floor Plumbing Fixtures for Public Use

C. ASME A112.18.1 – Plumbing Supply Fittings

D. ASME A112.18.2 – Plumbing Waste Fittings

E. ASME A112.18.9 – Protectors/Insulators for Exposed Waste and Supplies on Accessible Fixtures

F. ASME A112.19.1 – Enameled Cast Iron and Enameled Steel Plumbing Fixtures

G. ASME A112.19.2 – Ceramic Plumbing Fixtures

H. ASME A112.19.3 – Stainless Steel Plumbing Fixtures

I. ASME A112.19.7 – Hydromassage Bathtub Systems

J. NSF/ANSI 61 – Drinking Water System Components – Health Effects

K. ANSI Z358.1 – Emergency Eyewash and Shower Equipment

L. ASSE 1016 – Performance Requirements for Individual Thermostatic, Pressure Balancing, and Combination Pressure Balancing and Thermostatic Control Valves for Individual Fixture Fittings.

M. ASSE 1037 – Performance Requirements for Pressurized Flushing Devices for Plumbing Fixtures

N. ADA (Americans with Disabilities Act)

O. TAS (Texas Accessibility Standards)

1.05 QUALITY ASSURANCE

A. Manufacturer: For each product specified, provide components by the same manufacturer throughout.

B. Warranty: Warrant the work specified herein for one year against becoming unserviceable or causing an objectionable appearance resulting from defective or non-conforming materials and workmanship.

C. Defects shall include, but not necessarily be limited to, the following:

1. Noisy operation.
2. Noticeable deterioration of finish.
3. Leakage of water.

1.06 SUBMITTALS

A. Submit under provisions of Division One.

B. Submit product data under provisions of Division One.

C. Include component sizes, rough-in requirements, service sizes, finishes, materials, dimensions, performance information, and accessories.

D. Manufacturer’s Installation Instructions: Indicate assembly and support requirements.

1.07 OPERATION AND MAINTENANCE DATA

A. Submit under provisions of Division One.

B. Provide pre-printed operating and maintenance instructions for each item specified. Instruct and demonstrate the proper operation and maintenance to the Owner's designated representative.

1.08 DELIVERY, STORAGE, AND HANDLING

A. DELIVERY: Deliver clearly labeled specialties to; and store, protect and handle products on site in accordance with the provisions of Division One.

B. TIMING AND COORDINATION: Arrange for delivery of materials to allow for minimum storage time at the project site. Coordinate with the scheduled time of installation.

C. ACCEPTANCE: Accept specialties on site in original factory packaging. Inspect for damage. Damaged specialties shall not be acceptable.

D. STORAGE: Store materials in a clean, dry location, protected from weather and damage.

1.09 FIELD MEASUREMENTS

A. Verify that field measurements are as indicated on the Contract Documents.

B. Confirm and field coordinate that millwork is constructed with adequate provisions for the installation of counter top lavatories and sinks.

PART 2 - PRODUCTS

2.01 PLUMBING FIXTURES

A. GENERAL: Provide plumbing fixtures in accordance with manufacturer's recommendations and as indicated and scheduled on Drawings. Acceptable manufacturers of each fixture type are as indicated below.

1. Provide floor-affixed fixture carriers as appropriate for all wall-hung plumbing fixtures unless specifically noted otherwise.
2. Fixture drilling shall match faucet spread and match any related trim and accessories.

B. SINKS – COUNTER MOUNTED (Stainless Steel)

1. Elkay
2. Just
3. Moen Commercial

C. SHOWER SYSTEMS

1. Acorn
2. Bradley
3. Willoughby Industries
4. Symmons

2.02 FAUCETS, SUPPLIES, AND TRIM

A. GENERAL: Provide faucets, supplies, and trim in accordance with manufacturer's recommendations, as appropriate for fixtures to be served, and as indicated and scheduled on Drawings. Acceptable manufacturers for each type of appurtenance are as indicated below.

1. Strainers shall be heavy cast brass chrome plated with matching grid type strainer, with or without overflow as required, 17 gauge seamless brass tailpiece of length determined by installation requirements. Provide complete with washers and brass locknut.

2. P-traps shall be 17 gauge seamless chrome plated brass, adjustable type. Provide complete with cleanout plug, chrome plated brass slip nuts, wall bend, and wrought brass escutcheon of depth determined by installation requirements.
3. Angle stops shall be lead-free commercial pattern chrome plated brass, quarter turn ball type with loose key handles. Provide complete with chrome plated copper supply risers and wrought brass escutcheon of depth determined by installation requirements.
4. Pipe trim insulation shall be compliant, white molded vinyl, fade/discoloration-resistant, bacteria/fungal-resistant insulation.

B. FAUCETS

1. Chicago
2. T&S Brass
3. Zurn
4. Moen Commercial
5. Delta Commercial
6. Speakman
7. American Standard
8. Kohler
9. Symmons

C. SHOWER VALVES

1. Bradley
2. Symmons Commercial
3. Powers
4. Chicago
5. Speakman

D. SUPPLY STOPS

1. McGuire
2. Zurn
3. Chicago

E. CHROME PLATED TUBULAR BRASS

1. McGuire
2. Zurn
3. Kohler

F. PIPE TRIM INSULATION

1. Truebro
2. McGuire
3. Plumberex

PART 3 - EXECUTION

3.01 PREPARATION

A. EXAMINATION OF CONDITIONS: Examine conditions affecting this work. Report unsatisfactory conditions to the proper authority and do not proceed until those conditions

have been corrected. Commencing work implies acceptance of existing conditions as satisfactory to the outcome of this work.

B. Coordinate forming floor construction to receive drains to required invert elevations.

3.02 INSTALLATION

A. Install fixtures in locations and heights as shown on Drawings and as directed by the Architect.

B. Install materials plumb, level, securely, and in accordance with manufacturer's recommendations.

C. All rough-in pipe openings for final connections with supply, waste, vent, and storm systems shall be closed with caps or plugs during early stages of construction and installation. Tape shall not be considered sufficient protection.

D. Rough-in fixture piping connections in accordance with minimum sizes indicated in fixture rough-in schedule for particular fixtures.

E. Provide ball valves in piping serving batteries of fixtures. Label stops "Hot" and "Cold." Valves shall be located above accessible ceilings. If ceilings are not accessible, provide access panels of adequate size to ensure valves are fully accessible and can be fully operated.

F. Plumbing fixtures shall be supported by a concealed carrier where required to properly support the fixture specified. All carriers to be securely mounted, bolted and checked prior to concealment.

G. Caulk around fixtures with best grade white silicone caulking. Do not use grout.

H. All handles on supply and drainage fittings or other brass items shall be properly lined up and adjusted. Fittings shall not be left in any haphazard manner.

I. All fixtures shall have individual chrome plated heavy pattern loose key quarter-turn cutoff stops on supply lines, complete with escutcheons. Where same are not specified as a part of the fixture trim, they shall be installed as close to fixtures as possible in the hot and cold water supply.

J. Install each fixture with trap, easily removable for servicing and cleaning.

K. All showers and similar installations shall be installed with type “L” copper pipe between shower valve and shower head rough-in. The termination point shall have a brass drop ear elbow for shower head arm connection. Contractor shall provide proper anchoring support.

3.03 INTERFACE WITH OTHER PRODUCTS

A. Review millwork shop drawings. Confirm location and size of fixtures and openings before rough-in and installation.

B. Review architectural drawings. Confirm configuration and orientation of shower controls and trim prior to rough-in and installation.

3.04 ADJUSTING

A. Adjust work under provisions of Division One.

B. Adjust stops or valves for intended water flow rate to fixtures without splashing, noise, or overflow.

3.05 CLEANING

A. Clean work under provisions of Division One.

B. At completion clean plumbing fixtures and appurtenances.

3.06 PROTECTION OF FINISHED WORK

A. Protect finished Work under provisions of Division One.

B. Do not permit use of fixtures.

3.07 ADA ACCESSIBLE FIXTURES

A. At all locations required to be accessible, such fixtures, controls, and final installations shall comply with the requirements of ADA and any applicable state accessibility standards. Install fixtures to heights, indicated on architectural drawings.

B. All exposed water supply and drain pipes under accessible lavatories and sinks shall be insulated with securely fastened pipe trim insulation kits of the proper model for the fixtures specified.

C. Wall mounted drinking fountains and coolers which protrude into passages or corridor space, whether single or paired with an adjacent accessible fixture, shall be supplied with a matching skirt or apron to lower the underside clearance of the non-accessible fixture equal to that required for accessible fixture.

END OF SECTION

SECTION 23 02 00
BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all Work herein.

B. The Contract Drawings indicate the extent and general arrangement of the systems. If any departure from the Contract Drawings is deemed necessary by the Contractor, details of such departures and the reasons therefore, shall be submitted to the Architect/Engineer for review as soon as practicable. No such departures shall be made without the prior written approval of the Architect/Engineer.

C. Notwithstanding any reference in the Specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, such reference shall not be construed as limiting competition; and the Contractor, in such cases, may at his option use any article, device, product, material, fixture, form or type of construction which in the judgment of the Architect/Engineer, expressed in writing, is the equivalent of that specified.

1.02 SCOPE OF WORK

A. The Work included under this Contract consists of the furnishing and installation of all equipment and material necessary and required to form complete and functioning systems in all of their various phases, all as shown on the accompanying Drawings and/or described in these Specifications. The Contractor shall review all pertinent drawings, including those of other contracts, prior to commencement of Work.

B. This Division requires the furnishing and installing of all items as specified herein, indicated on the Drawings or reasonably inferred as necessary for safe and proper operation; including every article, device or accessory (whether or not specifically called for by item) reasonably necessary to facilitate each system's functioning as indicated by the design and the equipment specified. Elements of the work include, but are not limited to, materials, labor, supervision, transportation, storage, equipment, utilities, all required permits, licenses and inspections. All work performed under this Section shall be in accordance with the Project Manual, Drawings and Specifications and is subject to the terms and conditions of the Contract.

C. The approximate locations of Mechanical (HVAC) items are indicated on the Drawings. These Drawings are not intended to give complete and accurate details in regard to location of outlets, apparatus, etc. Exact locations are to be determined by actual measurements at the building, and will in all cases be subject to the review of the Owner or Engineer, who reserves the right to make any reasonable changes in the locations indicated without additional cost to the Owner.

D. Items specifically mentioned in the Specifications but not shown on the Drawings and/or items shown on Drawings but not specifically mentioned in the Specifications shall be installed by the Contractor under the appropriate section of work as if they were both specified and shown.

E. All discrepancies between the Contract Documents and actual job-site conditions shall be reported to the Owner or Engineer so that they will be resolved prior to bidding. Where this cannot be done at least 7 working days prior to bid; the greater or more costly of the

discrepancy shall be bid. All labor and materials required to perform the work described shall be included as part of this Contract.

F. It is the intention of this Section of the Specifications to outline minimum requirements to furnish the Owner with a turn-key and fully operating system in cooperation with other trades.

G. It is the intent of the above "Scope" to give the Contractor a general outline of the extent of the Work involved; however, it is not intended to include each and every item required for the Work. Anything omitted from the "Scope" but shown on the Drawings, or specified later, or necessary for a complete and functioning heating, ventilating and air conditioning system shall be considered a part of the overall "Scope".

H. The Contractor shall rough-in fixtures and equipment furnished by others from rough-in and placement drawings furnished by others. The Contractor shall make final connection to fixtures and equipment furnished by others.

I. The Contractor shall participate in the commissioning process as required; including, but not limited to, meeting attendance, completion of checklists, and participation in functional testing.

1.03 SCHEMATIC NATURE OF CONTRACT DOCUMENTS

A. The Contract Documents are schematic in nature in that they are only to establish scope and a minimum level of quality. They are not to be used as actual working construction drawings. The actual working construction drawings shall be the reviewed shop drawings.

B. All duct or pipe or equipment locations as indicated on the documents do not indicate every transition, offset, or exact location. All transitions, offsets, clearances and exact locations shall be established by actual field measurements, coordination with the structural, architectural and reflected ceiling plans, and other trades. Submit shop drawings for review.

C. All transitions, offsets and relocations as required by actual field conditions shall be performed by the Contractor at no additional cost to the Owner.

D. Additional coordination with electrical contractor may be required to allow adequate clearances of electrical equipment, fixtures and associated appurtenances. Contractor to notify Architect and Engineer of unresolved clearances, conflicts or equipment locations.

1.04 SITE VISIT AND FAMILIARIZATION

A. Before submitting a bid, it will be necessary for each Contractor whose work is involved to visit the site and ascertain for himself the conditions to be met therein in installing his work and make due provision for same in his bid. It will be assumed that this Contractor in submitting his bid has visited the premises and that his bid covers all work necessary to properly install the equipment shown. Failure on the part of the Contractor to comply with this requirement shall not be considered justification for the omission or faulty installation of any work covered by these Specifications and Drawings.

B. Understand the existing utilities from which services will be supplied; verify locations of utility services, and determine requirements for connections.

C. Determine in advance that equipment and materials proposed for installation fit into the confines indicated.

1.05 WORK SPECIFIED IN OTHER SECTIONS

A. Finish painting is specified. Prime and protective painting are included in the work of this Division.

B. Owner and General Contractor furnished equipment shall be properly connected to Mechanical (HVAC) systems.

C. Furnishing and installing all required Mechanical (HVAC) equipment control relays and electrical interlock devices, conduit, wire and J-boxes are included in the Work of this Division.

1.06 PERMITS, TESTS, INSPECTIONS

A. Arrange and pay for all permits, fees, tests, and all inspections as required by governmental authorities.

1.07 DATE OF FINAL ACCEPTANCE

A. The date of final acceptance shall be the date of Owner occupancy, or the date all punch list items have been completed, or the date final payment has been received. Refer to Division One for additional requirements.

B. The date of final acceptance shall be documented in writing and signed by the Architect, Owner and Contractor.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

B. Deliver products to the project at such time as the project is ready to receive the equipment, pipe or duct - properly protected from incidental damage and weather damage.

C. Damaged equipment, duct or pipe shall be promptly removed from the site and new, undamaged equipment, pipe or duct shall be installed in its place promptly with no additional charge to the Owner.

1.09 NOISE AND VIBRATION

A. The heating, ventilating and air conditioning systems, and the component parts thereof, shall be guaranteed to operate without objectionable noise and vibration.

B. Provide foundations, supports and isolators as specified or indicated, properly adjusted to prevent transmission of vibration to the building structure, piping and other items.

C. Carefully fabricate ductwork and fittings with smooth interior finish to prevent turbulence and generation or regeneration of noise.

D. All equipment shall be selected to operate with minimum of noise and vibration. If, in the opinion of the Architect, objectionable noise or vibration is produced or transmitted to or through the building structure by equipment, piping, ducts or other parts of the Work, the Contractor shall rectify such conditions without extra cost to the Owner.

1.10 APPLICABLE CODES

A. Obtain all required permits and inspections for all work required by the Contract Documents and pay all required fees in connection thereof.

B. Arrange with the serving utility companies for the connection of all required utilities and pay all charges, meter charges, connection fees and inspection fees, if required.

C. Comply with all applicable codes, specifications, local ordinances, industry standards, utility company regulations and the applicable requirements which includes and is not limited to the following nationally accepted codes and standards:

1. Air Moving & Conditioning Association, AMCA.
2. American Standards Association, ASA.
3. American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc., ASHRAE.
4. American Society of Mechanical Engineers, ASME.
5. American Society of Plumbing Engineers, ASPE.
6. American Society of Testing Materials, ASTM.
7. American Water Works Association, AWWA.
8. National Bureau of Standards, NBS.
9. National Fire Protection Association, NFPA.
10. Sheet Metal & Air Conditioning Contractors' National Association, SMACNA.
11. Underwriters' Laboratories, Inc., UL.
12. International Energy Conservation Code, IECC.
13. International Fire Code.
14. International Gas Code.

D. Where differences existing between the Contract Documents and applicable state or city building codes, state and local ordinances, industry standards, utility company regulations and the applicable requirements of the nationally accepted codes and standards, the more stringent or costly application shall govern. Promptly notify the Engineer in writing of all differences.

E. When directed in writing by the Engineer, remove all work installed that does not comply with the Contract Documents and applicable state or city building codes, state and local ordinances, industry standards, utility company regulations and the applicable requirements of the above listed nationally accepted codes and standards, correct the deficiencies, and complete the work at no additional cost to the Owner.

1.11 DEFINITIONS AND SYMBOLS

A. General Explanation: A substantial amount of construction and Specification language constitutes definitions for terms found in other Contract Documents, including Drawings which must be recognized as diagrammatic and schematic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in Contract Documents are defined generally in this article, unless defined otherwise in Division 01.

B. Definitions and explanations of this Section are not necessarily either complete or exclusive, but are general for work to the extent not stated more explicitly in another provision of the Contract Documents.

C. Indicated: The term "Indicated" is a cross-reference to details, notes or schedules on the Drawings, to other paragraphs or schedules in the Specifications and to similar means of recording requirements in Contract Documents. Where such terms as "Shown", "Noted",

"Scheduled", "Specified" and "Detailed" are used in lieu of "Indicated", it is for the purpose of helping the reader locate cross-reference material, and no limitation of location is intended except as specifically shown.

D. Directed: Where not otherwise explained, terms such as "Directed", "Requested", "Accepted", and "Permitted" mean by the Architect or Engineer. However, no such implied meaning will be interpreted to extend the Architect's or Engineer's responsibility into the Contractor's area of construction supervision.

E. Reviewed: Where used in conjunction with the Engineer's response to submittals, requests for information, applications, inquiries, reports and claims by the Contractor the meaning of the term "Reviewed" will be held to limitations of Architect's and Engineer's responsibilities and duties as specified in the General and Supplemental Conditions. In no case will "Reviewed" by Engineer be interpreted as a release of the Contractor from responsibility to fulfill the terms and requirements of the Contract Documents.

F. Furnish: Except as otherwise defined in greater detail, the term "Furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

G. Install: Except as otherwise defined in greater detail, the term "Install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance.

H. Provide: Except as otherwise defined in greater detail, the term "Provide" is used to mean "Furnish and Install", complete and ready for intended use, as applicable in each instance.

I. Installer: Entity (person or firm) engaged by the Contractor, or its Subcontractor or Sub-subcontractor for performance of a particular unit of work at the project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance. It is a general requirement that such entities (Installers) be expert in the operations they are engaged to perform.

J. Imperative Language: Used generally in Specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by the Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor or, when so noted, by other identified installers or entities.

K. Minimum Quality/Quantity: In every instance, the quality level or quantity shown or specified is intended as minimum quality level or quantity of work to be performed or provided. Except as otherwise specifically indicated, the actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable tolerance limits. In complying with requirements, indicated or scheduled numeric values are either minimums or maximums as noted or as appropriate for the context of the requirements. Refer instances of uncertainty to Owner or Engineer via a request for information (RFI) for decision before proceeding.

L. Abbreviations and Symbols: The language of Specifications and other Contract Documents including Drawings is of an abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self explanatory nature have been included in text of Specifications and Drawings. Specific abbreviations and symbols have been established, principally for lengthy

technical terminology and primarily in conjunction with coordination of Specification requirements with notations on Drawings and in Schedules. These are frequently defined in Section at first instance of use or on a Legend and Symbol Drawing. Trade and industry association names and titles of generally recognized industry standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of Contract Documents so indicate. Except as otherwise indicated, graphic symbols and abbreviations used on Drawings and in Specifications are those recognized in construction industry for indicated purposes. Where not otherwise noted symbols and abbreviations are defined by the latest ASHRAE Fundamentals Handbook, chapter 34 "Abbreviations and Symbols", ASME and ASPE published standards.

1.12 DRAWINGS AND SPECIFICATIONS

A. These Specifications are intended to supplement the Drawings and it will not be the province of the Specifications to mention any part of the Work which the Drawings are competent to fully explain in every particular and such omission is not to relieve the Contractor from carrying out portions indicated on the Drawings only.

B. Should items be required by these Specifications and not indicated on the Drawings, they are to be supplied even if of such nature that they could have been indicated thereon. In case of disagreement between Drawings and Specifications, or within either Drawings or Specifications, the better quality or greater quantity of work shall be estimated and the matter referred to the Architect or Engineer for review with a request for information and clarification at least 7 working days prior to bid opening date for issuance of an addendum.

C. The listing of product manufacturers, materials and methods in the various sections of the Specifications, and indicated on the Drawings, is intended to establish a standard of quality only. It is not the intention of the Owner or Engineer to discriminate against any product, material or method that is the equivalent of the standards as indicated and/or specified, nor is it intended to preclude open, competitive bidding. The fact that a specific manufacturer is listed as an acceptable manufacturer should not be interpreted to mean that the manufacturer’s standard product will meet the requirements of the project design, Drawings, Specifications and space constraints.

D. The Architect or Engineer and Owner shall be the sole judge of quality and equivalence of equipment, materials and methods.

E. Products by other reliable manufacturers, other materials, and other methods, will be accepted as outlined, provided they have equivalent capacity, construction, and performance. However, under no circumstances shall any substitution be made without the written permission of the Architect or Engineer and Owner. Request for prior approval must be made in writing 10 days prior to the bid date without fail.

F. Wherever a definite product, material or method is specified and there is not a statement that another product, material or method will be acceptable, it is the intention of the Owner or Engineer that the specified product, material or method is the only one that shall be used without prior approval.

G. Wherever a definite material or manufacturer's product is specified and the Specification states that products of similar design and equivalent construction from the specified list of manufacturers may be substituted, it is the intention of the Owner or Engineer that products of manufacturers that are specified are the only products that will be acceptable and that products of other manufacturers will not be considered for substitution without approval.

H. Wherever a definite product, material or method is specified and there is a statement that "OR EQUIVALENT" product, material or method will be acceptable, it is the intention of the Owner or Engineer that the specified product, material or method or an "OR EQUIVALENT" product, material or method may be used if it complies with the Specifications and is submitted for review to the Engineer as outline herein.

I. Where permission to use substituted or alternative equipment on the project is granted by the Owner or Engineer in writing, it shall be the responsibility of the Contractor or Subcontractor involved to verify that the equipment will fit in the space available which includes allowances for all required Code and maintenance clearances, and to coordinate all equipment structural support, plumbing and electrical requirements and provisions with the Mechanical (HVAC) Design Documents and all other trades, including Division 26.

J. Changes in architectural, structural, electrical, mechanical, and plumbing requirements for the substitution shall be the responsibility of the bidder wishing to make the substitution. This shall include the cost of redesign by the affected designer(s). Any additional cost incurred by affected Subcontractors shall be the responsibility of this bidder and not the Owner.

K. If any request for a substitution of product, material or method is rejected, the Contractor will automatically be required to furnish the product, material or method named in the Specifications. Repetitive requests for substitutions will not be considered.

L. The Owner or Engineer will investigate all requests for substitutions when submitted in accordance with the requirements listed above; and if accepted, will issue a letter allowing the substitutions.

M. Where equipment other than that used in the design as specified or shown on the Drawings is substituted (either from an approved manufacturers list or by submittal review), it shall be the responsibility of the substituting Contractor to coordinate space requirements, building provisions and connection requirements with his trades and all other trades; and to pay all additional costs to other trades, the Owner, the Architect or Engineer, if any, due to the substitutions.

1.13 SUBMITTALS

A. Coordinate with Division 01 for submittal timetable requirements, unless noted otherwise within thirty (30) days after the Contract is awarded. The Contractor shall submit an electronic copy of a complete set of shop drawings and complete data covering each item of equipment or material. The submittal of each item requiring a submittal must be received by the Architect or Engineer within the above thirty day period. The Architect or Engineer shall not be responsible for any delays or costs incurred due to excessive shop drawing review time for submittals received after the thirty (30) day time limit. The Architect and Engineer will retain a copy of all shop drawings for their files. All literature pertaining to items subject to Shop Drawing submittal shall be submitted at one time. Submittals shall be placed in one electronic file in PDF 8.0 format and bookmarked for individual specification sections. Individual electronic files of submittals for individual specifications shall not be permitted. Each submittal shall include the following items:

1. A cover sheet with the names and addresses of the Project, Architect, MEP Engineer, General Contractor and the Subcontractor making the submittal. The cover sheet shall also contain the section number covering the item or items submitted and the item nomenclature or description.
2. An index page with a listing of all data included in the Submittal.

3. A list of variations page with a listing of all variations, including unfurnished or additional required accessories, items or other features, between the submitted equipment and the specified equipment. If there are no variations, then this page shall state "NO VARIATIONS". Where variations affect the work of other Contractors, then the Contractor shall certify on this page that these variations have been fully coordinated with the affected Contractors and that all expenses associated with the variations will be paid by the submitting Contractor. This page will be signed by the submitting Contractor.
4. Equipment information including manufacturer's name and designation, size, performance and capacity data as applicable. All applicable Listings, Labels, Approvals and Standards shall be clearly indicated.
5. Dimensional data and scaled drawings as applicable to show that the submitted equipment will fit the space available with all required Code and maintenance clearances clearly indicated and labeled at a minimum scale of 1/4" = 1'-0", as required to demonstrate that the alternate or substituted product will fit in the space available.
6. Identification of each item of material or equipment matching that indicated on the Drawings.
7. Sufficient pictorial, descriptive and diagrammatic data on each item to show its conformance with the Drawings and Specifications. Any options or special requirements or accessories shall be so indicated. All applicable information shall be clearly indicated with arrows or another approved method.
8. Additional information as required in other Sections of this Division.
9. Certification by the General Contractor and Subcontractor that the material submitted is in accordance with the Drawings and Specifications, signed and dated in long hand. Submittals that do not comply with the above requirements shall be returned to the Contractor and shall be marked "REVISE AND RESUBMIT".

B. Refer to Division 00 and Division 01 for additional information on shop drawings and submittals.

C. Equipment and materials submittals and shop drawings will be reviewed for compliance with design concept only. It will be assumed that the submitting Contractor has verified that all items submitted can be installed in the space allotted. Review of shop drawings and submittals shall not be considered as a verification or guarantee of measurements or building conditions.

D. Where shop drawings and submittals are marked "REVIEWED", the review of the submittal does not indicate that submittals have been checked in detail nor does it in any way relieve the Contractor from his responsibility to furnish material and perform work as required by the Contract Documents.

E. Shop drawings shall be reviewed and returned to the Contractor with one of the following categories indicated:

1. REVIEWED: Contractor need take no further submittal action, shall include this submittal in the O&M manual and may order the equipment submitted on.
2. REVIEWED AS NOTED: Contractor shall submit a letter verifying that required exceptions to the submittal have been received and complied with including additional accessories or coordination action as noted, and shall include this submittal and compliance letter in the O&M manual. The contractor may order the equipment submitted on at the time of the returned submittal providing the Contractor complies with the exceptions noted.
3. NOT APPROVED: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is not

approved. The Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or Drawings. Contractor shall not order equipment that is not approved. Repetitive requests for substitutions will not be considered.

4. REVISE AND RESUBMIT: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked revise and resubmit. The Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or provide as noted on previous shop drawings. Contractor shall not order equipment marked revise and resubmit. Repetitive requests for substitutions will not be considered.
5. CONTRACTOR'S CERTIFICATION REQUIRED: Contractor shall resubmit submittal on material, equipment or method of installation. The Contractor's stamp is required stating that the submittal meets all conditions of the Contract Documents. The stamp shall be signed by the General Contractor. The submittal will not be reviewed if the stamp is not placed and signed on all shop drawings.
6. MANUFACTURER NOT AS SPECIFIED: Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked manufacturer not as specified. The Contractor will automatically be required to furnish the product, material or method named in the Specifications. Contractor shall not order equipment when submittal is marked manufacturer not as specified. Repetitive requests for substitutions will not be considered.

F. Materials and equipment which are purchased or installed without submittal review shall be at the risk of the Contractor and the cost for removal and replacement of such materials and equipment and related work which is judged unsatisfactory by the Owner or Engineer for any reason shall be at the expense of the Contractor. The responsible Contractor shall remove the material and equipment noted above and replace with specified equipment or material at his own expense when directed in writing by the Architect or Engineer.

G. Shop Drawing Submittals shall be complete and checked prior to submission to the Engineer for review.

H. Submittals are required for, but not limited to, the following items:

1. Pipe Material and Specialties.
2. Pipe Fabrication Drawings.
3. Basic Materials.
4. Variable Air Volume Boxes.
5. Air Handling Units.
6. Cooling Towers.
7. Chillers.
8. Air Cooled Condensing Units.
9. Water Treatment.
10. Expansion Compensation.
11. Variable Frequency Drives.
12. Noise and Vibration Controls.
13. HVAC Pipe and Duct Insulation.
14. Hydronic Valves.
15. Hydronic Piping and Accessories.
16. Hydronic Pumps.
17. Roof-Top A/C Units.
18. Heating Water Boiler.
19. Portable Pipe Hangers and Equipment Supports.

20. Duct Specialties.
21. Duct Fabrication Drawings.
22. Air Distribution Devices.
23. Fan Coil Units.
24. Filters.
25. Fans.
26. Fire Dampers and Fire Smoke Dampers.
27. Temperature Controls and Control Sequences.
28. Test, Adjust and Balance Reports.
29. Testing, Adjusting and Balancing Contractor Qualifications.
30. Coordination Drawings.

I. Refer to other Division 23 sections for additional submittal requirements. Provide samples of actual materials and/or equipment to be used on the Project upon request of the Owner or Engineer.

1.14 COORDINATION DRAWINGS

A. Prepare coordination drawings to a scale of 1/4"=1'-0" or larger; detailing major elements, components, and systems of mechanical equipment and materials in relationship with other systems, installations, and building components. Indicate locations where space is limited for installation and access, and where sequencing and coordination of installations are of importance to the efficient flow of the Work, including (but not necessarily limited to) the following:

1. Indicate the proposed locations of pipe, duct, equipment, and other materials. Include the following:
   a. Wall and type locations.
   b. Clearances for installing and maintaining insulation.
   c. Locations of light fixtures and sprinkler heads.
   d. Clearances for servicing and maintaining equipment, including tube removal, filter removal, and space for equipment disassembly required for periodic maintenance.
   e. Equipment connections and support details.
   f. Exterior wall and foundation penetrations.
   g. Routing of storm and sanitary sewer piping.
   h. Fire-rated wall and floor penetrations.
   i. Sizes and location of required concrete pads and bases.
   j. Valve stem movement.
   k. Structural floor, wall and roof opening sizes and details.
2. Indicate scheduling, sequencing, movement, and positioning of large equipment into the building during construction.
3. Prepare floor plans, elevations, and details to indicate penetrations in floors, walls, and ceilings and their relationship to other penetrations and installations.
4. Prepare reflected ceiling plans to coordinate and integrate installations, air distribution devices, light fixtures, communication systems components, and other ceiling-mounted items.

B. This Contractor shall be responsible for coordination of all items that will affect the installation of the work of this Division. This coordination shall include, but not be limited to: voltage, ampacity, capacity, electrical and piping connections, space requirements, sequence of construction, building requirements and special conditions.

C. By submitting coordination drawings on the project, this Contractor is indicating that all necessary coordination has been completed and that the systems, products and

equipment submitted can be installed in the building and will operate as specified and intended, in full coordination with all other Contractors and Subcontractors.

1.15 RECORD DOCUMENTS

A. Prepare Record Documents in accordance with the requirements in Special Project Requirements, in addition to the requirements specified in Division 23, indicate the following installed conditions:

1. Duct mains and branches, size and location, for both exterior and interior; locations of dampers, fire dampers, duct access panels, and other control devices; filters, fuel fired heaters, fan coils, condensing units, and roof-top A/C units requiring periodic maintenance or repair.
2. Mains and branches of piping systems, with valves and control devices located and numbered, concealed unions located, and with items requiring maintenance located (i.e., traps, strainers, expansion compensators, tanks, etc.). Valve location diagrams, complete with valve tag chart. Indicate actual inverts and horizontal locations of underground piping.
3. Equipment locations (exposed and concealed), dimensioned from prominent building lines.
4. Approved substitutions, Contract Modifications, and actual equipment and materials installed.
5. Contract Modifications, actual equipment and materials installed.

B. Engage the services of a Land Surveyor or Professional Engineer registered in the state in which the project is located as specified herein to record the locations and invert elevations of underground installations.

C. The Contractor shall maintain a set of clearly marked black line record "AS-BUILT" prints on the job site on which he shall mark all work details, alterations to meet site conditions and changes made by "Change Order" notices. These shall be kept available for inspection by the Owner, Architect or Engineer at all times.

D. Refer to Division 00 and Division 01 for additional requirements concerning Record Drawings. If the Contractor does not keep an accurate set of as-built drawings, the pay request may be altered or delayed at the request of the Architect. Mark the drawings with a colored pencil. Delivery of as-built prints and reproducibles is a condition of substantial completion.

E. The record prints shall be updated on a daily basis and shall indicate accurate dimensions for all buried or concealed work, precise locations of all concealed pipe or duct, locations of all concealed valves, controls and devices and any deviations from the work shown on the Construction Documents which are required for coordination. All dimensions shall include at least two dimensions to permanent structure points.

F. Submit three prints of the tracings for review. Make corrections to tracings as directed and deliver "Auto Positive Tracings" to the Architect. "As-Built" drawings shall be furnished in addition to submittals.

G. When the option described in paragraph F above is not exercised, then upon completion of the Work, the Contractor shall transfer all marks from the tracings and submit a set of clear concise reproducible record "AS-BUILT" drawings and shall submit the reproducible drawings with corrections made by a competent draftsman and three (3) sets of black line prints to the Architect or Engineer for review prior to scheduling the final inspection at the completion of the Work. The reproducible record "AS-BUILT" drawings shall have the Engineer’s Name and Seal removed or blanked out and shall be clearly marked and

signed on each sheet as follows:

CERTIFIED RECORD DRAWINGS

DATE:

(NAME OF GENERAL CONTRACTOR)

BY:_____
(SIGNATURE)

(NAME OF SUBCONTRACTOR)

BY:_____
(SIGNATURE)

1.16 OPERATING AND MAINTENANCE MANUALS

A. Prepare operating and maintenance manuals in accordance with Division 00 and Division 01 and, in addition to the requirements specified in those Divisions, include the following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
4. Servicing instructions and lubrication charts and schedules.

1.17 CERTIFICATIONS AND TEST REPORTS

A. Submit a detailed schedule for completion and testing of each system indicating scheduled dates for completion of system installation and outlining tests to be performed and scheduled date for each test. This detailed completion and test schedule shall be submitted at least 90 days before the projected substantial completion date.

B. Test result reporting forms shall be submitted for review no later than the date of the detailed schedule.

C. Submit 4 copies of all certifications and test reports to the Architect or Engineer for review adequately in advance of substantial completion of the Work to allow for remedial action as required to correct deficiencies discovered in equipment and systems.

D. Certifications and test reports to be submitted shall include, but not be limited to, those items outlined in Section 23 02 00.

1.18 OPERATING AND MAINTENANCE MANUALS

A. Coordinate with Division 00 and Division 01 for operating and maintenance manual requirements. Unless noted otherwise, bind together in “D ring type” binders (National

model no. 79-883 or equal). Binders shall be large enough to allow ¼" of spare capacity. Three (3) sets of all reviewed submittals, fabrication drawings, bulletins, maintenance instructions, operating instructions and parts exploded views and lists for each and every piece of equipment furnished under these Specifications. All sections shall be typed and indexed into sections and labeled for easy reference and shall utilize the individual specification section numbers shown in the Mechanical Specifications as an organization guideline. Bulletins containing information about equipment that is not installed on the project shall be properly marked up or stripped and reassembled. All pertinent information required by the Owner for proper operation and maintenance of equipment supplied by Division 23 shall be clearly and legibly set forth in memoranda that shall, likewise, be bound with bulletins.

B. Prepare maintenance manuals in accordance with Special Project Conditions. In addition to the requirements specified in Division 23, include the following information for equipment items:

1. Identifying names, name tag designations and locations for all equipment.
2. Valve tag lists with valve number, type, color coding, location and function.
3. Reviewed submittals with exceptions noted compliance letter.
4. Fabrication drawings.
5. Equipment and device bulletins and data sheets clearly highlighted to show equipment installed on the project and including performance curves and data as applicable (i.e., description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and model numbers of replacement parts).
6. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
7. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions, servicing instructions and lubrication charts and schedules.
8. Equipment and motor name plate data.
9. Wiring diagrams.
10. Exploded parts views and parts lists for all equipment and devices.
11. Color coding charts for all painted equipment and piping.
12. Location and listing of all spare parts and special keys and tools furnished to the Owner.
13. Furnish recommended lubrication schedule for all required lubrication points with listing of type and approximate amount of lubricant required.

C. Refer to Division 00 and Division 01 for additional information on Operating and Maintenance Manuals.

D. Operating and Maintenance Manuals shall be turned over to the Owner or Engineer for review a minimum of 14 working days prior to the beginning of the operator training period.

1.19 OPERATOR TRAINING

A. The Contractor shall furnish the services of factory trained specialists to instruct the Owner's operating personnel. The Owner's operator training shall include a minimum of 12 hours of onsite training in three 4 hour shifts.

B. Before proceeding with the instruction of Owner Personnel, prepare a typed outline in triplicate, listing the subjects that will be covered in this instruction, and submit the outline

for review by the Owner. At the conclusion of the instruction period, obtain the signature of each person being instructed on each copy of the reviewed outline to signify that he has a proper understanding of the operation and maintenance of the systems and resubmit the signed outlines.

C. Refer to other Division 23 Sections for additional Operator Training requirements.

1.20 FINAL COMPLETION

A. At the completion of the Work, all equipment and systems shall be tested and faulty equipment and material shall be repaired or replaced. Refer to Sections of Division 23 for additional requirements.

B. Clean and adjust all air distribution devices and replace all air filters immediately prior to Substantial Completion.

C. Touch up and/or refinish all scratched equipment and devices immediately prior to Substantial Completion.

1.21 CONTRACTOR'S GUARANTEE

A. Use of the HVAC systems to provide temporary service during construction period will not be allowed without permission from the Owner in writing; and, if granted, shall not cause the warranty period to start, except as defined below.

B. Contractor shall guarantee to keep the entire installation in repair and perfect working order for a period of one year after the date of the Substantial Completion, and shall furnish (free of additional cost to the Owner) all materials and labor necessary to comply with the above guarantee throughout the year beginning from the date of Substantial Completion, Beneficial Occupancy by the Owner, or the Certificate of Final Payment as agreed upon by all parties.

C. This guarantee shall not include cleaning or changing filters except as required by testing, adjusting and balancing.

D. All air conditioning compressors shall have parts and labor guarantees for a period of not less than 5 years beyond the date of Substantial Completion.

E. Refer to Sections in Division 23 for additional guarantee or warranty requirements.

1.22 TRANSFER OF ELECTRONIC FILES

A. Project documents are not intended or represented to be suitable for reuse by Architect/Owner or others on extensions of this project or on any other project. Any such reuse or modification without written verification or adaptation by Engineer, as appropriate for the specific purpose intended, will be at Architect/Owner’s risk and without liability or legal exposure to Engineer or its consultants from all claims, damages, losses and expense, including attorney’s fees arising out of or resulting thereof.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently, or otherwise, without authorization of the data’s creator, the party receiving the electronic files agrees that it will perform acceptance tests or procedures within sixty (60) days of receipt, after which time the receiving party shall be deemed to have accepted the data thus transferred to be acceptable. Any errors detected within the sixty (60) day acceptance period will be corrected by the party delivering the electronic files. Engineer is not responsible for maintaining documents stored in electronic media format after acceptance by the Architect/Owner.

C. When transferring documents in electronic media format, Engineer makes no representations as to the long term compatibility, usability or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by Engineer at the beginning of the Project.

D. Any reuse or modifications will be at the Contractor's sole risk and without liability or legal exposure to Architect, Engineer or any consultant.

E. The Texas Board of Architectural Examiners (TBAE) has stated that it is in violation of Texas law for persons other than the Architect of record to revise the Architectural drawings without the Architect's written consent.

It is agreed that "MEP" hard copy or computer-generated documents will not be issued to any other party except directly to the Architect/Owner. The Contract Documents are contractually copyrighted and cannot be used for any other project or purpose except as specifically indicated in AIA B-141 Standard Form of Agreement Between Architect and Owner.

If the client, Architect/Owner, or developer of the project requires electronic media for "record purposes", then an AutoCAD based compact disc ("CD") will be prepared. The "CD" will be submitted with all title block references intact and will be formatted in a "plot" format to permit the end user to only view and plot the drawings. Revisions will not be permitted in this configuration.

F. At the Architect/Owner's request, Engineer will prepare one "CD" of electronic media to assist the Contractor in the preparation of submittals. The Engineer will prepare and submit the "CD" to the Architect/Owner for distribution to the Contractor.

The "CD" will be prepared and all title blocks, names and dates will be removed. The "CD" will be prepared in a ".dwg" format to permit the end user to revise the drawings.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Provide materials and equipment manufactured by a domestic United States manufacturer and assembled in the United States for all local and Federal Government projects. These materials and equipment shall comply with "Buy American Act."

B. Access Doors: Provide access doors as required for access to equipment, valves, controls, cleanouts and other apparatus where concealed. Access doors shall have concealed hinges and screw driver cam locks.

C. All access doors located in wet areas such as restrooms, locker rooms, shower rooms, kitchen and any other wet areas shall be constructed of stainless steel.

D. Access Doors: shall be as follows:

1. Plastic Surfaces: Milcor Style K.
2. Ceramic Tile Surface: Milcor Style M.
3. Drywall Surfaces: Milcor Style DW.
4. Install doors only in locations approved by the Architect.

2.02 EQUIPMENT PADS (See 2.04 in Section 26 02 00)

PART 3 - EXECUTION

3.01 ROUGH-IN

A. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected via reviewed submittals.

B. Refer to equipment specifications in Divisions 2 through 48 for additional rough-in requirements.

3.02 MECHANICAL INSTALLATIONS

A. General: Sequence, coordinate, and integrate the various elements of mechanical systems, materials, and equipment. Comply with the following requirements:

1. Coordinate mechanical systems, equipment, and materials installation with other building components.
2. Verify all dimensions by field measurements.
3. Arrange for chases, slots, and openings in other building components during progress of construction, to allow for mechanical installations.
4. Coordinate the installation of required supporting devices and sleeves to be set in poured-in-place concrete and other structural components, as they are constructed.
5. Sequence, coordinate, and integrate installations of mechanical materials and equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing in the building.
6. Where mounting heights are not detailed or dimensioned, install systems, materials, and equipment to provide the maximum headroom possible.
7. Coordinate connection of mechanical systems with exterior underground and overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.
8. Install systems, materials, and equipment to conform with architectural action markings on submittal, including coordination drawings, to greatest extent possible. Conform to arrangements indicated by the Contract Documents, recognizing that portions of the Work are shown only in diagrammatic form. Where coordination requirements conflict with individual system requirements, resolve conflicts and submit proposed solution to the Architect for review.
9. Install systems, materials, and equipment level and plumb, parallel and perpendicular to other building systems and components, where installed exposed in finished spaces.
10. Install mechanical equipment to facilitate servicing, maintenance, and repair or replacement of equipment components. As much as possible, connect equipment for ease of disconnecting, with minimum of interference with other installations. Extend grease fittings to an accessible location and label.
11. Install access doors where units are concealed behind finished surfaces. Refer to paragraph 2.01 in this section and architect for access doors specifications and location.
12. Install systems, materials, and equipment giving right-of-way priority to systems required to be installed at a specified slope.
13. Provide roof curbs for all roof mounted equipment. Coordinate with roof construction for pitched roof. Provide roof curbs which match the roof slope and provides a level top for equipment installation. Refer to Architectural drawings and details.
14. The equipment to be furnished under these Specifications shall be essentially the standard product of the manufacturer. Where two or more units of the same

class of equipment are required, these units shall be products of a single manufacturer; however, the component parts of the system need not be the product of the same manufacturer.

15. The Architectural and Structural features of the building and the space limitations shall be considered in selection of all equipment. No equipment shall be furnished which will not suit the arrangement and space limitations indicated.
16. Lubrication: Prior to start-up, check and properly lubricate all bearings as recommended by the manufacturer.
17. Where the word "Concealed" is used in these Specifications in connection with insulating, painting, piping, ducts, etc., it shall be understood to mean hidden from sight as in chases, furred spaces or suspended ceilings. "Exposed" shall be understood to mean the opposite of concealed.
18. Identification of Mechanical Equipment:
    a. Mechanical equipment shall be identified by means of nameplates permanently attached to the equipment. Nameplates shall be engraved laminated plastic or etched metal. Submittals shall include dimensions and lettering format for approval. Attachment shall be with escutcheon pins, self-tapping screws, or machine screws.
    b. Tags shall be attached to all valves, including control valves, with nonferrous chain. Tags shall be brass and at least 1-1/2 inches in diameter. Nameplate and tag symbols shall correspond to the identification symbols on the temperature control submittal and the "as-built" drawings.
19. Provide construction filters for all air handling units, fain coil unit, UAV boxes, and all other air handling equipment during the entire construction period.

3.03 CUTTING AND PATCHING

A. Protection of Installed Work: During cutting and patching operations, protect adjacent installations.

B. Perform cutting, fitting, and patching of mechanical equipment and materials required to:

1. Uncover Work to provide for installation of ill-timed Work.
2. Remove and replace defective Work.
3. Remove and replace Work not conforming to requirements of the Contract Documents.
4. Remove samples of installed Work as specified for testing.
5. Install equipment and materials in existing structures.
6. Upon written instructions from the Engineer, uncover and restore Work to provide for Engineer/Owner's observation of concealed Work, without additional cost to the Owner.
7. Patch existing finished surfaces and building components using new materials matching existing materials and experienced Installers. Patch finished surfaces and building components using new materials specified for the original installation and experienced Installers; refer to the materials and methods required for the surface and building components being patched; Refer to Paragraph 1.11 I for definition of "Installer."

C. Cut, remove and legally dispose of selected mechanical equipment, components, and materials as indicated, including but not limited to removal of mechanical piping, mechanical ducts and HVAC units, and other mechanical items made obsolete by the new Work.

D. Protect the structure, furnishings, finishes, and adjacent materials not indicated or scheduled to be removed.

E. Provide and maintain temporary partitions or dust barriers adequate to prevent the spread of dust and dirt to adjacent areas.

3.04 WORK SEQUENCE, TIMING, COORDINATION WITH OWNER, ARCHITECT AND ENGINEER

A. The Owner will cooperate with the Contractor, however, the following provisions must be observed:

1. A meeting will be held at the project site, prior to any construction, between the Owner's Representative, the General Contractor, the Sub-Contractors and the Engineer to discuss Contractor's employee parking space, access, storage of equipment or materials, and use of the Owner's facilities or utilities. The Owner's decisions regarding such matters shall be final.
2. During the construction of this project, normal facility activities will continue in existing buildings until renovated areas are completed. Plumbing, fire protection, lighting, electrical, communications, heating, air conditioning, and ventilation systems shall be maintained in service within the occupied spaces of the existing building.
3. Contractor shall not start-up any of the HVAC equipment unless the Owner, Architect and Engineer are signed off.
4. Start-up for major HVAC equipment such as chillers, cooling towers, variable frequency drives and hot water boilers shall be performed by a factory technician. The start-up shall include a written report signed off by Contractor, Engineer and Owner.

3.05 DEMOLITION AND WORK WITHIN EXISTING BUILDINGS

A. In the preparation of these documents every effort has been made to show the approximate locations of, and connections to, the existing piping, duct, equipment and other apparatus related to this phase of the Work. However, this Contractor shall be responsible for verifying all of the above information. This Contractor shall visit the existing site to inspect the facilities and related areas. This Contractor shall inspect and verify all details and requirements of all the Contract Documents, prior to the submission of a proposal. All discrepancies between the Contract Documents and actual job-site conditions shall be resolved by the contractor, who shall produce drawings that shall be submitted to the Architect/Engineer for review. All labor and materials required to perform the work described shall be a part of this Contract.

B. All equipment and/or systems noted on the Drawings "To Remain" shall be inspected and tested on site to certify its working condition. A written report on the condition of all equipment to remain, including a copy of the test results and recommended remedial actions and costs shall be made by this Contractor to the Architect/Engineer for review.

C. All equipment and/or systems noted on the Drawings "To Be Removed" shall be removed including, associated pipe and duct, pipe and duct hangers and/or line supports. Where duct or pipe is to be capped for future or end of line use, it shall be properly tagged with its function or service appropriately identified. Where existing equipment is to be removed or relocated and has an electric motor or connection, the Electrical Contractor shall disconnect motor or connection, remove wiring to a safe point and this Contractor shall remove or relocate motor or connection along with the equipment.

D. During construction and remodeling, portions of the Project shall remain in service. Construction equipment, material, tools, extension cords, etc., shall be arranged so as to present minimum hazard or interruption to the occupants of the building. None of the construction work shall interfere with the proper operation of the existing facility; or be so

conducted as to cause harm or danger to persons on the premises. All fire exits, stairs or corridors required for proper access, circulation or exit shall remain clear of equipment, materials or debris. The General Contractor shall maintain barricades, other separations in corridors and other spaces where work is conducted.

E. Certain work during the demolition and construction phases may require overtime or night time shifts or temporary evacuation of the occupants. Coordinate and schedule all proposed down time with the Owner at least seventy-two (72) hours in advance in writing.

F. Any salvageable equipment as determined by the Owner, shall be delivered to the Owner, and placed in storage at the location of his choice. All other debris shall be removed from the site immediately.

G. Equipment, piping or other potential hazards to the occupants of the building shall not be left overnight outside of the designated working or construction area.

H. Make every effort to minimize damage to the existing building and the Owner's property. Repair, patch or replace as required any damage that occurs as a result of work at the site. Care shall be taken to minimize interference with the Owner's activities during construction and to keep construction disrupted areas to a minimum. Coordinate with the Owner and other trades in scheduling and performance of the work.

I. Include in the contract price all rerouting of existing pipe, duct, etc., and the reconnecting of the existing equipment as necessitated by field conditions to allow the installation of the new systems regardless of whether or not such rerouting, reconnecting or relocating is shown on the Drawings. Furnish all temporary pipe, duct, controls, etc., as required to maintain heating, cooling, and ventilation services for the existing areas with a minimum of interruption.

J. All existing pipe, duct, materials, equipment, controls and appurtenances not included in the remodel or alteration areas are to remain in place.

K. Pipe, duct, equipment and controls serving mechanical and other Owner's equipment, etc., which is to remain but is served by pipe, duct, equipment and controls that are disturbed by the remodeling work, shall be reconnected in such a manner as to leave this equipment in proper operating condition.

L. No portion of the **fire protection systems** shall be turned off, modified or changed in any way without the express knowledge and written permission of the Owner’s representative in order to protect systems that shall remain in service.

M. It is the intention of this Section of the Specifications to outline minimum requirements to furnish the Owner with a turn-key and operating system in cooperation with other trades with a minimum of disruption or downtime.

N. Refer to Architectural Demolition and/or Alteration plans for actual location of walls, ceilings, etc., being removed and/or remodeled.

END OF SECTION

SECTION 23 05 13
COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. The Basic Materials and Methods, Section 23 02 00, are included as a part of this Section as though written in full in this document.

1.02 SCOPE

A. Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for owner's use.

B. WORK SPECIFIED ELSEWHERE:

1. Painting
2. Automatic temperature controls.
3. Power control wiring to motors and equipment.

1.03 WARRANTY

Warrant the Work specified herein for one year and motors for five years beginning on the date of substantial completion against becoming unserviceable or causing an objectionable appearance resulting from either defective or nonconforming materials and workmanship.

1.04 SUBMITTALS

A. SHOP DRAWINGS: Indicate size material, and finish. Show locations and installation procedures. Include details of joints, attachments, and clearances.

B. PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures variations, and accessories.

C. MOTOR NAMEPLATE INFORMATION: Manufacturer's name, address, utility and operating data.

D. Refer to Division One for additional information.

1.05 DELIVERY AND STORAGE

A. DELIVERY: Deliver clearly labeled, undamaged materials in the manufacturers' unopened containers.

B. TIME AND COORDINATION: Deliver materials to allow for minimum storage time at the project site. Coordinate delivery with the scheduled time of installation.

C. STORAGE: Store materials in a clean, dry location, protected from weather and abuse.

PART 2 - PRODUCTS

2.01 ELECTRIC MOTORS

A. APPROVED MANUFACTURERS: Provide motors by a single manufacturer as much as possible.

1. Baldor
2. Marathon
3. Siemens-Allis
4. General Electric

B. TEMPERATURE RATING: Provide insulation as follows:

1. CLASS B: 40 degrees C maximum.
2. CLASS F:
   a. Between 40 degrees C and 65 degrees C maximum.
   b. Totally enclosed motors.

C. STARTING CAPABILITY: As required for service indicated five starts minimum per hour.

D. PHASES AND CURRENT: Verify electrical service compatibility with motors to be used.

1. UP TO 1/2 HP: Provide permanent split, capacitor-start single phase with inherent overload protection.
2. 3/4 HP AND LARGER: Provide squirrel-cage induction polyphone.
3. Provide two separate windings on 2-speed polyphone motors.
4. Name plate voltage shall be the same as the circuit's normal voltage, serving the motor.

E. SERVICE FACTOR: 1.15 for polyphase; 1.35 for single phase.

F. FRAMES: U-frames 1.5 hp. and larger.

G. BEARINGS: Provide sealed re-greasable ball bearings; with top mounted zerc lubrication fittings and bottom side drains minimum average life 100,000 hours typically, and others as follows:

1. Design for thrust where applicable.
2. PERMANENTLY SEALED: Where not accessible for greasing.
3. SLEEVE-TYPE WITH OIL CUPS: Light duty fractional hp. motors or polyphase requiring minimum noise level.

H. ENCLOSURE TYPE: Provide enclosures as follows:

1. CONCEALED INDOOR: Open drip proof.
2. EXPOSED INDOOR: Guarded.
3. OUTDOOR TYPICAL: Type II. TEC.
4. OUTDOOR WEATHER PROTECTED: Type I. TEA.

I. OVERLOAD PROTECTION: Built-in sensing device for stopping motor in all phase legs and signaling where indicated for fractional horse power motors.

J. NOISE RATING: "Quiet" except where otherwise indicated.

K. EFFICIENCY: Minimum full load efficiency listed in the following table, when tested in accordance with IEEE Test Procedure 112A, Method B, including stray load loss measure.

Motor Horsepower	NEMA Efficiency INDEX Letter	Minimum Efficiency %
	1800 RPM Synchronous Speed	
7.5-10	F	89.5
15-20	E	91.0
25-30	E	92.4
40	D	93.0
50	C	93.0
60	C	93.6
75	C	94.1
100-125	B	94.5
150-200	B	95.0
	1200 RPM Synchronous Speed	
3-5	G	87.5
7.5	G	89.5
10	F	89.5
15	F	90.2
20	E	90.2
25-30	E	91.7
40-50	D	93.0
60	D	93.6
75	C	93.6
100-125	C	94.1
150-200	B	95.0

2.02 MOTOR CONTROLLERS (STARTERS)

A. All motor controllers (for equipment furnished under Division 23) shall be furnished under Division 23 and installed under Division 26 unless otherwise noted on the plans.

1. Starters shall be provided for 3 phase motors 3/4 horsepower and greater.

B. Motor starters shall be furnished as follows.

1. GENERAL: Motor starters shall be Square D Company Class 8536 across-the-line magnetic type, full-voltage, non-reversing (FAVOR) starter. All starters shall be constructed and tested in accordance with the latest NEMA standards, sizes and horsepower. ICE sizes are not acceptable. Starters shall be mounted in a general purpose dead front, painted steel enclosure and surface-mounted. Provide size and number of poles as shown and required by equipment served. Provide two speed, two winding or two speed, single winding motor starter as required for two speed motors.
2. CONTACTS: Magnetic starter contacts shall be double break solid silver alloy. All contacts shall be replaceable without removing power wiring or removing starter from panel. The starter shall have straight-through wiring.
3. OPERATING COILS: Operating coils shall be 120 volts and shall be of molded construction. When the coil fails, the starter shall open and shall not lock in the closed position.
4. OVERLOAD RELAYS: Provide manual reset, trip-free Class 20 overload relays in each phase conductor in of all starters. Overload relays shall be melting alloy

type with visual trip indication. All 3 phase and single phase starters shall have one overload relay in each underground conductor. Relay shall not be field adjustable from manual to automatic reset. Provide 6 overload relays for two speed motor starters.

5. PILOT LIGHTS: Provide a red running pilot light for all motor starters. Pilot lights shall be mounted in the starter enclosure cover. Pilot lights shall be operated from an interlock on the motor starter and shall not be wired across the operating coil.
6. CONTROLS: Provide starters with HAND-OFF-AUTOMATIC switches. Coordinate additional motor starter controls with the requirements of Division 23. Motor starter controls shall be mounted in the starter enclosure cover.
7. CONTROL POWER TRANSFORMER: Provide a single-phase 480 volt control power transformer with each starter for 120 volt control power. Connect the primary side to the line side of the motor starter. The primary side shall be protected by a fuse for each conductor. The secondary side shall have one leg fused and one leg grounded. Arrange transformer terminals so that wiring to terminals will not be located above the transformer.
8. AUXILIARY CONTACTS: Each starter shall have one normally open and one normally closed convertible auxiliary contact in addition to the number of contacts required for the "holding interlock", remote monitoring, and control wiring. In addition, it shall be possible to field-install three more additional auxiliary contacts without removing existing wiring or removing the starter from its enclosure.
9. UNIT WIRING: Unit shall be completely pre-wired to terminals to eliminate any interior field wiring except for line and load power wiring and HVAC control wiring.
10. ENCLOSURES: All motor starter enclosures shall be NEMA 1, general purpose enclosures or NEMA-3R if mounted exposed to high moisture conditions. Provide NEMA 4X when located by cooling towers.
11. POWER MONITOR: Provide a square "D" 8430 MPS phase failure and under-voltage relay, base and wiring required for starters serving all 3 phase motors. Set the under-voltage setting according to minimum voltage required for the motor to operate within its range.

C. APPROVED MANUFACTURERS: Controller numbers are based on first named manufacturer. Provide one of the following manufacturer's.

1. Siemens.
2. Square D.
3. General Electric.
4. Eaton.

PART 3 - EXECUTION

3.01 All equipment shall be installed in accordance with the manufacturers' recommendations and printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Contractors' price shall include all items required as per manufacturers' requirements.

3.03 INSTALLATION

A. GENERAL: Install in a professional manner. Any part or parts not meeting this requirement shall be replaced or rebuilt without extra expense to Owner.

B. Install rotating equipment in static and dynamic balance.

C. Provide foundations, supports, and isolators properly adjusted to allow minimum vibration transmission within the building.

D. Correct objectionable noise or vibration transmission in order to operate equipment satisfactorily as determined by the Engineer.

END OF SECTION

SECTION 23 05 29
HANGERS AND SUPPORTS FOR PIPING AND EQUIPMENT - HVAC

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 - Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 WORK INCLUDED

A. Pipe, and equipment hangers, supports and associated anchors.

B. Sleeves and seals.

C. Flashing and sealing equipment and pipe stacks.

1.03 RELATED WORK

A. Section 21 00 00 – Fire Suppression.

B. Section 22 10 00 – Plumbing Piping and Pumps.

C. Section 23 05 48 – Vibration and Seismic Controls for HVAC Piping and Equipment.

D. Section 23 07 16 – HVAC Equipment Insulation.

1.04 REFERENCES

A. ANSI/ASME B31.1 - Power Piping.

B. NFPA 13 - Standard for the Installation of Sprinkler Systems.

C. NFPA 14 - Standard for the Installation of Standpipe and Hose Systems.

1.05 QUALITY ASSURANCE

A. Supports for Sprinkler Piping: In conformance with NFPA 13.

B. Supports for Standpipes: In conformance with NFPA 14.

1.06 SUBMITTALS

A. Submit shop drawings and product data under provisions of Division One.

B. Indicate hanger and support framing and attachment methods.

PART 2 - PRODUCTS

2.01 PIPE HANGERS AND SUPPORTS

A. Hangers for Pipe Sizes 1/2 to 1-1/2 Inch: Malleable iron, adjustable swivel, split ring.

B. Multiple or Trapeze Hangers: Steel channels with welded spacers and hanger rods; cast iron roller and stand for pipe sizes 6 inches and over.

C. Vertical Support: Steel riser clamp.

D. Copper Pipe Support and Hangers: Electro-galvanized with thermoplastic elastomer cushions; Unistrut “Cush-A-Clamp” or equal. Hangers: Plastic coated; Unistrut or equal.

E. For installation of protective shields refer to Section 22 05 29.

F. Shields for Vertical Copper Pipe Risers: Sheet lead.

G. Pipe Rough-In Supports in Walls/Chases: Provide preformed plastic pipe supports, Sioux Chief “Pipe Titan” or equal.

2.02 HANGER RODS

A. Galvanized Hanger Rods: Threaded both ends, threaded one end, or continuous threaded.

2.03 INSERTS

A. Inserts: Malleable iron case with galvanized steel shell and expander plug for threaded connection with lateral adjustment, top slot for reinforcing rods, lugs for attaching to forms; size inserts to suit threaded hanger rods.

2.04 FLASHING

A. Metal Flashing: 20 gage galvanized steel.

B. Lead Flashing: 4 lb. /sq. ft. sheet lead for waterproofing; 1 lb. /sq. ft. sheet lead for soundproofing.

C. Caps: Steel, 20 gage minimum; 16 gage at fire resistant elements.

D. Coordinate with roofing contractor/Architect for type of flashing on metal roofs.

2.05 EQUIPMENT CURBS

A. Fabricate curbs of hot dipped galvanized steel.

B. For metal roof construction, roof curbs shall be made of aluminum or stainless steel. Coordinate with Architectural Drawings and details.

2.06 SLEEVES

A. Sleeves for Pipes through Non-fire Rated Floors: Form with 18 gage galvanized steel, tack welded to form a uniform sleeve.

B. Sleeves for Pipes through Non-fire Rated Beams, Walls, Footings, and Potentially Wet Floors: Form with steel pipe, Schedule 40.

C. Sleeves for Pipes through Fire Rated and Fire Resistive Floors and Walls, and Fireproofing: Prefabricated fire rated steel sleeves including seals, UL listed.

D. Sleeves for Round Ductwork: Form with galvanized steel.

E. Sleeves for Rectangular Ductwork: Form with galvanized steel.

F. Fire Stopping Insulation: Glass fiber type, non-combustible, U.L. listed.

G. Caulk: Paintable 25-year acrylic sealant.

H. Pipe Alignment Guides: Factory fabricated, of cast semi-steel or heavy fabricated steel, consisting of bolted, two-section outer cylinder and base with two-section guiding spider that bolts tightly to pipe. Length of guides shall be as recommended by manufacturer to allow indicated travel.

2.07 FABRICATION

A. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.

B. Design hangers without disengagement of supported pipe.

C. Design roof supports without roof penetrations, flashing or damage to the roofing material.

2.08 FINISH

A. Prime coat exposed steel hangers and supports. Hangers and supports located in crawl spaces, pipe shafts, and suspended ceiling spaces are not considered exposed.

PART 3 - EXECUTION

3.01 INSERTS

A. Provide inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams. Coordinate with Structural Engineer for placement of inserts.

B. Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.

C. Where concrete slabs form finished ceiling, provide inserts to be flush with slab surface.

D. Where inserts are omitted, drill through concrete slab from below and provide thru-bolt with recessed square steel plate and nut recessed into and grouted flush with slab. Verify with Structural Engineer prior to start of work.

3.02 PIPE HANGERS AND SUPPORTS

A. Support horizontal piping as follows:

PIPE SIZE	MAX. HANGER SPACING	HANGER DIAMETER
(Copper Pipe)		
1/2 to 1-1/4 inch	5'-0"	3/8"
1-1/2 to 2-1/2 inch	8'-0"	3/8"

3 to 4 inch	10'-0"	3/8"
6 to 8 inch	10'-0"	1/2"

B. Install hangers to provide minimum 1/2 inch space between finished covering and adjacent work.

C. Place a hanger within 12 inches of each horizontal elbow, and at the vertical to horizontal transition.

D. Use hangers with 1-1/2 inch minimum vertical adjustment.

E. Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.

F. Install hangers with nut at base and above hanger; tighten upper nut to hanger after final installation adjustments.

G. Portable pipe hanger systems shall be installed per manufacturer's instructions.

H. Distances between supports are maximum distance. Supports shall be provided to carry the pipe/equipment load.

3.03 Insulated Piping: Comply with the following installation requirements.

A. Clamps: Attach galvanized clamps, including spacers (if any), to piping with clamps projecting through insulation; do not exceed pipe stresses allowed by ASME B31.9.

B. Saddles: Install galvanized protection saddles MSS Type 39 where insulation without vapor barrier is indicated. Fill interior voids with segments of insulation that match adjoining pipe insulation.

C. Shields: Install protective shields MSS Type 40 on cold and chilled water piping that has vapor barrier. Shields shall span an arc of 180 degrees and shall have dimensions in inches not less than the following:

NPS	LENGTH	THICKNESS
1/4 THROUGH 3-1/2	12	0.048
4	12	0.060
5 & 6	18	0.060
8 THROUGH 14	24	0.075
16 THROUGH 24	24	0.105

D. Piping 2" and larger: provide galvanized sheet metal shields with calcium silicate insulation at hangers/supports.

E. Insert material shall be at least as long as the protective shield.

F. Thermal Hanger Shields: Install where indicated, with insulation of same thickness as piping.

3.04 EQUIPMENT BASES AND SUPPORTS

A. Provide equipment bases of concrete.

B. Provide templates, anchor bolts, and accessories for mounting and anchoring equipment.

C. Construct support of steel members. Brace and fasten with flanges bolted to structure.

D. Provide rigid anchors for pipes after vibration isolation components are installed.

3.05 FLASHING

A. Provide flexible flashing and metal counter flashing where piping and ductwork penetrate weather or waterproofed walls, floors, and roofs.

B. Flash vent and soil pipes projecting 8 inches minimum above finished roof surface with lead worked one inch minimum into hub, 8 inches minimum clear on sides with 24 x 24 inches sheet size. For pipes through outside walls, turn flanges back into wall and caulk. Provide metal counter flash and seal.

C. Flash floor drains in floors with topping over finished areas with lead, 10 inches clear on sides with minimum 36 x 36 inch sheet size. Fasten flashing to drain clamp device.

D. Seal floor, shower, mop sink, and all other drains watertight to adjacent materials.

E. Provide curbs for mechanical roof installations 8 inches minimum high above roofing surface. Contact Architect for all flashing details and roof construction. Seal penetrations watertight.

3.06 SLEEVES

A. Set sleeves in position in formwork. Provide reinforcing around sleeves.

B. Extend sleeves through floors minimum one inch above finished floor level. Caulk sleeves full depth with fire rated thermfiber and 3M caulking and provide floor plate.

C. Where piping or ductwork penetrates floor, ceiling, or wall, close off space between pipe or duct and adjacent work with U.L. listed fire stopping insulation and caulk seal air tight. Provide close fitting metal collar or escutcheon covers at both sides of penetration.

D. Fire protection sleeves may be flush with floor of stairways.

END OF SECTION

SECTION 23 05 48
VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. This Section and Section 23 02 00 – Basic Materials and Methods are part of each Division 23 Section which references the vibration control products specified herein.

1.02 WORK INCLUDED

A. Vibration and sound control products.

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of vibration control products of type, size, and capacity required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Vibration and sound control products shall conform to ASHRAE criteria for average noise criteria curves for all equipment at full load conditions.

C. Unless otherwise indicated, sound and vibration control products shall be provided by a single manufacturer.

1.04 SUBMITTALS

A. SHOP DRAWINGS: Indicate size, material, and finish. Show locations and installation procedures. Include details of joints, attachments, and clearances.

B. PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures, product variations, and accessories.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Amber/Booth Company, Inc.

B. Mason Industries, Inc.

C. Noise Control, Inc.

2.02 GENERAL

A. Provide vibration isolation supports for equipment, piping and ductwork, to prevent transmission of vibration and noise to the building structure that may cause discomfort to the occupants.

B. Model numbers of Amber/Booth products are included for identification. Products of the additional manufacturers will be acceptable provided they comply with all of the requirements of this specification.

2.03 SUSPENDED FANS AND FAN COIL UNITS

A. Provide Amber/Booth type BSS spring hangers sized for 1'' static deflection.

2.09 CORROSION PROTECTION

A. All vibration isolators shall be designed and treated for resistance to corrosion.

B. Steel components: PVC coated or phosphated and painted with industrial grade enamel. Nuts, bolts, and washers: zinc-electroplated.

PART 3 - EXECUTION

3.01 All equipment shall be installed in accordance with the manufacturer's recommendations and printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturer's requirements.

3.03 If internal isolation option is used on air handling units, the mechanical contractor shall verify proper adjustment and operation of isolators prior to start-up. All shipping brackets and temporary restraint devices shall be removed.

3.04 The vibration isolation supplier shall certify in writing that he has inspected the installation and that all external isolation materials and devices are installed correctly and functioning properly.

END OF SECTION

SECTION 23 05 53
IDENTIFICATION FOR HVAC EQUIPMENT

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 – Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 SCOPE

Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for owner's use.

1.03 Refer to Architectural Sections for additional requirements.

PART 3 - EXECUTION

3.01 All labeling equipment shall be installed as per manufacturer’s printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Contractors price shall include all items required as per manufacturer’s requirements.

END OF SECTION

SECTION 23 05 93
TESTING, ADJUSTING, AND BALANCING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 – Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 RELATED DOCUMENTS

Approved submittal date on equipment installed, to accomplish the test procedures, outlined under paragraph 3.01 of this Section, will be provided by the Contractor.

1.03 DESCRIPTION

A. The TAB of the air conditioning systems shall be performed by an impartial technical firm hired by Owner whose operations are limited only to the field of professional TAB. The TAB work will be done under the direct supervision of a qualified engineer employed by the TAB firm.

B. The TAB firm will be responsible for inspecting, adjusting, balancing, and logging the date on the performance of fans, dampers in the duct system, and air distribution devices. The Contractor and the various Subcontractors of the equipment installed shall cooperate with the TAB firm to furnish necessary data on the design and proper applications of the system components and provide labor and material required to eliminate deficiencies or malperformance.

1.04 QUALITY ASSURANCE

A. QUALIFICATIONS OF CONTRACTOR PERSONNEL: Submit evidence to show that the personnel who shall be in charge of correcting deficiencies for balancing the systems are qualified. The Owner and Engineer reserve the right to require that the originally approved personnel be replaced with other qualified personnel if, in the Owner and Engineer's opinion, the original personnel are not qualified to properly place the system in condition for balancing.

B. QUALIFICATIONS OF TAB FIRM PERSONNEL:

1. A minimum of one registered Professional Engineer licensed in the State, is required to be in permanent employment of the firm.
2. Personnel used on the jobsite shall be either Professional Engineers or technicians, who shall have been permanent, full time employees of the firm for a minimum of six months prior to the start of Work for that specified project.
3. Evidence shall be submitted to show that the personnel who actually balance the systems are qualified. Evidence showing that the personnel have passed the tests required by the Associated Air Balance Council (AABC) shall be required.

C. CALIBRATION LIST: Submit to the Engineer for approval, a list of the gauges, thermometers, velometer, and other balancing devices to be used in balancing the system. Submit evidence to show that the balancing devices are properly calibrated

before proceeding with system balancing.

1.05 OPERATIONS PERSONNEL TRAINING

A. Provide a training session for the owner's operations personnel. Training session shall be performed by a qualified person who is knowledgeable in the subject system/equipment. Submit a training agenda two (2) weeks prior to the proposed training session for review and approval. Training session shall include at the minimum:

1. Purpose of equipment.
2. Principle of how the equipment works.
3. Important parts and assemblies.
4. How the equipment achieves its purpose and necessary operating conditions.
5. Most likely failure modes, causes and corrections.
6. On site demonstration.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 SERVICES OF THE CONTRACTOR

A. The Drawings and Specifications have indicated valves, dampers, and miscellaneous adjustment devices for the purpose of adjustment to obtain optimum operating conditions. Install these devices in a manner that leaves them accessible, and provide access as requested by the TAB firm.

B. Have systems complete and in operational readiness prior to notifying the TAB firm that the project is ready for their services, and certify in writing to the Architect and Owner that such a condition exists.

C. As a part of the Work of this Section, make changes in the sheaves, belts, and dampers or the addition of dampers required for correct balance of the new work as required by the TAB firm, at no additional cost to the Owner.

D. Fully examine the existing system to be balanced, to determine whether or not sufficient volume dampers, balancing valves, thermometers, gauges, pressure and temperature taps, means of reading static pressure and total pressure in duct systems, means of determining water flow, and other means of taking data needed for proper water and air balancing are existing. Submit to the Engineer in writing a listing of omitted items considered necessary to balance existing systems. Submit the list and proposal as a cost add item.

E. Verify that fresh air louvers are free of blockage, coils are clean and fresh air ducts to each air handling unit have individually adjustable volume regulating dampers.

F. Provide, correct, repair, or replace deficient items or conditions found during the testing, adjusting, and balancing period.

G. In order that systems may be properly tested, balanced, and adjusted as specified, operate the systems at no expense to the Owner for the length of time necessary to properly verify their completion and readiness for TAB period.

H. Project construction schedules shall provide time to permit the successful completion of TAB services prior to Substantial Completion. Complete, operational readiness, prior to

commencement of TAB services, shall include the following services of the Contractor:

1. Construction status of building shall permit the closing of doors, windows, ceilings installed and penetrations complete, to obtain project operating conditions.
2. AIR DISTRIBUTION SYSTEMS:
   a. Verify installation for conformity to design. Supply, return, and exhaust ducts terminated and pressure tested for leakage as specified.
   b. Volume and fire dampers properly located and functional. Dampers serving requirements of minimum and maximum outside air, return and relief shall provide tight closure and full opening, smooth and free operation.
   c. Supply, return, exhaust and transfer grilles, registers and diffusers shall be installed.
   d. Air handling systems, units and associated apparatus, such as heating and cooling coils, filter sections, access doors, etc., shall be blanked and sealed to eliminate excessive bypass or leakage of air.
   e. Fans (supply and exhaust) operating and verified for freedom from vibrations, proper fan rotation and belt tension; overload heater elements shall be of proper size and rating; record motor amperage and voltage and verify that these functions do not exceed nameplate ratings.
   f. Furnish or revise fan drives or motors as necessary to attain the specified air volumes.

I. Contractor shall repair any insulation removed from piping system by TAB Contractor during water balancing.

3.02 SERVICES OF THE TAB FIRM

A. The TAB firm will act as liaison between the Owner, Engineer, and the Contractor and inspect the installation of mechanical piping system, sheet metal work, temperature controls and other component parts of the heating, air conditioning and ventilating systems being retrofitted, repaired, or added under this Contract. The reinspection of the Work will cover that part related to proper arrangement and adequate provision for the testing and balancing and will be done when the Work is 80 percent complete.

B. Upon completion of the installation and start-up of the mechanical equipment, to check, adjust, and balance system components to obtain optimum conditions in each conditioned space in the building. Prepare and submit to the Engineer complete reports on the balance and operations of the systems.

C. Measurements and recorded readings of air, water, and electricity that appear in the reports will be done by the permanently employed technicians or engineers of the TAB firm.

D. Make an inspection in the building during the opposite season from that in which the initial adjustments were made. At the time, make necessary modifications to the initial adjustments required to produce optimum operation of system components to affect the proper conditions as indicated on the Drawings. At time of opposite season check-out, the Owner's representative will be notified before readings or adjustments are made.

E. In fan systems, the air quantities indicated on the Drawings may be varied as required to secure a maximum temperature variation of two degrees within each separately controlled space, but the total air quantity indicated for each zone must be obtained. It shall be the obligation of the Contractor to furnish or revise fan drive and motors if necessary, without cost to the Owner, to attain the specified air volumes.

3.03 PROFESSIONAL REPORT

A. Before the final acceptance of the report is made, the TAB firm will furnish the Engineer the following data to be approved by the Owner and Engineer:

1. Summary of main supply, return and exhaust duct pitot tube traverses and fan settings indicating minimum value required to achieve specified air volumes.
2. A listing of the measured air quantities at each outlet corresponding to the temperature tabulation as developed by the Engineer and TAB firm.
3. Air quantities at each return and exhaust air handling device.
4. Static pressure readings entering and leaving each supply fan, exhaust fan, filter, coil, balancing dampers and other components of the systems. Including the retrofit Work. These readings will be related to performance curves in terms of the CFM handled if available.
5. Motor current readings at each equipment motor on load side of capacitors. The voltages at the time of the reading shall be listed.
6. The final report shall certify test methods and instrumentation used, final velocity reading obtained, temperatures, pressure drops, RPM of equipment, amperage of motors, air balancing problems encountered, recommendations and uncompleted punch list items. The test results will be recorded on standard forms.
7. A summary of actual operating conditions shall be included with each system outlining normal and ventilation cycles of operation. the final report will act as a reference of actual operating conditions for the Owner's operating personnel.

3.04 BALANCING AIR CONDITIONING SYSTEM

A. GENERAL:

1. Place all equipment into full operation, and continue operating during each working day of balancing and testing. If the air conditioning system is balanced during Off-Peak cooling season Contractor shall return to rebalance air side system as required to put system in proper balance at that season.
2. The Contractor shall submit detailed balancing and recording forms for approval. After approval by the Engineer, prepare complete set of forms for recording test data on each system. All Work shall be done under the supervision of a Registered Professional Engineer. All instruments used shall be accurately calibrated to within 1% of scale and maintained in good working order.
3. Upon completion of the balancing and testing, the TAB Contractor shall compile the test data in report forms, and forward five copies to the Engineer for evaluation.
4. The final report shall contain logged results of all tests, including such data as:
    a. Tabulation of air volume at each outlet.
    b. Outside dry bulb and wet bulb temperature.
    c. Inside dry bulb and wet bulb temperatures in each conditioned space room or area.
    d. Actual fan capacities and static pressures. Motor current and voltage readings at each fan.

B. AIR SYSTEMS: Perform the following operations as applicable to balance and test systems:

1. Check fan rotation.
2. Check filters (balancing shall be done with clean filters).
3. Test and adjust blower rpm to design requirements.

4. Test and record motor full load amperes.
5. Test and record system static pressures, suction and discharge.
6. Test and adjust system for design cfm, return air and outside air (±2%). Change-out fan sheaves as required to balance system.
7. Test and record entering air temperatures, db and wb.
8. Test and record leaving air temperatures, db and wb.
9. Adjust all zones to design cfm (±2%).
10. Test and adjust each diffuser, grille, and register to within 5% of design.

C. AIR DUCT LEAKAGE: (From SMACNA Duct Standards latest edition) Test all ductwork (designed to handle over 1000 CFM) as follows:

1. Test apparatus
   The test apparatus shall consist of:
   a. A source of high pressure air--a portable rotary blower or a tank type vacuum cleaner.
   b. A flow measuring device consisting of straightening vanes and an orifice plate mounted in a straight tube with properly located pressure taps. Each orifice assembly shall be accurately calibrated with its own calibration curve. Pressure and flow readings shall be taken with U-tube manometers.
2. Test Procedures
   a. Test for audible leaks as follows:
      1) Close off and seal all openings in the duct section to be tested. Connect the test apparatus to the duct by means of a section of flexible duct.
      2) Start the blower with its control damper closed.
      3) Gradually open the inlet damper until the duct pressure reaches 1.2 times the standard designed duct operating pressure.
      4) Survey all joints for audible leaks. Mark each leak and repair after shutting down blower. Do not apply a retest until sealants have set.
   b. After all audible leaks have been sealed, the remaining leakage should be measured with the orifice section of the test apparatus as follows:
      1) Start blower and open damper until pressure in duct reaches 25% in excess of designed duct operating pressure.
      2) Read the pressure differential across the orifice on manometer No. 2. If there is no leakage, the pressure differential will be zero.
      3) Total allowable leakage shall not exceed one (1) percent of the total system design air flow rate. When partial sections of the duct system are tested, the summation of the leakage for all sections shall not exceed the total allowable leakage.
      4) Even though a system may pass the measured leakage test, a concentration of leakage at one point may result in a noisy leak which must be corrected.

D. DX SYSTEMS:

1. Test and record suction and discharge pressures at each compressor and record ambient air temperature entering the condensing coils.
2. Test and record unit full load amps and voltage.
3. Test and record staging and unloading of unit required by sequence of operation or drawing schedule.

E. Automatic temperature controls shall be calibrated; and all thermostats and dampers

adjusted so that the control system is in proper operating condition, subject to the approval of the Engineer/Owner.

F. The TAB Contractor shall report to Engineer all air distribution devices or other equipment that operate noisily so that corrective measures may be implemented by the Contractor at no additional cost to the Owner or Architect/Engineer.

END OF SECTION

SECTION 23 07 13
DUCT INSULATION

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 - Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 WORK INCLUDED

A. Ductwork system insulation.

1.03 RELATED SECTIONS

A. Section 23 05 13 – Common Motor Requirements for HVAC Equipment

B. Section 23 05 53 – Identification for HVAC Equipment

1.04 QUALITY ASSURANCE

A. Installer's Qualifications: Firm with at least 5 years successful installation experience on projects with mechanical insulations similar to that required for this project.

B. Flame/Smoke Ratings: Provide composite mechanical insulation (insulation, jackets, coverings, sealers, mastics and adhesives) with flame-spread index of 25 or less, and smoke-developed index of 50 or less, as tested by ASTM E 84 (NFPA 255) method.

1. Exception: Outdoor mechanical insulation may have flame spread index of 75 and smoke developed index of 150.

C. Duct and plenum insulation shall comply with minimum R-value requirements of 2009 International Energy Conservation Code.

D. Adhesive and other material shall comply with NFPA and NBFU Standards No. 90A and 90B.

1.05 WARRANTY

A. Warrant the Work specified herein for one year against becoming unserviceable or causing an objectionable appearance resulting from either defective, or nonconforming materials and workmanship.

B. Defects shall include, but not be limited to, the following:

1. Mildewing.
2. Peeling, cracking, and blistering.
3. Condensation on exterior surfaces.

1.06 SUBMITTALS

A. SHOP DRAWINGS: Indicate size, material, and finish. Show locations and installation

procedures. Include details of joints, attachments, and clearances.

B. PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures, product variations, and accessories.

1.07 DELIVERY, STORAGE AND HANDLING

A. Deliver insulation, coverings, cements, adhesives, and coatings to site in unopened containers with manufacturer’s stamp, clearly labeled with flame and smoke rating, affixed showing fire hazard indexes of products.

B. Protect insulation against dirt, water and chemical and mechanical damage. Do not install damaged or wet insulation; remove such from project site.

PART 2 - PRODUCTS

2.01 GENERAL DESCRIPTION

A. The type of insulation and its installation shall be in strict accordance with these specifications for each service, and the application technique shall be as recommended by the manufacturer. All insulation types, together with adhesives and finishes shall be submitted and approved before any insulation is installed.

B. A sample quantity of each type of insulation and each type of application shall be installed and approval secured prior to proceeding with the main body of the Work.

2.02 ACCEPTABLE MANUFACTURERS

A. Glass fiber materials shall be as manufactured by Knauf, Certain-Teed, Johns-Manville or Owens-Corning and shall have the same thermal properties, density, fire rating, vapor barrier, etc., as the types specified herein, subject to review by the Engineer.

B. Adhesives shall be as manufactured by Minnesota Mining, Arabol, Benjamin-Foster, Armstrong or Insulmastic, Inc., and shall have the same adhesive properties, fire rating, vapor seal, etc., as the types specified herein, subject to review by the Engineer.

C. Ceramic fiber materials shall be as manufactured by Primer Refractories, A.P. Green Refractories or approved equal.

PART 3 - EXECUTION

3.01 GENERAL

A. All insulation shall be installed in accordance with the manufacturer's recommendations and printed installation instructions.

B. All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturer's requirements.

3.02 EXTERNAL DUCT INSULATION

A. Fasten all longitudinal and circumferential laps with outward clinching staples 3" on center. On rectangular ducts over 24" wide apply as above and hold insulation in place on bottom side with mechanical pins and clips on 12" centers.

B. Seal all joints, fastener penetrations and other breaks in vapor barrier with 3 inch wide

strips of white glass fabric embedded between two coats of vapor barrier mastic, Childers CP-30 or approved equal.

C. All external duct insulation shall be Johns Manville Microlite EQ or Microlite XG fiberglass duct wrap insulation with reinforced aluminum facing or approved equal.

D. External duct wrap is required on all outside air ducts, supply and return air ducts that are not internally insulated. Duct wrap shall be provided as follows:

1. 1½" thick, 1.0 PCF density minimum when ducts are located in conditioned spaces.
2. 2" thick with a minimum installed R-value of 6 when ducts are located in unconditioned spaces, such as ceiling plenum space.

3.03 DUCT LINER

A. Duct liner shall be kept clean and dry during transportation, storage, installation, and throughout the construction process care should be taken to protect the liner from exposure to the elements or damage from mechanical abuse.

B. All portions of duct designed to receive duct liner shall be completely covered with liner as specified. The smooth, black, acrylic-coated surfaces with flexible glass cloth reinforcement shall face the airstream. All duct liner shall be cut to assure tight, overlapped corner joints. The top pieces shall be supported by the sidepieces. Duct liner shall be installed following the guidelines in the NAIMA "Duct Liner Installation Standard".

C. The duct liner shall be tested according to erosion test method in UL 181 and shall be guaranteed to withstand velocities in the duct system up to 5000 fpm without surface erosion.

D. Duct liner shall be adhered to the sheet metal with full coverage of an approved adhesive that conforms to ASTM C 916, and all exposed leading edges and transverse joints shall be coated with Permacote factory-applied or field-applied edge coating and shall be neatly butted without gaps. Shop or field cuts shall be liberally coated with Johns Manville SuperSeal® duct butter and Edge Treatment or approved adhesive.

E. Metal nosings shall be securely installed over transversely oriented liner edges facing the airstream at forward discharge and at any point where lined duct is preceded by unlined duct.

F. When velocity exceeds 4000 fpm (20.3 m/sec), use metal nosing on every leading edge. Nosing may be formed on duct or be channel or zee attached by screws, rivets or welds.

G. The liner shall further be secured with Graham welding pins and washers on not more than 18 inch centers both vertical and horizontal surfaces, and the pins and washers shall be pointed up with adhesive.

H. Duct liner shall be Johns Manville Linacoustic RC fiberglass duct liner with factory-applied edge coating and acrylic coating on the mat surface of airstream side or approved equal. The liner shall meet the Life Safety Standards as established by NFPA 90A and 90B, FHC 25/50 and Limited Combustibility and the air stream surface coating should contain an immobilized, EPA-registered, anti-microbial agent so it will not support microbial growth as tested in accordance with ASTM G21 and G22. The duct liner shall conform to the requirements of ASTM C 1071, with an NRC not less than .70 as tested per ASTM C 423 using a Type "A" mounting, and a thermal conductivity no higher than .25 BTU•in/(hr•ft^2•°F) at 75°F mean temperature.

I. Line supply and return ductwork at connection of HVAC unit to a point of 15 feet upstream and downstream of the equipment and in return air boots. Attach with full cover coat of cement, duct dimensions up to 16 inches; provide stick clips or screws and cap for dimensions over 16 inches, spaced 16 inches o.c. maximum. Provide sheet metal liner cap over all leading edges of internal insulation exposed to air stream.

J. Duct liner shall be provided as follows:

1. 1" Thick, 1.5 PCF density minimum when ducts are located in conditioned spaces.
2. 1 ½" Thick with a minimum installed R-value of 6 when ducts are located in unconditioned spaces, such as ceiling plenum space.
3. 2" Thick with a minimum installed R-value of 8 when ducts are located outdoors.

3.04 AIR DEVICE AND MISCELLANEOUS DUCT INSULATION

A. The backside of all supply air devices shall be insulated with taped and sealed 1½ inch thick external duct wrap.

B. The contractor shall install an additional layer of 1½ inch thick external fiberglass duct wrap on any portion of the supply air, return air, outside air, or exhaust air system that has condensation forming during any period of operation. The insulation shall be taped and sealed and located until all evidence of the condensation has been eliminated, at no additional cost to the Owner.

END OF SECTION

SECTION 23 07 16
HVAC EQUIPMENT INSULATION

PART 1 – GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 – Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 SCOPE

A. Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for Owner's use.

B. Work specified elsewhere.

1. Basic materials and methods.
2. Piping systems.
3. Air distribution equipment.

1.03 WARRANTY

A. Warrant the Work specified herein for one year against becoming unserviceable or causing an objectionable appearance resulting from either defective or nonconforming materials and workmanship.

B. Defects shall include, but not be limited to, the following:

1. Mildewing.
2. Peeling, cracking, and blistering.
3. Condensation on exterior surfaces.

1.04 SUBMITTALS

A. SHOP DRAWINGS: Indicate size, material, and finish. Show locations and installation procedures. Include details of joints, attachments, and clearances.

B. PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures, product variations, and accessories.

1.05 DELIVERY AND STORAGE

A. Deliver insulation, coverings, cements, adhesives, and coatings to site in unopened containers with manufacturer’s stamp, clearly labeled with flame and smoke rating, affixed showing fire hazard indexes of products.

B. Protect insulation against dirt, water and chemical and mechanical damage. Do not install damaged or wet insulation; remove such from project site.

PART 2 – PRODUCTS

2.01 It is the intent of these specifications to secure superior quality workmanship resulting in an

absolutely satisfactory installation of insulation from the standpoint of both function and appearance. Particular attention shall be given to valves, fittings, pumps, etc., requiring low temperature insulation to insure full thickness of insulation and proper application of the vapor seal. All flaps of vapor barrier jackets and/or canvas covering must be neatly and securely smoothed and sealed down.

2.02 The type of insulation and its installation shall be in strict accordance with these specifications for each service, and the application technique shall be as recommended by the manufacturer. All insulation types, together with adhesives and finishes shall be submitted and reviewed before any insulation is installed.

2.03 A sample quantity of each type of insulation and each type application shall be installed and reviewed prior to proceeding with the main body of the work. Condensation caused by improper installation of insulation shall be corrected by Installing Contractor. Any damage caused by condensation shall be made good at no cost to the Owner or Architect/Engineer.

2.04 Glass fiber materials as manufactured by Owens/Corning, PPG, CSG, or Johns Manville will be acceptable, if they comply with the specifications.

2.05 All insulation shall have composite (insulation, jacket or facing, and adhesive used to adhere the facing or jacket to insulation) fire and smoke hazard as tested by Procedure ASTM E084, NFPA 255 and UL 723 not exceeding:

Flame Spread 25
Smoke Developed 50

2.06 Accessories, such as adhesives, mastics and cements shall have the same component ratings as listed above.

2.07 All products or their shipping cartons shall have a label affixed, indicating flame and smoke ratings do not exceed the above requirements.

PART 3 – EXECUTION

3.01 All insulation shall be installed in accordance with the manufacturer's recommendations and printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturer's requirements.

END OF SECTION

SECTION 23 07 19
HVAC PIPING INSULATION

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 – Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 SCOPE

A. Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for Owner's use.

B. Furnish and install piping insulation to:

1. Condensate drain piping.
2. Refrigerant piping.
3. All pipes subject to freezing conditions shall be insulated.

C. Work specified elsewhere.

1. Painting.
2. Pipe hangers and supports.

D. For insulation purpose piping is defined as the complete piping system including supplies and returns, pipes, valves, automatic control valve bodies, fittings, flanges, strainers, thermometer well, unions, reducing stations, and orifice assemblies.

1.03 WARRANTY

A. Warrant the Work specified herein for one year against becoming unserviceable or causing an objectionable appearance resulting from either defective or nonconforming materials or workmanship.

B. Defects shall include, but not be limited to, the following:

1. Mildewing.
2. Peeling, cracking, and blistering.
3. Condensation on exterior surfaces.

1.04 SUBMITTALS

A. SHOP DRAWINGS: Indicate size, material, and finish. Show locations and installation procedures. Include details of joints, attachments, and clearances.

B. PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures, project variations, and accessories.

1.05 DELIVERY AND STORAGE

A. Deliver insulation, coverings, cements, adhesives, and coatings to site in unopened

containers with manufacturer's stamp, clearly labeled with flame and smoke rating, affixed showing fire hazard indexes of products.

B. Protect insulation against dirt, water and chemical and mechanical damage. Do not install damaged or wet insulation; remove such from project site.

PART 2 - PRODUCTS

2.01 It is the intent of these specifications to secure superior quality workmanship resulting in an absolutely satisfactory installation of insulation from the standpoint of both function and appearance. Particular attention shall be given to valves, fittings, pumps, etc., requiring low temperature insulation to insure full thickness of insulation and proper application of the vapor seal. All flaps of vapor barrier jackets and/or canvas covering must be neatly and securely smoothed and sealed down.

2.02 The type of insulation and its installation shall be in strict accordance with these specifications for each service, and the application technique shall be as recommended by the manufacturer. All insulation types, together with adhesives and finishes shall be submitted and reviewed prior to installation.

2.03 A sample quantity of each type of insulation and each type application shall be installed and accepted prior to proceeding with the main body of the work. Condensation caused by improper installation of insulation shall be corrected by Installing Contractor. Any damage caused by condensation shall be made good at no cost to the Owner or Architect/Engineer.

2.04 All insulation shall have composite (insulation, jacket or facing, and adhesive used to adhere the facing or jacket to insulation) fire and smoke hazard as tested by Procedure ASTM E084, NFPA 255 and UL 723 not exceeding:

Flame Spread 25
Smoke Developed 50

2.05 Accessories, such as adhesives, mastics and cements shall have the same component ratings as listed above.

2.06 All products or their shipping cartons shall have a label affixed, indicating flame and smoke ratings do not exceed the above requirements.

2.07 APPROVED MANUFACTURERS

A. Calcium silicate materials shall be as manufactured by Johns Manville.

B. Glass fiber materials shall be as manufactured by Johns Manville or Owens-Corning and shall have the same thermal properties, density, fire rating, vapor barrier, etc., as the types specified herein, subject to review by the Engineer.

C. Adhesives shall be as manufactured by Childers, Foster, HB Fuller or Armstrong, and shall have the same adhesive properties, fire rating, vapor seal, etc., as the types specified herein, subject to review by the Engineer.

D. Armaflex elastomeric cellular thermal insulation by Armstrong.

E. Phenolic foam insulation shall be as manufactured by Kooltherm Insulation (Koolphen).

F. Metal jacketing and fitting covers shall be as manufactured by Childers or RPR Products.

2.08 MATERIALS

A. CONDENSATE DRAINAGE PIPING: Fire resistant fiberglass insulation; insulation not required when piping is exposed on roof.

B. REFRIGERANT PIPING: Refrigerant pipe insulation shall be model "AP-2000", fire rated for use in environmental air plenums. Apply manufacturers recommended finish and sealant for exterior applications.

C. METAL JACKETING: Utilize Childers “Strap-On” jacketing. Provide preformed fitting covers for all elbows and tees.

PART 3 - EXECUTION

3.01 All insulation shall be installed in accordance with the manufacturer’s recommendations and printed installation instructions, including high density inserts at all hangers and pipe supports to prevent compression of insulation.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturer’s requirements.

3.03 Pipes located outdoors or in tunnels shall be insulated same as concealed piping; and in addition shall have a jacket of 0.016 inch thick, smooth aluminum with longitudinal modified Pittsburg Z-Lock seam and 2 inch overlap. Jacketing shall be easily removed and replaced without damage. All insulation butt joints shall be sealed with gray silicone. Galvanized banding is not acceptable.

3.04 All insulated piping located over driveways shall have an aluminum shield permanently banded over insulation to protect it from damage from car antennas.

3.05 FIRE RATED INSULATION

A. All pipe penetrations through walls and concrete floors shall be fire rated by applying USG Thermafiber in the space between the concrete and the pipe.

B. The penetration shall be additionally sealed by using 3M brand model CP 25 or 303 fire barrier caulk and putty.

C. All fire rating material shall be insulated in accordance with manufacturer's printed instructions.

PART 4 - SCHEDULES

4.01 LOW TEMPERATURE SURFACES		**MINIMUM INSULATION THICKNESS**
A.	Condensate drain lines:	¾ inch
B.	Refrigerant Piping	
1.	1½“ and smaller	1 inch
2.	Larger than 1½ inch	1½ inch

END OF SECTION

SECTION 23 09 23
INSTRUMENTATION AND CONTROL FOR HVAC

PART 1 - GENERAL

1.01 Products Not Furnished or Installed under but Integrated with the Work of This Section

A. Section - General

1. Coordination Meeting: The Installer furnishing the DDC network shall meet with the Installer(s) furnishing each of the following products to coordinate details of the interface between these products and the DDC network. The Owner or his designated representative shall be present at this meeting. Each Installer shall provide the Owner and all other Installers with details of the proposed interface including PICS for BACnet equipment, hardware and software identifiers for the interface points, network identifiers, wiring requirements, communication speeds, and required network accessories. The purpose of this meeting shall be to insure there are no unresolved issues regarding the integration of these products into the DDC network. Submittals for these products shall not be approved prior to the completion of this meeting.

1.02 Related Sections

A. The General Conditions of the Contract, Supplementary Conditions, and General Requirements are part of this specification and shall be used in conjunction with this section as part of the contract documents.

B. The following sections constitute related work:

1.03 Description

A. General: The control system shall consist of a high-speed, peer-to-peer network of DDC controllers, a control system server, and a web-based operator interface.

B. System software shall be based on a server/thin client architecture, designed around the open standards of web technology. The control system server shall be accessed using a Web browser over the control system network, the owner's local area network, and (at the owner's discretion) over the Internet.
The intent of the thin-client architecture is to provide operators complete access to the control system via a Web browser. No special software other than a web browser shall be required to access graphics, point displays, and trends, configure trends, configure points and controllers, or to download programming into the controllers.

C. System shall use the BACnet protocol for communication to the operator workstation or web server and for communication between control modules. I/O points, schedules, setpoints, trends and alarms specified in 23 09 93 – “Sequence of Operations for HVAC Controls” shall be BACnet objects.

1.04 Approved Control system Manufacturers

A. The following are approved control system manufacturers:

1. Automated Logic Corporation
2. Trane
3. Johnson Control

1.05 Quality Assurance

A. Installer and Manufacturer Qualifications

1. Installer shall have an established working relationship with Control System Manufacturer.

2. Installer shall have successfully completed Control System Manufacturer’s control system training. Upon request, Installer shall present record of completed training including course outlines.

1.06 Codes and Standards

A. Work, materials, and equipment shall comply with the most restrictive of local, state, and federal authorities' codes and ordinances or these plans and specifications. As a minimum, the installation shall comply with the current editions in effect 30 days prior to the receipt of bids of the following codes:

1. National Electric Code (NEC)
2. International Building Code (IBC)
    a. Section 719 Ducts and Air Transfer Openings
    b. Section 907 Fire Alarm and Detection Systems
    c. Section 909 Smoke Control Systems
    d. Chapter 28 Mechanical
3. International Mechanical Code (IMC)
4. ANSI/ASHRAE Standard 135, BACnet - A Data Communication Protocol for Building Automation and Control Systems

1.07 System Performance

A. Performance Standards. System shall conform to the following minimum standards over network connections. Systems shall be tested using manufacturer’s recommended hardware and software for operator workstation (server and browser for web-based systems).

1. Graphic Display.A graphic with 20 dynamic points shall display with current data within 10 sec.
2. Graphic Refresh.A graphic with 20 dynamic points shall update with current data within 8 sec. and shall automatically refresh every 15 sec.
3. Configuration and Tuning Screens. Screens used for configuring, calibrating, or tuning points, PID loops, and similar control logic shall automatically refresh within 6 sec.
4. Object Command. Devices shall react to command of a binary object within 2 sec. Devices shall begin reacting to command of an analog object within 2 sec.
5. Alarm Response Time. An object that goes into alarm shall be annunciated at the workstation within 45 sec.
6. Program Execution Frequency. Custom and standard applications shall be capable of running as often as once every 5 sec. Select execution times consistent with the mechanical process under control.
7. Performance. Programmable controllers shall be able to completely execute DDC PID control loops at a frequency adjustable down to once per sec. Select execution times consistent with the mechanical process under control.
8. Multiple Alarm Annunciation. Each workstation on the network shall receive alarms within 5 sec of other workstations.
9. Reporting Accuracy. System shall report values with minimum end-to-end accuracy listed in Table 1.
10. Control Stability and Accuracy. Control loops shall maintain measured variable at setpoint within tolerances listed in Table

Table-1
Reporting Accuracy

Measured Variable	Reported Accuracy
Space Temperature	±0.5ºC (±1ºF)
Ducted Air	±0.5ºC (±1ºF)
Outside Air	±1.0ºC (±2ºF)
Dew Point	±1.5ºC (±3ºF)
Water Temperature	±0.5ºC (±1ºF)
Delta-T	±0.15º (±0.25ºF)
Relative Humidity	±5% RH
Water Flow	±2% of full scale
Airflow (terminal)	±10% of full scale (see Note 1)
Airflow (measuring stations)	±5% of full scale
Airflow (pressurized spaces)	±3% of full scale
Air Pressure (ducts)	±25 Pa (±0.1 in. w.g.)
Air Pressure (space)	±3 Pa (±0.01 in. w.g.)
Water Pressure	±2% of full scale (see Note 2)
Electrical	±1% of reading (see Note 3)
Carbon Monoxide (CO)	±5% of reading
Carbon Dioxide (CO2)	±50 ppm

Note 1: Accuracy applies to 10%–100% of scale

Note 2: For both absolute and differential pressure

Note 3: Not including utility-supplied meters

Table 2
Control Stability and Accuracy

Controlled Variable	Control Accuracy	Range of Medium
Air Pressure	±50 Pa (±0.2 in. w.g.) ±3 Pa (±0.01 in. w.g.)	0–1.5 kPa (0–6 in. w.g.) -25 to 25 Pa (-0.1 to 0.1 in. w.g.)
Airflow	±10% of full scale	
Space Temperature	±1.0ºC (±2.0ºF)	
Duct Temperature	±1.5ºC (±3ºF)	
Humidity	±5% RH	
Fluid Pressure	±10 kPa (±1.5 psi) ±250 Pa (±1.0 in. w.g.)	MPa (1–150 psi) 0–12.5 kPa (0–50 in. w.g.) differential

1.08 Submittals

A. Product Data and Shop Drawings: Meet requirements of Section 01 30 00 on Shop Drawings, Product Data, and Samples. In addition, the contractor shall provide shop drawings or other submittals on hardware, software, and equipment to be installed or provided. No work may begin on any segment of this project until submittals have been approved for conformity with design intent. Provide drawings as AutoCAD compatible files on magnetic or optical disk (file format: .DWG, .DXF, .VSD, or comparable) and three 11" x 17" prints of each drawing. When manufacturer's cutsheets apply to a product series rather than a specific product, the data specifically applicable to the project shall be highlighted or clearly indicated by other means. Each submitted piece of literature and drawing shall clearly reference the specification and/or drawing that the submittal is to cover. General catalogs shall not be accepted as cutsheets to fulfill submittal requirements. Select and show submittal quantities appropriate to scope of work. Submittal approval does not relieve Contractor of responsibility to supply sufficient quantities to complete work. Submittals shall be provided within 12 weeks of contract award. Submittals shall include:

1. DDC System Hardware
    a. A complete bill of materials to be used indicating quantity, manufacturer, model number, and relevant technical data of equipment to be used.
    b. Manufacturer's description and technical data such as performance curves, product specifications, and installation and maintenance instructions for items listed below and for relevant items not listed below:
        i. Direct digital controllers (controller panels)
        ii. Transducers and transmitters
        iii. Sensors (including accuracy data)
        iv. Actuators
        v. Valves
        vi. Relays and switches
        vii. Control panels
        viii. Power supplies
        ix. Batteries
        x. Operator interface equipment
        xi. Wiring
    c. Wiring diagrams and layouts for each control panel. Show termination numbers.
    d. Schematic diagrams for all field sensors and controllers. Provide floor plans of all sensor locations and control hardware. Riser diagrams showing control network layout, communication protocol, and wire types.
2. Central System Hardware and Software
    a. A complete bill of material of equipment used indicating quantity, manufacturer, model number, and relevant technical.
    b. Manufacturer's description and technical data such as product specifications and installation and maintenance instructions for items listed below and for relevant items furnished under this contract not listed below:
        i. Central Processing Unit (CPU) or web server
        ii. Monitors
        iii. Keyboards
        iv. Power supplies
        v. Battery backups
        vi. Interface equipment between CPU or server and control panels

vii. Operating System software
viii. Operator interface software
ix. Color graphic software
x. Third-party software

c. Schematic diagrams for all control, communication, and power wiring. Provide a schematic drawing of the central system installation. Label all cables and ports with computer manufacturers' model numbers and functions. Show interface wiring to control system.

d. Network riser diagrams of wiring between central control unit and control panels.

3. Controlled Systems

a. Riser diagrams showing control network layout, communication protocol, and wire types.

b. A schematic diagram of each controlled system. The schematics shall have all control points labeled with point names shown or listed. The schematics shall graphically show the location of all control elements in the system.

c. A schematic wiring diagram of each controlled system. Label control elements and terminals. Where a control element is also shown on control system schematic, use the same name.

d. An instrumentation list (Bill of Materials) for each controlled system. List each control system element in a table. Show element name, type of device, manufacturer, model number, and product data sheet number.

e. A mounting, wiring, and routing plan-view drawing. The design shall take into account HVAC, electrical, and other systems' design and elevation requirements. The drawing shall show the specific location of all concrete pads and bases and any special wall bracing for panels to accommodate this work.

f. A complete description of the operation of the control system, including sequences of operation. The description shall include and reference a schematic diagram of the controlled system.

g. A point list for each control system. List I/O points and software points specified in Section 23 09 93. Indicate alarmed and trended points.

4. Quantities of items submitted shall be reviewed but are the responsibility of the Contractor.

5. A description of the proposed process along with all report formats and checklists to be used in Section 23 09 23 Article3.16(Control System Demonstration and Acceptance).

6. BACnet Protocol Implementation Conformance Statement (PICS) for each submitted type of controller and operator interface.

B. Schedules

1. Within one month of contract award, provide a schedule of the work indicating the following:

a. Intended sequence of work items

b. Start date of each work item

c. Duration of each work item

d. Planned delivery dates for ordered material and equipment and expected lead times

e. Milestones indicating possible restraints on work by other trades or situations

2. Monthly written status reports indicating work completed and revisions to expected delivery dates. Include updated schedule of work.

C. Project Record Documents. Upon completion of installation, submit three copies of record (as-built) documents. The documents shall be submitted for approval prior to final completion and shall include:

1. Project Record Drawings. As-built versions of submittal shop drawings provided as AutoCAD compatible files on magnetic or optical media (file format: .DWG, .DXF, .VSD, or comparable) and as 11" x 17" prints.
2. Testing and Commissioning Reports and Checklists. Completed versions of reports, checklists, and trend logs used to meet requirements of Section 23 09 23 Article3.16(Control System Demonstration and Acceptance).
3. Operation and Maintenance (O&M) Manual.
4. As-built versions of submittal product data.
5. Names, addresses, and telephone numbers of installing contractors and service representatives for equipment and control systems.
6. Operator's manual with procedures for operating control systems: logging on and off, handling alarms, producing point reports, trending data, overriding computer control, and changing setpoints and variables.
7. Programming manual or set of manuals with description of programming language and syntax, of statements for algorithms and calculations used, of point database creation and modification, of program creation and modification, and of editor use.
8. Engineering, installation, and maintenance manual or set of manuals that explains how to design and install new points, panels, and other hardware; how to perform preventive maintenance and calibration; how to debug hardware problems; and how to repair or replace hardware.
9. Documentation of programs created using custom programming language including setpoints, tuning parameters, and object database. Electronic copies of programs shall meet this requirement if control logic, setpoints, tuning parameters, and objects can be viewed using furnished programming tools.
10. Graphic files, programs, and database on magnetic or optical media.
11. List of recommended spare parts with part numbers and suppliers.
12. Complete original-issue documentation, installation, and maintenance information for furnished third-party hardware including computer equipment and sensors.
13. Complete original-issue copies of furnished software, including operating systems, custom programming language, operator workstation or web server software, and graphics software.
14. Licenses, guarantees, and warranty documents for equipment and systems.
15. Recommended preventive maintenance procedures for system components, including schedule of tasks such as inspection, cleaning, and calibration; time between tasks; and task descriptions.

D. Training Materials: Provide course outline and materials for each class at least six weeks before first class. Training shall be furnished via instructor-led sessions, computer-based training, or web-based training. Engineer will modify course outlines and materials if necessary to meet Owner's needs. Engineer will review and approve course outlines and materials at least three weeks before first class.

1.09 Warranty

A. Warrant work as follows:

1. Warrant labor and materials for specified control system free from defects for a period of 12 months after final acceptance. Control system failures during warranty period shall be adjusted, repaired, or replaced at no additional cost or reduction in service to Owner. Respond during normal business hours within 24 hours of Owner's warranty service request.
2. Work shall have a single warranty date, even if Owner receives beneficial use due to early system start-up. If specified work is split into multiple contracts or a multi-phase contract, each contract or phase shall have a separate warranty start date and period.
3. If the engineer determines that equipment and systems operate satisfactorily at the end of final start-up, testing, and commissioning phase, the engineer will certify in writing that control

system operation has been tested and accepted in accordance with the terms of this specification. Date of acceptance shall begin warranty period.

4. Provide updates to operator workstation or web server software, project-specific software, graphic software, database software, and firmware that resolve the contractor-identified software deficiencies at no charge during warranty period. If available, Owner can purchase in-warranty service agreement to receive upgrades for functional enhancements associated with above-mentioned items. Do not install updates or upgrades without Owner's written authorization.
5. Exception: Contractor shall not be required to warrant reused devices except those that have been rebuilt or repaired. Installation labor and materials shall be warranted. Demonstrate operable condition of reused devices at time of Engineer's acceptance.

1.10 Ownership of Proprietary Material

A. Project-specific software and documentation shall become Owner's property. This includes, but is not limited to:
   1. Graphics
   2. Record drawings
   3. Database
   4. Application programming code
   5. Documentation

1.11 Definitions

Term	Definition
BACnet Interoperability Building Blocks (BIBB)	A BIBB defines a small portion of BACnet functionality that is needed to perform a particular task. BIBBS are combined to build the BACnet functional requirements for a device in a specification.
BACnet/BACnet Standard	BACnet communication requirements as defined by the latest version of ASHRAE/ANSI 135 and approved addenda.
Control Systems Server	A computer(s) that maintain(s) the systems configuration and programming database.
Controller	Intelligent stand-alone control device. Controller is a generic reference to building controllers, custom application controllers, and application specific controllers.
Direct Digital Control	Microprocessor-based control including Analog/Digital conversion and program logic.
Gateway	Bi-directional protocol translator connecting control systems that use different communication protocols.
Local Area Network	Computer or control system communications network limited to local building or campus.
Master-Slave/Token Passing	Data link protocol as defined by the BACnet standard.
Point-to-Point	Serial communication as defined in the BACnet standard.
Primary Controlling LAN	High speed, peer-to-peer controller LAN connecting BCs and optionally AACs and ASCs. Refer to System Architecture below.
Protocol Implementation Conformance Statement	A written document that identifies the particular options specified by BACnet that are implemented in a device.
Router	A device that connects two or more networks at the network layer.
Wiring	Raceway, fittings, wire, boxes and related items.

2.01 Materials

A. Use new products the manufacturer is currently manufacturing and selling for use in new installations. Do not use this installation as a product test site unless explicitly approved in writing by Owner. Spare parts shall be available for at least five years after completion of this contract.

2.02 Communication

A. Control products, communication media, connectors, repeaters, hubs, and routers shall comprise a BACnet internetwork. Controller and operator interface communication shall conform to ANSI/ASHRAE Standard 135, BACnet.

B. Install new wiring and network devices as required to provide a complete and workable control network.

C. Each controller shall have a communication port for temporary connection to a laptop computer or other operator interface. Connection shall support memory downloads and other commissioning and troubleshooting operations.

D. Internetwork operator interface and value passing shall be transparent to internetwork architecture.

1. An operator interface connected to a controller shall allow the operator to interface with each internetwork controller as if directly connected. Controller information such as data, status, and control algorithms shall be viewable and editable from each internetwork controller.
2. Inputs, outputs, and control variables used to integrate control strategies across multiple controllers shall be readable by each controller on the internetwork. Program and test all cross-controller links required to execute control strategies specified in Section 23 09 93. An authorized operator shall be able to edit cross-controller links by typing a standard object address or by using a point-and-click interface.

E. Workstations, Building Control Panels, and Controllers with real-time clocks shall use the BACnet Time Synchronization service. System shall automatically synchronize system clocks daily from an operator-designated device via the internetwork. The system shall automatically adjust for daylight saving and standard time as applicable.

F. System shall be expandable to at least twice the required input and output objects with additional controllers, associated devices, and wiring.

2.03 Operator Interface

A. Operator Interface. Web server shall reside on high-speed network with building controllers. Each standard browser connected to server shall be able to access all system information. The Operator Workstation or server shall conform to the BACnet Operator Workstation (B-OWS) or BACnet Advanced Workstation (B-AWS) device profile as specified in ASHRAE/ANSI 135 BACnet Annex L.

B. Communication. Web server or workstation and controllers shall communicate using BACnet protocol. Web server or workstation and control network backbone shall communicate using ISO 8802-3 (Ethernet) Data Link/Physical layer protocol and BACnet/IP addressing as specified in ANSI/ASHRAE 135, BACnet Annex J.

C. Hardware.

1. Workstation or web server. Industry-standard hardware shall meet or exceed DDC system manufacturer’s recommended specifications and shall meet response times specified elsewhere in this document. The following hardware requirements also apply:
    a. The hard disk shall have sufficient memory to store:
        i. All required operator workstation software.
        ii. A DDC database at least twice the size of the delivered system database.
        iii. One year of trend data based on the points specified to be trended at their specified trend intervals.
    b. Provide additional hardware (communication ports, video drivers, network interface cards, cabling, etc.) to facilitate all control functions and software requirements specified for the DDC system.

c. Minimum hardware configuration shall include the following:
    i. Quad Core Processor
    ii. 8 GB RAM
    iii. 1 TB hard disk providing data at 3.0 Gb/sec
    iv. 16x DVD+/-RW drive
    v. Serial, parallel, and network communication ports and cables as required for proper DDC system operation

D. System Software.
1. Operating System. Web server or workstation shall have an industry-standard professional-grade operating system. Operating system shall meet or exceed the DDC System manufacturers minimum requirements for their software. Acceptable systems include Microsoft Windows 7 or 8, Microsoft Vista, Windows Server 2008 or 2012, Red Hat Enterprise Linux, or Ubuntu Desktop 12.04.
2. System Graphics. The operator interface software shall be graphically based and shall include at least one graphic per piece of equipment or occupied zone, graphics for each chilled water and hot water system, and graphics that summarize conditions on each floor of each building included in this contract.
    a. Functionality. Graphics shall allow operator to monitor system status, to view a summary of the most important data for each controlled zone or piece of equipment, to use point-and-click navigation between zones or equipment, and to edit setpoints and other specified parameters.
    b. Animation. Graphics shall be able to animate by displaying different image files for changed object status.
    c. Alarm Indication. Indicate areas or equipment in an alarm condition using color or other visual indicator.
    d. Format. Graphics shall be saved in an industry-standard format such as BMP, JPEG, PNG, or GIF. Web-based system graphics shall be viewable on browsers compatible with World Wide Web Consortium browser standards. Web graphic format shall require no plug-in or shall only require widely available no-cost plug-ins (such as Adobe Flash).
3. Custom Graphics. Custom graphic files shall be created with the use of a graphics generation package furnished with the system. The graphics generation package shall be a graphically based system that uses the mouse to create and modify graphics that are saved in the same formats as are used for system graphics.
4. Graphics Library. Furnish a complete library of standard HVAC equipment graphics such as chillers, boilers, air handlers, terminals, fan coils, and unit ventilators. This library also shall include standard symbols for other equipment including fans, pumps, coils, valves, piping, dampers, and ductwork. The library shall be furnished in a file format compatible with the graphics generation package program.

E. System Applications. System shall provide the following functionality to authorized operators as an integral part of the operator interface or as stand-alone software programs. If furnished as part of the interface, the tool shall be available from each workstation or web browser interface. If furnished as a stand-alone program, software shall be installable on standard IBM-compatible PCs with no limit on the number of copies that can be installed under the system license.
1. Automatic System Database Configuration. Each workstation or web server shall store on its hard disk a copy of the current system database, including controller firmware and software. Stored database shall be automatically updated with each system configuration or controller firmware or software change.
2. Manual Controller Memory Download. Operators shall be able to download memory from the system database to each controller.

3. System Configuration. The workstation software shall provide a method of configuring the system. This shall allow for future system changes or additions by users under proper password protection. Operators shall be able to configure the system.
4. On-Line Help. Provide a context-sensitive, on-line help system to assist the operator in operating and editing the system. On-line help shall be available for all applications and shall provide the relevant data for that particular screen. Additional help information shall be available through the use of hypertext.
5. Security. Each operator shall be required to log on to the system with user name and password in order to view, edit, add, or delete data.
    a. Operator Access. The user name and password combination shall define accessible viewing, editing, adding, and deleting privileges for that operator. Users with system administrator rights shall be able to create new users and edit the privileges of all existing users.
    b. Automatic Log Out. Automatically log out each operator if no keyboard or mouse activity is detected. This auto logoff time shall be user adjustable.
    c. Encrypted Security Data. Store system security data including operator passwords in an encrypted format. System shall not display operator passwords.
6. System Diagnostics. The system shall automatically monitor the operation of all building management panels and controllers. The failure of any device shall be annunciated to the operator.
7. Alarm Processing. System input and status objects shall be configurable to alarm on departing from and on returning to normal state. Operator shall be able to enable or disable each alarm and to configure alarm limits, alarm limit differentials, alarm states, and alarm reactions for each system object. Configure and enable alarm points as specified in Section 23 09 93 (Sequences of Operation). Alarms shall be BACnet alarm objects and shall use BACnet alarm services.
8. Alarm Messages. Alarm messages shall use the English language descriptor for the object in alarm in such a way that the operator will be able to recognize the source, location, and nature of the alarm without relying on acronyms or mnemonics.
9. Alarm Reactions. Operator shall be able to configure (by object) what, if any actions are to be taken during an alarm. As a minimum, the workstation or web server shall be able to log, print, start programs, display messages, send e-mail, send page, and audibly annunciate.
10. Alarm and Event log. Operators shall be able to view all system alarms and changes of state from any location in the system. Events shall be listed chronologically. An operator with the proper security level may acknowledge and delete alarms, and archive closed alarms to the workstation or web server hard disk.
11. Trend Logs. The operator shall be able to configure trend sample or change of value (COV) interval, start time, and stop time for each system data object and shall be able to retrieve data for use in spreadsheets and standard database programs. Controller shall sample and store trend data and shall be able to archive data to the hard disk. Configure trends as specified in Section 23 09 93 (Sequences of Operation). Trends shall be BACnet trend objects.
12. Object and Property Status and Control. Provide a method for the operator to view, and edit if applicable, the status of any object or property in the system. The status shall be available by menu, on graphics, or through custom programs.
13. Reports and Logs. Operator shall be able to select, to modify, to create, and to print reports and logs. Operator shall be able to store report data in a format accessible by standard spreadsheet and word processing programs.
14. Standard Reports. Furnish the following standard system reports:

a. Objects. System objects and current values filtered by object type, by status (in alarm, locked, normal), by equipment, by geographic location, or by combination of filter criteria.

b. Alarm Summary. Current alarms and closed alarms. System shall retain closed alarms for an adjustable period.

c. Logs. System shall log the following to a database or text file and shall retain data for an adjustable period:

i. Alarm History.

ii. Trend Data. Operator shall be able to select trends to be logged.

iii. Operator Activity. At a minimum, system shall log operator log in and log out, control parameter changes, schedule changes, and alarm acknowledgment and deletion. System shall date and time stamp logged activity.

F. Workstation Application Editors. Each PC or browser workstation shall support editing of all system applications. The applications shall be downloaded and executed at one or more of the controller panels.

1. Controller. Provide a full-screen editor for each type of application that shall allow the operator to view and change the configuration, name, control parameters, and set points for all controllers.

2. Scheduling. An editor for the scheduling application shall be provided at each workstation. Provide a method of selecting the desired schedule and schedule type. Exception schedules and holidays shall be shown clearly on the calendar. The start and stop times for each object shall be adjustable from this interface.

3. Custom Application Programming. Provide the tools to create, edit, debug, and download custom programs. System shall be fully operable while custom programs are edited, compiled, and downloaded. Programming language shall have the following features:

a. Language. Language shall be graphically based or English language oriented. If graphically based, language shall use function blocks arranged in a logic diagram that clearly shows control logic flow. Function blocks shall directly provide functions listed below, and operators shall be able to create custom or compound function blocks. If English language oriented, language shall be based on thesyntax of BASIC, FORTRAN, C, or PASCAL, and shall allow for free-form programming that is not column-oriented or "fill-in-the-blanks."

b. A full-screen character editor programming environment shall be provided. The editor shall be cursor/mouse-driven and allow the user to insert, add, modify, and delete custom programming code. It also shall incorporate features such as cut/ paste and find.

c. The programming language shall allow independently executing program modules to be developed. Each module shall be able to independently enable and disable other modules.

d. The editor/programming environment shall have a debugging/simulation capability that allows the user to step through the program and observe any intermediate values and/or results.

e. The programming language shall support conditional statements (IF/THEN/ELSE/ ELSE-IF) using compound Boolean (AND, OR, and NOT) and/or relations (EQUAL, LESS THAN, GREATER THAN, NOT EQUAL) comparisons.

f. The programming language shall support floating-point arithmetic using the following operators: +, , ÷, ×, and square root. The following mathematical functions also shall be provided: absolute value and minimum/maximum value.

g. The programming language shall have predefined variables that represent time of day, day of the week, month of the year, and the date. Other predefined variables

shall provide elapsed time in seconds, minutes, hours, and days. These elapsed time variables shall be able to be reset by the language so that interval-timing functions can be stopped and started within a program. Values from all of the above variables shall be readable by the language so that they can be used in a program for such purposes as IF/ THEN comparisons, calculations, etc.

h. The language shall be able to read the values of the variables and use them in programming statement logic, comparisons, and calculations.

i. The programming language shall have predefined variables representing the status and results of the system software and shall be able to enable, disable, and change the setpoints of the system software described below.

G. Portable Operator's Terminal. Provide all necessary software to configure an IBM-compatible laptop computer for use as a Portable Operator's Terminal. Operator shall be able to connect configured Terminal to the system network or directly to each controller for programming, setting up, and troubleshooting.

2.04 Controller Software

A. Furnish the following applications for building and energy management. All software application shall reside and operate in the system controllers. Applications shall be editable through operator workstation, web browser interface, or engineering workstation.

B. System Security. See Paragraph 2.3.E.5 (Security) and Paragraph 2.3.E.14.c.iii (Operator Activity).

C. Scheduling. Provide the capability to execute control functions according to a user created or edited schedule. Each schedule shall provide the following schedule options as a minimum:

1. Weekly Schedule. Provide separate schedules for each day of the week. Each schedule shall be able to include up to 5 occupied periods (5 start-stop pairs or 10 events).

2. Exception Schedules. Provide the ability for the operator to designate any day of the year as an exception schedule. Exception schedules may be defined up to a year in advance. Once an exception schedule has executed, the system shall discard and replace the exception schedule with the standard schedule for that day of the week.

3. Holiday Schedules. Provide the capability for the operator to define up to 24 special or holiday schedules. These schedules will be repeated each year. The operator shall be able to define the length of each holiday period.

D. System Coordination. Operator shall be able to group related equipment based on function and location and to use these groups for scheduling and other applications.

E. Binary Alarms. Each binary object shall have the capability to be configured to alarm based on the operator-specified state. Provide the capability to automatically and manually disable alarming.

F. Analog Alarms. Each analog object shall have both high and low alarm limits. The operator shall be able to enable or disable these alarms.

G. Alarm Reporting. The operator shall be able to determine the action to be taken in the event of an alarm. An alarm shall be able to start programs, print, be logged in the event log, generate custom messages, and display on graphics.

H. Remote Communication. System shall automatically contact operator workstation or server on receipt of critical alarms. If no network connection is available, system shall use a modem connection.

I. Demand Limiting.

1. The demand-limiting program shall monitor building power consumption from a building power meter (provided by others) which generates pulse signals or a BACnet communications interface. An acceptable alternative is for the system to monitor a watt transducer or current transformer attached to the building feeder lines.

2. When power consumption exceeds adjustable levels, system shall automatically adjust setpoints, de-energize low-priority equipment, and take other programmatic actions to

reduce demand as specified in Section 23 09 93 (Sequences of Operation). When demand drops below adjustable levels, system shall restore loads as specified.

J. Maintenance Management. The system shall be capable of generating maintenance alarms when equipment exceeds adjustable runtime, equipment starts, or performance limits. Configure and enable maintenance alarms as specified in 23 09 93 (Sequences of Operation).

K. Sequencing. Application software shall sequence chillers, boilers, and pumps as specified in Section 23 09 93 (Sequences of Operation).

L. PID Control. System shall provide direct- and reverse-acting PID (proportional-integral-derivative) algorithms. Each algorithm shall have anti-windup and selectable controlled variable, setpoint, and PID gains. Each algorithm shall calculate a time-varying analog value that can be used to position an output or tostage a series of outputs. The calculation interval, PID gains, and other tuning parameters shall be adjustable by a user with the correct security level.

M. Staggered Start. System shall stagger controlled equipment restart after power outage. Operator shall be able to adjust equipment restart order and time delay between equipment restarts.

N. Energy Calculations.

1. The system shall accumulate and convert instantaneous power (kW) or flow rates (L/s [gpm]) to energy usage data.
2. The system shall calculate a sliding-window average (rolling average). Operator shall be able to adjust window interval to 15 minutes, 30 minutes, or 60 minutes.

O. Anti-Short Cycling. All binary output objects shall be protected from short cycling by means of adjustable minimum on-time and off-time settings.

P. On and Off Control with Differential. Provide an algorithm that allows a binary output to be cycled based on a controlled variable and a setpoint. The algorithm shall be direct-acting or reverse-acting.

Q. Runtime Totalization. Provide software to totalize runtime for each binary input and output. Operator shall be able to enable runtime alarm based on exceeded adjustable runtime limit. Configure and enable runtime totalization and alarms as specified in Section 23 09 93 (Sequence of Operations).

2.05 Controllers

A. General. Provide an adequate number of Building Controllers (BC), Advanced Application Controllers (AAC), Application Specific Controllers (ASC), Smart Actuators (SA), and Smart Sensors (SS) as required to achieve performance specified in Section 23 09 23 Article 1.9 (System Performance). Every device in the system which executes control logic and directly controls HVAC equipment must conform to a standard BACnet Device profile as specified in ANSI/ASHRAE 135, BACnet Annex L. Unless otherwise specified, hardwired actuators and sensors may be used in lieu of BACnet Smart Actuators and Smart Sensors.

B. BACnet.

1. Building Controllers (BCs). Each BC shall conform to BACnet Building Controller (B-BC) device profile as specified in ANSI/ASHRAE 135, BACnet Annex L, and shall be listed as a certified B-BC in the BACnet Testing Laboratories (BTL) Product Listing.
2. Advanced Application Controllers (AACs). Each AAC shall conform to BACnet Advanced Application Controller (B-AAC) device profile as specified in ANSI/ASHRAE 135, BACnet Annex L and shall be listed as a certified B-AAC in the BACnet Testing Laboratories (BTL) Product Listing.
3. Application Specific Controllers (ASCs). Each ASC shall conform to BACnet Application Specific Controller (B-ASC) device profile as specified in ANSI/ASHRAE 135, BACnet Annex L and shall be listed as a certified B-ASC in the BACnet Testing Laboratories (BTL) Product Listing.
4. Smart Sensors (SSs). Each SS shall conform to BACnet Smart Sensor (B-SS) device profile as specified in ANSI/ASHRAE 135, BACnet Annex L and shall be listed as a certified B-SS in the BACnet Testing Laboratories (BTL) Product Listing.
5. BACnet Communication.

a. Each BC shall reside on or be connected to a BACnet network using ISO 8802-3 (Ethernet) Data Link/Physical layer protocol and BACnet/IP addressing.
b. BACnet routing shall be performed by BCs or other BACnet device routers as necessary to connect BCs to networks of AACs and ASCs.
c. Each AAC shall reside on a BACnet network using ISO 8802-3 (Ethernet) Data Link/Physical layer protocol with BACnet/IP addressing, or it shall reside on a BACnet network using the ARCNET or MS/TP Data Link/Physical layer protocol.
d. Each ASC shall reside on a BACnet network using the ARCNET or MS/TP Data Link/Physical layer protocol.
e. Each SA shall reside on a BACnet network using the ARCNET or MS/TP Data Link/Physical layer protocol.
f. Each SS shall reside on a BACnet network using ISO 8802-3 (Ethernet) Data Link/Physical layer protocol with BACnet/IP addressing, or it shall reside on a BACnet network using ARCNET or MS/TP Data Link/Physical layer protocol.

C. Communication
1. Service Port. Each controller shall provide a service communication port for connection to a Portable Operator's Terminal. Connection shall be extended to space temperature sensor ports where shown on drawings.
2. Signal Management. BC and ASC operating systems shall manage input and output communication signals to allow distributed controllers to share real and virtual object information and to allow for central monitoring and alarms.
3. Data Sharing. Each BC and AAC shall share data as required with each networked BC and AAC.
4. Stand-Alone Operation. Each piece of equipment specified in Section 23 09 93 shall be controlled by a single controller to provide stand-alone control in the event of communication failure. All I/O points specified for a piece of equipment shall be integral to its controller. Provide stable and reliable stand-alone control using default values or other method for values normally read over the network such as outdoor air conditions, supply air or water temperature coming from source equipment, etc.

D. Environment. Controller hardware shall be suitable for anticipated ambient conditions.
1. Controllers used outdoors or in wet ambient conditions shall be mounted in waterproof enclosures and shall be rated for operation at -29°C to 60°C (-20°F to 140°F).
2. Controllers used in conditioned space shall be mounted in dust-protective enclosures and shall be rated for operation at 0°C to 50°C (32°F to 120°F).

E. Keypad. Provide a local keypad and display for each BC and AAC. Operator shall be able to use keypad to view and edit data. Keypad and display shall require password to prevent unauthorized use. If the manufacturer does not normally provide a keypad and display for each BC and AAC, provide the software and any interface cabling needed to use a laptop computer as a Portable Operator's Terminal for the system.

F. Real-Time Clock. Controllers that perform scheduling shall have a real-time clock.

G. Serviceability. Provide diagnostic LEDs for power, communication, and processor. All wiring connections shall be made to a field-removable modular terminal strip or to a termination card connected by a ribbon cable. Each BC and AAC shall continually check its processor and memory circuit status and shall generate an alarm on abnormal operation. System shall continuously check controller network and generate alarm for each controller that fails to respond.

H. Memory.
1. Controller memory shall support operating system, database, and programming requirements.
2. Each BC and AAC shall retain BIOS and application programming for at least 72 hours in the event of power loss.

3. Each ASC and SA shall use nonvolatile memory and shall retain BIOS and application programming in the event of power loss. System shall automatically download dynamic control parameters following power loss.

I. Immunity to Power and Noise. Controllers shall be able to operate at 90% to 110% of nominal voltage rating and shall perform an orderly shutdown below 80% nominal voltage. Operation shall be protected against electrical noise of 5 to 120 Hz and from keyed radios up to 5 W at 1 m (3 ft).

J. Transformer. ASC power supply shall be fused or current limiting and shall be rated at a minimum of 125% of ASC power consumption.

2.06 Input and Output Interface

A. General. Hard-wire input and output points to BCs, AACs, ASCs, or SAs.

B. Protection. All input points and output points shall be protected such that shorting of the point to itself, to another point, or to ground shall cause no damage to the controller. All input and output points shall be protected from voltage up to 24 V of any duration, such that contact with this voltage will cause no controller damage.

C. Binary Inputs. Binary inputs shall allow the monitoring of ON/OFF signals from remote devices. The binary inputs shall provide a wetting current of at least 12 mA to be compatible with commonly available control devices and shall be protected against contact bounce and noise. Binary inputs shall sense dry contact closure without application of power external to the controller.

D. Pulse Accumulation Inputs. Pulse accumulation inputs shall conform to binary input requirements and shall also accumulate up to 10 pulses per second.

E. Analog Inputs. Analog inputs shall allow the monitoring of low-voltage (0–10 Vdc), current (4–20 mA), or resistance (thermistor or RTD) signals. Analog inputs shall be compatible with and field configurable to commonly available sensing devices.

F. Binary Outputs. Binary outputs shall provide for ON/OFF operation or a pulsed low-voltage signal for pulse width modulation control. Binary outputs on Building Controllers shall have three-position (on-off-auto) override switches and status lights. Outputs shall be selectable for normally open or normally closed operation.

G. Analog Outputs. Analog outputs shall provide a modulating signal for the control of end devices. Outputs shall provide either a 0–10 Vdc or a 4–20 mA signal as required to properly control output devices. Each Building Controller analog output shall have a two-position (auto-manual) switch, a manually adjustable potentiometer, and status lights. Analog outputs shall not drift more than 0.4% of range annually.

H. Tri-State Outputs. Control three-point floating electronic actuators without feedback with tri-state outputs (two coordinated binary outputs). Tri-State outputs may be used to provide analog output control in zone control and terminal unit control applications such as VAV terminal units, duct-mounted heating coils, and zone dampers.

I. Universal Inputs and Outputs. Inputs and outputs that can be designated as either binary or analog in software shall conform to the provisions of this section that are appropriate for their designated use.

J. System Object Capacity. The system size shall be expandable to at least twice the number of input/output objects required for this project. Additional controllers (along with associated devices and wiring) shall be all that is necessary to achieve this capacity requirement. The operator interfaces installed for this project shall not require any hardware additions or software revisions in order to expand the system

2.07 Power Supplies and Line Filtering

A. Power Supplies. Control transformers shall be UL listed. Furnish Class 2 current-limiting type or furnish over-current protection in primary and secondary circuits for Class 2 service in accordance with NEC requirements. Limit connected loads to 80% of rated capacity.

1. DC power supply output shall match output current and voltage requirements. Unit shall be full-wave rectifier type with output ripple of 5.0 mV maximum peak-to-peak. Regulation shall be 1.0% line and load combined, with 100-microsecond response time for 50% load

changes. Unit shall have built-in over-voltage and over-current protection and shall be able to withstand 150% current overload for at least three seconds without trip-out or failure.

a. Unit shall operate between 0°C and 50°C (32°F and 120°F). EM/RF shall meet FCC Class B and VDE 0871 for Class B and MILSTD 810C for shock and vibration.

b. Line voltage units shall be UL recognized and CSA listed.

B. Power Line Filtering.

1. Provide internal or external transient voltage and surge suppression for workstations and controllers. Surge protection shall have:

a. Dielectric strength of 1000 V minimum

b. Response time of 10 nanoseconds or less

c. Transverse mode noise attenuation of 65 dB or greater

d. Common mode noise attenuation of 150 dB or greater at 40–100 Hz

2.08 Auxiliary Control Devices

A. Motorized Control Dampers, unless otherwise specified elsewhere, shall be as follow.

1. Type. Control dampers shall be the parallel or opposed-blade type as specified below or as scheduled on drawings.

a. Outdoor and return air mixing dampers and face-and-bypass dampers shall be parallel-blade and shall direct airstreams toward each other.

b. Other modulating dampers shall be opposed-blade.

c. Two-position shutoff dampers shall be parallel- or opposed-blade with blade and side seals.

2. Frame. Damper frames shall be 2.38 mm (13 gauge) galvanized steel channel or 3.175 mm (⅛ in.) extruded aluminum with reinforced corner bracing.

3. Blades. Damper blades shall not exceed 20 cm (8 in.) in width or 125 cm (48 in.) in length. Blades shall be suitable for medium velocity (10 m/s [2000 fpm]) performance. Blades shall be not less than 1.5875 mm (16 gauge).

4. Shaft Bearings. Damper shaft bearings shall be as recommended by manufacturer for application, oil impregnated sintered bronze, or better.

5. Seals. Blade edges and frame top and bottom shall have replaceable seals of butyl rubber or neoprene. Side seals shall be spring-loaded stainless steel. Blade seals shall leak no more than 50 L/s·m^2 (10 cfm per ft^2) at 1000 Pa (4 in. w.g.) differential pressure. Blades shall be airfoil type suitable for wide-open face velocity of 7.5 m/s (1500 fpm).

6. Sections. Individual damper sections shall not exceed 125 cm × 150 cm (48 in. × 60 in.). Each section shall have at least one damper actuator.

7. Modulating dampers shall provide a linear flow characteristic where possible.

8. Linkages. Dampers shall have exposed linkages.

B. Electric Damper and Valve Actuators.

1. Stall Protection. Mechanical or electronic stall protection shall prevent actuator damage throughout the actuator’s rotation.

2. Spring-return Mechanism. Actuators used for power-failure and safety applications shall have an internal mechanical spring-return mechanism or an uninterruptible power supply (UPS).

3. Signal and Range. Proportional actuators shall accept a 0–10 Vdc or a 0–20 mA control signal and shall have a 2–10 Vdc or 4–20 mA operating range. (Floating motor actuators may be substituted for proportional actuators in terminal unit applications as described in paragraph 2.6H.)

4. Wiring. 24 Vac and 24 Vdc actuators shall operate on Class 2 wiring.

5. Manual Positioning. Operators shall be able to manually position each actuator when the actuator is not powered. Non-spring-return actuators shall have an external manual gear release. Spring-return actuators with more than 7 N·m (60 in.-lb) torque capacity shall have a manual crank.

C. Binary Temperature Devices.

1. Low-Voltage Space Thermostats. Low-voltage space thermostats shall be 24 V, bimetal-operated, mercury-switch type, with adjustable or fixed anticipation heater, concealed setpoint adjustment, 13°C–30°C (55°F–85°F) setpoint range, 1°C (2°F) maximum differential, and vented ABS plastic cover.
2. Line-Voltage Space Thermostats. Line-voltage space thermostats shall be bimetal-actuated, open-contact type or bellows-actuated, enclosed, snap-switch type or equivalent solid-state type, with heat anticipator, UL listing for electrical rating, concealed setpoint adjustment, 13°C–30°C (55°F–85°F) setpoint range, 1°C (2°F) maximum differential, and vented ABS plastic cover.
3. Low-Limit Thermostats. Low-limit airstream thermostats shall be UL listed, vapor pressure type. Element shall be at least 6 m (20 ft) long. Element shall sense temperature in each 30 cm (1 ft) section and shall respond to lowest sensed temperature. Low-limit thermostat shall be manual reset only.

D. Temperature Sensors.

1. Type. Temperature sensors shall be Resistance Temperature Device (RTD) or thermistor.
2. Duct Sensors. Duct sensors shall be single point or averaging as shown. Averaging sensors shall be a minimum of 1.5 m (5 ft) in length per 1 m^2(10 ft^2) of duct cross-section.
3. Space Sensors. Space sensors shall have setpoint adjustment, override switch, display, and communication port as shown.
4. Differential Sensors. Provide matched sensors for differential temperature measurement.

E. Relays.

1. Control Relays. Control relays shall be plug-in type, UL listed, and shall have dust cover and LED “energized” indicator. Contact rating, configuration, and coil voltage shall be suitable for application.
2. Time Delay Relays. Time delay relays shall be solid-state plug-in type, UL listed, and shall have adjustable time delay. Delay shall be adjustable ±100% from setpoint shown. Contact rating, configuration, and coil voltage shall be suitable for application. Provide NEMA 1 enclosure for relays not installed in local control panel.

F. Override Timers.

1. Unless implemented in control software, override timers shall be spring-wound line voltage, UL Listed, with contact rating and configuration required by application. Provide 0–6 hour calibrated dial unless otherwise specified. Flush mount timer on local control panel face or where shown.

G. Current Transmitters.

1. AC current transmitters shall be self-powered, combination split-core current transformer type with built-in rectifier and high-gain servo amplifier with 4–20 mA two-wire output. Full-scale unit ranges shall be 10 A, 20 A, 50 A, 100 A, 150 A, and 200 A, with internal zero and span adjustment. Unit accuracy shall be ±1% full-scale at 500 ohm maximum burden.
2. Transmitter shall meet or exceed ANSI/ISA S50.1 requirements and shall be UL/CSA recognized.
3. Unit shall be split-core type for clamp-on installation on existing wiring.

H. Current Transformers.

1. AC current transformers shall be UL/CSA recognized and shall be completely encased (except for terminals) in approved plastic material.

2. Transformers shall be available in various current ratios and shall be selected for ±1% accuracy at 5 A full-scale output.
3. Use fixed-core transformers for new wiring installation and split-core transformers for existing wiring installation.

I. Voltage Transmitters.
1. AC voltage transmitters shall be self-powered single-loop (two-wire) type, 4–20 mA output with zero and span adjustment.
2. Adjustable full-scale unit ranges shall be 100–130 Vac, 200–250 Vac, 250–330 Vac, and 400–600 Vac. Unit accuracy shall be ±1% full-scale at 500 ohm maximum burden.
3. Transmitters shall meet or exceed ANSI/ISA S50.1 requirements and shall be UL/CSA recognized at 600 Vac rating.

J. Voltage Transformers.
1. AC voltage transformers shall be UL/CSA recognized, 600 Vac rated, and shall have built-in fuse protection.
2. Transformers shall be suitable for ambient temperatures of 4°C–55°C (40°F–130°F) and shall provide ±0.5% accuracy at 24 Vac and 5 VA load.
3. Windings (except for terminals) shall be completely enclosed with metal or plastic.

K. Current Switches.
1. Current-operated switches shall be self-powered, solid-state with adjustable trip current. Select switches to match application current and DDC system output requirements.

L. Differential Pressure Switches. Differential pressure switches (air or water service) shall be UL listed, SPDT snap-acting, pilot duty rated (125 VA minimum) and shall have scale range and differential suitable for intended application and NEMA 1 enclosure unless otherwise specified.

M. Pressure-Electric (PE) Switches.
1. Shall be metal or neoprene diaphragm actuated, operating pressure rated for 0–175 kPa (0–25 psig), with calibrated scale minimum setpoint range of 14–125 kPa (2–18 psig) minimum, UL listed.
2. Provide one- or two-stage switch action (SPDT, DPST, or DPDT) as required by application. Electrically rated for pilot duty service (125 VA minimum) and/or for motor control.
3. Switches shall be open type (panel-mounted) or enclosed type for remote installation. Enclosed type shall be NEMA 1 unless otherwise specified.
4. Each pneumatic signal line to PE switches shall have permanent indicating gauge.

N. Occupancy Sensors. Occupancy sensors shall utilize Passive Infrared (PIR) and/or Microphonic Passive technology to detect the presence of people within a room. Sensors shall be mounted as indicated on the approved drawings. The sensor output shall be accessible by any lighting and/or HVAC controller in the system. Occupancy sensors shall be capable of being powered from the lighting or HVAC control panel, as shown on the drawings. Occupancy sensor delay shall be software adjustable through the user interface and shall not require manual adjustment at the sensor.

O. Local Control Panels.
1. All indoor control cabinets shall be fully enclosed NEMA 1 construction with (hinged door) key-lock latch and removable subpanels. A single key shall be common to all field panels and subpanels.
2. Interconnections between internal and face-mounted devices shall be prewired with color-coded stranded conductors neatly installed in plastic troughs and/or tie-wrapped. Terminals for field connections shall be UL listed for 600 volt service, individually identified per control/interlock drawings, with adequate clearance for field wiring. Control terminations for field connection shall be individually identified per control drawings.

3. Provide ON/OFF power switch with overcurrent protection for control power sources to each local panel.
4.

2.09 Wiring and Raceways

A. General. Provide copper wiring, plenum cable, and raceways as specified in applicable sections of Division 26.

B. Insulated wire shall use copper conductors and shall be UL listed for 90°C (200°F) minimum service.

2.10 Fiber Optic Cable System

A. Optical Cable. Optical cables shall be duplex 900 mm tight-buffer construction designed for intra-building environments. Sheath shall be UL listed OFNP in accordance with NEC Article 770. Optical fiber shall meet the requirements of FDDI, ANSI X3T9.5 PMD for 62.5/125mm.

B. Connectors. Field terminate optical fibers with ST type connectors. Connectors shall have ceramic ferrules and metal bayonet latching bodies.

PART 3 - EXECUTION

3.01 Examination

A. The contractor shall inspect the site to verify that equipment may be installed as shown. Any discrepancies, conflicts, or omissions shall be reported to the engineer for resolution before rough-in work is started.

B. The contractor shall examine the drawings and specifications for other parts of the work. If head room or space conditions appear inadequate—or if any discrepancies occur between the plans and the contractor's work and the plans and the work of others—the contractor shall report these discrepancies to the engineer and shall obtain written instructions for any changes necessary to accommodate the contractor's work with the work of others. Any changes in the work covered by this specification made necessary by the failure or neglect of the contractor to report such discrepancies shall be made by—and at the expense of—this contractor.

3.02 Protection

A. The contractor shall protect all work and material from damage by his/her work or employees and shall be liable for all damage thus caused.

B. The contractor shall be responsible for his/her work and equipment until finally inspected, tested, and accepted. The contractor shall protect any material that is not immediately installed. The contractor shall close all open ends of work with temporary covers or plugs during storage and construction to prevent entry of foreign objects.

3.03 Coordination

A. Site

1. Where the mechanical work will be installed in close proximity to, or will interfere with, work of other trades, the contractor shall assist in working out space conditions to make a satisfactory adjustment. If the contractor installs his/her work before coordinating with other trades, so as to cause any interference with work of other trades, the contractor shall make the necessary changes in his/her work to correct the condition without extra charge.
2. Coordinate and schedule work with other work in the same area and with work dependent upon other work to facilitate mutual progress.

B. Submittals. See Section 23 09 23 Article 1.10 (Submittals).

C. Test and Balance.

1. The contractor shall furnish a single set of all tools necessary to interface to the control system for test and balance purposes.
2. The contractor shall provide training in the use of these tools. This training will be planned for a minimum of 4 hours.
3. In addition, the contractor shall provide a qualified technician to assist in the test and balance process, until the first 20 terminal units are balanced.
4. The tools used during the test and balance process will be returned at the completion of the testing and balancing.

D. Life Safety.

1. Duct smoke detectors required for air handler shutdown are provided under Division 28. Interlock smoke detectors to air handlers for shutdown as specified in Section 23 09 93 (Sequences of Operation).
2. Smoke dampers and actuators required for duct smoke isolation are provided under Division 23. Interlock smoke dampers to air handlers as specified in Section 23 09 93 (Sequences of Operation).
3. Fire and smoke dampers and actuators required for fire-rated walls are provided under Division 23. Fire and smoke damper control is provided under Division 28.

E. Coordination with controls specified in other sections or divisions. Other sections and/or divisions of this specification include controls and control devices that are to be part of or interfaced to the control

system specified in this section. These controls shall be integrated into the system and coordinated by the contractor as follows:

1. All communication media and equipment shall be provided as specified in Section 23 09 23 Article 2.2 (Communication).
2. Each supplier of a controls product is responsible for the configuration, programming, start up, and testing of that product to meet the sequences of operation described in Section 23 09 93.
3. The contractor shall coordinate and resolve any incompatibility issues that arise between control products provided under this section and those provided under other sections or divisions of this specification.
4. The contractor is responsible for providing all controls described in the contract documents regardless of where within the contract documents these controls are described.
5. The contractor is responsible for the interface of control products provided by multiple suppliers regardless of where this interface is described within the contract documents.

3.04 General Workmanship

A. Install equipment, piping, and wiring/raceway parallel to building lines (i.e. horizontal, vertical, and parallel to walls) wherever possible.

B. Provide sufficient slack and flexible connections to allow for vibration of piping and equipment.

C. Install equipment in readily accessible locations as defined by Chapter 1 Article 100 Part A of the National Electrical Code (NEC).

D. Verify integrity of all wiring to ensure continuity and freedom from shorts and grounds.

E. All equipment, installation, and wiring shall comply with industry specifications and standards for performance, reliability, and compatibility and be executed in strict adherence to local codes and standard practices.

3.05 Field Quality Control

A. All work, materials, and equipment shall comply with rules and regulations of applicable local, state, and federal codes and ordinances as identified in Section 23 09 23 Article 1.8 (Codes and Standards).

B. Contractor shall continually monitor the field installation for code compliance and quality of workmanship.

C. Contractor shall have work inspection by local and/or state authorities having jurisdiction over the work.

3.06 Wiring

A. All control and interlock wiring shall comply with national and local electrical codes, and Division 26 of this specification, Where the requirements of this section differ from Division 26, the requirements of this section shall take precedence.

B. All NEC Class 1 (line voltage) wiring shall be UL listed in approved raceway according to NEC and Division 26 requirements.

C. All low-voltage wiring shall meet NEC Class 2 requirements. Low-voltage power circuits shall be subfused when required to meet Class 2 current limit.

D. Where NEC Class 2 (current-limited) wires are in concealed and accessible locations, including ceiling return air plenums, approved cables not in raceway may be used provided that cables are UL listed for the intended application.

E. All wiring in mechanical, electrical, or service rooms – or where subject to mechanical damage – shall be installed in raceway at levels below 3 m (10ft).

F. Do not install Class 2 wiring in raceways containing Class 1 wiring. Boxes and panels containing high-voltage wiring and equipment may not be used for low-voltage wiring except for the purpose of interfacing the two (e.g. relays and transformers).

G. Do not install wiring in raceway containing tubing.

H. Where Class 2 wiring is run exposed, wiring is to be run parallel along a surface or perpendicular to it and neatly tied at 3 m (10 ft) intervals.

I. Where plenum cables are used without raceway, they shall be supported from or anchored to structural members. Cables shall not be supported by or anchored to ductwork, electrical raceways, piping, or ceiling suspension systems.

J. All wire-to-device connections shall be made at a terminal block or terminal strip. All wire-to-wire connections shall be at a terminal block.

K. All wiring within enclosures shall be neatly bundled and anchored to permit access and prevent restriction to devices and terminals.

L. Maximum allowable voltage for control wiring shall be 120 V. If only higher voltages are available, the contractor shall provide step-down transformers.

M. All wiring shall be installed as continuous lengths, with no splices permitted between termination points.

N. Install plenum wiring in sleeves where it passes through walls and floors. Maintain fire rating at all penetrations.

O. Size of raceway and size and type of wire type shall be the responsibility of the contractor in keeping with the manufacturer’s recommendations and NEC requirements, except as noted elsewhere.

P. Include one pull string in each raceway 2.5 cm (1 in.) or larger.

Q. Use color-coded conductors throughout with conductors of different colors.

R. Control and status relays are to be located in designated enclosures only. These enclosures include packaged equipment control panel enclosures unless they also contain Class 1 starters.

S. Conceal all raceways except within mechanical, electrical, or service rooms. Install raceway to maintain a minimum clearance of 15 cm (6 in.) from high-temperature equipment (e.g. steam pipes or flues).

T. Secure raceways with raceway clamps fastened to the structure and spaced according to code requirements. Raceways and pull boxes may not be hung on flexible duct strap or tie rods. Raceways may not be run on or attached to ductwork.

U. Adhere to this specification's Division 26 requirements where raceway crosses building expansion joints.

V. Install insulated bushings on all raceway ends and openings to enclosures. Seal top end of vertical raceways.

W. The contractor shall terminate all control and/or interlock wiring and shall maintain updated (as-built) wiring diagrams with terminations identified at the job site.

X. Flexible metal raceways and liquid-tight flexible metal raceways shall not exceed 1 m (3 ft) in length and shall be supported at each end. Flexible metal raceway less than ½ in. electrical trade size shall not be used. In areas exposed to moisture, including chiller and boiler rooms, liquid-tight, flexible metal raceways shall be used.

Y. Raceway must be rigidly installed, adequately supported, properly reamed at both ends, and left clean and free of obstructions. Raceway sections shall be joined with couplings (according to code). Terminations must be made with fittings at boxes, and ends not terminating in boxes shall have bushings installed.

3.07 Communication Wiring

A. The contractor shall adhere to the items listed in the "Wiring" article in Part 3 of the specification.

B. All cabling shall be installed in a neat and workmanlike manner. Follow manufacturer's installation recommendations for all communication cabling

C. Do not install communication wiring in raceways and enclosures containing Class 1 or other Class 2 wiring.

D. Maximum pulling, tension, and bend radius for the cable installation, as specified by the cable manufacturer, shall not be exceeded during installation.

E. Contractor shall verify the integrity of the entire network following cable installation. Use appropriate test measures for each particular cable.

F. When a cable enters or exits a building, a lightning arrestor must be installed between the lines and ground. The lighting arrestor shall be installed according to manufacturer’s instructions.

G. All runs of communication wiring shall be unspliced length when that length is commercially available.

H. All communication wiring shall be labeled to indicate origination and destination data.

I. Grounding of coaxial cable shall be in accordance with NEC regulations article on "Communications Circuits, Cable, and Protector Grounding."

J. BACnet MS/TP communications wiring shall be installed in accordance with ASHRAE/ANSI Standard 135. This includes but is not limited to:

1. The network shall use shielded, twisted-pair cable with characteristic impedance between 100 and 120 ohms. Distributed capacitance between conductors shall be less than 100 pF per meter (30 pF per foot.)
2. The maximum length of an MS/TP segment is 1200 meters (4000 ft) with AWG 18 cable. The use of greater distances and/or different wire gauges shall comply with the electrical specifications of EIA-485.
3. The maximum number of nodes per segment shall be 32, as specified in the EIA 485 standard. Additional nodes may be accommodated by the use of repeaters.
4. An MS/TP EIA-485 network shall have no T connections.

3.08 Fiber Optic Cable

A. Maximum pulling tensions as specified by the cable manufacturer shall not be exceeded during installation. Post-installation residual cable tension shall be within cable manufacturer's specifications.

B. All cabling and associated components shall be installed in accordance with manufacturers' instructions. Minimum cable and unjacketed fiber bend radii, as specified by cable manufacturer, shall be maintained.

3.09 Installation of Sensors

A. Install sensors in accordance with the manufacturer's recommendations.

B. Mount sensors rigidly and adequately for environment within which the sensor operates.

C. Room temperature sensors shall be installed on concealed junction boxes properly supported by wall framing.

D. All wires attached to sensors shall be sealed in their raceways or in the wall to stop air transmitted from other areas from affecting sensor readings.

E. Sensors used in mixing plenums and hot and cold decks shall be of the averaging type. Averaging sensors shall be installed in a serpentine manner vertically across the duct. Each bend shall be supported with a capillary clip.

F. Low-limit sensors used in mixing plenums shall be installed in a serpentine manner horizontally across duct. Each bend shall be supported with a capillary clip. Provide 3 m (1 ft) of sensing element for each 1 m^2(1 ft^2) of coil area.

G. Install outdoor air temperature sensors on north wall, complete with sun shield at designated location.

H. Differential Air Static Pressure.

1. Supply Duct Static Pressure. Pipe the high-pressure tap to the duct using a pitot tube. Pipe the low-pressure port to a tee in the high-pressure tap tubing of the corresponding building

static pressure sensor (if applicable) or to the location of the duct high-pressure tap and leave open to the plenum.

2. Return Duct Static Pressure. Pipe high-pressure tap to duct using a pitot tube. Pipe the low-pressure port to a tee in the low-pressure tap tubing of the corresponding building static pressure sensor.
3. Building Static Pressure. Pipe the low-pressure port of the pressure sensor to the static pressure port located on the outside of the building through a high-volume accumulator. Pipe the high-pressure port to a location behind a thermostat cover.
4. All air and water differential pressure sensors shall have gauge tees mounted adjacent to the taps.

I. Smoke detectors, freezestats, high-pressure cut-offs, and other safety switches shall be hard-wired to de-energize equipment as described in the sequence of operation. Switches shall require manual reset. Provide contacts that allow DDC software to monitor safety switch status.

3.10 Actuators

A. General. Mount and link control damper actuators according to manufacturer's instructions.

1. To compress seals when spring-return actuators are used on normally closed dampers, power actuator to approximately 5° open position, manually close the damper, and then tighten the linkage.
2. Check operation of damper/actuator combination to confirm that actuator modulates damper smoothly throughout stroke to both open and closed positions.
3. Provide all mounting hardware and linkages for actuator installation.

B. Electric/Electronic

1. Dampers: Actuators shall be direct mounted on damper shaft or jackshaft unless shown as a linkage installation. For low-leakage dampers with seals, the actuator shall be mounted with a minimum 5° travel available for tightening the damper seal. Actuators shall be mounted following manufacturer’s recommendations.
2. Valves: Actuators shall be connected to valves with adapters approved by the actuator manufacturer. Actuators and adapters shall be mounted following the actuator manufacturer's recommendations.

3.11 Warning Labels

A. Permanent warning labels shall be affixed to all equipment that can be automatically started by the control system.

1. Labels shall use white lettering (12-point type or larger) on a red background.
2. Warning labels shall read as follows.

C A U T I O N
This equipment is operating under automatic control and may start or stop at any time without warning. Switch disconnect to"Off"position before servicing.

B. Permanent warning labels shall be affixed to all motor starters and control panels that are connected to multiple power sources utilizing separate disconnects.

1. Labels shall use white lettering (12-point type or larger) on a red background.
2. Warning labels shall read as follows.

C A U T I O N
This equipment is fed from more than one power source with separate disconnects. Disconnect all power sources before servicing.

3.12 Identification of Hardware and Wiring

A. All wiring and cabling, including that within factory-fabricated panels shall be labeled at each end within 5 cm (2 in.) of termination with control system address or termination number.

B. All pneumatic tubing shall be labeled at each end within 5 cm (2 in.) of termination with a descriptive identifier.

C. Permanently label or code each point of field terminal strips to show the instrument or item served.

D. Identify control panels with minimum 1 cm (½ in.) letters on laminated plastic nameplates.

E. Identify all other control components with permanent labels. All plug-in components shall be labeled such that label removal of the component does not remove the label.

F. Identify room sensors related to terminal boxes or valves with nameplates.

G. Manufacturers' nameplates and UL or CSA labels shall be visible and legible after equipment is installed.

H. Identifiers shall match record documents.

3.13 Controllers

A. Provide a separate controller for each AHU or other HVAC system. A DDC controller may control more than one system provided that all points associated with the system are assigned to the same DDC controller. Points used for control loop reset, such as outside air or space temperature, are exempt from this requirement.

B. Building Controllers and Custom Application Controllers shall be selected to provide the required I/O point capacity required to monitor all of the hardware points listed in Section 23 09 93 (Sequences of Operation).

3.14 Programming

A. Provide sufficient internal memory for the specified sequences of operation and trend logging.

B. Point Naming. Name points as shown on the equipment points list provided with each sequence of operation. See Section 23 09 93 (Sequences of Operation). If character limitations or space restrictions make it advisable to shorten the name, the abbreviations given in Appendix B to Section 23 09 93 may be used. Where multiple points with the same name reside in the same controller, each point name may be customized with its associated Program Object number. For example, "Zone Temp 1" for Zone 1, "Zone Temp 2" for Zone 2.

C. Software Programming.

1. Provide programming for the system and adhere to the sequences of operation provided. All other system programming necessary for the operation of the system, but not specified in this document, also shall be provided by the contractor. Embed into the control program sufficient comment statements to clearly describe each section of the program. The comment statements shall reflect the language used in the sequences of operation. Use the appropriate technique based on the following programming types:

    a. Text-based:

        i. Must provide actions for all possible situations

        ii. Must be modular and structured

        iii. Must be commented

    b. Graphic-based:

        i. Must provide actions for all possible situations

        ii. Must be documented

    c. Parameter-based:

        i. Must provide actions for all possible situations

        ii. Must be documented.

D. Operator Interface.

1. Standard Graphics. Provide graphics for all mechanical systems and floor plans of the building. This includes each chilled water system, hot water system, chiller, boiler, air handler, and all terminal equipment. Point information on the graphic displays shall dynamically update. Show on each graphic all relevant input and output points for that equipment. Also show relevant calculated points such as setpoints. As a minimum, show on each equipment graphic the input and output points and relevant calculated points as indicated on the applicable Points List in Section 23 09 93.
2. The contractor shall provide all the labor necessary to install, initialize, start up, and troubleshoot all operator interface software and its functions as described in this section. This includes any operating system software, the operator interface database, and any third-party software installation and integration required for successful operation of the operator interface.

3.15 Control System Checkout and Testing

A. Startup Testing. All testing listed in this article shall be performed by the contractor and shall make up part of the necessary verification of an operating control system. This testing shall be completed before the owner's representative is notified of the system demonstration.

1. The contractor shall furnish all labor and test apparatus required to calibrate and prepare for service of all instruments, controls, and accessory equipment furnished under this specification.
2. Verify that all control wiring is properly connected and free of all shorts and ground faults. Verify that terminations are tight.
3. Enable the control systems and verify calibration of all input devices individually. Perform calibration procedures according to manufacturers' recommendations.
4. Verify that all binary output devices (relays, solenoid valves, two-position actuators and control valves, magnetic starters, etc.) operate properly and that the normal positions are correct.
5. Verify that all analog output devices (I/Ps, actuators, etc.) are functional, that start and span are correct, and that direction and normal positions are correct. The contractor shall check all control valves and automatic dampers to ensure proper action and closure. The contractor shall make any necessary adjustments to valve stem and damper blade travel.
6. Verify that the system operation adheres to the sequences of operation. Simulate and observe all modes of operation by overriding and varying inputs and schedules. Tune all DDC loops.
7. Alarms and Interlocks:
    a. Check each alarm separately by including an appropriate signal at a value that will trip the alarm.
    b. Interlocks shall be tripped using field contacts to check the logic, as well as to ensure that the fail-safe condition for all actuators is in the proper direction.
    c. Interlock actions shall be tested by simulating alarm conditions to check the initiating value of the variable and interlock action

3.16 Control System Demonstration and Acceptance

A. Demonstration.

1. Prior to acceptance, the control system shall undergo a series of performance tests to verify operation and compliance with this specification. These tests shall occur after the Contractor has completed the installation, started up the system, and performed his/her own tests.
2. The tests described in this section are to be performed in addition to the tests that the contractor performs as a necessary part of the installation, start-up, and debugging process and as specified in the "Control System Checkout and Testing" article in Part 3 of this specification. The engineer will be present to observe and review these tests. The engineer shall be notified at least 10 days in advance of the start of the testing procedures.

3. The demonstration process shall follow that approved in Part 1, "Submittals." The approved checklists and forms shall be completed for all systems as part of the demonstration.
4. The contractor shall provide at least two persons equipped with two-way communication and shall demonstrate actual field operation of each control and sensing point for all modes of operation including day, night, occupied, unoccupied, fire/smoke alarm, seasonal changeover, and power failure modes. The purpose is to demonstrate the calibration, response, and action of every point and system. Any test equipment required to prove the proper operation shall be provided by and operated by the contractor.
5. As each control input and output is checked, a log shall be completed showing the date, technician's initials, and any corrective action taken or needed.
6. Demonstrate compliance with Part 1, "System Performance."
7. Demonstrate compliance with sequences of operation through all modes of operation.
8. Demonstrate complete operation of operator interface.
9. Additionally, the following items shall be demonstrated:
    a. DDC loop response. The contractor shall supply trend data output in a graphical form showing the step response of each DDC loop. The test shall show the loop's response to a change in set point, which represents a change of actuator position of at least 25% of its full range. The sampling rate of the trend shall be from 10 seconds to 3 minutes, depending on the speed of the loop. The trend data shall show for each sample the set point, actuator position, and controlled variable values. Any loop that yields unreasonably under-damped or over-damped control shall require further tuning by the Contractor.
    b. Demand limiting. The contractor shall supply a trend data output showing the action of the demand limiting algorithm. The data shall document the action on a minute-by-minute basis over at least a 30-minute period. Included in the trend shall be building kW, demand limiting set point, and the status of sheddable equipment outputs.
    c. Optimum start/stop. The contractor shall supply a trend data output showing the capability of the algorithm. The change-of-value or change-of-state trends shall include the output status of all optimally started and stopped equipment, as well as temperature sensor inputs of affected areas.
    d. Interface to the building fire alarm system.
    e. Operational logs for each system that indicate all set points, operating points, valve positions, mode, and equipment status shall be submitted to the architect/engineer. These logs shall cover three 48-hour periods and have a sample frequency of not more than 10 minutes. The logs shall be provided in both printed and disk formats.
10. Any tests that fail to demonstrate the operation of the system shall be repeated at a later date. The contractor shall be responsible for any necessary repairs or revisions to the hardware or software to successfully complete all tests.

B. Acceptance.
1. All tests described in this specification shall have been performed to the satisfaction of both the engineer and owner prior to the acceptance of the control system as meeting the requirements of completion. Any tests that cannot be performed due to circumstances beyond the control of the contractor may be exempt from the completion requirements if stated as such in writing by the engineer. Such tests shall then be performed as part of the warranty.
2. The system shall not be accepted until all forms and checklists completed as part of the demonstration are submitted and approved as required in Part 1, "Submittals."

3.17 Cleaning

A. The contractor shall clean up all debris resulting from his/her activities daily. The contractor shall remove all cartons, containers, crates, etc., under his/her control as soon as their contents have been removed. Waste shall be collected and placed in a designated location.

B. At the completion of work in any area, the contractor shall clean all work, equipment, etc., keeping it free from dust, dirt, and debris, etc.

C. At the completion of work, all equipment furnished under this section shall be checked for paint damage, and any factory-finished paint that has been damaged shall be repaired to match the adjacent areas. Any cabinet or enclosure that has been deformed shall be replaced with new material and repainted to match the adjacent areas.

3.18 Training

A. Provide training for a designated staff of Owner's representatives. Training shall be provided via self-paced training, web-based or computer-based training, classroom training, or a combination of training methods.

B. Training shall enable students to accomplish the following objectives.

1. Day-to-day Operators:
    a. Proficiently operate the system
    b. Understand control system architecture and configuration
    c. Understand DDC system components
    d. Understand system operation, including DDC system control and optimizing routines (algorithms)
    e. Operate the workstation and peripherals
    f. Log on and off the system
    g. Access graphics, point reports, and logs
    h. Adjust and change system set points, time schedules, and holiday schedules
    i. Recognize malfunctions of the system by observation of the printed copy and graphical visual signals
    j. Understand system drawings and Operation and Maintenance manual
    k. Understand the job layout and location of control components
    l. Access data from DDC controllers and ASCs
    m. Operate portable operator's terminals
2. Advanced Operators:
    a. Make and change graphics on the workstation
    b. Create, delete, and modify alarms, including annunciation and routing of these
    c. Create, delete, and modify point trend logs and graph or print these both on an ad-hoc basis and at user-definable time intervals
    d. Create, delete, and modify reports
    e. Add, remove, and modify system's physical points
    f. Create, modify, and delete programming
    g. Add panels when required
    h. Add operator interface stations
    i. Create, delete, and modify system displays, both graphical and others
    j. Perform DDC system field checkout procedures
    k. Perform DDC controller unit operation and maintenance procedures
    l. Perform workstation and peripheral operation and maintenance procedures
    m. Perform DDC system diagnostic procedures

n. Configure hardware including PC boards, switches, communication, and I/O points
o. Maintain, calibrate, troubleshoot, diagnose, and repair hardware
p. Adjust, calibrate, and replace system components

3. System Managers/Administrators:
a. Maintain software and prepare backups
b. Interface with job-specific, third-party operator software
c. Add new users and understand password security procedures

C. Organize the training into sessions or modules for the three levels of operators listed above. (Day-to-Day Operators, Advanced Operators, System Managers and Administrators). Students will receive one or more of the training packages, depending on knowledge level required.

D. Provide course outline and materials according to the "Submittals" article in Part 1 of this specification. Provide one copy of training material per student.

E. The instructor(s) shall be factory-trained and experienced in presenting this material.

F. Classroom training shall be done using a network of working controllers representative of installed hardware.

3.19 Sequences of Operation

See Section 23, Appendix A (Sequences of Operation, With Points Lists).

3.20 Control Damper Installation

A. Damper submittals shall be coordinated for type, quantity, and size to ensure compatibility with sheet metal design.

B. Duct openings shall be free of any obstruction or irregularities that might interfere with blade or linkage rotation or actuator mounting. Duct openings shall measure ¼ in. larger than damper dimensions and shall be square, straight, and level.

C. Individual damper sections, as well as entire multiple section assemblies, must be completely square and free from racking, twisting, or bending. Measure diagonally from upper corners to opposite lower corners of each damper section. Both dimensions must be within 0.3 cm (1/8 in.) of each other.

D. Follow the manufacturer's instructions for field installation of control dampers. Unless specifically designed for vertical blade application, dampers must be mounted with blade axis horizontal.

E. Install extended shaft or jackshaft according to manufacturer’s instructions. (Typically, a sticker on the damper face shows recommended extended shaft location. Attach shaft on labeled side of damper to that blade.)

F. Damper blades, axles, and linkage must operate without binding. Before system operation, cycle damper after installation to ensure proper operation. On multiple section assemblies, all sections must open and close simultaneously.

G. Provide a visible and accessible indication of damper position on the drive shaft end.

H. Support ductwork in area of damper when required to prevent sagging due to damper weight.

I. After installation of low-leakage dampers with seals, caulk between frame and duct or opening to prevent leakage around perimeter of damper.

3.21 Duct Smoke Detection

A. Submit data for coordination of duct smoke detector interface to HVAC systems as required in Part 1, "Submittals."

B. This Contractor shall provide a dry-contact alarm output in the same room as the HVAC equipment to be controlled.

3.22 Start-Up and Checkout Procedures

A. Start up, check out, and test all hardware and software and verify communication between all components.

1. Verify that all control wiring is properly connected and free of all shorts and ground faults. Verify that terminations are tight.
2. Verify that all analog and binary input/output points read properly.
3. Verify alarms and interlocks.
4. Verify operation of the integrated system.

Section 23 09 93

Sequence of Operations for HVAC Controls

PART 1: GENERAL

1.01 Exhaust Fan - On/Off (Restroom Fans)

Run Conditions - Scheduled:
The fan shall run according to a user definable schedule.

Fan:
The fan shall have a user definable (adj.) minimum runtime.

Fan Status:
The controller shall monitor the fan status.

Alarms shall be provided as follows:

- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.
- Fan Runtime Exceeded: Fan status runtime exceeds a user definable limit (adj.).

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Fan Status			x						x		x
Fan Start/Stop				x					x		x
Schedule								x			
Fan Failure										x	
Fan in Hand										x	
Fan Runtime Exceeded										x	

1.02 Exhaust Fan - On/Off

Run Conditions -
The fan(s) EF-1 shall be run by on/off switch.

Fan Status:
The controller shall monitor the fan status.

Alarms shall be provided as follows:

- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Fan Status			x						x		x
Fan Start/Stop				x					x		x
Fan Failure										x	
Fan in Hand										x	

1.03 DX SPLIT SYSTEM (TWO STAGES COOLING/HEATING)

Run Conditions - Scheduled:
The unit shall run according to a user definable time schedule in the following modes:

- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.

- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Emergency Shutdown:
The unit shall shut down and generate an alarm upon receiving an emergency shutdown signal.

Supply Air Smoke Detection:
The unit shall shut down and generate an alarm upon receiving a supply air smoke detector status.

Supply Fan:
The supply fan shall run anytime the unit is commanded to run, unless shutdown on safeties. To prevent short cycling, the supply fan shall have a user definable (adj.) minimum runtime.

Alarms shall be provided as follows:

- Supply Fan Failure: Commanded on, but the status is off.
- Supply Fan in Hand: Commanded off, but the status is on.

Cooling Stages:
The controller shall measure the zone temperature and stage the cooling to maintain its cooling setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The cooling shall be enabled whenever:

- Outside air temperature is greater than 60°F (adj.).
- AND the zone temperature is above cooling setpoint.
- AND the supply fan status is on.
- AND the heating is not active.

Electric Heating Stages:
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the zone temperature is below heating setpoint.
- AND the supply fan status is on.
- AND the cooling is not active.

Minimum Outside Air Ventilation - Fixed Percentage:
Interlock motorized damper with associated air handling unit. Damper shall be in closed position when unit is deactivate.

Filter Differential Pressure Monitor:
The controller shall monitor the differential pressure across the prefilter.

Alarms shall be provided as follows:

- Filter Change Required: Filter differential pressure exceeds a user definable limit (adj.).

Supply Air Temperature:
The controller shall monitor the supply air temperature.

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Filter Differential Pressure	x								x		
Supply Air Temp	x								x		x
Zone Setpoint Adjust	x										x
Zone Temp	x								x		x
Supply Air Smoke Detector			x						x	x	x
Supply Fan Status			x						x		x
Zone Override			x						x		x

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Cooling Stage 1				x					x		x
Cooling Stage 2				x					x		x
Heating Stage 1				x					x		x
Heating Stage 2				x					x		x
Outside Air Damper				x							x
Supply Fan Start/Stop				x					x		x
Cooling Setpoint					x				x		x
Heating Setpoint					x				x		x
Emergency Shutdown						x				x	x
Schedule								x			
filter Change Required										x	x
Supply Fan Failure										x	
Supply Fan in Hand										x	

1.04 DX SPLIT SYSTEM (SINGLE STAGE COOLING/HEATING)

Run Conditions - Scheduled:
The unit shall run according to a user definable time schedule in the following modes:

- Occupied Mode: The unit shall maintain
  - A 75°F (adj.) cooling setpoint
  - A 70°F (adj.) heating setpoint.

- Unoccupied Mode (night setback): The unit shall maintain
  - A 85°F (adj.) cooling setpoint.
  - A 55°F (adj.) heating setpoint.

Zone Setpoint Adjust:
The occupant shall be able to adjust the zone temperature heating and cooling setpoints at the zone sensor.

Zone Optimal Start:
The unit shall use an optimal start algorithm for morning start-up. This algorithm shall minimize the unoccupied warm-up or cool-down period while still achieving comfort conditions by the start of scheduled occupied period.

Zone Unoccupied Override:
A timed local override control shall allow an occupant to override the schedule and place the unit into an occupied mode for an adjustable period of time. At the expiration of this time, control of the unit shall automatically return to the schedule.

Emergency Shutdown:
The unit shall shut down and generate an alarm upon receiving an emergency shutdown signal.

Supply Air Smoke Detection:
The unit shall shut down and generate an alarm upon receiving a supply air smoke detector status.

Supply Fan:
The supply fan shall run anytime the unit is commanded to run, unless shutdown on safeties. To prevent short cycling, the supply fan shall have a user definable (adj.) minimum runtime.

Alarms shall be provided as follows:

- Supply Fan Failure: Commanded on, but the status is off.
- Supply Fan in Hand: Commanded off, but the status is on.
- Supply Fan Runtime Exceeded: Status runtime exceeds a user definable limit (adj.).

Cooling Stages:
The controller shall measure the zone temperature and stage the cooling to maintain its cooling setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The cooling shall be enabled whenever:

- Outside air temperature is greater than 60°F (adj.).
- AND the zone temperature is above cooling setpoint.
- AND the supply fan status is on.
- AND the heating is not active.

Electric Heating Stages:
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, there shall be a user definable (adj.) delay between stages, and each stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

- Outside air temperature is less than 65°F (adj.).
- AND the zone temperature is below heating setpoint.
- AND the supply fan status is on.
- AND the cooling is not active.

Minimum Outside Air Ventilation - Fixed Percentage:
Interlock motorized damper with associated air handling unit. Damper shall be in closed position when unit is deactivate.

Filter Differential Pressure Monitor:
The controller shall monitor the differential pressure across the filter.

Alarms shall be provided as follows:

- Filter Change Required: Filter differential pressure exceeds a user definable limit (adj.).

Supply Air Temperature:
The controller shall monitor the supply air temperature.

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Filter Differential Pressure	x								x		
Supply Air Temp	x								x		x
Zone Setpoint Adjust	x										x
Zone Temp	x								x		x
Supply Air Smoke Detector			x						x	x	x
Supply Fan Status			x						x		x

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Zone Override			x						x		x
Cooling Stage 1				x					x		x
Heating Stage 1				x					x		x
Outside Air Damper				x							x
Supply Fan Start/Stop				x					x		x
Cooling Setpoint					x				x		x
Heating Setpoint					x				x		x
Emergency Shutdown						x				x	x
Schedule								x			
Filter Change Required										x	x
Supply Fan Failure										x	
Supply Fan in Hand										x	

1.05 Unit Heater

Run Conditions - Continuous:
The unit shall run continuously and shall maintain a heating setpoint of 70°F (adj.).

Alarms shall be provided as follows:

- Low Zone Temp: If the zone temperature is less than the heating setpoint by a user definable amount (adj.).

Fan:
The fan shall run anytime the zone temperature drops below heating setpoint, unless shutdown on safeties.

Electric Heating Stage:
The controller shall measure the zone temperature and stage the heating to maintain its heating setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime.

The heating shall be enabled whenever:

- AND the zone temperature is below heating setpoint.
- AND the fan is on.

Discharge Air Temperature:
The controller shall monitor the discharge air temperature.

Fan Status:
The controller shall monitor the fan status.

Alarms shall be provided as follows:

- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Discharge Air Temp	x								x		x
Zone Temp	x								x		x
Fan Status			x						x		x
Fan Start/Stop				x					x		x
Heating Stage 1				x					x		x

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Heating Setpoint					x				x		x
Fan Failure										x	
Fan in Hand										x	

1.06 Ductless Split System (Cooling Only) (typical of 1)

Run Conditions - Continuous:
The unit shall run continuously and shall maintain:

- A 75°F (adj.) cooling setpoint.
- A 70°F (adj.) heating setpoint.

Alarms shall be provided as follows:

- High Zone Temp: If the zone temperature is greater than the cooling setpoint by a user definable amount (adj.).

Emergency Shutdown:
The unit shall shut down and generate an alarm upon receiving an emergency shutdown signal.

Fan:
The fan shall run anytime the unit is commanded to run, unless shutdown on safeties.

Cooling Stage:
The controller shall measure the zone temperature and stage the cooling to maintain its cooling setpoint. To prevent short cycling, the stage shall have a user definable (adj.) minimum runtime.

The cooling shall be enabled whenever:

- AND the zone temperature is above cooling setpoint.
- AND the fan is on.

Fan Status:
The controller shall monitor the fan status.

Alarms shall be provided as follows:

- Fan Failure: Commanded on, but the status is off.
- Fan in Hand: Commanded off, but the status is on.

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Discharge Air Temp	x								x		x
Zone Temp	x								x		x
Fan Status			x								x
Cooling Stage 1				x					x		x

	Hardware Points				Software Points						
Point Name	**AI**	**AO**	**BI**	**BO**	**AV**	**BV**	**Loop**	**Sched**	**Trend**	**Alarm**	**Show On Graphic**
Fan Start/Stop				x					x		x
Cooling Setpoint					x				x		x
Heating Setpoint					x				x		x
Emergency Shutdown						x			x	x	x
Fan Failure										x	
Fan in Hand										x	
High Zone Temp										x	

APPENDIX A: Glossary of Terms

Terms used within the Specification Text:

- **Advanced Application Controller (AAC):**

A fully programmable control module. This control module may be capable of some of the advanced features found in Building Controllers (storing trends, initiating read and write requests, etc.) but it does not serve as a master controller. Advanced Application Controllers may reside on either the Ethernet/IP backbone or on a subnet.

- **Application Specific Controller (ASC):**

A pre-programmed control module which is intended for use in a specific application. ASCs may be configurable, in that the user can choose between various pre-programmed options, but it does not support full custom programming. ASCs are often used on terminal equipment such as VAV boxes or fan coil units. In many vendors' architectures ASCs do not store trends or schedules but instead rely upon a Building Controller to provide those functions.

- **BACnet/IP:**

An approved BACnet network type which uses an Ethernet carrier and IP addressing.

- **BACnet MS/TP:**

  An approved BACnet network type which uses a Master-Slave Token Passing configuration. MS/TP networks are unique to BACnet and utilize EIA485 twisted pair topology running at 9600 to 76,800 bps.

- **BACnet over ARCNET:**

  An approved BACnet network type which uses an ARCNET (attached resource computer network) carrier. ARCNET is an industry standard that can utilize several speeds and wiring standards. The most common configuration used by BACnet controllers is an EIA485 twisted pair topology running at 156,000 bps.

- **Building Controller (BC):**

  A fully programmable control module which is capable of storing trends and schedules, serving as a router to devices on a subnet, and initiating read and write requests to other controllers. Typically this controller is located on the Ethernet/IP backbone of the BAS. In many vendors' architectures a Building Controller will serve as a master controller, storing schedules and trends for controllers on a subnet underneath the Building Controller.

- **Direct Digital Control (DDC):**

  A control system in which a digital computer or microprocessor is directly connected to the valves, dampers, and other actuators which control the system, as opposed to indirectly controlling a system by resetting setpoints on an analog pneumatic or electronic controller.

- **PICS - Protocol Implementation Conformance Statement:**

  A written document, created by the manufacturer of a device, which identifies the particular options specified by BACnet that are implemented in the device.

- **Smart Actuator (SA):**

  An actuator which is controlled by a network connection rather than a binary or analog signal. (0-10v, 4-20mA, relay, etc.)

- **Smart Sensor (SS):**

  A sensor which provides information to the BAS via network connection rather than a binary or analog signal. (0-10000 ohm, 4-20mA, dry contact, etc.)

- **Web services:**

  Web services are a standard method of exchanging data between computer systems using the XML (extensible markup language) and SOAP (simple object access protocol) standards. Web services can be used at any level within a Building Automation System (BAS), but most commonly they are used to transfer data between BAS using different protocols or between a BAS and a non-BAS system such as a tenant billing system or a utility management system.

Terms used within the Sequences of Operation:

- **adj.**
  Adjustable by the end user, through the supplied user interface.
- **AI, AO, etc. (Column Headings on Points List)**

  AI = Analog Input. A physical input to the control module.
  AO = Analog Output. A physical output from the control module.
  AV = Analog Value. An intermediate (software) point that may be editable or read-only. Editable AVs are typically used to allow the user to set a fixed control parameter, such as a setpoint. Read Only AVs are typically used to display the status of a control operation.
  BI = Binary Input. A physical input to the control module.
  BO = Binary Output. A physical output from the control module.
  BV = Binary Value. An intermediate (software) point that may be editable or read-only. Editable BVs are typically used to allow the user to set a fixed control parameter, such as a setpoint. Read Only BVs are typically used to display the status of a control operation.
  Loop = A control loop. Most commonly a PID control loop. Typically a control loop will include a setpoint, an input which is compared to the setpoint, and an output which controls some action based upon the difference between the input and the setpoint. A PID control loop will also include gains for the proportional, integral, and derivative response as well as an interval which controls how frequently the control loop updates its output. These gains may be adjustable by the end user for control loop "tuning," but in self-tuning control loops or loops which have been optimized for a specific application the gains may not be adjustable.
  Sched = Schedule. The control algorithm for this equipment shall include a user editable schedule.
  Trend. The control system shall be configured to collect and display a trend log of this object. The trending interval shall be no less than one sample every 5 minutes. (Change of Value trending, where a sample is taken every time the value changes by more than a user-defined minimum, is an acceptable alternative.)
  Alarm. The control system shall be configured to generate an alarm when this object exceeds user definable limits, as described in the Sequence of Controls.

Note: If the specifications require use of the BACnet protocol, all of the above shall be provided as BACnet objects.

- **KW Demand Limiting: ***

  An energy management strategy that reduces energy consumption when a system's electric power meter exceeds an operator-defined threshold.

  When power consumption exceeds defined levels, the system automatically adjust setpoints, de-energizes low priority equipment, and takes other pre-programmed actions to avoid peak demand charges. As the demand drops, the system restores loads in a predetermined manner.

- **Occupant Override Switch, or Timed Local Override:**

  A control option that allows building occupants to override the programmed HVAC schedule for a limited period of time.

  When the override time expires, the zone returns to its unoccupied state.

- **Occupant Setpoint Adjustment:**

  A control option that allows building occupants to adjust - within limits set by the HVAC control system - the heating and cooling setpoints of selected zones. Typically the user interface for this function is built into the zone sensor.

- **Optimal Start-Up: ***

  A control strategy that automatically starts an HVAC system at the latest possible time yet ensures comfort conditions by the time the building becomes occupied.

  In a typical implementation, a controller measures the temperature of the zone and the outside air. Then, using design heating or cooling capacity at the design outside air temperature, the system computes how long a unit must run at maximum capacity to bring the zone temperature to its occupied setpoint.

  The optimal start algorithm often includes a self-learning feature to adjust for variations from design capacity.

  A distributed system must use Run on Request with Optimal Start. (See below.)

- **Requested, or Run on Request: ***

  A control strategy that optimizes the runtime of a source piece of equipment that supplies one or more receiving units - such as an air handler unit supplying zone terminal units with heating, cooling, ventilation, or similar service. Source equipment runs only when needed, not on a fixed schedule.

  The source equipment runs when one or more receiving units request its services. An operator determines how many requests are required to start the source equipment.

  For example, if all the zones in a building are unoccupied and the zone terminal units do not need heating or cooling, the AHU will shut down. However, if a zone becomes occupied or needs cooling, the terminal unit will send a run request to the AHU to initiate the start-up sequence. If this AHU depends on a central chiller, it can send a run request to the chiller.

  The run on request algorithm also allows an operator to schedule occupancy for individual zones based on the needs of the occupants without having to adjust the schedules of related AHUs and chillers.

- **Trim and Respond, or Setpoint Optimization: ***

A control strategy that optimizes the setpoint of a source piece of equipment that supplies one or more receiving units - such as an air handler unit supplying zone terminal units with heating, cooling, ventilation, or similar service.

The source unit communicates with receiving units to determine heating, cooling, and other requirements, and then adjusts its setpoint.

For example, if all zones are comfortable and do not request cooling, the AHU will gradually increase (trim) its supply air setpoint. When a zone requests cooling, the AHU responds by dropping its setpoint. The more zones that request cooling, the more it drops the setpoint. The AHU repeats this process throughout the day to keep zones cool, but with a supply air setpoint that is no cooler than necessary.

Contracting Terms:

- **Furnished or Provided:**

  The act of supplying a device or piece of equipment as required meeting the scope of work specified and making that device or equipment operational. All costs required to furnish the specified device or equipment and make it operational are borne by the division specified to be responsible for providing the device or equipment.

- **Install or Installed:**

  The physical act of mounting, piping or wiring a device or piece of equipment in accordance with the manufacturer's instructions and the scope of work as specified. All costs required to complete the installation are borne by the division specified to include labor and any ancillary materials.

- **Interface:**

  The physical device required to provide integration capabilities from an equipment vendor's product to the control system. The equipment vendor most normally furnishes the interface device. An example of an interface is the chilled water temperature reset interface card provided by the chiller manufacturer in order to allow the control system to integrate the chilled water temperature reset function into the control system.

- **Integrate:**

  The physical connections from a control system to all specified equipment through an interface as required to allow the specified control and monitoring functions of the equipment to be performed via the control system.

APPENDIX B: Abbreviations

The following abbreviations may be used in graphics, schematics, point names, and other UI applications where space is at a premium.

AC - Air Conditioning
ACU - Air Conditioning Unit
AHU - Air Handling Unit
AI - Analog Input
AO - Analog Output
AUTO - Automatic
AUX - Auxiliary
BI - Binary Input
BO - Binary Output
C - Common
CHW - Chilled Water
CHWP - Chilled Water Pump
CHWR - Chilled Water Return
CHWS - Chilled Water Supply
COND - Condenser
CW - Condenser Water
CWP - Condenser Water Pump
CWR - Condenser Water Return
CWS - Condenser Water Supply
DA - Discharge Air
EA - Exhaust Air
EF - Exhaust Fan
EVAP - Evaporators
FCU - Fan Coil Unit
HOA - Hand / Off / Auto
HP - Heat Pump
HRU - Heat Recovery Unit
HTEX - Heat Exchanger
HW - Hot Water
HWP - Hot Water Pump
HWR - Hot Water Return
HWS - Hot Water Supply
MAX - Maximum
MIN - Minimum
MISC - Miscellaneous
NC - Normally Closed
NO - Normally Open
OA - Outdoor Air
PIU - Powered Induction Unit
RA - Return Air
RF - Return Fan
RH - Relative Humidity
RTU - Roof-top Unit
SA - Supply Air
SF - Supply Fan
SP - Static Pressure
TEMP - Temperature
UH - Unit Heater
UV - Unit Ventilator
VAV - Variable Air Volume
VVTU - Variable Volume Terminal Unit
W/ - with

W/O - without
WSHP - Water Source Heat Pump

SECTION 23 21 13
ABOVE GROUND HYDRONIC PIPING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 - Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 WORK INCLUDED

A. Pipe and pipe fittings.

B. Valves.

C. Condensate drain piping.

1.03 RELATED WORK

A. Section 23 05 29 – Hangers and Supports for Piping and Equipment HVAC.

B. Section 23 05 48 – Vibration and Seismic Controls for HVAC Piping and Equipment.

C. Section 23 05 53 – Identification for HVAC Piping and Equipment.

D. Section 23 07 19 – HVAC Piping Insulation.

E. Section 23 21 19 – Hydronic Specialties.

1.04 REFERENCES

A. ANSI/ASME Sec 9 - Welding and Brazing Qualifications.

B. ANSI/ASME B16.3 - Malleable Iron Threaded Fittings Class 150 and 300.

C. ANSI/ASME B31.9 - Building Services Piping.

D. ANSI/AWS A5.8 - Brazing Filler Metal.

E. ANSI/AWWA C110 - Ductile-Iron and Gray-Iron Fittings 3 in. through 48 in., for Water and Other Liquids.

F. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.

G. ASTM A120 - Pipe, Steel, Black and Hot-Dipped Zinc Coated (Galvanized), Welded and Seamless, for Ordinary Uses.

H. ASTM B32 - Solder Metal.

I. ASTM B88 - Seamless Copper Water Tube.

1.05 REGULATORY REQUIREMENTS

A. Conform to ANSI/ASME B31.9.

1.06 QUALITY ASSURANCE

A. **Foreign made pipes, valves and fittings will not be acceptable.**

B. Valves: Manufacturer's name and pressure rating marked on valve body.

C. Welding Materials and Procedures: Conform to ANSI/ASME SEC 9. and applicable state labor regulations.

D. Welder’s Certification: In accordance with ANSI/ASME SEC 9.

1.07 SUBMITTALS

A. Submit product data under provisions of Division One.

B. Include data on pipe materials, pipe fittings, valves, and accessories.

C. Include welder’s certification of compliance with ANSI/ASME SEC 9.

1.08 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to site under provisions of Division One.

B. Store and protect products under provisions of Division One.

C. Deliver and store valves in shipping containers with labeling in place.

PART 2 - PRODUCTS

2.01 EQUIPMENT DRAINS AND OVERFLOWS

A. Steel Pipe: ASTM A53 or A120, Schedule 40 galvanized.

1. Fittings: Galvanized cast iron, or ANSI/ASTM B16.3 malleable iron.
2. Joints: Screwed, or grooved mechanical couplings.

2.02 FLANGES, UNIONS, AND COUPLINGS

A. Pipe Size 2 Inches and Under: 150 psig malleable iron unions for threaded ferrous piping; bronze unions for copper pipe, soldered joints.

B. Pipe Size Over 2 Inches: 150 psig forged steel slip-on flanges for ferrous piping; bronze flanges for copper piping; 1/16 inch thick preformed neoprene bonded gasket.

C. Grooved mechanical pipe couplings, fittings, valves and other grooved components may be used as an option to welding, threading or flanged methods. All grooved components shall be of one manufacturer, and conform to local code approval and/or is listed by ANSI-B-31.1, B-31.3, B-31.9, ASME, UL/ULC. FM, IAPMO or BOCA. Grooved end manufacturer to be ISO-9001 certified. Grooved couplings shall meet the requirements of ASTM F-1476. Manufacturer shall be Victaulic or approved equal. Can be utilized only in mechanical rooms or cooling tower areas.

PART 3 - EXECUTION

3.01 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt on inside and outside before assembly.

C. Prepare piping connections to equipment with flanges or unions.

D. After completion, fill, clean, and treat systems.

E. Provide extended necks for all vents, thermometer wells, pressure gauge wells, pet cocks and pete's plugs.

3.02 INSTALLATION

A. Route piping in orderly manner, plumb and parallel to building structure, and maintain gradient.

B. Install piping to conserve building space, and not interfere with use of space and other work.

C. Group piping whenever practical at common elevations.

D. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment. Refer to Section 23 05 16.

E. Provide clearance for installation of insulation, and access to valves and fittings.

F. Provide access where valves and fittings are not exposed. Coordinate size and location of access doors with Division 8.

G. Slope piping and arrange systems to drain at low points. Use eccentric reducers to maintain top of pipe level.

H. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welds.

I. Prepare pipe, fittings, supports, and accessories for finish painting. Refer to Division 9.

J. Install valves with stems upright or horizontal, not inverted.

K. All grooved components (couplings, fittings, valves, gaskets, and specialties) shall be of one manufacturer.

L. Grooved manufacturer shall provide on-site training for contractor's field personnel by a factory trained representative in the proper use of grooving tools, application of groove, and the product installation. Factory trained representative shall periodically visit the job site and inspect installation. Contractor shall remove and replace any improperly installed products.

3.03 APPLICATION

A. Use grooved mechanical couplings and fasteners only in accessible locations.

B. Install unions downstream of valves, and at equipment or apparatus connections.

C. Install brass male adapters each side of valves in copper piped system. Sweat solder adapters to pipe.

D. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.

E. Install plug valves for throttling, bypass, or manual flow control services.

F. Provide spring loaded check valves on discharge of condenser and chilled water pumps.

G. Use plug cocks for throttling service. Use non-lubricated plug cocks only when shut-off or isolating valves are also provided.

H. Use only butterfly valves in condenser water systems for throttling and isolation service.

I. Use lug end butterfly valves to isolate equipment.

J. Provide chain operated butterfly valve for installations at 12 feet or higher.

K. Provide 3/4 inch ball (drain) valves equal to Nibco T-585-70-HC at main shut-off valves, low points of piping, bases of vertical risers, and at equipment and pipe to nearest drain.

L. Provide automatic air vents at all high points and air pockets in the system.

3.04 CONDENSATE DRAIN PIPING

A. Drain piping from each unit shall be extended to the nearest floor drain or condensate drainage system. Drains shall be of the size indicated but not less than the full size of the drain pan connections.

B. Use plugged tees in lieu of elbows.

C. Pipe shall be Schedule 40 galvanized with malleable iron screwed or type "L" copper fittings.

D. Slope all drain lines 1/8" per foot, minimum.

E. Provide auxiliary drain pan on all AHU's above ceiling with auxiliary drain line routed to discharge in visually prominent area. Discharge location shall be coordinated with Architect.

3.05 PIPE FABRICATION AND INSTALLATION

A. All pipes shall be cut accurately to measurements established at the site and shall be worked into place without springing or forcing.

B. Piping layout and installation shall be made in the most advantageous manner possible with respect to headroom, valve access, opening and equipment clearance, and clearance from other work. Particular attention shall be given to piping in the vicinity of equipment; layout shall be made in such manner as to preserve maximum access to the various equipment parts for maintenance.

C. All changes in directions shall be made with fittings; field bending and mitering of pipe is prohibited.

D. Air vents and air chambers shall be installed as hereinafter specified.

3.06 OFFSETS AND FITTINGS

A. Due to the small scale of the Drawings, it is not possible to indicate all offsets, fittings, etc. which may be required. The Contractor shall carefully investigate structural and finish conditions affecting the Work, and shall take such steps as may be required to meet such conditions at no additional cost to the Owner.

B. All piping shall be installed close to walls, ceilings and columns, (consistent with the proper space for covering, removal of pipe and special clearances), so as to occupy the minimum of space, and all offsets, fittings, etc., required shall be provided at no additional cost to the Owner.

3.07 SECURING AND SUPPORTING

A. All piping shall be adequately supported to line and grade, with due provisions for expansion and contraction.

B. Piping shall be supported on approved clevis type, split ring, or trapeze type hangers properly connected to the structural members of the building.

C. All insulated piping shall be fitted with suitable steel protection saddles.

D. Perforated bar hangers, straps, wire or chains will not be permitted.

3.08 ISOLATION VALVES

A. All piping systems shall be provided with line size shut-off valves located at risers, at branch connections to mains, and at other locations as indicated and required.

3.09 TESTING OF PIPING SYSTEMS

A. During the progress of the Work and upon completion, tests shall be made as specified herein and as required by Authorities Having Jurisdiction, including Inspectors, Owner or Engineer. The Engineer or duly authorized Construction Inspector shall be notified in writing at least 2 working days prior to each test or other Specification requirement which requires action on the part of the Construction Inspector.

B. Tests shall be conducted as part of this Work and shall include all necessary instruments, equipment, apparatus, and service as required to perform the tests with qualified personnel. Submit proposed test procedures, recording forms, and test equipment for approval prior to the execution of testing.

C. Tests shall be performed before piping of various systems have been covered or furred-in. For insulated piping systems, testing shall be accomplished prior to the application of any insulation.

D. All piping systems shall be tested and proved absolutely tight for a period of not less than 2 hours at a pressure of 150 psi(g) or 150% of design pressure, whichever is greater. Tests shall be witnessed by the Engineer or an authorized representative and pronounced satisfactory before pressure is removed or any water drawn off.

E. Leaks, damage or defects discovered or resulting from test shall be repaired or replaced to a like new condition. Leaking pipe joints, or defective pipe, shall be removed and

replaced with acceptable materials. Test shall be repeated after repairs are completed and shall continue until such time as the entire test period expires without the discovery of any leaks, damage, or defects.

F. Wherever conditions permit, each piping system shall thereafter be subjected to its normal operating pressure and temperature for a period of no less than five 5 days. During that period, it shall be kept under the most careful observation. The piping systems must demonstrate the propriety of their installation by remaining absolutely tight during this period.

3.10 PIPE CLEANING, FLUSHING AND PURGING REQUIREMENTS AND PROCEDURES

The hydronic system shall be flushed and purged by contractor:
a. All mains, branches and zones shall be cleaned and treated per steps indicated below.
b. Owner/Engineer shall be given 72 hour notice prior to each step being performed.

A. Pre-flush requirements: Purpose is to get system ready for flushing and purging:

a. Piping must pass all required pressure testing and visual inspection for leaks.
b. All pumps shall be tested for rotation and properly aligned and lubricated.
c. Chemicals planning on being used must have certificate of assurance and product cut sheets presented to the owner/engineer prior to being used. All chemicals must: be approved by the state prior to being added to the system, FDA approved and meet ASTM-1384. Automotive grade chemicals are not allowed.
d. Bypass all terminal units and coils by connecting the supply and return piping together.
e. Fill entire system with clean fresh potable water.

B. The flush requirements: Purpose is to completely remove all debris, dirt and air from hydronic system.

a. Add system cleaner that contains detergent and emulsifying agents to properly remove grease, grime and other debris for steel pipe. Volume of cleaner used shall be about 10% of total volume.
b. System shall be circulated for a minimum of 48 hours with water velocities of a minimum of 5 ft/sec or greater. After completed all strainers shall be removed and cleaned thoroughly. House pumps are acceptable to circulate water.
c. The system shall be entirely drained and flushed out to remove all of the cleaner from the system as quickly as possible after cleaning to prevent debris from settling. All strainers shall be removed and thoroughly cleaned after no more dirt and cleaner is visible in the flushing water as it leaves the system.

C. Final fill:

a. All air vents shall be opened to allow air to escape during filling.
b. Reconnect all flex connections to equipment.
c. System shall be drained and filled with a local domestic/softened water mixture as required by chemical treatment supplier. System shall be filled with pressure reducing valve at the specified fill pressure.

D. Purging: Purpose is to remove all air from the system:

a. System shall be circulated for a minimum of one hour with water velocities of a minimum of 5 ft/sec or greater until all visible air is removed.

E. Final chemical addition: Purpose is to install chemicals during inhibitor as required:

a. After the above final fill and purging has been completed and accepted by the engineer/owner the final chemical addition can be done.
b. Chemical treatment shall be added to the system after thoroughly mixing water according to the manufacturer recommendations. Chemical treatment shall include inhibitors. Quantities and concentrations of inhibitor/chemicals should be applied according to manufacturer specifications and approval submittals.
c. System water shall be tested for chemical inhibitor concentrations, reserve alkalinity and PH. Reports shall be submitted to engineer/owner.
d. All records and documentation shall be kept and given to the owner upon completion.

END OF SECTION

SECTION 23 23 00
REFRIGERANT PIPING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 – Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 SCOPE

Scope of the Work shall include the furnishing and complete installation of the equipment covered by this Section, with all auxiliaries, ready for Owner's use.

PART 2 - PRODUCTS

2.01 GENERAL

Provide for the systems as shown. Submit shop drawings of piping systems showing all traps, pipe sizes, and accessories; drawing to be marked "Approved", and signed by a representative of the Application Engineering Department of the condensing unit manufacturer. Pipe sizes shall be as recommended by unit manufacturer. Refer to piping schematic on Drawings.

2.02 MATERIAL

A. PIPE: Copper ACR hard-drawn tubing.

B. FITTINGS: Wrought copper streamlined sweat fitting.

C. SOLDER: Sil-Fos; except on valves use solder recommended by valve manufacturer.

2.03 ACCESSORIES

All accessories shall be UL listed and rated in accordance with ARI Standard 710.

A. On systems 7-1/2 tons and larger, each separate refrigerant circuit shall have a separate filter dryer. Each filter dryer shall have a replaceable core and a three valve bypass. The filter drier shall be full line size and installed in the refrigerant liquid line. The filter shall have a minimum 4-3/4 inches diameter shell with removable flange and gasket. Flange shall be tapped for 1/4 inch FPT access valve. Size filter-drier for maximum 2.0 psi pressure drop at evaporator operating temperature. Similar to Mueller Brass Company model Drymaster micro-guard refillable filter series SD-485 through SD19217 or Sporlan catch-all.

B. On systems less than 7-1/2 tons, the filter dryer shall be the sealed type; sizes as above. One drier per refrigerant circuit.

C. Liquid-Moisture Indicator shall be installed in liquid refrigerant line; full line size similar to Mueller Brass Company model "Vuemaster" with soldered ends.

D. Thermostatic expansion valve shall have adjustable super heat and be as manufactured by Sporlan.

2.04 EVACUATION

Evacuate moisture completely by applying a commercial vacuum pump for a minimum of 24 hours. Moisture indicator shall indicate a completely moisture-free condition at time of final inspection. The vacuum pump shall run until the system indicates a maximum of 35 degrees FDB. The system shall be flushed with the operating refrigerant and the vacuum pump connected and rerun to repeat the evacuation. Evaluation shall be performed under supervision of the Engineer.

2.05 REFRIGERANT AND OIL

A. Contractor shall leave the refrigeration system with a full charge of refrigerant and oil and shall be responsible for the maintenance of a full charge of refrigerant and oil in the systems for a period of one year from date of Substantial Completion.

B. Should any leaks in the refrigeration system occur during the guarantee period, the Contractor shall eliminate such leaks and recharge system to a full charge of refrigerant and oil at no cost to the Owner.

PART 3 - EXECUTION

3.01 All equipment and piping shall be installed in accordance with the manufacturer's recommendations and printed installation instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the Drawings or in the Specifications. Provide all items required as per manufacturer's requirements.

END OF SECTION

SECTION 23 31 13
METAL DUCTWORK

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Low pressure ductwork.

B. Medium and high pressure ductwork.

C. Casings.

D. Duct cleaning.

1.02 RELATED SECTIONS

Division 9 - Finishes: Weld priming, weather resistant, paint or coating.

A. Section 23 02 00 - Basic Material and Methods.

B. Section 23 05 29 – Hangers and Support for Piping and Equipment HVAC.

C. Section 23 05 93 - Testing, Adjusting and Balancing.

D. Section 23 07 13 - Duct Insulation.

E. Section 23 33 00 - Ductwork Accessories.

F. Section 23 37 13 - Air Distribution Devices.

1.03 QUALITY ASSURANCE

A. Manufacturer’s Qualifications: Firms regularly engaged in manufacture of metal ductwork products of types, materials and sizes required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Installer’s Qualifications: Firms with least 3 years of successful installation experience on projects with metal ductwork systems similar to that required for project.

C. Codes and Standards:

1. SMACNA Standards: Comply with latest SMACNA’s “HVAC Duct Construction Standards, Metal and Flexible” for fabrication and installation of metal ductwork.
2. ASHRAE Standards: Comply with ASHRAE Handbook, Equipment Volume, Chapter 1 “Duct Construction”, for fabrication and installation of metal ductwork.
3. NFPA Compliance: Comply with NFPA 90A “Standard for the Installation of Air Conditioning and Ventilating Systems”, NFPA 90B “Standard for the Installation of Warm Air Heating and Air Conditioning Systems”, and NFPA 96 Standard.
4. IECC 2000: Comply with 2000 International Energy Conservation Code.

1.04 GENERAL DESCRIPTION

A. Extent of metal ductwork is indicated on drawings and in schedules, and by requirements of this section.

1.05 SUBMITTALS

A. Submit shop drawings, duct fabrication standards and product data under provisions of Division One.

B. Indicate duct fittings, particulars such as gauges, sizes, welds, and configuration prior to start of work.

C. The contract documents are schematic in nature and are to be used only for design intent. The contractor shall prepare sheet metal shop drawings, fully detailed and drawn to scale, indicating all structural conditions, all plumbing pipe and light fixture coordination, and all offsets and transitions as required to permit the duct to fit in the space allocated and built. All duct revisions required as a result of the contractor not preparing fully detailed shop drawings will be performed at no additional cost.

1.06 DEFINITIONS

A. Duct Sizes: Inside clear dimensions. For lined ducts, maintain indicated clear size inside lining. Where offsets or transitions are required, the duct shall be the equivalent size based on constant friction rate.

B. Low Pressure: Low pressure ductwork shall be rated for an operating pressure of 2”. Low pressure ductwork shall be defined as all return, exhaust, and outside air ducts, all supply ductwork associated with constant volume air handling units with a scheduled external static pressure of less than 2”, and all supply ductwork downstream of terminal units in variable volume systems.

C. Medium Pressure: Medium pressure ductwork shall be rated for an operating pressure of 4”. Medium pressure ductwork shall be defined as all supply ductwork extending from variable volume air handling units to terminal units in variable volume systems with air handling units having a scheduled external static pressure of less than 4”. The supply ductwork of constant volume air handling units having a scheduled external static pressure greater than 2” and less than 4” shall be rated for medium pressure.

D. High Pressure: High pressure ductwork shall be rated for an operating pressure of 6”, or the scheduled external pressure of the equipment it is connected to, whichever is greater. The supply ductwork of air handling units having a scheduled external static pressure greater than 4” shall be high pressure.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Protection: Protect shop-fabricated and factory-fabricated ductwork, accessories and purchased products from damage during shipping, storage and handling. Prevent end damage and prevent dirt and moisture from entering ducts and fittings, use sheet metal end caps on any lined duct exposed to the weather.

B. Storage: Where possible, store ductwork inside and protect from weather. Where necessary to store outside, store above grade and enclose with waterproof wrapping.

PART 2 - PRODUCTS

2.01 DUCTWORK MATERIALS

A. Exposed Ductwork Materials: Where ductwork is indicated to be exposed to view in occupied spaces, provide materials which are free from visual imperfections including

pitting, seam marks, roller marks, stains and discolorations, and other imperfections, including those which would impair painting.

B. Sheet Metal.: Except as otherwise indicated, fabricate ductwork from galvanized sheet steel complying with ASTM A 527, lockforming quality, with G 90 zinc coating in accordance with ASTM A 525; and mill phosphatized for exposed locations.

2.02 MISCELLANEOUS DUCTWORK MATERIALS

A. General: Non combustible and conforming to UL 181, Class 1 air duct materials.

B. Flexible Ducts: Flexmaster U.S.A., Inc. Type 3M or approved equal, corrosive resistant galvanized steel formed and mechanically locked to inner fabric with 1" thick insulation when flexible ducts are located in conditioned spaces and with R-5 insulation when located in unconditioned spaces. Flexible duct shall have reinforced metalized outer jacket comply with UL 181, Class 1 air duct.

C. Sealants: Hard-Cast "iron grip" or approved equal, non-hardening, water resistant, fire resistive and shall not be a solvent curing product. Sealants shall be compatible with mating materials, liquid used alone or with tape or heavy mastic.

D. Ductwork Support Materials: Except as otherwise indicated, provide hot-dipped galvanized steel fasteners, anchors, rods, straps, trim and angles for support of ductwork.

1. For exposed stainless steel ductwork, provide matching stainless steel support materials.
2. For aluminum ductwork, provide aluminum support materials.

2.03 LOW PRESSURE DUCTWORK

A. Fabricate and support in accordance with latest SMACNA Duct Construction Standards and ASHRAE handbooks, except as indicated. Provide duct material, gauges, reinforcing, and sealing for operating pressures indicated.

B. Size round ducts installed in place of rectangular ducts in accordance with ASHRAE table of equivalent rectangular and round ducts. No variation of duct configuration or sizes permitted except by approved shop drawings. Obtain engineer's approval prior to using round duct in lieu of rectangular duct.

C. Construct T's, bends, and elbows with radius of not less than 1-1/2 times width of duct on centerline. Where not possible and where rectangular elbows are used, provide airfoil-turning vanes. Where acoustical lining is indicated, provide turning vanes of perforated metal with glass fiber insulation.

D. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible. Divergence upstream of equipment shall not exceed 30 degrees; convergence downstream shall not exceed 45 degrees.

E. Use crimp joints with bead for joining round duct sizes 6 inch smaller with crimp in direction of airflow.

F. Use double nuts and lock washers on threaded rod supports.

2.04 MEDIUM AND HIGH PRESSURE DUCTS

A. Fabricate and support in accordance with SMACNA Duct Construction Standards and ASHRAE handbooks, except as indicated. Provide duct material, gauges, reinforcing, and sealing for operating pressures indicated.

B. Construct T's, bends, and elbows with radius of not less than 1½ times width of duct on centerline. Where not possible and where rectangular elbows are used, provide airfoil-turning vanes. Where acoustical lining is required, provide turning vanes of perforated metal with glass fiber insulation. Weld in place.

C. Transform duct sizes gradually, not exceeding 15 degrees divergence and 30 degrees convergence.

D. Fabricate continuously welded medium and high pressure round and oval duct fittings two gauges heavier than duct gauges indicated in SMACNA Standard. Joints shall be minimum 4 inch cemented slip joint, brazed or electric welded. Prime coat welded joints.

E. Provide standard 45 degree lateral wye takeoffs unless otherwise indicated where 90 degree conical tee connections may be used.

2.05 CASINGS

A. Fabricate casings in accordance with SMACNA Duct Construction Standards and SMACNA High Pressure Duct Construction Standards and construct for operating pressures indicated.

B. Mount floor mounted casings on 4 inch high concrete curbs. At floor, rivet panels on 8 inch centers to angles. Where floors are acoustically insulated, provide liner of 18 gauge galvanized expanded metal mesh supported at 12 inch centers, turned up 12 inches at sides with sheet metal shields.

C. Reinforce doorframes with steel angles tied to horizontal and vertical plenum supporting angles. Install hinged access doors where indicated or required for access to equipment for cleaning and inspection. Provide clear wire glass observation ports, minimum 6 X 6 inch size.

D. Fabricate acoustic casings with reinforcing turned inward. Provide 16 gauge back facing and 22 gauge perforated front facing with 3/32 inch diameter holes on 5/32 inch centers. Construct panels 3 inches thick packed with 4.5 lb./cubic foot minimum glass fiber media, on inverted channels of 16 gauge.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION REQUIREMENTS

A. Obtain manufacturer's inspection and acceptance of fabrication and installation of ductwork at beginning of installation.

B. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pitot tube openings where required for testing of systems, complete with metal can with spring device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.

C. Locate ducts with sufficient space around equipment to allow normal operating and maintenance activities.

D. Connect diffusers or troffer boots to low pressure ducts with 6 feet maximum, 4 feet minimum, length of flexible duct. Hold in place with strap or clamp.

E. During construction provide temporary closures of metal or taped polyethylene on open ductwork to prevent construction dust from entering ductwork system.

F. The interior surface of all ductwork shall be smooth. No sheet metal parts, tabs, angles, or anything else may project into the ducts for any reason, except as specified to be so. All seams and joints shall be external.

G. All ductwork located exposed on roof shall be "crowned" to prevent water from ponding. Ref: Insulation for additional requirements.

H. Where ducts pass through floors, provide structural angles for duct support. Where ducts pass through walls in exposed areas, install suitable sheet metal escutcheons as closers.

I. All angles shall be carried around all four sides of the duct or group of ducts. Angles shall overlap corners and be welded or riveted.

J. All ductwork shall be fabricated in a manner to prevent the seams or joints being cut for the installation of grilles, registers, or ceiling outlets.

K. All duct hangers shall be attached to building structure. Cutting slots in roof or floor decking for hanger straps to be cast in concrete is not acceptable.

3.02 INSTALLATION OF FLEXIBLE DUCTS

A. Maximum Length: For any duct run using flexible ductwork, do not exceed 6'-0" extended length.

B. Installation: Install in accordance with Section III of SMACNA’s, “HVAC Duct Construction Standards, Metal and Flexible”.

3.03 REQUIREMENTS FOR UNIT CASINGS

A. Set plenum doors 6 to 12 inches above floor. Arrange door swings so that fan static pressure holds door in closed position.

3.04 DUCTWORK APPLICATION SCHEDULE

AIR SYSTEM	MATERIAL
Low Pressure Supply	Galvanized Steel
Medium and High Pressure Supply	Galvanized Steel
Return and Relief	Galvanized Steel
General Exhaust	Galvanized Steel
Outside Air Intake	Steel

3.05 DUCTWORK HANGERS AND SUPPORTS

A. All ductwork shall be properly suspended or supported from the building structure. Hangers shall be galvanized steel straps or hot-dipped galvanized rod with threads pointed after installation. Strap hanger shall be attached to the bottom of the ductwork, provide a minimum of two screws one at the bottom and one in the side of each strap on metal ductwork. The spacing, size and installation of hangers shall be in accordance with the recommendations of the latest SMACNA edition.

B. All duct risers shall be supported by angles or channels secured to the sides of the ducts at each floor with sheet metal screws or rivets. The floor supports may also be secured to ducts by rods, angles or flat bar to the duct joint or reinforcing. Structural steel supports for duct risers shall be provided under this Division.

3.06 AIR DUCT LEAKAGE: (From SMACNA Duct Standards Latest Edition) Test all ductwork (designed to handle over 1000 CFM) as follows:

A. Test apparatus

The test apparatus shall consist of:

1. A source of high pressure air--a portable rotary blower or a tank type vacuum cleaner.
2. A flow measuring device consisting of straightening vanes and an orifice plate mounted in a straight tube with properly located pressure taps. Each orifice assembly shall be accurately calibrated with its own calibration curve. Pressure and flow readings shall be taken with U-tube manometers.

B. Test Procedures

1. Test for audible leaks as follows:
2. Close off and seal all openings in the duct section to be tested. Connect the test apparatus to the duct by means of a section of flexible duct.
   a. Start the blower with its control damper closed.
   b. Gradually open the inlet damper until the duct pressure reaches 1.5 times the standard designed duct operating pressure.
   c. Survey all joint for audible leaks. Mark each leak and repair after shutting down blower. Do not apply a retest until sealants have set.
3. After all audible leaks have been sealed, the remaining leakage should be measured with the orifice section of the test apparatus as follows:
   a. Start blower and open damper until pressure in duct reaches 50% in excess of designed duct operating pressure.
   b. Read the pressure differential across the orifice on manometer No. 2. If there is no leakage, the pressure differential will be zero.
   c. Total allowable leakage shall not exceed one (1) percent of the total system design air flow rate. When partial sections of the duct system are tested, the summation of the leakage for all sections shall not exceed the total allowable leakage.
   d. Even though a system may pass the measured leakage test, a concentration of leakage at one point may result in a noisy leak which, must be corrected.
4. Test Witness
   a. Air duct leakage test shall be witnessed by Owner/Engineer.
   b. The Architect or duly authorized construction inspector shall be notified in writing at least 2 working days prior to each test.

3.07 DUCT SYSTEM CLEANING

A. Duct system cleaning shall be performed in accordance with the current published standards of ASHRAE and NADCA.

B. Duct system cleaning method used shall incorporate the use of vacuum collection devices that are operated continuously during cleaning. A vacuum device shall be connected to the downstream end of the section being cleaned through a predetermined opening. The vacuum collection device must be of sufficient power to render all areas being cleaned under negative pressure, such that containment of debris and the protection of the indoor environment is assured.

C. All vacuum devices exhausting air inside the building shall be equipped with HEPA filters (minimum efficiency), including hand-held vacuums and wet-vacuums.

D. All vacuum devices exhausting air outside the facility shall be equipped with Particulate Collection including adequate filtration to contain debris removed from the HVAC system. Such devices shall exhaust in a manner that will not allow contaminants to re-enter the facility. Release of debris outdoors must not violate any outdoor environmental standards, codes or regulations.

E. Fibrous glass thermal or acoustical insulation elements present in any equipment or ductwork shall be thoroughly cleaned with HEPA vacuuming equipment, while the HVAC system is under constant negative pressure, and not permitted to get wet in accordance with applicable NADCA and NAIMA standards and recommendations.

F. Duct cleaning method used shall not damage the integrity of the ductwork, nor damage porous surface materials such as liners inside the ductwork or system components.

G. Replace the fiberglass material if there is any evidence of damage, deterioration, delamination, friable material, mold or fungus growth, or moisture such that fibrous glass materials cannot be restored by cleaning or resurfacing with an acceptable insulation repair coating.

H. Clean external surfaces of foreign substances which might cause corrosive deterioration of metal or, where ductwork is to be painted, might interfere with painting or cause paint deterioration.

I. Strip protective paper from stainless ductwork surfaces, and repair finish wherever it has been damaged.

J. Temporary Closure: At ends of ducts which are not connected to equipment or air distribution devices at time of ductwork installation, provide temporary closure of polyethylene film or other covering which will prevent entrance of dust and debris until time connections are to be completed.

K. Cleaning Report: Contractor shall provide a report to the Owner indicating the completion of duct cleaning per specification and areas of the duct system found to be damaged and/or in need of repair.

3.08 DUCT JOINTS AND SEAMS

A. Seal all non-welded duct joints with duct sealant as indicated.

END OF SECTION

SECTION 23 33 00
DUCTWORK ACCESSORIES

PART 1 – GENERAL

1.01 WORK INCLUDED

A. Volume control dampers.

B. Round Duct Taps.

C. Fire dampers.

D. Combination fire and smoke dampers.

E. Back draft dampers.

F. Air turning devices.

G. Flexible duct connections.

H. Duct access doors.

I. Duct test holes.

1.02 RELATED WORK

A. Section 23 05 48 - Vibration and Seismic Controls for HVAC Piping and Equipment.

B. Section 23 31 13 - Metal Ductwork.

1.03 REFERENCES

A. NFPA 90A - Installation of Air Conditioning and Ventilating Systems.

B. SMACNA - Low Pressure Duct Construction Standards.

C. UL 33 - Heat Responsive Links for Fire-Protection Service.

D. UL 555 - Fire Dampers and Ceiling Dampers.

1.04 SUBMITTALS

A. Submit shop drawings and product data under provisions of Division One.

B. Provide shop drawings for shop fabricated assemblies indicated, including volume control dampers duct access doors duct test holes. Provide product data for hardware used.

C. Submit manufacturer's installation instructions under provisions of Division 1, for fire dampers and combination fire and smoke dampers.

PART 2 - PRODUCTS

2.01 VOLUME CONTROL DAMPERS

A. Fabricate in accordance with SMACNA Low Pressure Duct Construction Standards, and

as indicated.

B. Fabricate splitter dampers of material same gauge as duct to 24 inches size in either direction, and two gauges heavier for sizes over 24 inches.

C. Fabricate splitter dampers of double thickness sheet metal to streamline shape. Secure blade with continuous hinge or rod. Operate with minimum 1/2 inch diameter rod in self aligning, universal joint, action flanged bushing, with set screw.

D. Fabricate single blade dampers for duct sizes to 9-1/2 x 24 inch.

E. Fabricate multi-blade damper of opposed blade pattern with maximum blade sizes 12 x 72 inch.

1. Assemble center and edge crimped blades in prime coated or galvanized channel frame with suitable hardware.
2. On outside air, return air, and all other dampers required to be low leakage type, provide galvanized blades and frames, seven inches wide maximum, with replaceable vinyl, EPDM, silicone rubber seals on blade edges and stainless steel side seals. Provide blades in a double sheet corrugated type construction for extra strength. Provide hat channel shape frames for strength and blade linkage enclosure to keep linkage out of the air stream. Construction leakage not to exceed 1/2%, based on 2,000 fpm and 4 inch static pressure.

F. Except in round ductwork 12 inches and smaller, provide end bearings. On multiple blade dampers, provide oil-impregnated nylon or sintered bronze bearings.

G. Provide locking, indicating quadrant regulators on single and multi-blade dampers. Where rod lengths exceed 30 inches provide regulator at both ends.

H. On insulated ducts mount quadrant regulators on stand-off mounting brackets, bases, or adapters.

2.02 ROUND DUCT TAPS

A. Taps to trunk duct for round flexible duct shall be spin-in fitting with locking quadrant butterfly damper, model no. FLD-B03 by Flexmaster or approved equal.

2.03 ACCEPTABLE MANUFACTURERS - [FIRE DAMPERS] [AND] [COMBINATION FIRE AND SMOKE DAMPERS]

A. Greenheck.

B. Ruskin.

C. Nailor Industries.

D. Pottorff

2.04 FIRE DAMPERS

A. Fabricate in accordance with NFPA 90A and UL 555, and as indicated.

B. Provide curtain type dampers of galvanized steel with interlocking blades. Provide stainless steel closure springs and latches for horizontal installations. Configure with blades out of air stream.

C. Fabricate multiple blade fire dampers per U.L. with 16 gauge minimum galvanized steel

frame and blades, oil-impregnated bronze or stainless steel sleeve bearings and plated steel axles, 1/8 x 1/2 inch plated steel concealed linkage, stainless steel closure spring, blade stops, and lock.

D. Fusible links, UL 33, shall separate at 160 degrees F. Provide adjustable link straps for combination fire/balancing dampers.

2.05 COMBINATION FIRE AND SMOKE DAMPERS

A. Fabricate in accordance with NFPA 90A and UL 555, and as indicated.

B. Provide factory sleeve for each damper. Install damper operator on exterior of sleeve and link to damper operating shaft.

C. Fabricate with multiple blades with 16 gauge galvanized steel frame and blades, oil-impregnated bronze or stainless steel sleeve bearings and plated steel axles, stainless steel jamb seals, 1/8 x 1/2 inch plated steel concealed linkage, stainless steel closure spring, blade stops, and lock, and 1/2 inch actuator shaft.

1. Operators shall be spring return electric type suitable to operate on 120 V AC, 60 cycle.
2. Operators shall be UL listed and labeled.

2.06 SMOKE DAMPERS

A. Fabricate in accordance with NFPA 90A and UL 555, and as indicated.

B. Motorized Smoke Dampers: multi-blade type, normally open with power on, close automatically when power is interrupted, UL-listed and labeled damper and damper operator.

2.07 ACCEPTABLE MANUFACTURERS – BACKDRAFT DAMPERS

A. Greenheck

B. Ruskin.

C. Pottorff

D. Substitutions: Under provisions of Division One.

2.08 BACKDRAFT DAMPERS

A. Gravity back draft dampers, size 18 x 18 inches or smaller, furnished with air moving equipment, may be air moving equipment manufacturers standard construction.

B. Fabricate multi-blade, parallel action gravity balanced back draft dampers of 16 gauge galvanized steel, or extruded aluminum, with blades of maximum 6 inch width, with felt or flexible vinyl sealed edges, linked together in rattle-free manner with 90 degree stop, steel ball bearings, and plated steel pivot pin; adjustment device to permit setting for varying differential static pressure.

2.09 ACCEPTABLE MANUFACTURERS – AIR TURNING DEVICES

A. Young Regulator.
B. Titus.

C. Tuttle and Bailey.
D. Substitutions: Under provisions of Division One.

2.10 AIR TURNING DEVICES

A. On duct sizes less than 12 x 12, multi-blade device with blades aligned in short dimension; steel or aluminum construction; with individually adjustable blades, mounting straps.

B. Multi-blade device with radius blades attached to pivoting frame and bracket, steel or aluminum construction, with worm drive mechanism with 18 inch long removable key operator.

2.11 ACCEPTABLE MANUFACTURERS – FLEXIBLE DUCT CONNECTIONS

A. Metaledge.

B. Ventglass.

C. Substitutions: Under provisions of Division One.

2.12 FLEXIBLE DUCT CONNECTIONS TO AIR MOVING EQUIPMENT

A. Fabricate in accordance with SMACNA Low Pressure Duct Construction Standards, and as indicated.

B. UL listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 20 oz per sq yd, approximately 6 inches wide, crimped into metal edging strip.

2.13 ACCEPTABLE MANUFACTURERS – DUCT ACCESS DOORS

A. Greenheck.

B. Ruskin.

C. Titus.

D. Substitutions: Under provisions of Division One.

2.14 DUCT ACCESS DOORS

A. Fabricate in accordance with SMACNA Low Pressure Duct Construction Standards and as indicated.

B. Review locations prior to fabrication.

C. Fabricate rigid and close-fitting doors of galvanized steel with sealing gaskets and quick fastening locking devices. For insulated ductwork, install minimum one inch thick insulation with sheet metal cover. Insulation shall be replaceable without field cutting or patching.

D. Access doors smaller than 12 inches square may be secured with sash locks.

E. Provide two hinges and two sash locks for sizes up to 18 inches square, three hinges and two compression latches with outside and inside handles for sizes up to 24 x 48 inches.

Provide an additional hinge for larger sizes.

F. Access doors with sheet metal screw fasteners are not acceptable.

2.15 DUCT TEST HOLES

A. Cut or drill temporary test holes in ducts as required. Cap with neat patches, neoprene plugs, threaded plugs, or threaded or twist-on metal caps.

B. Permanent test holes shall be factory fabricated, air tight flanged fittings with screw cap. Provide extended neck fittings to clear insulation.

PART 3 – EXECUTION

3.01 INSTALLATION

A. Install accessories in accordance with manufacturer's instructions.

B. Balancing Dampers

1. Provide at points on low pressure supply, return, and exhaust systems where branches are taken from larger ducts and as required for air balancing. Use splitter dampers only where indicated.
2. All regulators mounted on externally insulated ductwork shall have 16 gauge elevated platforms at least 1/8 inch higher than the thickness of the insulation. Damper shaft shall have Ventlock No. 607 bearing mounted on ductwork within elevated platform. If duct is inaccessible the operating handle shall be extended and the regulator installed on the face of the wall or ceiling. Where regulators are exposed in finished parts of the building, they shall be flush type, Ventlock No. 666. All regulators shall be manufactured by Ventlock, or approved equal.
3. All dampers in lined ductwork shall have bushing to prevent damper damage to liner.

C. Provide fire dampers at locations indicated, where ducts and outlets pass through fire rated components, and where required by authorities having jurisdiction. Install with required perimeter mounting angles, sleeves, breakaway duct connections, corrosion resistant springs, bearings, bushings and hinges.

D. Demonstrate re-setting of fire dampers to authorities having jurisdiction and Owner's representative.

E. Provide back draft dampers on exhaust fans or exhaust ducts nearest to outside and where indicated.

F. Provide flexible duct connections immediately adjacent to equipment in ducts associated with fans and motorized equipment. Provide at least one inch slack at all flexible duct connections.

G. Provide duct access doors for inspection and cleaning before and after filters, coils, fans, automatic dampers, at fire dampers, and elsewhere as indicated. Provide minimum 8 x 8 inch size for hand access, 18 x 18 inch size for shoulder access, and as indicated.

H. Provide duct test holes where indicated and required for testing and balancing purposes.

END OF SECTION

SECTION 23 34 00
HVAC FANS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. Section 23 02 00 - Basic Materials and Methods is included as a part of this Section as though written in full in this document.

1.02 WORK INCLUDED

A. Ceiling and inline ventilators.

1.03 RELATED SECTIONS

A. Section 23 05 13 – Common Motor Requirements for HVAC Equipment

B. Section 23 05 48 – Vibration and Seismic Controls for HVAC Piping and Equipment

C. Section 23 05 93 – Testing, Adjusting and Balancing

1.04 QUALITY ASSURANCE

A. UL Compliance: Fans shall be designed, manufactured, and tested in accordance with UL 705 "Power Ventilators."

B. UL Compliance: Fans and components shall be UL listed and labeled.

C. Nationally Recognized Testing Laboratory Compliance (NRTL): Fans and components shall be NRTL listed and labeled. The term "NRTL" shall be as defined in OSHA Regulation 1910.7.

D. NEMA Compliance: Motors and electrical accessories shall comply with NEMA standards.

E. Electrical Component Standard: Components and installation shall comply with NFPA 70 "National Electrical Code."

F. Sound Power Level Ratings: Comply with AMCA Standard 301 "Method for Calculating Fan Sound Ratings From Laboratory Test Data." Test fans in accordance with AMCA Standard 300 "Test Code for Sound Rating." Fans shall be licensed to bear the AMCA Certified Sound Ratings Seal.

G. Fan Performance Ratings: Establish flow rate, pressure, power, air density, speed of rotation, and efficiency by factory tests and ratings in accordance with AMCA Standard 210/ASHRAE Standard 51 - Laboratory Methods of Testing Fans for Rating.

1.05 SUBMITTALS

A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections:

B. Product data for selected models, including specialties, accessories, and the following:

1. Certified fan performance curves with system operating conditions indicated.
2. Certified fan sound power ratings.
3. Motor ratings and electrical characteristics plus motor and fan accessories.
4. Materials, gages and finishes, include color charts.
5. Dampers, including housings, linkages, and operators.
6. Full color paint samples.

C. Shop drawings from manufacturer detailing equipment assemblies and indicating dimensions, weights, required clearances, components, and location and size of field connections.

D. Coordination drawings, in accordance with Division 23, Section "Basic Materials and Methods", for roof penetration requirements and for reflected ceiling plans drawn accurately to scale and coordinating penetrations and units mounted above ceiling. Show the following:

1. Roof framing and support members relative to duct penetrations.
2. Ceiling suspension members.
3. Method of attaching hangers to building structure.
4. Size and location of initial access modules for acoustical tile.
5. Ceiling-mounted items including light fixtures, diffusers, grilles, speakers, sprinkler heads, access panels, and special moldings.

F. Wiring diagrams that detail power, signal, and control wiring. Differentiate between manufacturer installed wiring and field installed wiring.

G. Product certificates, signed by manufacturer, certifying that their products comply with specified requirements.

H. Maintenance data for inclusion in Operating and Maintenance Manual specified in Division 1 and Division 23, Section "Basic Materials and Methods".

1.06 DELIVERY, STORAGE, AND HANDLING

A. Fans shall be stored and handled in accordance with the unit manufacturer’s instructions.

B. Lift and support units with the manufacturer's designated lifting or supporting points.

C. Disassemble and reassemble units as required for movement into the final location following manufacturer's written instructions.

D. Deliver fan units as a factory-assembled unit to the extent allowable by shipping limitations, with protective crating and covering.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Do not operate units for any purpose, temporary or permanent, until ductwork is clean, filters are in place, bearings lubricated, and fan has been test run under observation.

1.08 OPERATIONS PERSONNEL TRAINING

A. Provide a training session for the owner’s operations personnel. Training session shall be performed by a qualified person who is knowledgeable in the subject system/equipment. Submit a training agenda two (2) weeks prior to the proposed training session for review and approval. Training session shall include at the minimum:

1. Purpose of equipment.
2. Principle of how the equipment works.
3. Important parts and assemblies.
4. How the equipment achieves its purpose and necessary operating conditions.
5. Most likely failure modes, causes and corrections.
6. On site demonstration.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. PennBarry

B. Loren Cook Company

C. Greenheck Fan Corporation

D. ACME

2.02 GENERAL DESCRIPTION

A. Provide fans that are factory fabricated and assembled, factory tested, and factory finished with indicated capacities and characteristics.

B. Fans and Shafts shall be statically and dynamically balanced and designed for continuous operation at the maximum rated fan speed and motor horsepower.

C. Provide factory baked-enamel finish coat after assembly. Color for roof mounted fans shall be chosen by Architect during the submittal process.

2.03 CEILING AND INLINE VENTILATORS

A. Ceiling and inline ventilators shall be direct drive or belt drive as indicated, centrifugal blower type. Fan wheel shall be constructed of galvanized steel and shall be dynamically balanced. The housing shall be constructed of minimum 20 gauge corrosion resistant galvanized steel and acoustically insulated for quiet operation. Blower and motor assembly shall be easily removable from the housing without disturbing the ductwork. The motor shall be permanently lubricated with built-in thermal overload protection and shall be factory tested prior to shipment. The ceiling ventilators shall be furnished standard with a powder-painted white steel grille.

B. Ventilators shall be certified and licensed to bear the AMCA Seal for Air and Sound Performance. Ventilator performance shall be based on tests and procedures performed in accordance with AMCA publication 211 and comply with the requirements of the AMCA Certified Ratings Program. Fan sound power level ratings shall be based on tests and procedures performed in accordance with AMCA publication 311 and comply with the requirements of the AMCA Certified Ratings Program. Ventilators shall be UL listed and CSA certified.

C. Accessories: The following accessories are required.

1. Dampers:
   a. Aluminum backdraft damper.

b. Motor-operated volume control damper.
c. U.L. listed ceiling radiation damper for ceiling fans comply with NFPA Standard 90A rated for 3 hours.

2. Disconnect Switch: Nonfusible type with thermal overload protection.
3. Speed Controls: Fan mounted, solid state speed controller.

PART 3 – EXECUTION

3.01 Install in accordance with manufacturer's instructions.

3.02 All items required for a complete and proper installation are not necessarily indicated on the plans or in the specifications. Provide all items required as per manufacturer's requirements.

END OF SECTION

SECTION 23 37 13
AIR DISTRIBUTION DEVICES

PART 1 - GENERAL

1.01 WORK INCLUDED

A. Ceiling air diffusers.

B. Wall registers and grilles.

C. Other air devices indicated on drawings and schedules.

1.02 RELATED SECTIONS

A. Section 23 02 00 – Basic Materials and Methods

B. Section 23 05 93 – Testing, Adjusting and Balancing

C. Section 23 31 13 – Metal Ductwork

D. Section 23 31 19 – Ductwork Accessories

1.03 QUALITY ASSURANCE

A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of air distribution devices of types and capacities required, whose products have been in satisfactory use in similar service for not less than 5 years.

B. Codes and Standards:

1. ARI Compliance: Test and rate air distribution devices in accordance with ARI 650 "Standard for Air Outlets and Inlets".
2. ASHRAE Compliance: Test and rate air distribution devices in accordance with ASHRAE 70 "Method of Testing for Rating the Air Flow Performance of Outlets and Inlets".
3. AMCA Compliance: Test and rate louvers in accordance with AMCA 500 "Test Method for Louvers, Dampers and Shutters".
4. AMCA Seal: Provide louvers bearing AMCA Certified Rating Seal.
5. NFPA Compliance: Install air distribution devices in accordance with NFPA 90A "Standard for the Installation of Air Conditioning and Ventilating Systems".

1.04 SUBMITTALS

A. Product Data: Submit manufacturer's technical product data for air distribution devices including the following:

1. Schedule of air distribution devices indicating drawing designation, room location, number furnished, model number, size, and accessories furnished.
2. Data sheet for each type of air distribution devices, and accessory furnished; indicating construction, finish, and mounting details.
3. Performance data for each type of air distribution devices furnished, including aspiration ability, temperature and velocity traverses; throw and drop; and noise criteria ratings. Indicate selections on data.

B. Shop Drawings: Submit manufacturer's assembly-type shop drawing for each type of air distribution devices, indicating materials and methods of assembly of components.

C. Maintenance Data: Submit maintenance data, including cleaning instructions for finishes, and spare parts lists. Include this data, product data, and shop drawings in maintenance manuals; in accordance with requirements of Division 1.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver air distribution devices wrapped in factory-fabricated fiber-board type containers. Identify on outside of container type of outlet or inlet and location to be installed. Avoid crushing or bending and prevent dirt and debris from entering and settling in devices.

B. Store air distribution devices in original cartons and protect from weather and construction work traffic. Where possible, store indoors; when necessary to store outdoors, store above grade and enclose with waterproof wrapping.

1.06 WARRANTY

A. Warrant the installation of the Work specified herein for one year against becoming unserviceable or causing an objectionable appearance resulting from defective or nonconforming workmanship.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

A. Titus Company

B. Nailor Industries

C. Price

D. Substitutions under provisions of Division One.

2.02 GENERAL DESCRIPTION

A. Unless otherwise indicated, provide manufacturer’s standard air devices when shown of size, shape, capacity, type and accessories indicated on drawings and schedules, constructed of materials and components as indicated and as required for complete installation and proper air distribution.

B. Provide air devices that have, as minimum, temperature and velocity traverses, throw and drop, and noise criteria ratings for each size device and listed in manufacturer’s current data.

C. Unless noted otherwise on drawings, the finish shall be #26 white. The finish shall be an anodic acrylic paint, baked at 315°F for 30 minutes. The pencil hardness must be HB to H. The paint must pass a 100 hour ASTM D117 Corrosive Environments Salt Spray Test without creepage, blistering, or deterioration of film. The paint must pass a 250 hour ASTM-870 Water Immersion Test. The paint must also pass the ASTM D-2794 Reverse Impact Cracking Test with a 50 inch pound force applied.

D. Provide air device with border styles that are compatible with adjacent ceiling or wall system, and that are specially manufactured to fit into the wall construction or ceiling

module with accurate fit and adequate support. Refer to architectural construction drawings and specifications for types of wall construction and ceiling systems.

E. Provide integral volume damper with roll formed steel blades where indicated on drawings or schedules. Dampers shall be opposed blade design with a screw driver slot or a concealed lever operator for adjustment through the face of the air device.

F. Air devices designated for fire rated systems shall be pre-assembled with UL classified radiation damper and thermal blanket. Fire rated air devices shall be shipped completely assembled; one assembly per carton, Each assembly shall be enclosed in plastic shrink wrap with installation instructions.

PART 3 – EXECUTION

3.01 All interior surfaces of all air devices shall be painted flat black.

3.02 See floor plans for type, neck size and CFM of air for all air distribution devices.

3.03 Install all air distribution devices as detailed on plans and in accordance with manufacturer's recommendations.

END OF SECTION

SECTION 23 72 14
UVC/HEPA AIR FILTRATION UNIT, FAN POWERED

PART 1 - GENERAL

1.01 SCOPE

Provide and install self-contained, above-the-ceiling fan powered UVC-HEPA air filtration unit – ISO-UVC/HEPA horizontal series or approved equal unit.

A. ACCEPTABLE MANUFACTURERS:

1. ISOLATE, CORP
   P.O. Box 40794
   Houston, TX 77240

2. Or other approved manufacturer.

B. DESIGN AND PERFORMANCE CRITERIA:

1. Air purification's systems, as scheduled, shall be capable of effectively removing particulate contaminants from outside or recirculated air. The operation of the air purification system shall include a combination 99.97% efficient high efficiency HEPA air filter (to 0.3 micron particle size) for particulate capture and a high intensity ultraviolet (UVC) fixture for disinfection of microbiological airborne contaminants.

2. The unit manufacturer shall be able to submit a genuine third-party performance test by an independent and nationally recognized biological or health center laboratory normally engaged in biological testing. Destruction and removal of bacillus spores from circulated air must be demonstrated for both wet and dry spores. Test bacterium shall include bacillus megaterium, bacillus cereus, bacillus atrophaeus, bacillus thuringiensis and bacillus stearothermophilus.

   Testing must demonstrate that with a six log challenge, at least a five-log reduction in microorganisms, i.e., kill by the UVC fixture, is possible at the unit inlet side of the HEPA filter for any of the challenge bacillus. Cultures must be made by swabbing the inlet of the filter. In all cases, a "no-growth" plate down stream of the HEPA filter must in fact demonstrate "no microorganism growth."

3. The air velocity through the filtration unit shall not exceed 500 fpm.

4. The particulate phase shall consist of a single stage UL Class 2, 99.97% efficient at 0.3 microns HEPA element, meeting ASHRAE Test Standard 52-76.

5. HEPA disinfection shall be provided by a UVC fixture and shall be a high intensity, single ended type, suitable for installation in a cold or moving air stream.

6. The UVC fixture shall be installed in the unit, immediately upstream of the HEPA element, in order to provide maximum opportunity to irradiate any organisms or particulate that is captured by the HEPA element. The UVC/HEPA element must be changed by the buyer's maintenance department after 9,000 hours of continuous operation, i.e., typically at least one (1) time per year, in order to maintain maximum disinfection capacity.

C. GENERAL:

1. The air filtration unit shall be a factory fabricated, single-piece unit, with integral housing structure. The unit shall be designed for horizontal air flow (above the ceiling design) for building recirculation air filtration or with direct connection to a standard roof or duct mounted exhaust fan for exhaust duty. The air filter unit shall include an all aluminum structural framework and integral housing structure with all aluminum housing panels to minimize weight.

2. The unit air intake shall be at one end.

3. Next, the UVC fixture shall be installed, immediately upstream of the HEPA filter. The UVC fixture shall include a separate power "on-off" switch.

4. Following the UVC fixture, a 99.97% efficient HEPA element, UL Class 2, meeting ASHRAE Test Standard 52-76 shall be installed. This HEPA element provides the high efficiency air filtration barrier and permits the UVC element to irradiate and destroy captured bio organisms.

5. A 120/1/60 backwardly inclined plenum type centrifugal fan shall follow the filter elements.

6. The structural aluminum extrusion framing system shall be as provided by Modular Framing Systems, Inc. The framing system assembly shall be accomplished using structural members and mechanical fasteners. (Welding is not necessary and not recommended). Precision die cast aluminum corners (three-way) joining elements shall be used to connect the perimeter enclosure framing (profile) members. Vertical and horizontal wall, roof, and floor supports, or "omega" extrusions, shall be incorporated and spaced to enable the finished enclosure to withstand the system design static pressures as listed on the equipment schedule. Structural framing profiles and omega supports shall be extruded from 6063 alloy T5 temper aluminum as a minimum.

7. The unit manufacturer shall provide a single wall panel casing system.

8. Mechanical fasteners such as self tapping steel screws or rivets shall also be employed to secure the housing sheeting to the structural aluminum members.

9. Housing panels shall be a nominal .063" thick painted aluminum, formed to provide an air tight gasketed fit.

10. Panels shall be joined together with a neat and clean appearance. Any safing, internal partitions, or other tie-ins to the casing shall be made using internal support angle extrusions or panels that are a part of the casing. Such members may be bolted, screwed, or riveted to or through the support structure.

11. The unit shall include one (1) 12" diameter suction inlet for above the ceiling use.

12. One (1) 12" diameter supply outlet is recommended for the customer supplied flexible duct connection to recirculation ductwork or exhaust system ductwork, whichever the case.

13. Suction inlet connections shall be on one end of the unit with the supply outlet located on the other end for straight through airflow.

14. Air filters and unit internal components shall be suitable for side or bottom access for horizontal (above the ceiling installation) and front and side access for vertical (portable unit) installation.

15. The unit shall be capable of including a "self-hanging" feature, that allows for the drilling of 3/8" diameter holes in the unit frame corners, thus allowing he installing contractor to use 5/16" threaded rods to simply hang the unit from building superstructure ceiling joists.

D. UNIT CONSTRUCTION:

1. Housing construction

a) The unit housing shall be single wall construction of all aluminum structure and panels, as described above.

b) HEPA filter elements and UVC fixtures shall be side servicing via access panels provided with door latches for easy entrance.

c) Wall panels shall be sealed against leakage up to a 3" w.g. Silicone sealant, gaskets, or other appropriate pressure sealing means are acceptable for housing sealing use.

d) Panels that are not normally removed for maintenance may be fastened using either corrosion resistant or stainless steel sheet metal screws and/or high performance double-backed tape.

2. Filtration Requirements

a) Cylindrical elements as described above shall be used.

b) Filter elements shall be factory installed in the unit prior to shipment.

3. Electrical Requirements

a) The unit shall be factory wired with on-off switch to an internal unit junction box or power cord with plug, for ease of contractor connection in the field.

b) The unit shall operate on 120/1/60, with a 250 watt fan motor. An adjustable speed control shall be furnished for unit volume control.

c) Each unit shall be fully factory tested prior to shipment.

d) An aluminum nametag shall be provided with unit model number, serial number, operating amps and electrical input requirements.

e) A unit electrical wiring diagram shall be provided with each unit.

f) All wiring shall be in accordance with the latest version of the National Electric Code.

g) The unit shall be ETL listed.

E. DIMENSIONAL REQUIREMENTS:

1. Due to building and air handling unit dimensional constraints, the air filtration unit housing shall not exceed the dimensions as shown on the unit drawing.

2. Filtration units shall be suitable for mounting above the drop ceiling and installed via 5/16" diameter hanger rods with nylon lock-nut fasteners that use the unit vertical profiles as support members. Hanger rods are by installing contractor.

3. Access to the unit internal filters and components shall be achieved via the access panels provided and shown on the unit drawings.

F. OPTIONAL FEATURES:

1. Supply a Model H800 current switch for use in remote indication.

2. Supply a Series 20000 AC Hour Meter, 10,000 hour indication.

3. Supply one spare UVC/HEPA element, Model UVC/HEPA-12R.

G. WARRANTY

1. Isolate units are warranted against defects in material and workmanship for a period of twelve (12) months from date of commissioning or fifteen (15) months from date of shipment, whichever occurs first.

SECTION 23 81 26
SPLIT-SYSTEM AIR-CONDITIONERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes split-system air-conditioning and heat-pump units consisting of separate evaporator-fan and compressor-condenser components.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and furnished specialties and accessories. Include performance data in terms of capacities, outlet velocities, static pressures, sound power characteristics, motor requirements, and electrical characteristics.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.

2. Wiring Diagrams: For power, signal, and control wiring.

C. Samples for Initial Selection: For units with factory-applied color finishes.

1.4 INFORMATIONAL SUBMITTALS

A. Field quality-control reports.

B. Warranty: Sample of special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For split-system air-conditioning units to include in emergency, operation, and maintenance manuals.

1.6 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Filters: One set for each air-handling unit.

2. Gaskets: One set for each access door.

3. Fan Belts: One set for each air-handling unit fan.

1.7 QUALITY ASSURANCE

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

B. ASHRAE Compliance:

1. Fabricate and label refrigeration system to comply with ASHRAE 15, "Safety Standard for Refrigeration Systems."

2. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 4 - "Outdoor Air Quality," Section 5 - "Systems and Equipment," Section 6 - " Procedures," and Section 7 - "Construction and System Start-up."

C. ASHRAE/IESNA Compliance: Applicable requirements in ASHRAE/IESNA 90.1.

1.8 COORDINATION

A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

1.9 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of split-system air-conditioning units that fail in materials or workmanship within specified warranty period.

1. For Compressor: Five years from date of Substantial Completion.
2. For Parts: One years from date of Substantial Completion.
3. For Labor: One year from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following**:**

1. Carrier Corporation; Home Comfort and HVAC Building & Industrial Systems.
2. Lennox International Inc.
3. Trane; a business of American Standard companies.
4. YORK; a Johnson Controls company.

2.2 INDOOR UNITS (5 TONS OR LESS)

A. Concealed Evaporator-Fan Components:

1. Chassis: Galvanized steel with flanged edges, removable panels for servicing, and insulation on back of panel.
2. Insulation: Faced, glass-fiber duct liner.
3. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and thermal-expansion valve. Comply with ARI 206/110.
4. Electric Coil: Helical, nickel-chrome, resistance-wire heating elements; with refractory ceramic support bushings, automatic-reset thermal cutout, built-in magnetic contactors, manual-reset thermal cutout, airflow proving device, and one-time fuses in terminal box for overcurrent protection.
5. Fan: Forward-curved, double-width wheel of galvanized steel; directly connected to motor.
6. Fan Motors:
   a. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements specified in Section 230513 "Common Motor Requirements for HVAC Equipment."
   b. Multitapped, multispeed with internal thermal protection and permanent lubrication.
   c. Wiring Terminations: Connect motor to chassis wiring with plug connection.
7. Filters: Permanent, cleanable.
8. Condensate Drain Pans:
   a. Fabricated with one percent slope in at least two planes to collect condensate from cooling coils (including coil piping connections, coil headers, and return bends) and to direct water toward drain connection.

      Depth: A minimum of 2 inches deep.
   b. Single-wall, stainless-steel sheet.

c. Drain Connection: Located at lowest point of pan and sized to prevent overflow. Terminate with threaded nipple on one end of pan.

d. Units with stacked coils shall have an intermediate drain pan to collect condensate from top coil.

2.3 OUTDOOR UNITS (5 TONS OR LESS)

A. Air-Cooled, Compressor-Condenser Components:

1. Casing: Steel, finished with baked enamel in color selected by Architect, with removable panels for access to controls, weep holes for water drainage, and mounting holes in base. Provide brass service valves, fittings, and gage ports on exterior of casing.

2. Compressor: Hermetically sealed with crankcase heater and mounted on vibration isolation device. Compressor motor shall have thermal- and current-sensitive overload devices, start capacitor, relay, and contactor.

a. Compressor Type: Scroll.

b. Refrigerant Charge: R-410A.

c. Refrigerant Coil: Copper tube, with mechanically bonded aluminum fins and liquid subcooler. Comply with ARI 206/110.

3. Heat-Pump Components: Reversing valve and low-temperature-air cutoff thermostat.

4. Fan: Aluminum-propeller type, directly connected to motor.

5. Motor: Permanently lubricated, with integral thermal-overload protection.

6. Low Ambient Kit: Permits operation down to 45 deg F.

7. Mounting Base: Polyethylene.

2.4 ACCESSORIES

A. Thermostat: Low voltage with subbase to control compressor and evaporator fan.

B. Automatic-reset timer to prevent rapid cycling of compressor.

C. Refrigerant Line Kits: Soft-annealed copper suction and liquid lines factory cleaned, dried, pressurized, and sealed; factory-insulated suction line with flared fittings at both ends.

D. Drain Hose: For condensate.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install units level and plumb.

B. Install evaporator-fan components using manufacturer's standard mounting devices securely fastened to building structure.

C. Install roof-mounted, compressor-condenser components on equipment supports specified in Section 077200 "Roof Accessories." Anchor units to supports with removable, cadmium-plated fasteners.

D. Equipment Mounting:

Comply with requirements for vibration isolation and seismic control devices specified in Section 230548 "Vibration and Seismic Controls for HVAC Piping and Equipment."

E. Install and connect precharged refrigerant tubing to component's quick-connect fittings. Install tubing to allow access to unit.

3.2 CONNECTIONS

A. Duct Connections: Duct installation requirements are specified in Section 233113 "Metal Ducts." Drawings indicate the general arrangement of ducts. Connect supply and return ducts to split-

system air-conditioning units with flexible duct connectors. Flexible duct connectors are specified in Section 23 33 00 "Ductwork Accessories."

3.3 FIELD QUALITY CONTROL

A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.

B. Tests and Inspections:

1. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
2. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

C. Remove and replace malfunctioning units and retest as specified above.

D. Prepare test and inspection reports.

3.4 STARTUP SERVICE

A. Engage a factory-authorized service representative to perform startup service.

1. Complete installation and startup checks according to manufacturer's written instructions.

3.5 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain units.

END OF SECTION

SECTION 26 02 00
BASIC MATERIALS AND METHODS

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all Work herein.

B. The Contract Drawings indicate the extent and general arrangement of the systems. If any departure from the Contract Drawings are deemed necessary by the Contractor, details of such departures and the reasons therefore, shall be submitted to the Architect for approval as soon as practicable. No such departures shall be made without the prior written approval of the Architect.

1.02 SCOPE OF WORK

A. The Work included under this Contract consists of the furnishing and installation of all equipment and material necessary and required to form the complete and functioning systems in all of its various phases, all as shown on the accompanying Drawings and/or described in these Specifications. The contractor shall review all pertinent drawings, including those of other contracts prior to commencement of Work.

B. This Division requires the furnishing and installing of all items Specified herein, indicated on the Drawings or reasonably inferred as necessary for safe and proper operation; including every article, device or accessory (whether or not specifically called for by item) reasonably necessary to facilitate each system's functioning as indicated by the design and the equipment specified. Elements of the work include, but are not limited to, materials, labor, supervision, transportation, storage, equipment, utilities, all required permits, licenses and inspections. All work performed under this Section shall be in accordance with the Project Manual, Drawings and Specifications and is subject to the terms and conditions of the Contract.

C. The approximate locations of Electrical items are indicated on the Drawings. These Drawings are not intended to give complete and accurate details in regard to location of outlets, apparatus, etc. Exact locations are to be determined by actual measurements at the building, and will in all cases be subject to the Review of the Owner or Engineer, who reserves the right to make any reasonable changes in the locations indicated without additional cost to the Owner.

D. Items specifically mentioned in the Specifications but not shown on the Drawings and/or items shown on Drawings but not specifically mentioned in the Specifications shall be installed by the Contractor under the appropriate section of work as if they were both specified and shown.

E. All discrepancies within the Contract Documents discrepancies between the Contract Documents and actual job-site conditions shall be reported to the Owner or Engineer so that they will be resolved prior to the bidding, where this cannot be done at least 7 working days prior to bid; the greater or more costly of the discrepancy shall be bid. All labor and materials required to perform the work described shall be included as part of this Contract.

F. It is the intention of this Section of the Specifications to outline minimum requirements to furnish the Owner with a turn-key and fully operating system in cooperation with other trades.

G. It is the intent of the above "Scope" to give the Contractor a general outline of the extent of the Work involved; however, it is not intended to include each and every item required for the Work. Anything omitted from the "Scope" but shown on the Drawings, or specified later, or necessary for a complete and functioning heating, ventilating and air conditioning system shall be considered a part of the overall "Scope".

H. The Contractor shall rough-in fixtures and equipment furnished by others from rough-in and placement drawings furnished by others. The Contractor shall make final connection to fixtures and equipment furnished by others.

I. Contractor shall participate in the commissioning process; including but not limited to meeting attendance, completion of checklists and participation in functional testing.

1.03 RELATED SECTIONS

A. General Conditions

B. Supplementary Conditions

C. Division One

1.04 COOPERATION WITH TRADES:

A. Cooperation with trades of adjacent, related, or affected materials or operations shall be considered a part of this work in order to affect timely and accurate placing of work and bring together in proper and correct sequence, the work of such trades.

1.05 REFERENCES

A. National Electrical Code (NEC)

B. American Society for Testing and Materials (ASTM)

C. Underwriter's Laboratories, Inc. (UL)

D. Insulated Cable Engineer's Association (ICEA).

E. National Electrical Manufacturer's Association (NEMA).

F. Institute of Electrical and Electronic's Engineers (IEEE).

G. American National Standards Institute (ANSI).

H. National Fire Protection Association (NFPA).

I. International Energy Conservation Code (IECC).

1.06 COMPLETE FUNCTIONING OF WORK:

A. All work fairly implied as essential to the complete functioning of the electrical systems shown on the Drawings and Specifications shall be completed as part of the work of this Division unless specifically stated otherwise. It is the intention of the Drawings and Specifications to establish the types of the systems, but not set forth each item essential to the functioning of the system. In case of doubt as to the work intended, or in the event of amplification or clarification thereof, the Contractor shall call upon the Architect for

supplementary instructions, Drawings, etc.

B. Contractor shall review all pertinent Drawings and adjust his work to all conditions shown there on. Discrepancies between Plans, Specifications, and actual field conditions shall be brought to the prompt attention of the Architect.

1. Approximate location of feeders, branch circuits, outlets, lighting and power panels, etc., are indicated on the Drawings. However, the Drawings, do not give complete and accurate detailed locations of such outlets, conduit runs, etc., and exact locations must be determined by actual field measurement. Such locations will, at all times, be subject to the approval of the Architect.
2. Communicate with the Architect and secure his approval of any outlet (light fixture, receptacle, switch, etc.) location about which there may be the least question. Outlets obviously placed in a location not suitable to the finished room or without specific approval, shall be removed and relocated when so directed by the Architect. Location of light fixtures shall be coordinated with reflected ceiling plans.

C. Additional coordination with mechanical contractor may be required to allow adequate clearances of mechanical equipment, fixtures and associated appurtenances. Contractor to notify Architect and Engineer of unresolved clearances, conflicts or equipment locations.

1.07 SCHEMATIC NATURE OF CONTRACT DOCUMENTS

A. The contract documents are schematic in nature in that they are only to establish scope and a minimum level of quality. They are not to be used as actual working construction drawings. The actual working construction drawings shall be the approved shop drawings.

1.08 CONTRACTOR'S QUALIFICATIONS

A. An approved contractor for the work under this division shall be:

1. A specialist in this field and have the personnel, experience, training, and skill, and the organization to provide a practical working system.
2. Able to furnish evidence of having contracted for and installed not less than 3 systems of comparable size and type that have served their Owners satisfactorily for not less than 3 years.
3. Perform work by persons qualified to produce workmanship of specified quality. Persons performing electrical work shall be required to be licensed. Onsite supervision, journeyman shall have minimum of journeyman license. Helpers, apprentices shall have minimum of apprentice license.

1.09 DATE OF FINAL ACCEPTANCE

A. The date of final acceptance shall be the date of owner occupancy, or the date all punch list items have been completed or final payment has been received. Refer to Division One for additional requirements.

B. The date of final acceptance shall be documented in writing and signed by the architect, owner and contractor.

1.10 DEFINITIONS AND SYMBOLS

A. General Explanation: A substantial amount of construction and Specification language constitutes definitions for terms found in other Contract Documents, including Drawings which must be recognized as diagrammatic and schematic in nature and not completely descriptive of requirements indicated thereon. Certain terms used in Contract Documents are defined generally in this article, unless defined otherwise in Division 1.

B. Definitions and explanations of this Section are not necessarily either complete or exclusive, but are general for work to the extent not stated more explicitly in another provision of the Contract Documents.

C. Indicated: The term "Indicated" is a cross-reference to details, notes or schedules on the Drawings, to other paragraphs or schedules in the Specifications and to similar means of recording requirements in Contract Documents. Where such terms as "Shown", "Noted", "Scheduled", "Specified" and "Detailed" are used in lieu of "Indicated", it is for the purpose of helping the reader locate cross-reference material, and no limitation of location is intended except as specifically shown.

D. Directed: Where not otherwise explained, terms such as "Directed", "Requested", "Accepted", and "Permitted" mean by the Architect or Engineer. However, no such implied meaning will be interpreted to extend the Architect's or Engineer's responsibility into the Contractor's area of construction supervision.

E. Reviewed: Where used in conjunction with the Engineer's response to submittals, requests for information, applications, inquiries, reports and claims by the Contractor the meaning of the term "Reviewed" will be held to limitations of Architect's and Engineer's responsibilities and duties as specified in the General and Supplemental Conditions. In no case will "Reviewed" by Engineer be interpreted as a release of the Contractor from responsibility to fulfill the terms and requirements of the Contract Documents.

F. Furnish: Except as otherwise defined in greater detail, the term "Furnish" is used to mean supply and deliver to the project site, ready for unloading, unpacking, assembly, installation, etc., as applicable in each instance.

G. Install: Except as otherwise defined in greater detail, the term "Install" is used to describe operations at the project site including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance.

H. Provide: Except as otherwise defined in greater detail, the term "Provide" is used to mean "Furnish and Install", complete and ready for intended use, as applicable in each instance.

I. Installer: Entity (person or firm) engaged by the Contractor or its subcontractor or Sub-contractor for performance of a particular unit of work at the project site, including unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protection, cleaning and similar operations, as applicable in each instance. It is a general requirement that such entities (Installers) be expert in the operations they are engaged to perform.

J. Imperative Language: Used generally in Specifications. Except as otherwise indicated, requirements expressed imperatively are to be performed by the Contractor. For clarity of reading at certain locations, contrasting subjective language is used to describe responsibilities that must be fulfilled indirectly by the Contractor, or when so noted by other identified installers or entities.

K. Minimum Quality/Quantity: In every instance, the quality level or quantity shown or specified is intended as minimum quality level or quantity of work to be performed or provided. Except as otherwise specifically indicated, the actual work may either comply exactly with that minimum (within specified tolerances), or may exceed that minimum within reasonable tolerance limits. In complying with requirements, indicated or scheduled numeric values are either minimums or maximums as noted or as appropriate for the context of the requirements. Refer instances of uncertainty to Owner or Engineer via a request for information (RFI) for decision before proceeding.

L. Abbreviations and Symbols: The language of Specifications and other Contract Documents including Drawings is of an abbreviated type in certain instances, and implies words and meanings which will be appropriately interpreted. Actual word abbreviations of a self explanatory nature have been included in text of Specifications and Drawings. Specific abbreviations and symbols have been established, principally for lengthy technical terminology and primarily in conjunction with coordination of Specification requirements with notations on Drawings and in Schedules. These are frequently defined in Section at first instance of use or on a Legend and Symbol Drawing. Trade and industry association names and titles of generally recognized industry standards are frequently abbreviated. Singular words will be interpreted as plural and plural words will be interpreted as singular where applicable and where full context of Contract Documents so indicate. Except as otherwise indicated, graphic symbols and abbreviations used on Drawings and in Specifications are those recognized in construction industry for indicated purposes. Where not otherwise noted symbols and abbreviations are defined by 1993 ASHRAE Fundamentals Handbook, chapter 34 "Abbreviations and Symbols", ASME and ASPE published standards.

1.11 DELIVERY, STORAGE, AND HANDLING

A. Deliver products to the project properly identified with names, model numbers, types, grades, compliance labels, and other information needed for identification.

B. Deliver products to the project at such time as the project is ready to receive the equipment, pipe or duct properly protected from incidental damage and weather damage.

C. Damaged equipment shall be promptly removed from the site and new, undamaged equipment shall be installed in its place promptly with no additional charge to the Owner.

1.12 SUBMITTALS

A. Coordinate with Division 01 for submittal timetable requirements, unless noted otherwise within thirty (30) days after the Contract is awarded. The Contractor shall submit an electronic copy of a complete set of shop drawings and complete data covering each item of equipment or material. The submittal of each item requiring a submittal must be received by the Architect or Engineer within the above thirty day period. The Architect or Engineer shall not be responsible for any delays or costs incurred due to excessive shop drawing review time for submittals received after the thirty (30) day time limit. The Architect and Engineer will retain a copy of all shop drawings for their files. All literature pertaining to items subject to Shop Drawing submittal shall be submitted at one time. Submittals shall be placed in one electronic file in PDF 8.0 format and bookmarked for individual specification sections. Individual electronic files of submittals for individual specifications shall not be permitted. Each submittal shall include the following items:

1. A cover sheet with the names and addresses of the Project, Architect, MEP Engineer, General Contractor and the Subcontractor making the submittal. The cover sheet shall also contain the section number covering the item or items submitted and the item nomenclature or description.

2. An index page with a listing of all data included in the Submittal.
3. A list of variations page with a listing all variations, including unfurnished or additional required accessories, items or other features, between the submitted equipment and the specified equipment. If there are no variations, then this page shall state "NO VARIATIONS". Where variations affect the work of other Contractors, then the Contractor shall certify on this page that these variations have been fully coordinated with the affected Contractors and that all expenses associated with the variations will be paid by the submitting Contractor. This page will be signed by the submitting Contractor.
4. Equipment information including manufacturer's name and designation, size, performance and capacity data as applicable. All applicable Listings, Labels, Approvals and Standards shall be clearly indicated.
5. Dimensional data and scaled drawings as applicable to show that the submitted equipment will fit the space available with all required Code and maintenance clearances clearly indicated and labeled at a minimum scale of 1/4" = 1'-0", as required to demonstrate that the alternate or substituted product will fit in the space available.
6. Identification of each item of material or equipment matching that indicated on the Drawings.
7. Sufficient pictorial, descriptive and diagrammatic data on each item to show its conformance with the Drawings and Specifications. Any options or special requirements or accessories shall be so indicated. All applicable information shall be clearly indicated with arrows or another approved method.
8. Additional information as required in other Sections of this Division.
9. Certification by the General Contractor and Subcontractor that the material submitted is in accordance with the Drawings and Specifications, signed and dated in long hand. Submittals that do not comply with the above requirements shall be returned to the Contractor and shall be marked "**REVISE AND RESUBMIT**".

B. Refer to Division 1 for additional information on shop drawings and submittals.

C. Equipment and materials submittals and shop drawings will be reviewed for compliance with design concept only. It will be assumed that the submitting Contractor has verified that all items submitted can be installed in the space allotted. Review of shop drawings and submittals shall not be considered as a verification or guarantee of measurements or building conditions.

D. Where shop drawings and submittals are marked "**REVIEWED**", the review of the submittal does not indicate that submittals have been checked in detail nor does it in any way relieve the Contractor from his responsibility to furnish material and perform work as required by the Contract Documents.

E. Shop drawings shall be reviewed and returned to the Contractor with one of the following categories indicated:

1. **REVIEWED:** Contractor need take no further submittal action, shall include this submittal in the O&M manual and may order the equipment submitted on.
2. **REVIEWED AS NOTED:** Contractor shall submit a letter verifying that required exceptions to the submittal have been received and complied with including additional accessories or coordination action as noted, and shall include this submittal and compliance letter in the O&M manual. The contractor may order the equipment submitted on at the time of the returned submittal providing the Contractor complies with the exceptions noted.
3. **NOT APPROVED:** Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is not

approved, the Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or drawings. Contractor shall not order equipment that is not approved. Repetitive requests for substitutions will not be considered.

4. **REVISE AND RESUBMIT:** Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked revise and resubmit, the Contractor will automatically be required to furnish the product, material or method named in the Specifications and/or provide as noted on previous shop drawings. Contractor shall not order equipment marked revise and resubmit. Repetitive requests for substitutions will not be considered.
5. **CONTRACTOR'S CERTIFICATION REQUIRED:** Contractor shall resubmit submittal on material, equipment or method of installation. The Contractor's stamp is required stating the submittal meets all conditions of the contract documents. The stamp shall be signed by the General Contractor. The submittal will not be reviewed if the stamp is not placed and signed on all shop drawings.
6. **MANUFACTURER NOT AS SPECIFIED:** Contractor shall resubmit new submittal on material, equipment or method of installation when the alternate or substitute is marked manufacturer not as specified, the Contractor will automatically be required to furnish the product, material or method named in the specifications. Contractor shall not order equipment where submittal is marked manufacturer not as specified. Repetitive requests for substitutions will not be considered.

F. Materials and equipment which are purchased or installed without shop drawing review shall be at the risk of the Contractor and the cost for removal and replacement of such materials and equipment and related work which is judged unsatisfactory by the Owner or Engineer for any reason shall be at the expense of the Contractor. The responsible Contractor shall remove the material and equipment noted above and replace with specified equipment or material at his own expense when directed in writing by the Architect or Engineer.

G. Shop Drawing Submittals shall be complete and checked prior to submission to the Engineer for review.

H. Furnish detailed shop drawings, descriptive literature, physical data and a specification critique for each section indicating "compliance" and/or "variations" for the following items:

Heavy Duty Disconnect Switches
Lighting Fixtures
Wiring Devices and Plates
Conduit and Fittings
Wire
Emergency Generator
Automatic Transfer Switches
Fire Alarm System

I. Refer to each specification section for additional requirements.

1.13 OPERATION AND MAINTENANCE MANUALS

A. Prepare maintenance manuals in accordance with Division 1 and in addition to the requirements specified in Division 1, include the following information for equipment items:

1. Description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and commercial numbers of replacement parts.
2. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
3. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions.
4. Servicing instructions and lubrication charts and schedules.

1.14 COORDINATION DRAWINGS

A. Prepare coordination drawings to a scale of 1/4"=1'-0" or larger; detailing major elements, components, and systems of mechanical equipment and materials in relationship with other systems, installations, and building components. Indicate locations where space is limited for installation and access and where sequencing and coordination of installations are of importance to the efficient flow of the Work, including (but not necessarily limited to) the following:

1. Indicate the proposed locations of pipe, duct, equipment, and other materials. Include the following:
   a. Wall and type locations.
   b. Clearances for installing and maintaining insulation.
   c. Locations of light fixtures and sprinkler heads.
   d. Clearances for servicing and maintaining equipment, including tube removal, filter removal, and space for equipment disassembly required for periodic maintenance.
   e. Equipment connections and support details.
   f. Exterior wall and foundation penetrations.
   g. Routing of storm and sanitary sewer piping.
   h. Fire-rated wall and floor penetrations.
   i. Sizes and location of required concrete pads and bases.
   j. Valve stem movement.
   k. Structural floor, wall and roof opening sizes and details.
2. Indicate scheduling, sequencing, movement, and positioning of large equipment into the building during construction.
3. Prepare floor plans, elevations, and details to indicate penetrations in floors, walls, and ceilings and their relationship to other penetrations and installations.
4. Prepare reflected ceiling plans to coordinate and integrate installations, air distribution devices, light fixtures, communication systems components, and other ceiling-mounted items.

B. This Contractor shall be responsible for coordination of all items that will affect the installation of the work of this Division. This coordination shall include, but not be limited to: voltage, ampacity, capacity, electrical and piping connections, space requirements, sequence of construction, building requirements and special conditions.

C. By submitting shop drawings on the project, this Contractor is indicating that all necessary coordination has been completed and that the systems, products and equipment submitted can be installed in the building and will operate as specified and intended, in full coordination with all other Contractors and Subcontractors.

1.15 RECORD DRAWINGS

A. Maintain a continuous record during the course of construction of all changes and deviations in the work from the contract drawings. Upon completion of the work, purchase a set of "Auto Positive Tracings" on vellum and make corrections as required to reflect the electrical systems as installed. Location and size of all conduit shall be accurately shown to dimension. Submit three prints of the tracings for approval. Make corrections to tracings as directed and deliver "Auto Positive Tracings" to the Architect. Record drawings shall be furnished in addition to shop drawings. Symbols on the Record drawings shall correspond to the identification symbols on the contract drawings and equipment identification plates and tags.

B. The Contractor shall maintain a set of clearly marked black line record "AS-BUILT" prints on the job site on which he shall mark all work details, alterations to meet site conditions and changes made by "Change Order" notices. These shall be kept available for inspection by the Owner, Architect or Engineer at all times.

C. Refer to Division 1 for additional requirements concerning record drawings. If the Contractor does not keep an accurate set of as-built drawings, the pay request may be altered or delayed at the request of the Architect. Mark the drawings with a colored pencil. Delivery of as-built prints and reproducibles is a condition of final acceptance.

D. The record prints shall be updated on a daily basis and shall indicate accurate dimensions for all buried or concealed work, precise locations of all concealed pipe or duct, locations of all concealed valves, controls and devices and any deviations from the work shown on the Construction Documents which are required for coordination. All dimensions shall include at least two dimensions to permanent structure points.

E. Submit three prints of the tracings for approval. Make corrections to tracings as directed and delivered "Auto Positive Tracings" to the architect. "As-Built" drawings shall be furnished in addition to shop drawings.

F. When the option described in paragraph F., above is not exercised then upon completion of the work, the Contractor shall transfer all marks from the submit a set of clear concise set of reproducible record "AS-BUILT" drawings and shall submit the reproducible drawings with corrections made by a competent draftsman and three (3) sets of black line prints to the Architect or Engineer for review prior to scheduling the final inspection at the completion of the work. The reproducible record "AS-BUILT" drawings shall have the Engineers Name and Seal removed or blanked out and shall be clearly marked and signed on each sheet as follows:

CERTIFIED RECORD DRAWINGS

DATE:

(NAME OF GENERAL CONTRACTOR)

BY:_____
(SIGNATURE)

(NAME OF SUBCONTRACTOR)

BY:_____
(SIGNATURE)

1.16 CERTIFICATIONS AND TEST REPORTS

A. Submit a detailed schedule for completion and testing of each system indicating scheduled dates for completion of system installation and outlining tests to be performed and schedule date for each test. This detailed completion and test schedule shall be submittal at least 90 days before the projected Project completion date.

B. Test result reporting forms shall be submitted for review no later than the date of the detailed schedule submitted.

C. Submit 4 copies of all certifications and test reports to the Architect or Engineer for review adequately in advance of completion of the Work to allow for remedial action as required to correct deficiencies discovered in equipment and systems.

D. Certifications and test reports to be submitted shall include, but not be limited to those items outlined in Section of Division 26.

1.17 MAINTENANCE MANUALS

A. Coordinate with Division 1 for maintenance manual requirements, unless noted otherwise bind together in “D ring type” binders by National model no. 79-883 or equal, binders shall be large enough to allow ¼” of spare capacity. Three (3) sets of all approved shop drawing submittals, fabrication drawings, bulletins, maintenance instructions, operating instructions and parts exploded views and lists for each and every piece of equipment furnished under this Specification. All sections shall be typed and indexed into sections and labeled for easy reference and shall utilize the individual specification section numbers shown in the Electrical Specifications as an organization guideline. Bulletins containing information about equipment that is not installed on the project shall be properly marked up or stripped and reassembled. All pertinent information required by the Owner for proper operation and maintenance of equipment supplied by Division 26 shall be clearly and legibly set forth in memoranda that shall, likewise, be bound with bulletins.

B. Prepare maintenance manuals in accordance with Special Project Conditions, in addition to the requirements specified in Division 26, include the following information for equipment items:

1. Identifying names, name tags designations and locations for all equipment.
2. Fault Current calculations and Coordination Study.
3. Reviewed shop drawing submittals with exceptions noted compliance letter.
4. Fabrication drawings.
5. Equipment and device bulletins and data sheets clearly highlighted to show equipment installed on the project and including performance curves and data as applicable, i.e., description of function, normal operating characteristics and limitations, performance curves, engineering data and tests, and complete nomenclature and model numbers of replacement parts.
6. Manufacturer's printed operating procedures to include start-up, break-in, and routine and normal operating instructions; regulation, control, stopping, shutdown, and emergency instructions; and summer and winter operating instructions.
7. Maintenance procedures for routine preventative maintenance and troubleshooting; disassembly, repair, and reassembly; aligning and adjusting instructions, servicing instructions and lubrication charts and schedules.
8. Equipment name plate data.
9. Wiring diagrams.
10. Exploded parts views and parts lists for all equipment and devices.
11. Color coding charts for all painted equipment and conduit.

12. Location and listing of all spare parts and special keys and tools furnished to the Owner.
13. Furnish recommended lubrication schedule for all required lubrication points with listing of type and approximate amount of lubricant required.

C. Refer to Division 1 for additional information on Operating and Maintenance Manuals.

D. Operating and Maintenance Manuals shall be turned over to the Owner or Engineer a minimum of 14 working days prior to the beginning of the operator training period.

1.18 OPERATOR TRAINING

A. The Contractor shall furnish the services of factory trained specialists to instruct the Owner's operating personnel. The Owner's operator training shall include 12 hours of onsite training in three 4 hour shifts.

B. Before proceeding with the instruction of Owner Personnel, prepare a typed outline in triplicate, listing the subjects that will be covered in this instruction, and submit the outline for review by the Owner. At the conclusion of the instruction period obtain the signature of each person being instructed on each copy of the reviewed outline to signify that he has a proper understanding of the operation and maintenance of the systems and resubmit the signed outlines.

C. Refer to other Division 26 Sections for additional Operator Training requirements.

1.19 SITE VISITATION

A. Visit the site of the proposed construction in order to fully understand the facilities, difficulties and restriction attending the execution of the work.

B. Before submitting a bid, it will be necessary for each Contractor whose work is involved to visit the site and ascertain for himself the conditions to be met therein in installing his work and make due provision for same in his bid. It will be assumed that this Contractor in submitting his bid has visited the premises and that his bid covers all work necessary to properly install the equipment shown. Failure on the part of the Contractor to comply with this requirement shall not be considered justification for the omission or faulty installation of any work covered by these Specifications and Drawings.

C. Understand the existing utilities from which services will be supplied; verify locations of utility services, and determine requirements for connections.

D. Determine in advance that equipment and materials proposed for installation fit into the confines indicated.

1.20 WARRANTY

A. The undertaking of the work described in this Division shall be considered equivalent to the issuance, as part of this work, of a specific guarantee extending one year beyond the date of completion of work and acceptance by Owner, against defects in materials and workmanship. Materials, appliances and labor necessary to effect repairs and replacement so as to maintain said work in good functioning order shall be provided as required. Replacements necessitated by normal wear in use or by Owner's abuse are not included under this guarantee.

B. All normal and extended warranties shall include parts, labor, miscellaneous materials, travel time, incidental expenses, freight/shipping, refrigerant, oils, lubricants, belts, filters

and any expenses related to service call required to diagnose warranty problems.

1.21 TRANSFER OF ELECTRONIC FILES

A. Project documents are not intended or represented to be suitable for reuse by Architect/Owner or others on extensions of this project or on any other project. Any such reuse or modification without written verification or adaptation by Engineer, as appropriate for the specific purpose intended, will be at Architect/Owner's risk and without liability or legal exposure to Engineer or its consultants from all claims, damages, losses and expense, including attorney's fees arising out of or resulting thereof.

B. Because data stored in electric media format can deteriorate or be modified inadvertently, or otherwise without authorization of the data's creator, the party receiving the electronic files agrees that it will perform acceptance tests or procedures within sixty (60) days of receipt, after which time the receiving party shall be deemed to have accepted the data thus transferred to be acceptable. Any errors detected within the sixty (60) day acceptance period will be corrected by the party delivering the electronic files. Engineer is not responsible for maintaining documents stored in electronic media format after acceptance by the Architect/Owner.

C. When transferring documents in electronic media format, Engineer makes no representations as to the long term compatibility, usability or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by Engineer at the beginning of the Project.

D. Any reuse or modifications will be Contractor's sole risk and without liability or legal exposure to Architect, Engineer or any consultant.

E. The Texas Board of Architectural Examiners (TBAE) has stated that it is in violation of Texas law for persons other than the Architect of record to revise the Architectural drawings without the Architect's written consent.

It is agreed that "MEP" hard copy or computer-generated documents will not be issued to any other party except directly to the Architect/Owner. The contract documents are contractually copyrighted and cannot be used for any other project or purpose except as specifically indicated in AIA B-141 Standard Form of Agreement Between Architect and Owner.

If the client, Architect/Owner, or developer of the project requires electronic media for "record purposes", then an AutoCAD based compact disc ("CD") will be prepared. The "CD" will be submitted with all title block references intact and will be formatted in a "plot" format to permit the end user to only view and plot the drawings. Revisions will not be permitted in this configuration.

F. At the Architect/Owner's request, Engineer will prepare one "CD" of electronic media to assist the contractor in the preparation of submittals. The Engineer will prepare and submit the "CD" to the Architect/Owner for distribution to the contractor. All copies of the "CD" will be reproduced for a cost of reproduction fee of Five Hundred Dollars ($500.00) per "CD".

The "CD" will be prepared and all title blocks, names and dates will be removed. The "CD" will be prepared in a ".dwg" format to permit the end user to revise the drawings.

G. This Five Hundred Dollars ($500.00) per "CD" cost of reproduction will be paid directly from the Contractor to the Engineer. The "CD" will be prepared only after receipt of the Five Hundred Dollars ($500.00). The Five Hundred Dollars ($500.00) per "CD" cost of

reproduction is to only recover the cost of the manhours necessary to reproduce the documents. It is not a contractual agreement between the Contractor and Engineer to provide any engineering services, nor any other service.

PART 2 - PRODUCTS

2.01 SUBSTITUTIONS

A. The names and manufacturers and model numbers have been used in the Contract documents to establish types of equipment and standards of quality. Where more than one manufacturer is named for a specific item of equipment, only one of the specified manufacturers will be considered for approval. Where only one manufacturer is mentioned with the phrase "or approved equal", Contractor may submit an alternate manufacturer for consideration, provided the following conditions are met:

1. Submit alternate equipment with complete descriptive data in shop drawing form. Provide sample of equipment upon request for review by Architect. Samples will be returned if requested in writing.
2. Alternate equipment must be equal from the standpoint of materials, construction and performance.
3. Alternate submittal must be presented to the Engineer/Architect ten (10) days prior to bid date for approval.

B. The Architect and Engineer shall be the sole judge of quality and equivalence of equipment, materials and methods.

2.02 All materials and products used on this project shall be listed by Underwriters' Laboratories.

2.03 ACCESS DOORS

A. Wherever access is required in walls or ceilings to concealed junction boxes, pull boxes, equipment, etc., installed under this Division, furnish a hinged access door and frame with flush latch handle to another Division for installation. Doors shall be as follows:

1. Plaster Surfaces: Milcor Style K.
2. Ceramic Tile Surfaces: Milcor Style M.
3. Drywall Surfaces: Milcor Style DW.
4. Install panels only in locations approved by the Architect.

2.04 EQUIPMENT PADS

A. Unless noted otherwise 4" high concrete pads for floor mounted equipment shall be installed under Division 3. Pads shall conform to the shape of the equipment with a minimum of 3" margin at equipment supports. Top and sides of pads shall be troweled to a smooth finish, equal to floor. External corners shall be bullnosed to a 3/4" radius, unless shown otherwise.

2.05 ESCUTCHEONS

A. Provide heavy chrome or nickel plated plates, of approved pattern, on conduit passing through walls, floors and ceilings in finished areas. Where conduit passes through a sleeve, no point of the conduit shall touch the building construction. Caulk around such conduit with sufficient layers of two hour rated firesafing by Thermafiber 4.0 P.C.F. density, U.S.G. fire test 4/11/78 and seal off openings between conduit and sleeves with non-hardening mastic prior to application of escutcheon plate. Escutcheons shall be Gravler Sure-Lock, or approved equal.

2.06 SPACE LIMITATIONS

A. Equipment shall be chosen which shall properly fit into the physical space provided and shown on the drawings, allowing ample room for access, servicing, removal and replacement of parts, etc. Adequate space shall be allowed for clearances in accordance with Code requirements. Physical dimensions and arrangement of equipment shall be subject to the approval of the Architect.

2.07 PAINTING

A. All factory assembled equipment for electrical work, except light fixtures, that normally is delivered with a factory applied finish shall be delivered with a hard surface factory applied finish such as baked-on machinery enamel which will not require additional field painting. The finish shall consist of not less than 2 coats of medium gray color paint USA No. 61 Munsell Notation 8-3G, 6. 10/0.54 enamel. This Contractor shall protect this finish from damage due to construction operations until acceptance of the building. He shall be responsible for satisfactorily restoring any such finishes or replacing equipment that becomes stained or damaged.

2.08 ELECTRICAL SYSTEM IDENTIFICATION

A. Conduit Systems: Provide adequate marking of major conduit which is exposed or concealed in accessible spaces to distinguish each run as either a power or signal/communication conduit. Except as otherwise indicated, use orange banding with black lettering. Provide self-adhesive or snap-on type plastic markers. Indicate voltage for that raceway. Locate markers at ends of conduit runs, on pull boxes, on junction boxes, near switches and other control devices, near items of equipment served by the conductors, at points where conduit passes through walls or floors, or enters non-accessible construction and at spacings of not more than 50 feet along each run of conduit. Switch-leg conduit and short branches for power connections do not have to be marked, except where conduit is larger than ¾ inch. Branch circuit conduits, junction boxes and pull boxes shall be marked with a permanent marker indicating panel name and branch circuit numbers.

B. Underground Cable Identification: Bury a continuous, preprinted, bright colored plastic ribbon cable marker with each underground cable (or group of cables), regardless of whether conductors are in conduit, duct bank, or direct buried. Locate each directly over cables, 6 to 8 inches below finished grade.

C. Identification of Equipment:

1. All major equipment shall have a manufacturer's label identifying the manufacturer's address, equipment model and serial numbers, equipment size, and other pertinent data. Care shall be taken not to obliterate this nameplate in any way.
2. A black-white-black laminated plastic engraved identifying nameplate shall be secured by stainless steel screws to each automatic transfer switch, switchboard, distribution panel, motor control center, motor starter panels and panelboards.
    a. Identifying nameplates shall have ¼ inch high engraved letters and shall contain the following information:
        1) Name
        2) Voltage
        3) Phase
        4) "3" or "4" wire, and
        5) Where it is fed from.

b. An example of a panelboard nameplate is:
Center Panel – 1HB
480/277 volt, 3 phase, 4 wire
Center Fed from DP2

c. An example of an automatic transfer switch nameplate is:
Center ATS #2
480/277 volt, 3 phase, 4 wire, 4 pole
Center Fed from MSB and DPE

3. Each feeder device in a switchboard, distribution panel, and motor control center device shall have a nameplate showing the load served in ½ inch high engraved letters.
4. A black-white-black laminated plastic engraved identifying nameplate shall be secured by screws to each safety switch, disconnect switch, individual motor starter, enclosed circuit breaker, wireway, and terminal cabinet.
   a. Identifying nameplates shall have ¼ inch high engraved letters and shall indicate the equipment served.
   b. An example if a disconnect switch is: AHU-1.
5. Cardholders and directory cards shall be furnished for circuit identification in panelboards. Cardholder shall be located on inside of panel door and shall be in a metal frame with clear plastic front. Circuit lists shall be typewritten. Circuit descriptions shall include location and name of each item of equipment served. Spares and spaces shall be written in erasable pencil for future use. Circuit directory shall show the room served by each circuit. The final graphs/signage room numbers shall be used. Do not use Architectural numbering on plans.
6. Prohibited Markings: Markings which are intended to identify the manufacturer, vendor, or other source from which the material has been obtained are prohibited for installation within public, tenant, or common areas within the project. Also, prohibited are materials or devices which bear evidence that markings or insignias have been removed. Certification, testing (example, Underwriters' Laboratories, Inc.), and approval labels are exceptions to this requirement.
7. Warning Signs: Provide warning signs where there is hazardous exposure associated with access to or operation of electrical facilities. Provide text of sufficient clarity and lettering of sufficient size to convey adequate information at each location; mount permanently in an appropriate and effective location. Comply with recognized industry standards for color and design.
8. Operational Tags: Where needed for proper and adequate information on operation and maintenance of electrical system, provide tags of plasticized card stock, either preprinted or hand printed. Tags shall convey the message, example: "DO NOT OPEN THIS SWITCH WHEN BURNER IS OPERATING."

PART 3 - EXECUTION

3.01 EXCAVATING AND BACKFILLING

A. Trenching and backfilling and other earthwork operations required to install the facilities specified herein shall conform to the applicable requirements of Division 2 (95% of maximum standard density). Where trenching or excavation is required in improved areas, the backfill shall be compacted to a condition equal to that of adjacent undisturbed earth and the surface of the area restored to the condition existing prior to trenching or excavating operations. Provide a minimum of 3" of sand underneath all conduits. The plans indicate information pertaining to surface and sub-surface obstructions; however, this information is not guaranteed. Should obstructions be encountered whether or not shown, the Contractor shall alter routing of new work, reroute existing lines, remove obstructions where permitted, or otherwise perform whatever work is necessary to satisfy the purpose of new work and leave existing surfaces and structures in a satisfactory and serviceable condition. **All work shall comply with OSHA Standards.**

3.02 WORKMANSHIP AND CONCEALMENT

A. The work of this Section shall be performed by workman skilled in their trade. Installation shall be consistent in completeness whether concealed or exposed. Each item of electrical work shall be concealed in walls, chases, under floors and above ceilings except:

1. Where shown to be exposed.
2. Where exposure is necessary to the proper function.

3.03 SLEEVES, CUTTING AND PATCHING

A. This section shall be responsible for placing sleeves for all conduit passing through walls, partitions, sound walls, beams, floors, roof, etc. Sleeves through below-grade walls shall use water-tight fitting manufactured by O-Z/Gedney.

B. All cutting and patching will be done under another Division, but this Section will be responsible for timely performance of this work and layout of holes and setting sleeves.

C. All un-used sleeves shall be sealed with 2 hour UL approved fire sealant manufactured by “3M” or approved equal.

D. Refer to 26 05 33 for additional requirements.

3.04 ELECTRICAL GEAR

A. Install all electrical equipment in accordance with the National Electrical Code and as shown on the drawings.

B. Disconnect switches, etc. mounted in mechanical/electrical rooms shall be mounted at a working height not requiring a ladder, when wall space is available. Installation of these devices at greater elevations shall be approved by the Engineer. Contractor shall provide a coordination sketch of each mechanical/electrical room noting locations and mounting heights of all electrical devices(note bottom and top elevations) shown to be installed. Sketches shall be provided to the Engineer for review and the general contractor for coordination with other trades working in these rooms.

3.05 CLEANING

A. Clean lighting fixtures and equipment.

B. Touch-up and refinish scratches and marred surfaces on panels, switches, starters, and transformers.

3.06 TESTS AND INSPECTIONS

A. Tests and inspection requirements shall be coordinated with Division I.

B. Date for final acceptance test shall be sufficiently in advance of completion date of contract to permit alterations or adjustments necessary to achieve proper functioning of equipment prior to contract completion date.

C. Conduct re-tests as directed by Architect on portions of work or equipment altered or adjusted as determined to be necessary by final acceptance test. No resultant delay or

consumption of time as a result of such necessary re-test beyond contract completion date shall relieve Contractor of his responsibility under contract.

D. Put circuits and equipment into service under normal conditions, collectively and separately, as may be required to determine satisfactory operation. Demonstrate equipment to operate in accordance with requirements of these specifications. Perform tests in the presence of Architect. Furnish instruments and personnel required for tests.

E. Final Inspection:

1. At the time designated by the Architect, the entire system shall be inspected by the Architect and Engineer. The contractor or his representative shall be present at this inspection.
2. Panelboards, switches, fixtures, etc., shall be cleaned and in operating condition.
3. Certificates and documents required hereinbefore shall be in order and presented to the Architect prior to inspection.
4. Panel covers, junction box covers, etc., shall be removed for visual inspection of the wire, bus bars, etc.

5. After the inspection, any items which are noted as needing to be changed or corrected in order to comply with these specifications and the drawings shall be accomplished without delay.

F. The contractor shall provide a thermographic test using an independent testing laboratory using an infrared scanning device. This test shall include but not limited to all switchboards, distribution panelboards, panelboards, automatic transfer switches and other electrical distribution devices. This test shall be conducted to locate high temperature levels. This test shall be conducted between 3 to 8 months after occupancy, but not beyond the one year warranty period. Submit test to the architect and engineer using test reporting forms. All unacceptable conditions shall be corrected prior to the end of the warranty period.

END OF SECTION

SECTION 26 03 13
ELECTRICAL DEMOLITION FOR REMODELING

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Electrical demolition.

B. The contractor shall be responsible for loss or damage to the existing facilities caused by him and his workmen, and shall be responsible for repairing such loss or damage. The contractor shall send proper notices, make necessary arrangements, and perform other services required for the care, protection and in-service maintenance of all electrical services for the new and existing facilities. The contractor shall erect temporary barricades, with necessary safety devices, as required to protect personnel from injury, removing all such temporary protection upon completion of the work.

C. Outages of services as required by the new installation will be permitted but only at a time approved by the Owner. The contractor shall allow the Owner 2 weeks in order to schedule required outages. The time allowed for outages will not be during normal working hours unless otherwise approved by the Owner. All costs of outages, including overtime charges, shall be included in the contract amount.

D. The contractor shall provide temporary or new services to all existing facilities as required to maintain their proper operation when normal services are disrupted as a result of the work being accomplished under this project.

1.02 RELATED SECTIONS

A. Section 01120 – Alteration Project Procedures.

B. Section 02072 – Minor Demolition for Remodeling.

PART 2 – PRODUCTS

2.01 MATERIALS AND EQUIPMENT

A. Materials and equipment for patching and extending work: As specified in individual Sections.

B. Include in the contract price all rerouting of existing conduits, wiring, outlet boxes, fixtures, etc., and the reconnecting of existing fixtures as necessitated by field conditions to allow the installation of the new systems. Furnish all temporary conduit, wiring, boxes, etc., as required to maintain lighting and power service for the existing areas with a minimum of interruption. Remove wire and conduit back to nearest accessible active junction box and extend to existing homeruns as required.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify field measurements and circuiting arrangements are as shown on Drawings.

B. Verify that abandoned wiring and equipment serve only abandoned facilities.

C. Demolition Drawings are based on casual field observation and existing record

documents. Report discrepancies to Owner before disturbing existing installation.

D. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION

A. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.

B. Provide temporary wiring and connections to maintain existing systems in service during construction. When work must be performed on energized equipment or circuits use personnel experienced in such operations.

3.03 DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK

A. Demolish and extend existing electrical work under provisions of Section 01120, Section 02072, and this Section.

B. Remove, relocate, and extend existing installations to accommodate new construction.

C. Remove abandoned wiring to source of supply.

D. Remove exposed abandoned conduit, including abandoned conduit above accessible ceiling finishes. Cut conduit flush with walls and floors, and patch surfaces.

E. Disconnect abandoned outlets and remove devices. Remove abandoned outlets if conduit servicing them is abandoned and removed. Provide blank cover for abandoned outlets, which are not removed.

F. Disconnect and remove electrical devices and equipment serving utilization equipment that has been removed.

G. Disconnect and remove abandoned luminaires. Remove brackets, stems, hangers, and other accessories.

H. Repair adjacent construction and finishes damaged during demolition and extension work.

I. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.

J. Extend existing installations using materials and methods compatible with existing electrical installations, or as specified.

K. Where existing construction is removed to provide working and extension access to existing utilities, contractor shall remove doors, piping, conduit, outlet boxes, wiring, light fixtures, air conditioning ductwork and equipment, etc., to provide this access and shall reinstall same upon completion of work in the areas affected.

L. Where partitions, walls, floors, or ceilings of existing construction are being removed, all contractors shall remove and reinstall in locations approved by the Architect all devices required for the operation of the various systems installed in the existing construction.

M. During the construction and remodeling, portions of the project shall remain in service. Construction equipment, materials, tools, extension cords, etc., shall be arranged so as to present minimum hazard or interruption to the occupants of the building.

N. Certain work during the demolition phase of construction may require overtime or

nighttime shifts or temporary evacuation of the occupants. Coordinate and schedule all proposed down time with the Owner's Representative at least 72 hours in advance.

O. All existing lighting fixtures, switches, outlets, speakers, materials, equipment and appurtenances not included in the remodel or alteration areas are to remain in place and shall remain in service.

P. Electrical equipment, outlets, speakers, circuits to mechanical and building systems equipment, etc., which are to remain but which are served by conduit and/or circuiting that is disturbed by the remodeling work, shall be reconnected in such as manner as to leave it in proper operating condition.

Q. Existing branch circuit wiring which is to be removed, shall be pulled from the raceways and the empty conduit shall be removed to a point of permanent concealment.

R. Within the remodeled or alteration areas where existing walls are being removed, all existing lighting fixtures, switches, receptacles, other materials and equipment and their appurtenances shall be removed, where required by the remodel work either shown or specified.

S. New circuiting indicated to be connected to existing panels shall be connected to "spares" and/or "released" breakers as applicable, or new breakers provided where space is available. Contractor shall verify the existing panel load and feeder capacity prior to adding any additional loads.

T. In all the remodeled areas where existing ceilings are being removed and reinstalled, all ceiling mounted devices (i.e. smoked detectors, speakers, etc.) and their appurtenances shall be removed and reinstalled, unless otherwise shown or specified. This also applies to new ceiling installations.

3.04 CLEANING AND REPAIR

A. Clean and repair existing materials and equipment which remain or are to be reused.

B. Panelboards: Clean exposed surfaces and check tightness of electrical connections. Replace damaged circuit breakers and provide closure plates for vacant positions. Provide typed circuit directory showing revised circuiting arrangement.

3.05 INSTALLATION

A. Install relocated materials and equipment under the provisions of Section 01120.

3.06 REMOVAL OF MATERIALS

A. The contractor shall modify, remove, and/or relocate all materials and items so indicated on the drawings or required by the installation of new facilities. All removals and/or dismantling shall be conducted in a manner as to produce maximum salvage. Salvage materials shall remain the property of the Owner, and shall be delivered to such destination as directed by the Owner. Materials and/or items scheduled for relocation and which are damaged during dismantling or reassembly operations shall be repaired and restored to good operative condition. The contractor may, at his discretion and upon the approval of the Owner, substitute new materials and/or items of like design and quality in lieu of materials and/or items to be relocated.

B. All items which are to be relocated shall be carefully removed in reverse to original assembly or placement and protected until relocated. The contractor shall clean, repair,

and provide all new materials, fittings, and appurtenances required to complete the relocations and to restore to good operative order. All relocations shall be performed by workmen skilled in the work and in accordance with standard practice of the trades involved.

C. When items scheduled for relocation are found to be in damaged condition before work has been started on dismantling, the contractor shall call the attention of the Owner to such items and receive further instructions before removal. Items damaged in repositioning operations are the contractor's responsibility and shall be repaired or replaced by the contractor as approved by the Owner, at no additional cost to the Owner.

D. Service lines and wiring to items to be removed, salvaged, or relocated shall be removed to points indicated on the drawings, specified, or acceptable to the Owner. Service lines and wiring not scheduled for reuse shall be removed to the points at which reuse is to be continued or service is to remain. Such services shall be sealed, capped, or otherwise tied-off or disconnected in a safe manner acceptable to the Owner. All disconnections or connections into the existing facilities shall be done in such a manner as to result in minimum interruption of services to adjacent occupied areas. Services to existing areas or facilities which must remain in operation during the construction period shall not be interrupted without prior specific approval of the Owner as hereinbefore specified.

END OF SECTION

SECTION 26 05 19
WIRE, CABLE AND RELATED MATERIALS

PART 1 - GENERAL

1.01 SCOPE

A. Provide 600 volt building wire, cable and connectors and 300 volt wire, cable and connectors.

B. WORK INCLUDED: Include the following Work in addition to items normally part of this Section.

1. Wiring for lighting and power.
2. Automatic Control Wiring.
3. Connection of equipment shown.
4. Fire Alarm System.

C. WORK SPECIFIED ELSEWHERE:

1. Heating, ventilating, and air conditioning equipment.
2. Structured cabling system.
3. Coaxial cables

1.02 STANDARDS

A. UL83

B. ASTM B-3

C. All wire cable and connectors shall be UL approved.

1.03 ACCEPTABLE MANUFACTURERS

A. 300 VOLT WIRE AND CABLE

1. Westpenn
2. Beldon
3. Alpha
4. Tappan - Southwire

B. FLEXIBLE CABLE SYSTEMS

1. AFC Modular Cable Systems

C. CONNECTORS

1. Ilsco
2. Cooper
3. AMP - TYCO
4. Burndy
5. Ideal
6. 3M
7. O.Z. Gedney
8. Thomas & Betts
9. Buchanan

1.04 SUBMITTALS

A. Shop drawings shall include, but not limited to:

1. Cutsheets of wire, cable and connectors to indicate the performance, fabrication procedures, product variations, and accessories.

1.05 REQUIREMENTS OF REGULATORY AGENCIES WORK IN ACCORDANCE WITH:

A. National Electrical Code.

B. Local, municipal, or state codes that have jurisdiction.

PART 2 - PRODUCTS

2.01 WIRING

A. All wire shall be new and continuous without weld, splice, or joints throughout its length. It must be uniform in cross-section, free from flaws, scales and other imperfections.

B. WIRE MATERIAL: Conductors shall be soft drawn, annealed copper. Aluminum wiring is not acceptable unless otherwise noted on drawings.

C. TYPES:

1. Provide type “THHN/THWN-2” insulation for all buried feeders and service entrance conductors.
2. Provide type “THHN/THWN-2” insulation for all branch circuits and above grade feeders.
3. All wire No. 8 and larger shall be stranded. All wire No. 10 and smaller shall be stranded or solid.
4. Provide type "XHHW" or other 90 degrees insulation wiring for branch circuit wiring installed through continuous rows of fluorescent fixture bodies.
5. All 300-volt cable including but not limited to telephone, fire alarm, data, CATV and security shall be UL listed for use in return air plenums.

D. CONDUCTOR SIZES

1. Feeder conductors shall be sized for a maximum of 2% drop in rated voltage at scheduled load.
2. Branch circuit conductors shall be sized for a maximum 3% drop in the rated voltage to the longest outlet on the circuit.
3. Minimum wire shall be No. 12, unless otherwise shown on Drawings or required by Code.

E. COLOR CODING: No. 6 or larger shall use tape for color coding. No. 8 and smaller wire shall be color coded in accordance with the governing authority requirements or as follows:

120/208 VOLT	277/480 VOLT	120/240 VOLT
NEUTRAL: White	Neutral: Gray	Neutral: White
PHASE A: Black	Phase A: Brown	Phase A: Black
PHASE B: Red	Phase B: Purple	Phase B: Orange
PHASE C: Blue	Phase C: Yellow	Phase C: Blue
GROUND: Green	Ground: Green	Ground: Green

2.02 GROUNDING

Permanently connect all conduit work, motors, starters, and other electrical equipment to grounding system in accordance with the National Electrical Code.

PART 3 - EXECUTION

3.01 WIRE

A. Do not pull wire into conduit until Work of an injurious nature is completed. Where two or more circuits run to a single outlet box, each circuit shall be properly tagged. Wyreze or approved equal may be used as a lubricant where necessary.

B. Splices shall be fully made up in outlet boxes with compression crimp-on type splice connectors.

C. Joints and splices will not be permitted in service entrance or in feeders. Joints in branch circuits will be permitted where branch circuits divide, and then shall consist of one through-circuit to which the branch shall be spliced. Joints shall not be left for the fixture hanger to make. Connect joints and splices with Buchanan Series "2000" solderless connectors complete with insulating caps or properly sized twist on wire nuts. **“Wago” push-in connectors are not acceptable.**

D. All stranded conductors shall be furnished with lugs or connectors.

E. Connectors furnished with circuit breakers or switches shall be suitable for copper wire termination.

F. “Sta-Cons” shall be used to terminate stranded conductors on all switches and receptacles.

G. All stranded #10 and small conductors shall be terminated with an approved solderless terminal if the device or light fixture does not have provisions for clamp type securing of the conductor.

H. The jacket for all travelers used on 3-way and 4-way switches shall be pink.

3.02 BALANCING SYSTEM

The load on each distribution and lighting panel shall be balanced to within 10% by proper arrangement of branch circuits on the different phase legs. Provide written documentation showing results. Submit with O & M manuals.

3.03 LOW VOLTAGE WIRING

A. Low voltage wiring shall be plenum rated. All wiring in mechanical rooms, electrical rooms, drywall ceiling, inaccessible areas, underground, plaster ceiling, inside concealed walls areas exposed to occupant view, and other areas subject to physical damage shall be run in conduit.

B. Low voltage wiring shall be routed in separate raceways from power wiring systems.

C. Sleeves shall be placed in the forms of concrete, masonry and fire rated walls, floor slabs and beams, for the passage of wiring. Sleeves should be set in place a sufficient time

ahead of the concrete work so as not to delay the work. Sleeves shall be rigid galvanized steel.

3.04 CABLE SUPPORTS

A. Provide cable supports in all vertical raceways in accordance with Article 300-19 of the NEC.

3.05 DEFECTS

A. Defects shall include, but are not to limited to, the following:

1. Tripping circuit breakers under normal operation.
2. Improperly connected equipment.
3. Damaged, torn, or skinned insulation.

END OF SECTION

SECTION 26 05 26
GROUNDING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

1.02 SCOPE

A. WORK COMBINED WITH OTHER SECTIONS: Combine the work specified herein with the following Sections to form a single responsibility for the Work:

1. Electrical.
2. Basic materials and methods.

B. Provide electrical service, equipment and wiring device grounding as shown, scheduled and as specified.

C. The types of grounding include, but not limited to, the grounding bonding of all equipment devices, building steel piping, and as required by the National Electrical Code, Local Inspection Department and Power Company.

1.03 STANDARDS

A. NATIONAL ELECTRICAL CODE (NFPA-70)

B. Local municipal and State codes that have jurisdiction.

C. NECA

1.04 ACCEPTABLE MANUFACTURES

A. Provide grounding products manufactured by Copperweld and Cadweld.

1.05 SUBMITTALS

A. Shop drawings shall include, but not limited to the following:

1. Cut sheets of ground rods, clamps and connectors.
2. Grounding system diagram.

PART 2 - PRODUCTS

A. GENERAL: Provide all materials required to construct a complete grounded electrical system.

B. GROUND RODS: Ground rods shall be 3/4" inch diameter by 10 feet long construction with copper jacket and a steel core.

C. CLAMPS: Ground clamps shall be copper except for steel or iron pipes in which the clamps shall be galvanized iron.

D. CONDUCTORS: Conductors shall be connected by means of an approved pressure

connector or clamp.

PART 3 - EXECUTION

3.01 INSTALLATION

A. GENERAL: Install grounding system as shown and specified to ensure a properly grounded system.

B. GROUNDING SEPARATELY DERIVED ALTERNATING CURRENT SYSTEM

1. STANDBY EMERGENCY GENERATOR: The generator neutral shall be bonded to the generator when a 4 pole switched neutral automatic transfer switch is specified.

C. GROUNDING CONDUCTOR: A grounding conductor and metallic conduit system shall bond all equipment served by the electrical system. Provide a flexible bonding jumper for isolated metallic piping and ductwork and around expansion fittings and joints.

D. CONDUIT GROUNDING BUSHING:

Conduit terminating in equipment that has a ground bus such as panelboards, etc., shall have grounding bushings installed. Ground each conduit by means of a grounding bushing and to the ground bus in the equipment.

E. MOTORS: The frame of all motors shall be grounded.

F. SPECIAL GROUNDING: Provide a #6 AWG copper grounding conductor for each telephone board, television system, etc. Terminate the grounding conductor on ground bus and to the building electrical grounding system. Refer to 800-40(d) and 820-40(d) of the NEC.

G. LIGHTING FIXTURES: Flexible fixture whips containing a green grounding conductor shall be used to connect light fixtures. Flexible fixture whips shall not exceed ten feet.

H. RECEPTACLES: All receptacles shall be grounded using the branch circuit grounding conductor. Receptacles shall use an approved grounding yoke.

END OF SECTION

SECTION 26 05 33
RACEWAYS

PART 1 - GENERAL

1.01 SCOPE

A. Provide electrical raceways and fittings as shown, scheduled and specified.

B. The types of raceways and fittings required are as follows:

1. Rigid hot-dipped galvanized steel conduit (RGS)
2. Intermediate hot-dipped galvanized steel conduit (IMC)
3. Electrical metallic tubing (EMT)
4. PVC
5. Flexible metal conduit
6. Liquid-tight flexible metal conduit (non-metallic is not acceptable)
7. PVC coated rigid galvanized steel conduit
8. Aluminum Rigid Conduit (ARC)

1.02 STANDARDS

A. ANSI, C80.1 & C80.3

B. NEMA FB-1

C. NEMA TC3

D. UL, 6, 797 & 1242

1.03 ACCEPTABLE MANUFACTURERS

A. Raceways

1. Allied
2. Triangle
3. Republic
3. Carlon
4. Wheatland Tube
5. Cantex
6. Western Tube
7. Robroy Industries

B. Fittings

1. Appleton
2. Crouse Hinds
3. Steel City
4. O.Z. Gedney
5. Carlon
6. Raco, Inc.

1.04 SUBMITTALS

A. Shop drawing shall include but not be limited to:

1. Cutsheets for raceways and fitting.

1.05 REQUIREMENTS OF REGULATORY AGENCIES WORK IN ACCORDANCE WITH:

A. National Electrical Code.

B. Local, municipal, or state codes that have jurisdiction.

PART 2 - PRODUCTS

2.01 PROVIDE CONDUIT AS FOLLOWS:

A. Except as noted or otherwise specified, all wiring shall be installed in galvanized rigid steel, rigid aluminum conduit or electrical steel tube (EMT) of the proper size to contain the number of conductors required in accordance with the latest edition of the N.E.C. Where conduit sizes are shown on the drawings, these shall take preference. Contractor shall epoxy coat galvanized rigid steel conduit for use in natatoriums.

B. EMT in sizes up to 4 inches when concealed or not exposed to damage and located indoors only.

C. PVC coated rigid galvanized steel shall be used for all penetrations of slab on grade.

D. Rigid galvanized steel where embedded in concrete or masonry construction, mechanical yard or in exterior/interior applications where subject to damage.

E. Rigid aluminum shall be used in exterior applications. (i.e. roof, top of canopies)

F. Carlon Schedule 40 PVC may be utilized underground, in or below slab where shown on the construction documents.

G. MINIMUM SIZE: 3/4 inch. All homeruns shall be 3/4" minimum.

H. PVC coated rigid galvanized steel conduit shall be coated inside and outside.

I. PVC coated rigid galvanized steel conduit shall be used at cooling towers, corrosive areas and pool pump rooms.

J. Fixture whips: Refer to 26 51 00 for additional information.

K. Flexible metal shall be used for connecting rotating equipment installed in conditioned spaces.

L. Liquidtight Flexible Metal Conduit (Sealtite) shall be used for connecting rotating equipment installed in non-conditioned spaces and outside.

M. Bear the stamped approval of the UL and be approved by the Architect and Engineer.

2.02 Branch circuits run underground shall be run in Carlon Schedule 40 PVC conduit. Install ground wire in accordance with NEC table 250-122.

2.03 FITTINGS

A. Couplings for rigid steel or intermediate conduit shall be hot dipped galvanized steel. Set screw type is not acceptable.

B. Steel or malleable iron fittings shall be used on all other raceway types except for PVC.

C. Couplings for aluminum raceways shall be threaded aluminum.

D. EMT systems shall utilize steel insulated throat, threadless, water tight compression type connectors and threadless steel water tight compression type couplings.

E. Coupling and connectors accessories and fittings for PVC coated rigid galvanized steel shall be PVC coated.

F. Metal Sealtite fittings shall be steel. Plastic is not acceptable.

G. Provide nylon bushing on end of all low voltage cabling system conduits (sleeves, rough-ins, etc.).

PART 3 - EXECUTION

3.01 CONDUIT

A. GENERAL

The Drawings are diagrammatic, and are intended to show the general location of outlets, devices, fixtures, and arrangement and control of circuits. The Contractor shall determine exact locations by actual measurement of the building or by reference to the Architectural Drawings.

B. Of such size, and so installed that conductors may be drawn in without injury or excessive strain.

C. Where entering panels, pull boxes, junction boxes, or outlet boxes, shall be secured in place with lock nuts inside and outside, and insulated bushings inside.

D. Have Red seal type VCC or approved equal cable supports in risers, as required by N.E.C.

E. Have ends reamed after cutting and application of die.

F. Keep conduit corked and dry during construction, and swab out before conductors are pulled.

G. Have bends and offsets made with approved tools. Bends or offsets in which the pipe is crushed or deformed shall not be installed.

H. Where not embedded in concrete or masonry, be firmly secured by approved clamps, half-straps or hangers.

I. Have O.Z. Gedney or approved equal expansion fittings where crossing building expansion joints.

J. EXPANSION JOINTS: Make provision for expansion and shifting of metal or PVC conduits where risers occur from underground.

K. Except in the mechanical equipment rooms, run conduit concealed, and by the shortest practicable route between outlets. Install risers, drops, and offsets necessary to avoid conflict with ductwork, piping, structural members, and similar items.

L. Install exposed conduit in mechanical rooms, and elsewhere as indicated, parallel to horizontal and vertical lines of walls, ceilings, and floors.

M. In general, light fixtures in finished areas having suspended acoustical ceilings shall be connected to outlet boxes of lighting grid by flexible metal conduit; length not to exceed ten feet.

N. Outlet boxes in partitions shall never be set back to back. They shall be offset to prevent undue noise transmission from room to room.

O. Concealed conduit shall run in as direct manner as possible using long bends. Exposed conduit shall be run parallel with or at right angles to the lines of the building; and all bends shall be made with standard conduit elbows or conduit benders. Not more than equivalent of four quarter bends shall be used in any run between terminals and cabinet, of between outlet or junction boxes. Approved condulets shall be used in lieu of conduit elbows where ease of installation and appearance warrants their use and approved by the engineer. Conduit joints shall be made with approved couplings and unions.

P. Conduits shall be continuous from outlet to outlet and from outlets to cabinets, junction or pull boxes and shall be electrically continuous throughout. Terminals of all conduits shall be provided with double lock nuts and bushing or terminated on conduit hubs. Use of running threads is prohibited.

Q. Each entire conduit system shall be installed complete before any conductors are drawn in. Every run of conduit shall be finished before covering up to guard against obstructions and omissions.

R. Sleeves shall be placed in the forms of concrete, masonry and fire rated walls, floor slabs and beams, for the passage of conduits. Sleeves should be set in place a sufficient time ahead of the concrete work so as not to delay the work. Sleeves shall be rigid galvanized steel and set to extend 4” above slab.

S. All pipe penetrations through walls and concrete floors shall be fire rated by applying USG Thermafiber in the space between the concrete and the pipe. The fire rating shall be additionally sealed by using 3M brand model CP 25 or 303 fire barrier caulk and putty. All fire rating material shall be installed in accordance with manufacturer's printed instructions.

T. All conduit shall be cleaned and swabbed to remove all foreign matter and moisture prior to pulling wire and cable. All boxes in which conduits terminate shall be cleaned of all concrete mortar and other foreign matter.

U. Provide #30 nylon pulling line in all conduits in which permanent wiring is not installed.

V. All conduit shall be securely fastened and supported using hot galvanized malleable iron one-hole pipe straps, clamps, hanger or other means approved by the engineer. Supports shall be as required by NEC Table 344-3 (B)(2). Tie wire shall not be used as support or securing means. Support conduit independently of ceiling hanger wire. Use all thread rods to support outlet boxes, junction boxes and conduit.

W. When PVC conduit is routed underground, all stub-up's and 90° elbows shall be PVC coated rigid galvanized steel. Use PVC coated rigid galvanized steel when penetrating concrete on grade.

X. Route all conduit above grade unless otherwise noted on the construction documents.

Y. Contact the Architect and Engineer for an installation review before covering any below grade or above grade conduit.

Z. All new outlets shall be flush mounted. In remodeled areas where wall construction prohibits flush mounting, provide wiremold 2400 series. Verify exact location and routing with architect before installation.

AA. Contractor shall not penetrate water proof barriers without using proper fitting to maintain barriers. This shall include exterior walls and slabs. Coordinate with Architect for proper methods.

3.02 FITTINGS

A. Install approved expansion fitting in all conduit runs in excess of 150 feet or when crossing building expansion joints.

3.03 CONDUIT CORROSION PROTECTION

A. Branch circuit conduits installed in concrete slabs on fill or grade shall be positioned in a manner to ensure complete concrete cover. In no case shall such conduits be exposed below or above the slab surfaces, or penetrate the waterproof membrane.

B. At locations where metallic conduits pass through slabs on grade or transitions below grade, PVC coated rigid galvanized conduit shall be used.

3.04 OUTLET AND JUNCTION BOXES

A. Provide an approved galvanized outlet box with adequate volume for number of conductors installed.

B. Provide standard galvanized switch boxes of the required number of gangs. Switch boxes where conduit is exposed shall be handy boxes or approved equal.

C. Outlet boxes for receptacles shall be similar to Universal 52151 with suitable raised cover. Receptacle boxes where conduit is exposed shall be handy boxes or approved equal.

D. Weatherproof boxes shall be FS or FD. Provide these boxes in all non-conditioned areas, exterior areas and natatoriums.

E. Outdoor boxes shall be NEMA 3R, with conduit connections made by Myers Hubs.

F. See notes and details on Drawings for special box requirements.

G. Provide junction boxes required to facilitate installation of the various conduit systems. Provide support boxes required for risers, each complete with approved cable supports as described elsewhere in this Division.

H. Outlet boxes for drywall shall be standard galvanized 4" square boxes with the appropriate device cover.

I. Provide floor outlet fittings for telephone to match fittings for duplex floor receptacles.

J. Provide 3-1/2” deep gangable masonry boxes in all masonry wall (CMU). Steel City GW-135-G or approved equal.

K. Provide shallow 4”x4” boxes in all demountable partitions.

L. Metallic boxes located in fire rated walls or partitions shall be separated by a minimum horizontal distance of 24 in. This minimum separation distance between metallic boxes may be reduced when “ Wall Opening Protective Materials” (CLIV) are installed according to the requirements of their Classification. Metallic boxes shall not be installed on opposite side of walls or partitions of staggered stud construction unless “Wall Opening Protective Materials” are installed with the metallic boxes in accordance with Classification requirements for the protective materials.

M. Junction, pull boxes, condulets, gutters, disconnects, contactors, etc., above 2-foot x 2-foot grid ceilings shall be mounted within 18-inches of ceiling grid. Above 2-foot x 4 – foot grid ceiling they shall be mounted within 30-inches of ceiling grid. All junction box, pull box, gutter openings shall be side or bottom accessible.

3.05 THRU-WALL SEALS

A. Provide O.Z. Gedney “Thru-wall” seals for all conduits passing through concrete structure below grade, above grade, and floor penetrations below grade. These prevent moisture from entering the building.

B. Straight sleeves are not acceptable.

3.06 PULL BOXES

A. Pull boxes shall be provided for conduit systems as required and shall be constructed of galvanized steel of not less than gauge and size specified by National Electrical Code.

B. Where two or more feeders pass through a common pull box, they shall be tagged to indicate clearly their electrical characteristics, circuit number, and panel designation.

3.07 WIREWAYS

A. Wireways shall be installed as indicated or required and locations shall be coordinated with architect.

B. Wireways shall be made of not less than 16-gauge sheet steel for 4 inch and 6 inch square sizes and 14 gauge steel for 8 inch and 12 inch square sizes. Couplings end plates, and knockouts shall be furnished as required. Each section of wireways shall be rigidly supported.

C. Wiring in wireways shall be neatly bundled, tied and suitably tagged.

D. The finish shall be ANSI-49 gray epoxy paint applied by a cathodic electrode position paint process over a corrosion resistant phosphate preparation for NEMA 1 wireways. Provide galvanized steel for NEMA 3R wireways. NEMA 3R wireways and auxiliary gutters are for horizontal mounting only.

END OF SECTION

SECTION 26 27 26
WIRING DEVICES

PART 1 – GENERAL

1.1 SCOPE

A. Provide wiring devices as shown; scheduled, required and as specified.

B. The types of wiring devices required include:

1. Receptacles
2. Switches
3. Coverplates

1.2 STANDARDS

A. NEMAWD-1

B. NEMA WD-5

C. UL

D. Federal Spec WC-596-F and WS-896

1.3 ACCEPTABLE MANUFACTURERS

A. Hubbell

B. Leviton

C. Pass & Seymour

1.4 SUBMITTALS

A. Shop drawings shall include but not be limited to:

1. Cut sheets of all devices indicating NEMA configuration, rating, materials, color, and all accessories.
2. Cut sheets of all coverplates indicating materials, color and any engraving specified on drawing or in the specifications.

1.5 REQUIREMENTS OF REGULATORY AGENCIES WORK IN ACCORDANCE WITH:

A. National Electric Code.

B. Local, municipal, or state codes that have jurisdiction.

PART 2 – PRODUCTS

2.1 MATERIALS AND COMPONENTS

A. GENERAL
1. Provide factory assemble wiring devices with the rating type and color as required and specified for the service indicated.
2. Provide matching one-piece multiple gang plates where switches are ganged.

3. Provide wall plates for each receptacle furnished.
4. Architect reserves the right to select wiring device styles and colors to match wall finish.
5. Wall plates shall be of same manufacturer as devices.

2.2 SWITCHES

A. Provide specification grade toggle switches where indicated on the Drawings. Coordinate exact locations and finish with architect.

B. Wall switches shall be 20 amp, 120-277 volt and shall be Hubbell, Leviton or P&S as follows:
1. SINGLE POLE SWITCHES: Leviton 1221-2, Hubbell 1221, P&S PS20AC1
2. DOUBLE POLE SWITCHES: Leviton 1222-2, Hubbell Hubbell 1222, P&S PS20AC2
3. THREE WAY SWITCHES: Leviton 1223-2, Hubbell Hubbell 1223, P&S PS20AC3
4. FOUR WAY SWITCHES: Leviton 1224-2, Hubbell Hubbell 1224, P&S PS20AC4

C. Dimmers: Provide Lutron Nova "T" series or Leviton or as shown on drawings. Wall box dimmers shall be sized to handle the load. Where fluorescent dimming ballasts are to be used, coordinate wall box dimmer with ballast manufacturer.

2.3 RECEPTACLES

A. Provide specification grade receptacles where indicated on the drawings. Provide “Red” receptacles for receptacles on emergency power. Coordinate exact location and finish with architect.

B. Receptacles shall be Hubbell, Leviton or Pass & Seymour as follows:

1. Duplex 20A-125V-self grounding:with Brass mounting yoke (NEMA configuration 5-20R): Hubbell HBL5352, Leviton 5362, P&S 5362A
5. Ground fault circuit interrupter (GFCI) receptacle 20A-125V; (NEMA Configuration 5-20R, shall incorporate features which will lock-out or render the device incapable of being reset if ground fault protection is compromised, with "Feed through" connectors capable of protecting connected downstream receptacles on a single circuit, and of being installed in a 2-3/4" deep outlet box without adapter, Hubbell GF20L, Leviton N7899 or P & S 2095.
Install Hubbell GFTR20, Leviton X7899 or P&S 2095TR Tamper Resistant type for locations requiring Tamper Resistant installations.
Install Hubbell GFTR20, Leviton X7899 or P&S 2095TRWR Weather Resistant type for installations in damp or wet locations.

2.4 PLATES

A. Furnish and install plates on all outlet boxes. Oversize (Jumbo) plates are not acceptable.

B. Plates shall be smooth nylon.
Plates shall be 302/304 smooth stainless steel in kitchen and coffee bar areas.

C. Provide Hubbell WP Series, Bell, Carlon or Leviton NEMA 3R weatherproof coverplates on all exterior wiring devices. Enclosure shall be suitable for wet locations when in use.

D. Plates shall be Hubbell SS Series, Leviton, Pass & Seymour 302/304 smooth stainless steel on all receptacles 30 amps and larger.

E. Stainless steel device plates shall be provided at locations with tile or stone walls.

PART 3 – EXECUTION

3.1 WIRING DEVICE MOUNTING HEIGHTS

A. Unless noted to the contrary on plans, or directed otherwise during the progress of the Work, wiring devices shall be set as follows:

1. Switches 42" above finished floor.
2. Wall mounted receptacles shall be installed vertically at 15 inches to the bottom outlet above finished floor unless otherwise noted or as required by local codes.
3. Wall telephone outlets shall be mounted 15 inches to the bottom above finished floor unless otherwise noted. Mount even with wall mounted receptacles.
4. At locations above counters, set devices at 6 inches above to the centerline counter tops, verify exact mounting height with the architect.

3.2 INSTALLATION (Refer to 26 05 33 for outlet box specifications).

A. Wall switches shall be set in a suitable steel box and shall be installed on the strike side of the door as finally hung, whether so indicated on the Drawings or not.

B. Receptacles shall be installed in a suitable steel box.

C. The Architect reserves the right to relocate wiring device up to a distance of 5 feet from the location shown, before rough-in, without additional cost.

D. Provide multi-gang device covers at locations where devices gang together.

E. Device locations are indicated schematically on the drawings along with the type and mounting height. Final locations and mounting heights shall be coordinated with the Architect on the jobsite, and with shop drawings of equipment; including equipment to be furnished and installed by the Owner. Devices installed in walls covered with vinyl, fabric wallpaper or other special finishes shall be coordinated and verified with the Architect on the job-site.

F. Stranded wire termination to switches, receptacles, devices and miscellaneous control devices shall be with an approved solderless terminal if clamp type securing is not possible (i.e. Sta-Con crimp on fork tongue connectors; Burndy Type TP-F).

END OF SECTION

SECTION 26 28 16
SAFETY AND DISCONNECT SWITCHES

PART 1 - GENERAL

1.01 SCOPE

A. Provide safety and disconnect switches as shown, scheduled and as specified herein.

1.02 STANDARDS

A. Products shall be designed, manufactured, tested and installed in compliance with applicable standards.

1. NEMA KS1 - Enclosed switches
2. Federal specification W-S-865C-Heavy duty switches

B. Products shall conform all applicable UL standards, including UL98 (standard for safety, enclosed and dead front switches) and shall be UL-labeled.

1.03 ACCEPTABLE MANUFACTURERS

A. Provide one of the following manufacturers:

1. General Electric Company
2. Square D Company
3. Siemens
4. Eaton

1.04 SUBMITTALS

A. Shop drawings shall include, but not be limited to:

1. Cutsheets of switches with ratings, physical dimensions and all accessories clearly labeled.

1.05 REQUIREMENTS OF REGULATORY AGENCIES

A. WORK IN ACCORDANCE WITH:

1. National Electrical Code.
2. Local, municipal, or state codes that have jurisdiction.

PART 2 - PRODUCTS

2.01 GENERAL

A. Furnish and install heavy duty type safety switches with the number of switched poles as indicated on the plans and specifications. All safety switches shall be NEMA Heavy Duty Type HD, and Underwriters Laboratories listed.

2.02 MATERIALS AND COMPONENTS

A. Switch Interior

All switches shall have switch blades that are fully visible in the "OFF" position when the

door is open. Switches shall have removable arc suppressor where necessary, to permit easy access to line side lugs. Lugs shall be front removable and UL listed for 60ºC and 75ºC copper or aluminum cables. All switches blades and contacts shall be plated copper. Adjust fuse block to accept Class J fuses.

B. Switch Mechanism

Switches shall have a quick-make and quick-break operating handle and mechanism, which shall be an integral part of the box, not the cover. Padlocking provisions shall be provided for locking in the "OFF" position with at least three padlocks. Switches shall have a dual cover interlock to prevent unauthorized opening of the switch door when the handle is in the "ON" position, and to prevent closing of the switch mechanism with the door open. A means shall be provided to permit authorized personnel to release the interlock for inspection purposes. Handle position shall indicate if switch is "ON" or "OFF".

C. Neutral

Provide a solid neutral with the safety switch where a neutral is present in the circuit.

D. Ratings

Switches shall be horsepower rated for ac and/or dc as indicated by the plans. The fused switches shall have Class R rejection fuse clips or adjusted for Class J fuses. UL listed short circuit ratings of the switches, when equipped with Class R fuses, shall be 200,000 symmetrical amperes.

E. Enclosures

1. Indoor switches shall be furnished in NEMA 1 enclosures.
2. Outdoor switches, switches located in wet areas or sprinkled areas shall be furnished in NEMA 3R enclosures.
3. Switches installed in kitchens shall be stainless steel.

PART 3 - EXECUTION

3.01 GENERAL

A. Install safety and disconnect switches, including electrical connections, and fuses in accordance with manufacturer’s written instructions, NEC and recognized industry practices.

B. Location: Install switches within sight of controllers.

C. Hubs: Provide bolt-on hubs for rainproof or wet area applications.

3.02 IDENTIFICATION

A. Nameplate: Each disconnect switch shall have an engraved bakelite nameplate. Nameplates shall be white with black letters and show equipment served. Nameplates shall be attached with stainless steel screws.

END OF SECTION

SECTION 26 29 26
MISCELLANEOUS ELECTRICAL CONTROLS AND WIRING

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

1.02 SCOPE

A. Provide the various miscellaneous control devices, wiring and additional branch circuits as required, shown and specified.

B. The types of miscellaneous control devices and wiring include but not limited to the following.

1. Additional control wiring and safety devices as shown and specified.
2. Connect power from fire alarm relays to starters to shut down air handling units.

C. WORK SPECIFIED ELSEWHERE:

1. Various control devices, of an electrical nature, for the safe operation and temperature control of the heating, ventilating, air conditioning and plumbing systems provided under Division 23.
2. All control wiring and conduit shall be furnished under Division 23. All power wiring 120 volt or larger shall be provided by Division 26.
3. Refer to building controls specification, Division 23 for scope of work required to be performed by Division 26 (electrical contractor).

1.03 REQUIREMENTS OF REGULATORY AGENCIES

A. WORK IN ACCORDANCE WITH:

1. National Electrical Code.
2. Local municipal or state codes that have jurisdiction.

PART 2 - PRODUCTS

2.01 MATERIAL

A. GENERAL: This Section shall outline the basic installation of electric devices, conduit, boxes, fittings, and wiring required for complete interconnection of several systems, this may not reflect every required appurtenance. It does not cover integral parts of mechanical equipment.

B. Control wiring shall be not less than #14 AWG type TW, and shall be color coded and labeled with Brady markers throughout. Bundle multiple conductors with Ty-Raps.

PART 3 - EXECUTION

3.01 Install miscellaneous electrical controls and wiring to provide a functioning system.

3.02 DIVISION 22, 23, 27 AND 28 MISCELLANEOUS POWER AND CONTROLS

A. Install electrical devices not an integral part of system equipment providing conduit, boxes, fittings, wiring, circuit breakers, disconnecting means and other devices.

B. Contractor is responsible for providing all line voltage power to devices that require electrical power to operate. Contractor shall terminate line voltage power to termination points. Contractor shall coordinate between all trades to determine sizing and quantities of line voltage circuits to adequately power and control devices. Provide circuits from nearest low voltage panel using spare circuits provided, if device requires power not already available or indicated.

C. Provide GFCI receptacle with weather proof cover within 25 feet of all heating, air conditioning and refrigeration equipment.

3.03 Install contactor and relays in electrical/mechanical rooms unless otherwise noted.

3.04 Install photocells on the roof unless otherwise directed by the architect. Coordinate any roof penetrations with all other trades and shield from other light sources.

3.05 Provide miscellaneous connections for signs and other furnished equipment as shown on the Drawings.

END OF SECTION

SECTION 26 32 13 16
DIESEL ENGINE DRIVEN STANDBY GENERATOR

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

A. The requirements of the General Conditions and Supplementary Conditions apply to all work herein.

B. SCOPE

1. Provide a standby electric generating system manufactured by Onan DQFAA series electric set rated for continuous standby service at 35 kW, 44 kVA at 0.8 power factor, 3-phase, 120/208 VAC, 60 cycle. The system shall be a package of new and current equipment consisting of:
   a. A diesel engine driven electric set installed indoors to provide emergency electric power.
   b. Automatic transfer switch(es) to provide automatic starting and stopping of the plant and switching of the load for separate transfer switch section.
   c. Mounted accessories as specified.
   d. Control wiring.
   e. Alternator oversized as shown.

1.02 PERMITS, TEST INSPECTIONS

A. This system shall be completely built, tested and shipped by a manufacturer who has been regularly engaged in the production of such equipment for the past ten years and who has parts and service facilities locally available so there is one source of supply and responsibility. The performance of the electric plant shall be certified by an independent testing laboratory as to the plant's full power rating and voltage and frequency regulation. The complete system shall bear a seal showing that it is prototype test supported.

1.03 REQUIREMENTS

A. Level 1 applications are legally-required emergency systems.

B. The electric generating system must meet all requirements of NFPA 110 (latest edition) including design specification, prototype tests, one-step full-load pickup, and installation acceptance. Engine-generator system to provide source of power for Level 1.

1.04 STANDARDS

A. Equipment shall meet the latest versions of the following codes:

1. N.E.C.
2. NFPA 101, 110, 37, 99, 30
3. IEEE - 446, 587
4. NEMA - MG1, ICS
5. ANSI
6. UL – 1008
7. MIL-STD 461 C – Part 9, IEC 801.2, IEC 801.3, IEC 801.5, IEC 1000-4-2,3,6 – RFI and EMI Performance.
8. UL 2200

1.05 SUBMITTALS

A. Shop drawings shall include but not be limited to:

1. Catalog cut sheets with all equipment, fuel tank, accessories and devices including all ratings.
2. Interconnection wiring diagrams.
3. Complete bill of materials.
4. Certified performance tests.

B. Operation and Maintenance Data

1. Submit under provisions of Division One.
2. Furnish three copies of the manuals and books listed below in substantial three-ring binders for each unit:
   a. Operating Instructions: Describe and illustrate all switchgear controls and indicators and engine and general controls. Include instructions for operating transfer switch equipment under normal and emergency conditions when engine generator is running.
   b. Parts Books: Illustrate and list all assemblies, subassemblies and components, except standard fastening hardware (nuts, bolts, washers, etc.).
   c. Preventative Maintenance Instructions: Describe the daily, weekly, monthly biannual and annual maintenance requirements and include a complete lubrication chart.
   d. Routine Test Procedures: Describe procedure for engine, radiator, all electronic and electrical circuits, and the generator.
   e. Troubleshooting Chart: Describe and list all troubles, probable causes, and suggested remedies.
   f. Recommended Spare Parts List: List all consumables anticipated to be required during routing maintenance and testing. List special tools, maintenance materials and replacement parts.
   g. Wiring Diagrams and Schematics: Show function of all electrical components.

1.06 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, protect and handle products to site under provisions of Division One.

B. Accept unit(s) on site on skids. Inspect for damage.

C. Protect equipment from dirt and moisture by securely wrapping in heavy plastic.

1.07 ACCEPTABLE MANUFACTURERS

A. Provide products complying with these specifications and produced by one of the following:

1. Engine sets
   a. Caterpillar
   b. Cummins
   c. Detroit Diesel Allison
2. Generators
   a. IEC – Baylor
   b. Kato
   c. Marathon
   d. Cummins Power Generation/Onan

3. Automatic Transfer Switches
   a. ASCO
   b. Kohler
   c. Cummins Power Generation/Onan
   d. GE/Zenith

1.08 ACCEPTABLE SUPPLIERS

A. All equipment provided shall be supplied by an authorized distributor of the manufacturer who has been continuously engaged in the distribution of industrial grade Power System products for a minimum of 15 years. The supplier shall provide initial start-up services, conduct field acceptance testing, and warranty service. The supplier be authorized to perform warranty service on all products provided.

B. Within 50 mile of the job site, the supplier shall maintain; a minimum of 6 factory trained and qualified field technicians; a proper supply of spare parts for the supplied equipment; a shop with overhaul capabilities; and be able to provide 24 hour, 7 day per week, 365 day per year field service capability.

PART 2 - PRODUCTS

2.01 ENGINE

A. The engine shall be radiator cooled, diesel fueled, 4 cycle, 12 cylinder. It shall have a total piston displacement of not less than 1860 cubic inches and develop not less than 1490 brake horsepower at its operating speed. A radiator air discharge duct flange shall be provided for a connecting duct to allow all heated air and gases to be discharged out of the building or enclosure through one opening. The radiator cooling system shall be rated at 40 degrees C. ambient against an external restriction of 0.5 inch water column. Engine cooling air requirements shall not exceed 34,000 CFM.

B. The engine shall be of 1-piece cast alloy iron construction with cast alloy iron heads. Valves shall be overhead and free to rotate. Valves shall be hard chrome-cobalt alloy faced with replaceable valve seat inserts of solid chrome-cobalt alloy. The crankshaft shall be forged steel. main bearings between all cylinders. The connecting rods shall be forged steel with connecting rod bearings. Fuel injection system with automatic fuel shut-off, automatic positive head maintained on injectors, and a reusable air element air cleaner; mechanical fuel transfer pump with filters. Provide full-flow, replaceable, oil filter with bypass; oil pressure gauge shall be included.

C. Provide a 5000 watt, 208 VAC thermostatically controlled water jacket heater system. Contractor shall install normal power to the heater.

D. Provide the following safety shutdown fault devices:

1. Low oil pressure
2. Over-speed
3. Over-crank
4. High temperature (with low water level)

E. Provide the following alarms:

1. Low engine temperature (indicating jacket heater malfunction)
2. Marginally high engine temperature
3. Marginally low oil pressure
4. Low fuel

5. Flashing for control switch in "Stop" position.

F. The engine shall be equipped with adjustable electronic governor isochronous (speed regulation 0.25 percent, no load to full load) with controls.

G. Generator main circuit breaker: set-mounted and wired, UL listed, molded case type with electronic trip unit, rated at 100 amps frame with 100 amp trip, 3 pole, 240volts. Submittals shall demonstrate that the circuit breaker provides proper protection for the alternator by a comparison of the trip characteristic of the breaker with the thermal damage characteristic of the alternator. Field circuit breakers shall not be acceptable for generator overcurrent protection. (Lugs on breaker shall match “ATS” lugs.)

H. Provide 24 volt electrical system and starting shall be a 24 volt electric starter.

2.02 ALTERNATOR

A. Rating 35 kW, 43 kVA, at 0.8 power factor, 208Y/120, 60 Hz at 1800 rpm and 125 degree C Temperature Rise above 40 degree C Ambient.

B. The alternator shall be a single bearing revolving field type, 2/3 pitch, 4-pole and shall be completely brush less. No commutator or commutator brushes shall be allowed. The main alternator and exciter shall be vacuum impregnated. The alternator shall be directly connected to the engine through a rigid coupling to insure permanent alignment. Voltage regulation shall be within plus or minus 1% of rated voltage, from no load to full load. Voltage recovery to rated voltage after acceptance of 100% of rated load in one step shall occur within 10 seconds. Provide a permanent magnet generator (PMG) excitation system. Motor starting capability shall be a minimum of 45 kVA. The generator set shall be capable of sustaining a minimum of 90% of rated no load voltage with the specified kVA load at near zero power factor applied to the generator set. The instantaneous voltage dip shall be less than 10% of rated voltage when full load and rated power factor is applied to the alternator. Stable or study-state operation is defined as operation with terminal voltage remaining constant within plus or minus 1% of rated voltage. Temperature rise shall be within rating as defined by NEMA MG1-22.40. Radio interference reduction shall exceed requirements for general civilian or commercial applications with TIF less than 50 and waveform deviation less than 0.06 line to line.

C. Provide a 120 volt anti-condensation heater minimum (100 watts) to prevent condensation during non-operating periods. Heater shall be thermostatically controlled, or rated for continuous use for the frame. Provide normal power to the heater.

D. Overload Rating: Capable of withstanding a three phase load of 300% rated current for 10 seconds, 150% of rated current for 2 minutes and 110% rated current for 60 minutes with field set for normal rated load excitation, and capable of withstanding an overspeed of 125%.

E. Performance Criteria:

1. Waveform Deviation: Less than 5%.
2. Crest Factor: 1.41 +/- 0.07.
3. Form Factor: 1.11 +/-0.05.
4. Total Harmonic Distortion: 5%.
5. Single Harmonic Distortion: 3%.
6. Telephone Interference Factor: 50% maximum.
7. Dynamic Balance: Less than 1 mil displacement peak to peak.

F. Enclosure: NEMA MG1, open drip proof.

G. Neutral Ground: As shown on drawings.

2.03 CONTROLS AND INSTRUMENTS

A. Provide comprehensive monitoring and control system integral to the Generator Set control to guard the electrical integrity of the alternator and power system. Provide single and 3-phase fault current regulation, so that downstream protective devices have the maximum current available to quickly clear fault conditions, without subjecting the alternator to potentially catastrophic failure conditions. Include provisions to either prevent over voltage due to single phase faults, or to shut down the generator set if line to neutral voltage on any phase exceeds 115% for more than 0.5 seconds. Acceptable methods are a fully rated (100%) 600 volt Circuit Breaker, mounted in the generator enclosure, GE Programmable VersaTrip of size as indicated on drawings with handheld programmer or inherent protection provided by microprocessor-based GenSet AmpSentry protection. Submittals shall demonstrate that the protective device provides proper protection for the alternator by a comparison of the trip characteristic of the breaker with the thermal damage characteristic of the alternator. Field circuit breakers shall not be acceptable for generator overcurrent protection.

B. An instrument panel mounted on top of the alternator shall contain the following:

1. Run-stop-remote switch
2. Lighted charge rate ammeter
3. Lighted oil pressure gauge
4. Lighted coolant temperature gauge
5. Remote start-stop terminals
6. Running time meter
7. Full A.C. instrument panel (A.C. ammeter, A.C. voltage, phase selector switch, frequency meter, and voltage adjusting rheostat.) All parameters shall have a readout that is not less than 2.5% accuracy.
8. Red alarm lights shall be provided for each fault and alarm condition.
9. Two sets of spare terminals shall be provided for customer selected faults.
10. An Emergency Shutdown contact shall be provided through which customer's push button or other momentary-closing switch contacts shall shutdown the generator set engine.
11. A fault reset switch contacts shall shutdown the generator set engine.
12. A fault reset switch shall be provided to clear fault indications and allow restarting of the engine after shutdown faults.
13. The control design shall be such that the fault indication shall remain until reset. The fault indicator memory shall not be dependent on the presence of either A-C or D-C voltage and shall retain the fault status memory even through complete removal and replacement of the starting batteries.
14. A battery warning that included load testing the battery on each crank shall be provided.
15. The fault reset function shall operate only when the RUN-STOP-REMOTE switch is in the STOP position.
16. All devices for interconnection and compatibility with digital accuracy and response shall be provided. Digital panels shall comply with electromagnetic interference requirements of Minimum Standard 461C – Part 9, and IEC Standard 801.2, 801.3 and 801.4.indication of voltage level
17. Include a full wave rectified automatic digital voltage regulation system matched and prototype tested by the engine manufacturer with the governing system provided. It shall be immune from misoperation due to load-induced voltage waveform distortion and provide a pulse width modulated output to the alternator exciter. The voltage regulation system shall be equipped with three-phase RMS

sensing and shall control buildup of AC generator voltage to provide a linear rise and limit overshoot. The system shall include a torque-matching characteristic, which shall reduce output voltage in proportion to frequency below an adjustable frequency threshold. Torque matching characteristic shall be adjustable for roll-off frequency and rate, and be capable of being curve-matched to the engine torque curve with adjustments in the field.

18. The automatic voltage regulator shall be temperature compensated, solid-state design and include overvoltage and overexcitation protection functions. The voltage regulator shall be equipped with three phase RMS sensing. The regulator shall control buildup of AC generator voltage to provide a linear rise and limit overshoot. Overvoltage protection shall sense the AC generator output voltage and in the event of regulator failure or loss of reference, shut down regulator output on a sustained overvoltage of one (1) second duration. Overexcitation protection shall sense regulator output and shutdown regulator output if overloads exceed ten (10) seconds in duration. Both overvoltage and overexcitation protection shutdowns shall be latched, requiring the AC generator to be stopped for reset.
19. The regulator shall include an under frequency rolloff torque-matching characteristics, which shall reduce output voltage in proportion to frequency below a threshold of 58-59 Hz). The torque-matching characteristic shall include differential rate of frequency change compensation to use maximum available engine torque and provide optimal transient load response. Regulators which use a fixed volts per hertz characteristic are not acceptable.
20. An electronic governor system shall provide automatic isochronous frequency regulation. The governing system dynamic capabilities shall be controlled as a function of engine coolant temperature to provide fast, stable operation at varying engine operating temperature conditions.
21. All analog and digital metering shall be true-RMS indicating, and shall not be disrupted by non-linear load generated waveform distortion.
22. Digital metering set shall indicate generator RMS voltage and current, frequency, output current, output kW, kW-hours, and power factor. Generator output voltage shall be available in line-to-line neutral voltages, and shall display all three phase voltages (line to neutral or line-to-line) simultaneously.
23. An under frequency sensing and protection system shall be provided which causes a shutdown of the generator set if true RMS frequency falls below 90% of rated for more than 20 seconds.
24. The control system provided shall withstand the surge voltage produced by a 70A DC battery charging alternator operating at full load when the battery bank is disconnected. The test shall be successfully completed without tripping protective circuit breakers or blowing fuse protective devices.
25. All switches, lamps and meters shall be oil-tight and dust-tight and the enclosure door shall be gasketed.
26. All switches shall be provided with fully illuminated back-lit labels and all metering shall be individually lighted to allow for easy reading of functions in a completely dark room.
27. The field connections shall be made on permanently labeled terminal blocks, which are designed and tested by the manufacturer of the generator set to be suitable for use without wire termination lugs. Provisions shall be made for future addition of DIN-rail mounted components.
28. Control panel and interconnection enclosures shall be UL508 listed as a unit assembly.
29. Communications:
    a. Alarm Relay Mode: Provide Form C alarm contacts that can be individually linked to alarm or status outputs from the generator set to external devices.

b. Software: Provide software designed to operate on an IBM-compatible PC. Monitor and control the on-site power system either locally or from a remote location through a modem and dedicated telephone line or other communications link.

30. Interface to Site Monitoring System: Provide necessary electronic components and wiring to interface with and communicate the analog and digital status information to an owner provided 1 site monitoring system. Include in this contract all work required for translation of proprietary protocol required to achieve this interface, and all licensing or other fees associated with this interface.

2.04 ELECTRIC PLANT MOUNTING

The plant shall be provided with shock or anti-vibration mounts with the plant. Provide Korfund LKD spring-type isolators or type EU pads. Vibration isolation may be integrally a part of the generator set to skid packaged from the set manufacturer. The plants integral base shall have forklift sockets. Battery rack shall be integral part of plant base.

2.05 ACCESSORIES

A. All accessories needed for the proper operation of each plant shall be furnished. These shall include but not limited to the following:

1. Critical rated side inlet silencers with installation attachments for mounting within the set housing, flexible exhaust connection. Mount silencer on top of set housing.
2. Belt driven battery charging alternator.
3. Lead acid starting batteries
4. Battery cables.
5. Fully automatic 10 amp battery charger 120 volt, 325 watts (Onan Series 305-0813-01). Include in automatic transfer switch.
6. Fuel/water separator.
7. Separate aboveground skid mounted double wall fuel storage tank with 500 gallons capacity. Tank shall have 7 gauge steel walls. The tank shall include the following features:
   a. Low level switch
   b. Low level fuel alarm
   c. Leak detection alarm
   d. Vent, drain
   e. Fuel gauge.
   f. High level switch.
   g. The tank shall be constructed of corrosion resistant steel and shall be UL listed. The equipment, as installed, shall meet all local and regional requirements for above ground tanks.
8. Flexible fuel lines for return and supply of fuel to the engine from the tank, and detailed operation and maintenance manuals with parts list.
9. An oil drain valve with hose extension shall be provided for draining oil at the side of the plant.
10. Detailed operation and maintenance manuals with parts list.

2.06 REMOTE ALARM ANNUNCIATOR

Onan no. 541-0814-02 shall be provided for flush mounting at inside locations remote from the generator set located by the fire alarm control panel.

2.07 AUTOMATIC TRANSFER SWITCH

A. Scope

1. Furnish and install open transition automatic transfer switches (ATS) 4 poles, amperage, voltage and withstand current ratings as shown on the plans. Each automatic transfer shall consist of an inherently double throw power transfer switch unit and a control module interconnected to provide complete automatic operation.

B. Codes and Standards

1. UL 1008 - Standard for Automatic Transfer Switches
2. NFPA 70 - National Electrical Code
3. NFPA 99 - Essential Electrical Systems for Health Care Facilities
4. NFPA 110 - Emergency and Standby Power Systems

C. Acceptable Manufacturers

1. ASCO
2. Kohler
3. GE/Zenith
4. Cummins Power Generation/Onan

D. Mechanically Held Transfer Switch

1. The transfer switch unit shall be electrically operated and mechanically held. The switch shall be mechanically interlocked to ensure only one of two possible positions, normal or emergency.
2. All main contacts shall be silver composition. Switches rated 600 amperes and above shall have segmented, blow-on construction and be protected by separate arcing contacts.
3. Inspection of all contacts shall be possible from the front of the switch without disassembly of operating linkages and without disconnection of power conductors. A manual operating handle shall be provided for maintenance purposes.
4. Designs utilizing components of molded-case circuit breakers, contactors, or parts thereof are not acceptable.

E. Microprocessor Control Panel

1. The control panel shall direct the operation of the transfer switch. The panel's sensing and logic shall be controlled by a built-in microprocessor.

F. Enclosure

1. The ATS shall be furnished in a NEMA type 3R enclosure.

G. Voltage and Frequency Sensing

1. The voltage of each phase of the normal source shall be monitored, with pickup adjustable from 85% to 100% of nominal and dropout adjustable from 75% to 98% of pickup setting.
2. Single-phase voltage sensing of the emergency source shall be provided, with pickup voltage adjustable from 85% to 100% of nominal and independent frequency sensing with pickup adjustable from 90% to 100% of nominal.

H. Time Delays

1. A time delay shall be provided to override momentary normal source outages and delay all transfer and engine starting signals. Adjustable from 0 to 6 seconds.
2. A time delay shall be provided on transfer to emergency, adjustable from 0 to 5 minutes for controlled timing of transfer of loads to emergency.
3. A time delay shall be provided on retransfer to normal, adjustable from 0 to 30 minutes. Time delay shall be automatically bypassed if emergency source fails and normal source is acceptable.
4. A time delay shall be provided on shutdown of engine generator for cool down, adjustable from 0 to 60 minutes.

I. Additional Features

1. A set of DPDT gold-flashed contacts rated 10 amps, 32 VDC shall be provided for a low-voltage engine start signal.
2. A momentary-type test switch shall be provided to simulate a normal source failure.
3. One set of auxiliary contacts, rated 10 amps, 250 VAC shall be provided.
4. Position indicating lights shall be provided.
5. An inphase monitor or delayed transition shall be provided for motor load applications.

J. Withstand and Closing Ratings

1. The ATS shall be UL listed in accordance with UL 1008 and be labeled in accordance with that standard's 3 cycle, long-time ratings. ATS's that are not tested and labeled with 3 cycle (any breaker) ratings and have series, or specific breaker ratings only, are not acceptable unless the switch performance is guaranteed and UL listed for molded case circuit breakers or current limiting fuses. If current limiting fuses are utilized, provide current limiting fuses and disconnect switch mounted in or on Automatic Transfer Switch.

K. The ATS manufacturer shall maintain a national service organization of company-employed personnel located throughout the contiguous United States. The service center's personnel must be factory trained and must be on call 24 hours a day, 365 days a year.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install generator on a 6 inch high reinforced concrete housekeeping pad. Provide blackouts as required.

B. Provide all power wiring, control wiring, additional contacts and relays required for a complete installation. All conduit shall be in a two hour enclosure. Underground conduits shall be concrete encased. The wall mounted dual rate battery shall be taken off line during the starting of the generator. The generator belt driven alternator shall charge the batteries when the generator is running.

C. Install generator set and transfer switches in accordance with manufacturer's instructions.

D. Ground and bond transfer switches under provisions of Division 26.

E. Provide engraved plastic nameplates under the provisions of Section 26 02 00.

3.02 WARRANTY

A. The complete standby electric power system, including engine-generator set equipped with set exerciser, and running time meter, shall be warranted for a period of five years form the date of initial start-up. Multiple warranties for individual components (engine, alternator, controls, etc.) will not be acceptable. Satisfactory warranty documents must be provided. This warranty shall be as detailed in available written documents. In the judgement of the specifying authority, the manufacturer supplying the warranty for the complete system must have necessary financial strength and technical expertise with all components supplied to provide adequate warranty support. All items of the engine, generator, and controls that are warranted in the first year shall be covered for the full five year term of the warranty.

B. Extensions of warranty term up to 10 years from start-up and inclusion of comprehensive terms shall be available for one year after start-up.

3.03 TESTS

A. Factory production model tests: Before shipment of the equipment, the generator sets shall be tested under rated load and power factor for performance and proper functioning of control and interfacing circuits. Testing at unity power factory only (resistance banks only) is not acceptable, since kW output is affected by the higher generator efficiency at unity power factor, and the kVAR for motor starting and regulation loads is not correlatable between unity and rated power factor. Other tests shall include:

1. Single step load pickup per NFPA 110.
2. Transient response and steady state governing.
3. Safety Shutdowns.
4. Prototype tests in accordance with NFPA 110 level 1 have been done on a complete and functional set, component level type tests will not substitute for this requirement.

The engineer shall be notified in advance of these test, and shall have the option of witnessing these tests. Certified copies of test results shall be forwarded to the engineer for review.

B. Field Test After Installation:

1. The complete installation shall be initially started and checked out for operational compliance by factory-trained representative(s) of the engine-generator set and transfer switch manufacturer. The engine lubrication oil and antifreeze, as recommended by the manufacturer for operation under environmental conditions specified shall be provided by the engine-generator set supplier.
2. Upon completion of initial start-up and system checkout, the supplier of the generator set shall perform a field test, with the engineer notified in advance, to demonstrate load carrying capability, stability, voltage, and frequency. The engineer shall be present during the field test.
3. The generator shall be run for four hours continuously with all available facilities emergency load connected to its output; in addition the generator set supplier must provide a portable load bank to supplement any existing load to enable full load testing. Load shall not exceed 50% of generator-set rating for first 1/2 hour, during first initial run for proper engine break-in. Records shall be maintained throughout this period to record water temperature, oil pressure, ambient air temperature, voltage, current, frequency, kilowatts, and power factor. The above

data shall be recorded at 15 minute intervals throughout the test. Generator set manufacturer shall confirm paralleling equipment is complete and performing properly. There shall be a 10 minute unloaded run at the conclusion of the test to allow engine to cool before shutdown. Three copies of the field test data shall be furnished to the engineer. The contractor shall make all necessary hook-ups to accomplish field tests and shall furnish all fuel necessary for field test and start-up. **The fuel oil tank shall be filled up at the completion of all testing and at the end of the project.**

C. Training

1. Provide training designed for a minimum of four persons, to include:
2. Training in the system operation in all possible configurations.
3. Training in the maintenance of the system.
4. Minimum of four hours of instruction, but sufficient to cover all items specified.
5. Four sets of instruction materials.
6. Provide DVD of all owner training and instruction.

END OF SECTION

SECTION 26 51 00
LIGHTING FIXTURES

PART 1 - GENERAL

1.01 SCOPE

A. Furnish and install general and emergency lighting fixtures as noted on the drawings. Fixtures shall be completely wired with lamps installed and shall be in perfect operating condition at the time of substantial completion.

B. The types of lighting fixtures required for this project include:

1. LED

1.02 STANDARDS

A. All fixtures shall conform to all applicable UL standards and shall be UL label including damp and wet location ratings.

B. NFPA 101

C. ANSI C82.1

D. NEMA-LE

E. IEEE Publication 587 Category "A" (Electronic Ballast)

F. All LED drivers shall be UL recognized Class 2 per UL1310 or non-Class 2 per UL 1012 as applicable.

G. All LED drivers shall comply with applicable requirements of the Federal Communications Commission (FCC) rules and regulations, Title 47 CFR part 15, for Non-Consumer Equipment.

H. All LED drivers shall be RoHS compliant.

I. TM-21

J. LM-80

K. LM-79

L. L70

M. DLC

1.03 ACCEPTABLE MANUFACTURERS

A. Provide lighting fixtures produced by manufacturers as shown and scheduled.

B. LAMPS:
1. Provide one of the following manufacturers
   a. General Electric Company
   b. Osram Sylvania
   c. North American Philips

1.04 SUBMITTALS

A. Shop drawings shall include a brochure with a separate cut sheet for each fixture type arranged in alphabetical order with fixture and all accessories/options clearly labeled. Provide performance data for each fixture. Provide an independent test lab report for each fixture if requested by the Architect/Engineer.

B. Provide data brochures indicating which lamp and ballast (if required) will be used in each fixture type.

1.05 REQUIREMENTS OF REGULATORY AGENCIES

A. WORK IN ACCORDANCE WITH:

1. National Electrical Code.
2. Local, municipal, or state codes that have jurisdiction.
3. UL fire resistance directory.

PART 2 - PRODUCTS

2.01 MATERIALS AND COMPONENTS

A. General:

Provide the size, type and rating of each light fixture shown and scheduled. All light fixtures shall complete with reflectors, lens, trim rings, flanges, lamps, lamp holders, ballast, starters, fuses, wiring, earthquake clips, etc. to provide a complete functioning light fixture.

B. Lighting Fixture Types:

1. LED Fixtures
   a. Fixtures shall be pre-wired with frame-in kit and integral thermal protection required by UL for recessed fixtures. Driver shall be encased in metal-can construction for optimal thermal performance.
   b. Total fixture lumen output is dependent on the chip, thermal management, driver current and optical system. LED fixtures shall be tested as a complete unit or system. Only DOE recognized CALiPER testing laboratory results shall be utilized.
   c. LED fixtures shall have integral common mode and differential mode surge protection of 3kV(1.2/50µs, 2 ohm combination wave).
2. Exit signs
   a. Exit signs shall meet all federal, state and local codes.
   b. Provide fire alarm interface relay when required to flash exit signs.
   c. Provide battery packs for emergency operation when not connected to emergency generator power.

2.02 DRIVERS - COORDINATE WITH LIGHT FIXTURE SCHEDULE

A. LED

1. Driver manufacturer shall have a 10-year history producing electronic drivers for the North American market.
2. Driver shall carry a five year limited warranty from date of manufacture against

defects in material or workmanship (including replacement) for operation at a maximum case temperature of 80 degrees Celsius.

3. Drivers shall not contain any Polychlorinated Biphenyl (PCB).
4. Provide driver with integral color-coded leads.
5. Driver shall operate from 50/60 Hz input source of 120 Volt through 277 Volt or 347 Volt through 480 Volt with sustained variations of +/- 10% (voltage) with no damage to the driver.
6. Driver output shall be regulated to +/- 5% across published load range. And shall have a power factor greater than .90 for primary application to 50% of full load rating with an input current Total Harmonic Distortion (THD) of less than 20% to 50% of full load rating.
7. Provide drivers with a Class A sound rating.
8. Provide LED drivers for outdoor fixtures with a minimum operating temperature of -40 degrees Celsius (-40 F). Provide LED drivers for indoor fixtures with a minimum operating temperature of -20 degrees Celsius (-2F).
9. Drivers shall tolerate sustained open circuit and short circuit output conditions without fail and auto-resetting without need for external fuses or trip devices.
10. Driver output ripple current shall be less than 15% measured peak-to-average, with ripple frequency being greater than 100Hz.
11. Driver performance requirements shall be met when operated to 50% of full load rating.
12. Driver shall have integral thermal foldback to reduce driver power above rated case temperature to protect the driver if temperatures reach unacceptable levels.
13. Drivers shall comply with NEMA 410 for in-rush current limits.
14. Dimmable drivers shall be controlled by a Class 2 low voltage 0-10VDC controller with dimming range controlled between 1 and 8VDC with source current 150μA.

PART 3 - EXECUTION

3.01 INSTALLATIONS

A. General

1. Install the type of light fixture where shown and indicated in accordance with manufacturer's written instructions.
2. Provide earthquake clips on all recessed lay-in light fixtures as required by building code.
3. Adjust all adjustable light fixtures, as directed by the Architect.
4. Provide safety chains and wire guards for light fixtures located in gymnasium, multi-purpose rooms, play areas, etc.

B. Coordination

1. The contractor shall verify the type of fixtures with the ceiling types as indicated on the drawings. Any discrepancies shall immediately be brought to the architect's attention before the contractor places his order and accepts delivery. Fixtures shall fit exact in the type of ceiling scheduled. Provide plaster frames, trim rings and other accessories required for a correct fit.
2. Provide supports attached to structural member to support fixtures when the ceiling system cannot maintain support.
3. Refer to architectural reflected ceiling plan for the exact location of all light fixtures. Notify the architect for any discrepancies or conflicts with structural, architectural, mechanical piping or ductwork before installation.

C. Mounting

1. Provide support channels to support outlet boxes used support surface mounted light fixtures such as exit signs or downlights.
2. Pendant or surface mounted fixture shall be provided with required mounting devices and accessories, including hickeys and stud-extensions, ball-aligners, canopies and stems. Locations of fixtures in mechanical areas shall be coordinated with mechanical contractor. Mounting stems of pendant fixtures shall be of the correct length to uniformly maintain the fixture heights shown on the drawings or established in the field. The allowable variation tolerance in mounting individual fixtures shall not exceed 1/4 inch and shall not vary more than 1/2 inch from the floor mounting height shown on the Drawings. Fixtures hung in continuous runs shall be installed absolutely level and in line with each other. Hanging devices shall comply with Code requirements. Fixtures shall employ single - not twin - stem hangers unless otherwise noted.
3. All structure mounted fixtures (i.e. bracket mounted, pipe mounted and surface mounted) shall be provided with cables of suitable size and weight to support the weight of the fixture. Cables shall be fastened around or fastened to the housing of the fixture. On pendant fixtures, one safety cable of suitable size and weight to support the weight of the fixture assembly shall connect the top of the pendant to the supporting structure by means of welding or bolting, and one safety cable shall connect the housing of the fixture to the bottom of the pendant. Where more than one pendant per fixture occurs, only one pendant must be cabled. Track fixtures for pendant mounted track shall also be supplied with clip-on safety cables of suitable size and weight to support the weight of the fixture.
4. Provide secondary support wires from all four (4) corners of the lay-in fixtures to the structure above. Do not support fixtures from ceiling grid wire supports, piping, conduit, side walls, or mechanical equipment. Ceiling specifications do not supersede this requirement.

D. Electrical Connection

1. All light fixtures installed in an accessible suspended ceiling shall be connected from a branch circuit junction box using 1/2" flexible metal conduit or MC cable fixture pigtails not exceeding 8'- 0". All fixtures must be grounded by using a grounding conductor. Fixture to fixture wiring of fixtures installed in an accessible ceiling is not permitted. Fixture whips shall not lay-on ceiling tile or grid. Provide caddy clips to provide additional support.

E. Fire Rated Ceiling

1. Provide fire rated canopy or enclosure for all fixtures recessed in a fire rated ceiling. The fire rated canopy or enclosure shall be as required by the UL design number listed in the UL fire resistance directory. Refer to architectural drawing for the UL design number. Coordinate with ceiling installer and manufacturer.

3.02 FINAL INSPECTION

A. Remove all plastic and protective coating from all fixtures. Fixtures shall be thoroughly cleaned. Replace any damaged fixture or fixture parts including reflectors, louvers, lens and metal parts that show signs of corrosion.

B. All final incandescent lamps used during construction shall be replaced with new lamps. Replace all other defective ballast, lamps or discolored lamps, showing signs of excessive usage.

C. Demonstrate proper operation of all fixtures and controls.

END OF SECTION

SECTION 27 1000

STRUCTURED CABLING SYSTEM

PART 1 - GENERAL

1.01 This section identifies the requirements, technical design, and specifications for the structured cabling system at the Williamson County & Cities Health District Office Renovations, located in Round Rock, Texas ("Owner"). The structured cabling system as specified is an Industry-Standard Category 6 structured cabling system and includes backbone cabling, horizontal cabling and equipment room hardware as specified.

1.02 The Contractor shall provide a Manufacturer's (minimum) 25-Year System Warranty for the installed structured cabling system.

1.03 Contractor shall include materials, equipment, and labor necessary to provide a complete and functional structured cabling system regardless of any items not listed or described in this specification or associated drawings.

1.04 Requirements

A. Contractor Experience Requirements

B. Submittal Requirements

C. Acceptable Manufacturers

D. Codes, Standards and Regulations

E. General Requirements

F. System Requirements

G. Testing Requirements

H. Project Closeout Documentation

I. Attachments

1.05 Related Requirements

A. The Drawings, Specifications, General Conditions, Supplementary General Conditions, and other requirements of Division 1 apply to the work specified in Division 27, and shall be complied with in every respect. The Contractor shall examine all of the items which make up the Contract Documents, and shall coordinate them with the work on the project.

B. Contractor Experience Requirements

1. The Contractor shall be at least a Panduit Gold Partner prior to submitting a bid for the work.

2. The Contractor shall possess all relevant Manufacturer Certifications (i.e. structured cable systems, testing equipment, etc,) for both the company and individual technicians prior to submitting a bid for the work.

3. The Contractor's Project Manager shall be a Registered Communications Distribution Designer (RCDD) and available for all onsite coordination meetings.

4. The Contractor shall have been in business for a minimum of five (5) years.

5. The Contractor shall have a local office with local technicians and an adequate workforce to complete this project within a 50-mile radius of the project site.

6. The Contractor shall have completed a minimum of five (5) projects similar in size and scope to the Owner's installation, where the systems have been in continuous satisfactory operation for at least one (1) year.

C. Subcontractors shall be identified at the time of bid and comply with the requirements and intentions of these specifications, associated drawings, and related contract documents.

1.06 Submittal Requirements

A. Pre-Installation Submittal

1. Contractor shall not order, purchase, or install any equipment until pre-installation submittals have been accepted in writing by the Architect/Engineer.

2. All submittals shall be submitted in the same sequence as they are listed in the specifications (i.e. product data in the sequence items are listed in the product data section, manufacturer product certifications for company, manufacturer product certifications for installers, etc.). Submittals not in the proper sequence will not be approved.

3. Manufacturer product data sheets for each proposed system component.

   a. For product data sheets containing more than one (1) part number or product, the Contractor shall clearly identify the specific part number or product being submitted. Product data sheets without the part number clearly identified will not be approved.

4. Manufacturer Product Certifications for Company.

5. Manufacturer Product Certifications for Installers.

6. Manufacturer Certifications for testing equipment technicians.

7. Manufacturer Certifications for testing equipment calibration.

8. RCDD Certificate for Contractor's Project Manager.

9. Manufacturer Warranty letter.

10. Documentation indicating that Contractor has been in business for (5) years.

11. Address of Contractor's local office within a 50-mile radius of the project site.

12. Quantity of full time local technicians within a 50-mile radius of the project site.

13. List of five (5) contractor-installed projects of a similar size and scope that have been in operation for at least (1) year. The Contractor shall provide the following information for each project: Project Name, Project Location, Project

Start Date, Project Completion Date, Project Start Cost, Project Completion Cost, Brief Description of Project, Client Point of Contact Name and Phone Number.

14. List of completed and ongoing projects with the Owner. The Contractor shall provide the following information for each project: Project Name, Project Location, Project Start Date, Project Completion Date, Project Start Cost, Project Completion Cost, and Brief Description of Project.

15. List of subcontractors performing any work on the project. List shall clearly identify the subcontractor's legal name and address, the scope of work to be performed by the subcontractors and the overall percentage of the project being provided by the subcontractor. If there are no subcontractors performing any work on the project, submit a statement on company letterhead clearly indicating no subcontractors will be performing any work on this project.

PART 2 - PRODUCTS

2.01 General Requirements

A. The following sections specifically list the acceptable equipment types and items for this project.

B. Architect/Engineer will have final determination of acceptability of all proposed equipment and must approve submitted equipment prior to purchase or installation.

C. Proposed equivalent items must be approved in writing by the Architect/Engineer prior to purchase or installation. Proposed equivalent items must meet or exceed these specifications and the specifications of the specified item.

D. In the event a manufacturer's specified product or part number has changed or is no longer available, Contractor shall substitute the appropriate equivalent manufacturer's part number.

E. In the event of a discrepancy between the specifications and the drawings, the greater quantity and/or better quality will be furnished.

F. For listed products with no part number specified, Contractor shall provide a product that meets the performance requirements of these specifications, industry standard practices, and intended application.

G. All wiring, equipment, and installation materials shall be new and of the highest quality.

H. Labels on all cabling, materials, and equipment must indicate a nationally recognized testing laboratory.

I. Original Equipment Manufacturer (OEM) documentation must be provided to the Architect/Engineer which certifies performance characteristics and compliance with ANSI/TIA/EIA 568-C standards.

J. **Refer to the attached Williamson County Cabling Specification for additional information.**

2.02 Acceptable Manufacturers

A. Horizontal Cable

1. Category 6 UTP Plenum

a. Network Access (Blue Sheath)

1) General Cable PanGen 6 Part Number – 7131800

b. VoIP/Wall Phone (White Sheath)

1) General Cable PanGen 6 Part Number – 7131801

c. Wireless Access Point (Green Sheath)

1) General Cable PanGen 6 Part Number – 7131806

B. Fiber Optic Cable Termination

1. 2RU Fiber Enclosure

a. Panduit Opticom QuickNet Rack Mounted Fiber Optic Enclosure – Part Number FCE2U

2. 9µm Singlemode Fiber Adapter Plate

a. Panduit Singlemode OS1/2 FAP, Duplex LC, Zirconia Ceramic Split Sleeves Blue – Part Number – FAP12WBUDLCZ

3. Fiber Blank Plate

a. Panduit Blank Fiber Adapter Panel – Part Number FAPB

4. 9µm Singlemode LC Connectors

a. Panduit OptiCam LC Singlemode Duplex Connector, Blue – Part Number – FLCDSCBUY

5. Loose Tube Fiber Fan-Out Kit

a. Panduit 1 Meter Fiber Optic Fan-Out Kit, 12-fiber – Part Number – FO12CB

6. Rack Mounted Voice Patch Panels

a. Panduit 1RU NetKey 24-Port Flat Panel – Part Number NK6PP24P

7. Category 6 Horizontal Rack Mounted Patch Panels

a. Panduit 1RU NetKey 24-Port Flat Panel – Part Number NK6PP24P

b. Panduit 2RU NetKey 48-Port Flat Panel – Part Number NK6PP48P

8. Category 6 Modular Jacks

a. Network Access

1) Field End (Blue)

a) Panduit NetKey Category 6 Jack Module – Part Number NK688MBU

b. Voice Access

1) Field End (White)

a) Panduit NetKey Category 6 Jack Module – Part Number NK688MWH

c. Wireless Access Points

1) Field End (Green)

a) Panduit NetKey Category 6 Jack Module – Part Number NK688MGR

9. Telecommunications Faceplates with Designation Window

a. 2-Port Single Gang Flush (International White)

1) Panduit NetKey Wallplate with ID Window – Part Number NK2FIWY

b. 4-Port Single Gang Flush (International White)

1) Panduit NetKey Wallplate with ID Window – Part Number NK4FIWY

10. 2-Port Surface Mount Box (International White)

a. Panduit NetKey Surface Mount Box – Part Number NK2BXIW-A

11. Blank Insert (International White)

a. Panduit NetKey Blank Keystone Module – Part Number NKBMIW-X

C. Equipment Racks, Cabinets, Cable Management, and Accessories

1. Two-Post Rack - 19” x 84” Aluminum Rack (Black)

a. Panduit – Part Number R2P

2. Four-Post 45U Open Frame Rack – 20.3” x 84” x 23” (Black)

a. Panduit – Part Number ER4P23

3. Vertical Cable Managers (Black)

a. Panduit Double Sided Vertical Cable Manager - Part Number WMPV45E

4. Horizontal Cable Managers (Black)

a. Panduit 1RU Horizontal Cable Manager - Part Number WMPSE

b. Panduit 2RU Horizontal Cable Manager - Part Number WMP1E

5. Vertical Power Strip for 7’ Equipment Rack

a. Chatsworth 20 Outlet (5-20R) Power Strip with Meter and NEMA 5-20P – Part Number 12851-755

D. Cable Runway (Ladder Type)

1. Universal Cable Runway

a. 12-inch Panduit Wyr-Grid - Part Number WG12BL10

2. Mounting Brackets

a. 12-inch Panduit Wyr-Grid - Part Number WGTBS12BL

3. Cantilever Brackets

4. Wall Mount Termination Brackets

a. 12-inch Panduit Wyr-Grid - Part Number WGWMTB12BL

5. Splice Connectors

a. 12-inch Panduit Wyr-Grid - Part Number WGSPL1218BL

6. Snap-On Sidewalls (provide on all sections of tray)

a. 2-inch Sidewall Panduit Wyr-Grid - Part Number WGSW2BL

7. Waterfalls
    a. 4-inch Side Waterfall Panduit Wyr-Grid - Part Number WGSWF4BL
    b. Bottom Waterfall Panduit Wyr-Grid - Part Number WGBTMWFBL
8. Intersection Bend Radius Control (provide at all bends)
    a. 2-inch Sidewall Panduit Wyr-Grid - Part Number WGINTBRC2BL
9. Rack Hardware Kit
    a. Panduit Wyr-Grid - Part Number WGHRDWKTBL

E. Pathway Cable Support
1. Panduit J-Pro Cable Support System

F. Grounding and Bonding
1. Main Grounding Bus Bar, 20”
    a. Panduit - Part Number GB4B0624TPI-1
2. Grounding Bus Bar, 24”
    a. Panduit - Part Number GB2B0514TPI-1
3. Grounding Bus Bar, 12”
    a. Panduit - Part Number GB2B0306TPI-1
4. Cable Runway Ground Strap Kit
    a. Panduit
5. Two Mounting Hole Grounding Lug
    a. Panduit – LCC Series
6. #6 AWG Solid Green Insulation Ground Wire
    a. Panduit - Part Number ACG24K
7. #3/0 Stranded Green Insulation Ground Wire
8. Cable Sheath Bonding Clamp

G. Labeling
1. Permanent Labels for Fiber Optic Cables
    a. Panduit Self Laminating Labels – Part Number S100X650YAJ
2. Permanent Labels for Innerduct
    a. Panduit Dome-Top Ty Marker
3. Permanent Labels for Category 6 Cables

a. Panduit Self-Laminating Labels – S100X150YAJ

4. Permanent Labels for Patch Panels

a. Panduit Component Label – Part Number C261X035Y1J

5. Permanent Labels for Faceplates

a. Panduit Component Label – Part Number C195X040Y1J

H. Fire Stop

1. STI Spec Seal Part Number

2. 3M Products Part Number

I. Plywood

1. 8’ H x 4’ W x ¾” Sheets of BC grade fire-rated plywood

J. Fire Retardant Paint (White)

K. Fiber Patch Cables

1. Panduit OS1/OS2 2-Fiber Singlemode, Riser-Rated, LC to LC Fiber Optic Patch Cords – Part Number F92ERQNQNSNMXXX (contractor to provide appropriate length)

L. Copper Patch Cables

1. Panduit Cat 6 UTP Patch Cord – Part Number UTP28SPXXBU (contractor to provide appropriate length)

PART 3 - EXECUTION

3.01 Codes, Standards, Regulations

A. American National Standards Institute (ANSI)

B. American Society for Testing and Materials (ASTM)

1. ASTM B 1 (2001; R 2007) Standard Specification for Hard-Drawn Copper Wire

2. ASTM B 8 (2004) Standard Specification for Concentric-Lay-Stranded Copper Conductors, Hard, Medium-Hard, or Soft

3. ASTM D 1557 (2007) Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3) (2700 kN-m/m3)

4. ASTM D 709 (2001; R 2007) Laminated Thermosetting Materials

C. Alliance for Telecommunications Industry Solutions (ATIS)

D. Building Industry Consulting Service International (BICSI)

1. Telecommunications Distribution Methods Manual 13th Edition

2. Outside Plant Design Reference Manual 5th Edition

3. ANSI/BICSI 002-2011, Data Center Design and Implementation Best Practices

4. NECA/BICSI 568-2006 – Standard for Installing Commercial Building Telecommunications Cabling

5. NECA/BICSI 607-2011, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings

E. Electronics Industry Alliance (EIA)

F. Federal Communications Commission (FCC)

1. FCC Part 15, Radiated Emissions Limits, revised 1998

2. FCC Part 68, Connection of Terminal Equipment to the Telephone Network, revised 1998

3. FCC Part 76, Cable Television Service, revised 1998

G. Insulated Cable Engineers Association (ICEA)

1. ICEA S-87-640 (2006) Fiber Optic Outside Plant Communications Cable

2. ICEA S-98-688 (2006) Broadband Twisted Pair, Telecommunications Cable Aircore, Polyolefin Insulated Copper Conductors

3. ICEA S-99-689 (2006) Broadband Twisted Pair Telecommunications Cable Filled, Polyolefin Insulated Copper Conductors

H. International Electrotechnical Commission (IEC)

I. Institute of Electrical and Electronics Engineers, Inc. (IEEE)

1. IEEE Standard 81-1983, IEEE Guide for Measuring Earth Resistance, Ground Impedance, and Earth Surface Potential of a Ground System
2. IEEE Standard 1100-1999, Recommended for practice for Powering and Grounding Sensitive
3. Electronic Equipment in Industrial and Commercial Power Systems (IEEE Emerald Book)
4. IEEE C2 (2007; Errata 2007; INT 2008) National Electrical Safety Code
5. IEEE Std 100 (2000) The Authoritative Dictionary of IEEE Standards Terms

J. International Organization for Standardization (ISO)

1. International Organization of Standardization/International Electrotechnical Commission (ISO/IEC)
2. ISO/IEC 11801, Information Technology-Generic Cabling for Customer Premises, 1995
3. ISO/IEC 14763-1, Information Technology-Implementation and Operation of Customer Premises Cabling-Administration, 1999
4. ISO/IEC 11801, Information Technology-Generic Cabling for Customer Premises, 1995
5. ISO/IEC 14763-1, Information Technology-Implementation and Operation of Customer Premises Cabling-Administration, 1999

K. National Cable Television Association (NCTA)

L. National Electrical Manufacturers Association (NEMA)

1. NEMA C62.61 (1993) Gas Tube Surge Arresters on Wire Line Telephone Circuits

M. National Fire Protection Association (NFPA)

1. NFPA-70, National Electrical Code
2. NFPA-75, Protection of Electronic Computer Data Processing Equipment.
3. NFPA-101, Life Safety Code
4. NFPA-297, Guide on Principles and Practices for Telecommunications Systems
5. NFPA-780, Standard for the Installation of Lightning Protection Systems.

N. National Institute Standards and Technology (NIST)

O. Occupational Safety and Health Administration (OSHA)

P. Telecommunications Industry Association (TIA)

1. ANSI/TIA-568-C.0, Generic Telecommunications Cabling for Customer Premises, 2009

2. ANSI/TIA-568-C.1, Commercial Building Telecommunications Cabling Standard, 2009

3. ANSI/TIA -568-C.2, Balanced Twisted-Pair Telecommunications Cabling and Components Standard, 2009

4. ANSI/TIA-568-C.3, Optical Fiber Cabling Components Standard, 2008

5. ANSI/TIA/EIA–569-B, Commercial Building Standard for Telecommunications Pathways and Spaces, 2005

6. ANSI/TIA–569-B Amendment 1, Commercial Building Standard for Telecommunications Pathways and Spaces, 2009

7. ANSI/TIA/EIA-606-B, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings, 2012

8. ANSI/TIA/EIA-607-B, Commercial Building Grounding and Bonding Requirements for Telecommunications, 2011

9. ANSI/TIA-758, Customer-Owned Outside Plant Telecommunications Infrastructure Standard, 2004

Q. U.S. Department of Agriculture (USDA)

1. RUS 1755 Telecommunications Standards and Specifications for Materials, Equipment and Construction

2. RUS Bull 1751F-643 (2002) Underground Plant Design

3. RUS Bull 1751F-815 (1979) Electrical Protection of Outside Plant

4. RUS Bull 1753F-201 (1997) Acceptance Tests of Telecommunications Plant (PC-4)

5. RUS Bull 1753F-401 (1995) Splicing Copper and Fiber Optic Cables (PC-2)

6. RUS Bull 345-65 (1985) Shield Bonding Connectors (PE-65)

7. RUS Bull 345-72 (1985) Filled Splice Closures (PE-74)

8. RUS Bull 345-83 (1979; Rev Oct 1982) Gas Tube Surge Arrestors (PE-80)

R. Underwriters Laboratories, Inc. (UL)

1. UL 510 (2005; Rev thru Aug 2005) Polyvinyl Chloride, Polyethylene, and Rubber Insulating Tape

2. UL 910 (NFPA 262 1990) Applicable Flame Test

3.02 In the event of any conflicts between documents referenced herein and the contents of this specification, the Contractor shall notify the Architect/Engineer in writing of any such occurrences before purchasing or installing any equipment or materials. The Architect/Engineer will notify the Contractor of any actions required to resolve these conflicts. Such actions may include but are not limited to: design changes, equipment, materials and/or installation changes. In any event Contractor shall not supersede specifications and standards from the latest NFPA and NEC publications. In the event

of any conflicts between Standards and Codes the more stringent shall take precedence.

3.03 General Requirements

A. Contractor shall comply with the requirements of local Authority Having Jurisdiction (AHJ), State of Texas, the National Fire Protection Association (NFPA), and the National Electrical Code (NEC). If the Contractor identifies any item in the plans or specifications that will not strictly comply with the aforementioned laws, ordinances, and rules, the matter shall be referred to the Architect/Engineer for direction before proceeding with that part of the work.

B. The Contractor shall be responsible for coordination with other trades to ensure any conflicts or potential conflicts are resolved prior to any work beginning on the project.

C. The Contractor shall install the materials in accordance with these specifications and the manufacturer's installation guidelines.

D. No deviations from the plans or specifications shall be made without full consent in writing of the Architect/Engineer. The Contractor shall have written approval from the Architect/Engineer for any additional work beyond the Contract Documents prior to beginning such work. If the Contractor does not obtain written approval from the Architect/Engineer prior to proceeding with the work, the contractor shall not be reimbursed for the work.

E. The Contractor shall obtain written permission from the Architect/Engineer before proceeding with any work that would necessitate cutting into or through any part of the building structure such as, but not limited to girders, beams, floors, walls, roofs, or ceilings.

F. Contractor shall notify the Architect/Engineer a minimum of (2) weeks prior to beginning work and will participate in a pre-construction meeting with the Architect/Engineer to perform a walkthrough, review the scope of work, schedule, and escalation procedures.

G. The Contractor shall maintain a work area free of debris, trash, empty cable reels, scrap cable, etc., and dispose of such items on a daily basis and return the site to the original state of cleanliness. The Contractor shall not use Owner's facilities for the disposal of excess or scrap materials.

H. Equipment and materials installed by the Contractor shall be free of defects and damage.

I. Contractor shall be responsible for the repair of any damage caused by the contractor during the installation.

J. Contractor shall test all cables prior to installation. By failing to perform this testing operation, the Contractor shall accept the cable as compliant and assume all liability for the replacement of the cable at no cost to the Owner should it be found defective at a later date.

K. Contractor shall maintain a set of working specifications, design drawings, and record drawings to be kept on site at all times and shall update the record drawings with any changes on a weekly basis. Record drawings shall be made available for inspection at the request of the Architect/Engineer.

L. Equipment and materials shall be consistent throughout the installation. Where multiple units of the same type of equipment and materials are required, these units shall be a standard product with the same manufacturer and model number.

M. Equipment and materials shall be delivered and stored in accordance with the manufacturer's guidelines at the Contractor's expense.

N. Contractor shall make all stored equipment and materials available for inspection at the request of the Architect/Engineer.

O. All equipment and material used in the installation shall be approved by the manufacturer for the environment in which it is being installed.

P. Cables shall be properly supported in accordance with industry standards at all times. Improperly supported cables shall be corrected by the Contractor at no cost to the Owner.

Q. Contractor shall be responsible to properly protect information outlets from damage by other trades during construction.

R. Cables shall be routed at 90-degree angles to the building structure. At no time shall a diagonal pull be installed.

S. The Contractor shall not install cables in conduits or sleeves without nylon bushings. Cables installed through conduits or sleeves without nylon bushings shall be removed and replaced at no cost to the Owner.

3.04 System Requirements

A. Quantities listed are for reference only, contractor is responsible for furnishing materials as required to provide a complete and functioning system. Where quantities are not noted, they may be obtained from the drawings. In the event of a discrepancy between the specifications and the drawings, the greater quantity shall be furnished.

B. Inter-Building Cable Plant

1. Fiber Optic Termination

a. Contractor shall terminate fiber optic strands with fan-out kits when required and connectors and place into fiber optic enclosures as indicated in the technology drawings.

b. Contractor shall furnish fiber optic enclosures and coupler panels for all fiber optic strands and blank panels for all unused slots.

c. The Contractor shall furnish and install:

1) 2U fiber enclosure(s) inside IT 152 as indicated on the technology drawings.

2. Copper Cable

a. High Pair Count Termination

1) Patch Panels

a) The Contractor shall furnish and install rack mounted voice patch panels.

b) The Contractor shall extend all copper cable pairs from the building entrance terminals (RJ-21X) to the rack mounted voice

patch panels utilizing plenum rated high pair count cable with an amphenol on the RJ-21X side.

c) The Contractor shall furnish and install:

(1) 24 Port patch panel in IT 152 as indicated on the technology drawings.

C. Horizontal Cable

1. No horizontal cable shall be longer than two hundred ninety-five (295) feet. If any station cable will be longer than two hundred ninety-five (295) feet, Contractor shall stop installation of the cable and immediately notify Architect/Engineer in writing. If Contractor fails to notify the Architect/Engineer in writing, Contractor shall replace cable at no cost to the Owner.

2. The Contractor shall furnish and install horizontal cables from IT 152 to each outlet location as indicated in the technology drawings.

3. The Contractor shall install a 10-foot service loop to be coiled, mounted, and stored above the ladder rack in each respective Equipment Room or Telecommunications Room.

4. The Contractor shall provide a 2-foot service loop coiled and supported directly above the workstation outlet.

D. Horizontal Cable Termination

1. Contractor shall terminate cables as defined by the ANSI/TIA/EIA 568-A Commercial Building Wiring Standard with the EIA-568B sequence.

2. Workstations

a. Contractor shall furnish and install modular jacks to terminate UTP horizontal cables.

b. Contractor shall furnish and install faceplates, systems furniture faceplates, or surface-mount boxes to house modular jacks as indicated in the technology drawings.

1) Any unused faceplate positions shall have the appropriate number and color of blanks installed.

3. Equipment Rooms / Telecommunications Rooms

a. Horizontal Cable for Data

1) Contractor shall furnish and install patch panels and horizontal cable managers to terminate horizontal data cables as indicated in the technology drawings.

2) The Contractor shall provide and install:

a) 48-port rack mounted patch panel(s) in IT 152 as indicated on the technology drawings.

E. Patch Cables

1. Fiber

a. Equipment Rooms / Telecommunications Room

1) The Contractor shall furnish and store (1) patch cable in original manufacturer packaging for each strand terminated per Equipment Room / Telecommunications Room:

a) 100% of the patch cables shall be (3) meters in length and stored in the applicable Equipment Room / Telecommunications Room

2. Copper

a. Workstations

1) The Contractor shall furnish and store (1) patch cable in original manufacturer packaging for each cable terminated.

a) 50% of the patch cables shall be (7) feet in length and stored in the applicable Equipment Room / Telecommunications Room.

b) 50% of the patch cables shall be (15) foot in length and stored in the applicable Equipment Room / Telecommunications Room.

b. Equipment Rooms / Telecommunications Rooms

1) The Contractor shall furnish and store (1) patch cable in original manufacturer packaging for each cable terminated per Equipment Room / Telecommunications Room:

a) 50% of the patch cables shall be (5) foot in length and stored in the applicable Equipment Room / Telecommunications Room

b) 25% of the patch cables shall be (7) foot in length and stored in the applicable Equipment Room / Telecommunications Room

c) 25% of the patch cables shall be (10) foot in length and stored in the applicable Equipment Room / Telecommunications Room

F. Cable Support

1. All cables shall be installed and supported in conduit systems, cable trays, cores, sleeves, etc. as indicated in the technology drawings.

2. When cables leave the main pathway systems as indicated on the technology drawings, they shall be installed and supported in Contractor furnished and installed j-hooks or adjustable cable supports.

3. No cable pathway shall exceed 40% fill ratio.

4. The contractor shall furnish a separate j-hook or adjustable cable support pathway for each cable type (data, voice, video, and security).

5. J-hooks and adjustable cable supports shall be installed no more than five-feet (5') apart on center, using only manufacturer-approved installation methods and hardware.

6. J-hooks and adjustable cable supports shall be installed no higher than 3-feet above the accessible ceiling to allow for ease of access for future moves, adds and changes

7. If utilizing ceiling grid wire, that is contractor installed, both ends shall be supported and independent from the grid wire to provide support for the actual grid and ceiling tile. Grid wire shall be painted blue and attached to ceiling grid with a Caddy Component Support.

8. J-hooks shall be furnished with closure clips.

9. Maximum sag between supports shall not exceed twelve-inches (12”).

10. Contractor shall establish j-hook and adjustable cable supports pathways and shall coordinate pathways with all other disciplines. Under no-circumstances shall these pathways be used to support other low-voltage applications not included in this specification.

11. Cable Dressing

    a. No nylon cable ties shall be used at any time during the installation of the cable.

    b. Above Ceiling

        1) Contractor shall furnish and install plenum-rated hook & loop straps in plenum-rated airspaces.

            a) The Contractor shall install no more than (1) hook & loop strap between each j-hook or saddle strap or at service loop locations.

    c. Equipment Rooms / Telecommunications Rooms

        1) The Contractor shall bundle all visible cables with Contractor furnished and installed hook & loop straps.

            a) Hook & loop straps shall be installed twenty-four (24) inches apart on center.

G. Equipment Rooms / Telecommunications Room Build-Out

1. Plywood

    a. The Contractor shall furnish and install 8’ H x 4’ W x ¾” D sheets of BC grade fire-rated plywood as indicated in the technology drawings.

    b. The Contractor shall mount all plywood vertically starting at 24” AFF.

    c. The Contractor shall cover the plywood with two (2) coats of Contractor furnished white fire retardant paint leaving exposed (1) fire rating stamp per sheet.

2. Cable Runway (Ladder Type)

    a. Contractor shall furnish and install cable runway using manufacturer-approved hardware and installation methods as indicated in the technology drawings.

b. Contractor shall furnish and install vertical sections of cable runway using manufacturer-approved hardware and installation methods to provide transition and support where cables enter or exit the room using a vertical pathway.

c. Contractor shall furnish and install radius drops cross member and stringers above each rack using manufacturer-approved hardware and installation methods where cables exit the horizontal section of the ladder rack.

d. Contractor shall ground and bond each cable runway section to the next utilizing ground straps and ensure metal-to-metal contact.

3. Equipment Racks and Cabinets

a. Contractor shall furnish and install equipment racks with vertical management using manufacturer approved hardware and installation methods as indicated in the technology drawings.

b. Contractor shall secure relay racks to the concrete floor utilizing expandable concrete anchors.

c. Contractor shall secure the equipment racks to the cable runway using cable runway elevation kits and manufacturer approved hardware and installation methods.

d. Contractor shall bolt all equipment racks and vertical cable managers together.

e. Contractor shall individually ground and bond each equipment rack and ensure metal-to-metal contact.

f. Contractor shall furnish and install:

1) 20” x 84" x 23” 4-post equipment rack(s) in IT 152 as indicated on the technology drawings

H. Grounding and Bonding

1. General

a. The Contractor shall ensure metal-to-metal contact for all terminations.

b. All materials shall be UL Listed.

c. All connections shall be made with UL Listed compression 2-hole lugs.

d. Contractor shall use an anti-oxidation compound on all connections.

e. In a metal frame (structural steel) building, where the steel framework is readily accessible within or external to the room; each TMGB and TGB shall be bonded to the vertical steel metal frame using a minimum # 6 AWG plenum rated green insulated conductor.

f. A Grounding Equalizer conductor shall be installed when required by ANSI/TIA/EIA-607-B (Interconnects multiple TBBs on the top floor and every 3rd floor in between).

g. The connection to building steel does not eliminate the requirement for the TBB or EBC to the service ground.

2. Telecommunications Main Grounding Busbar (TMGB)

a. Contractor shall furnish and install a TMGB in the Equipment Room/Main Telecommunication Room as indicated in the technology drawings.

b. TMGB shall be insulated from its support using an insulator that is listed for the purpose by a nationally recognized testing laboratory (NRTL).

c. Only one lug shall occupy a hole. No stacking lugs or “Double Lugging” shall be accepted.

3. Telecommunications Grounding Busbar (TGB)

a. Contractor shall furnish and install a TGB in each Telecommunications Room as indicated in the technology drawings.

b. TGB shall be insulated from its support using an insulator that is listed for the purpose by a nationally recognized testing laboratory (NRTL).

c. Only one lug shall occupy a hole. No stacking lugs or “Double Lugging” shall be accepted.

4. Telecommunications Bonding Backbone (TBB)

a. The Contractor shall furnish and install a TBB consisting of a minimum #6 AWG plenum rated green insulated copper conductor in a star topology between the TMGB and each TGB as indicated in the Technology drawings.

b. When exceeding (13), feet the TBB shall be sized at (2) kcmil per linear foot of conductor length up to a maximum of 750 kcmil.

c. Where the TRs are stacked the TBB shall be continuous to the uppermost TR. “T” taps shall be used to tie TGBs on floors between the TMGB and the uppermost TGB.

d. Conductor shall be sized from the TMGB to the uppermost TGB and each conductor between a “T” tap and the TGB shall be the same size as the TBB it is fed from.

5. Equipment Bonding Conductor (EBC)

a. Contractor shall furnish and install a minimum #6 AWG plenum rated green insulated conductor from the TMGB or TGB as applicable to each ladder rack system, equipment rack, cabinet, metallic raceway, lightning protector, or multi-pair cable with a metallic element. Contractor shall use an anti-oxidation compound on all connections.

b. When exceeding (13) feet the EBC shall be sized at (2) kcmil per linear foot of conductor length up to a maximum of 750 kcmil.

6. Bonding Conductor for Telecommunications (BCT)

a. Contractor shall furnish and install a minimum #6 AWG plenum rated green insulated copper conductor from the TMGB to the main building electrical service ground as indicated in the Technology drawings.

b. The installation of the BCT to the main building electrical ground shall be performed by a licensed Electrical Contractor.

c. When exceeding (13) feet the BCT shall be sized at (2) kcmil per linear foot of conductor length up to a maximum of 750 kcmil

I. System Labeling

1. Contractor shall verify room numbers and confirm the final room numbering scheme prior to generating any labels.

2. Horizontal Cables shall be labeled within (12) inches from the termination point inside the Equipment Room/Telecommunications Rooms.

3. Horizontal Cables shall be labeled within (6) inches from the termination point at the workstation end.

4. Backbone Fiber and Copper Cables shall be labeled within (12) inches of the visible end of the jacket.

5. Fiber Innerduct shall be labeled within (12) inches of the point of entry of the fiber optic enclosure.

6. Bonding conductors shall be labeled within (12) inches from their termination point.

7. Cables shall be labeled identically at both ends.

8. Equipment Racks

a. Equipment racks in each Equipment/Telecommunication Room shall be labeled in sequential numeric order.

1) Labels shall be centered on the top front of the equipment rack.

9. Cabinets

a. Cabinets in each Equipment/Telecommunication Room shall be labeled in sequential numeric order.

1) Labels shall be centered on the top front of the Cabinet.

10. Fiber Optic Enclosures

a. Fiber optic enclosures shall be labeled alpha-numeric starting with the 1st fiber optic enclosure in the top of the 1st equipment rack.

b. A label for each terminated strand shall be securely placed inside each fiber optic enclosure.

11. Backbone Cable

a. Fiber Optic Cable

1) Fiber optic backbone cable labels shall contain the cable origin room number, the cable destination room number, fiber strand numbers, and type (refer to attached WilCo Cabling Specification for example).

2) Fiber optic couplers panels in fiber enclosures shall be labeled at each end by strand denoting building code, Equipment Room and/or Telecommunications Room, enclosure number, and strand number to and from respectively (refer to attached WilCo Cabling Specification for example).

b. High Pair Count Copper Cable

1) For high pair count copper backbone cables, the label scheme shall contain, cable origin room number, the cable destination room number, and cable pairs (refer to attached WilCo Cabling Specification for example).

12. Horizontal Cable

a. Inside Equipment Rooms

1) Horizontal cables shall be labeled at each end with the destination end and origin room number, patch panel number, and port number. (refer to attached WilCo Cabling Specification for example).

2) Patch panels in each closet shall be labeled sequentially starting with the first Patch Panel in the top of the first relay rack (A, B, C, D, E, etc.).

3) 110-type blocks shall contain the destination room number, pair numbers, and binder pair number under each pair termination. (example)

a) 110-type block labels shall be printed on product-specific label strips and placed into label holders.

13. Workstation Faceplates

a. Cables and wall plates shall be labeled denoting origin, Equipment Room/Telecommunications Room Number, Patch Panel, 110-type termination block, and Port Number. (refer to attached WilCo Cabling Specification for example).

14. TMGB and TGB

a. TMGB and TGB shall be labeled with a unique identifier (refer to attached WilCo Cabling Specification for example).

15. Bonding Conductors

a. The following conductors shall be labeled at each end with the destination end and origin room number (refer to attached WilCo Cabling Specification for example).

1) Bonding Conductor for Telecommunications

2) Telecommunications Bonding Backbone

3) Grounding Equalizer

3.05 Testing Requirements

A. Fiber Optic Cable

1. Installed strands shall be tested and certified in accordance with industry standards.

2. Only Manufacturer Certified Technicians shall perform testing.

3. The Contractor shall test and certify all fiber optic cable strands with approved field tester(s) that are within their calibration period. The Contractor shall be liable for all re-testing required in the event tests are performed with non-approved test equipment or tester(s) that are not within their calibration period.

4. The Contractor shall provide calibration results from the manufacturer showing the current calibration of the testers.

5. The Contractor shall notify the Architect/Engineer a minimum of five (5) days in advance to observe cable testing.

6. The Architect/Engineer may randomly select 5% of the installed strands for test verification purposes. The Contractor shall re-test these strands in the presence of the Architect/Engineer and the results shall be compared to the previously Contractor submitted test results. In the event that any of the verification tests differ in results from the previously submitted test results, all testing shall be declared a failure and the Contractor shall re-test 100% of the installed strands at no cost to the Owner.

B. Copper Backbone Cable

1. Installed pairs shall be tested and certified in accordance with industry standards.

2. Only Manufacturer Certified Technicians shall perform testing.

3. The Contractor shall test and certify all copper pairs with approved field tester(s) that are within their calibration period. The Contractor shall be liable for all re-testing required in the event tests are performed with non-approved test equipment or tester(s) that are not within their calibration period.

4. The Contractor shall provide calibration results from the manufacturer showing the current calibration of the testers.

5. The Contractor shall notify the Architect/Engineer a minimum of five (5) days in advance to observe cable testing.

6. The Architect/Engineer may randomly select 5% of the installed pairs for test verification purposes. The Contractor shall re-test these pairs in the presence of the Architect/Engineer and the results shall be compared to the previously Contractor submitted test results. In the event that any of the verification tests differ in results from the previously submitted test results, all testing shall be declared a failure and the Contractor shall re-test 100% of the installed pairs at no cost to the Owner.

C. Category 6 UTP Cable

1. Cable links shall be tested in accordance with industry standards.

2. Only Manufacturer Certified Technicians shall perform testing.

3. The Contractor shall test and certify the structured cable system with approved field tester(s) that are within their calibration period. The Contractor shall be liable for all re-testing required in the event tests are performed with non-approved test equipment or tester(s) that are not within their calibration period.

4. No Fail or *Pass results will be accepted.

5. The Contractor shall notify the Architect/Engineer a minimum of five (5) days in advance to observe field testing.

6. The Architect/Engineer may randomly select 5% of the installed links for test verification purposes. The Contractor shall re-test these links in the presence of the Architect/Engineer and the results shall be compared to the previously Contractor submitted test results. In the event that any of the verification tests differ in results from the previously-submitted test results, all testing shall be declared a failure and the Contractor shall re-test 100% of the installed links at no cost to the Owner.

D. Grounding and Bonding

1. Main Building Ground

a. Coordinate with electrical contractor and provide a copy of their test results for the main building ground. The results shall be below 25 Ohms.

2. Two-Point Ground/Continuity Testing

a. Prior to the two-point ground testing, a visual inspection shall be performed to verify that the bonding and grounding system is installed according to the drawings and specifications and in compliance with the TIA-607-B Standard.

b. All testing shall be conducted prior to any active equipment is installed.

c. The Contractor shall use an earth ground resistance tester that is configured for a continuity test. This is also known as a two-point tester or a “dead earth” test.

d. Prior to the two-point continuity test conduct a voltage test to ensure there is no stray voltage in the system.

e. The testing shall include but is not limited to the following points.

1) Building electrical grounding electrode and the TMGB.

2) TMGB/TGB to electrical ground in ER/TR.

3) TMGB/TGB to the building steel (if present).

4) TMGB to each TGB.

5) Building steel (if present) to the electrical ground.

f. Per the TIA-607-B, the maximum value for resistance between any point in the telecommunications bonding and grounding system and the building’s electrical grounding electrode system is 100 milliohms. In the case of long TBB and Grounding Equalizer conductor runs, the resistance of the conductor must be factored into the total resistance. For example 1 km of a

No. 3/0 conductor has a resistance of 0.2028 ohms. (0.06180 ohms per 1000 ft.)

g. The Contractor shall notify the Architect/Engineer a minimum of five (5) days in advance to observe field testing.

3.06 Project Closeout Documentation

A. As-Built Drawings

1. Drawings shall be provided to the Architect/Engineer at the time of substantial completion. Final payment will not be recommended until drawings are received and approved by the Architect/Engineer.

2. Three (3) sets of drawings depicting the condition of the structured cabling system as installed.

3. As-Built drawings shall be produced in AutoCAD 2014 or higher and provided in hardcopy and electronically in .dwg and PDF format.

4. Hardcopy drawings shall be provided in the original size as issued by the Architect/Engineer.

5. Drawings shall retain the formatting and title block of the original drawings as issued by the Architect/Engineer.

6. Drawings shall be provided utilizing the original scale and shall include the exact dimensions and locations of all equipment room/telecommunication room layouts, wall elevations, equipment rack elevations, ladder racks, cable tray, sleeves, backbone and horizontal cable pathways, workstation locations, and labeling scheme.

B. Test Documentation

1. Test documentation shall be provided to the Architect/Engineer at the time of substantial completion. Final payment will not be recommended until these test results are received and approved by the Architect/Engineer.

2. Three (3) sets of test documentation for the structured cabling system as installed.

3. Test results shall be provided in hard copy and electronic format (i.e., manufacturer's proprietary testing software along with applicable reader software) and PDF electronic format.

4. Test documentation shall be bound, sectioned, and tabbed in the following sequence as applicable:

a. Tester(s) Calibration Certificate(s)

b. Inter-Building Backbone Fiber Optic Cable

c. Inter-Building Backbone Copper Cable

d. Intra-Building Backbone Fiber Optic Cable

e. Intra-Building Backbone Count Copper

f. Horizontal Category 3 Cable

g. Horizontal Category 5e Cable

h. Horizontal Category 6 Cable

i. Horizontal Category 6A Cable

j. Main Building Ground

k. Two-Point Ground/Continuity Test

C. Manufacturer's Performance Certification

1. Certificate shall be provided to the Architect/Engineer at the time of final system acceptance. Final payment will not be recommended until the certificate of certification is received and approved by the Architect/Engineer.

a. The manufacturer of the solution shall furnish a performance certification for a period of no less than twenty (20) years starting at final system acceptance.

b. One original and two copies of the Manufacturer's Certificate shall be provided.

D. Manufacturer's Product Warranty

1. Certificate of product warranty shall be provided to the Architect/Engineer at the time of final system acceptance. Final payment will not be recommended until this certificate of product warranty is received and approved by the Architect/Engineer.

a. The manufacturer of the solution shall furnish an extended warranty for a period of no less than twenty (20) years starting at final system acceptance.

b. One original and two copies of the Manufacturer's product warranty shall be provided.

E. Contactor's Statement of Warranty

1. Statement of warranty shall be provided to the Architect/Engineer at the time of substantial completion. Final payment will not be recommended until statement of warranty is received and approved by the Architect/Engineer.

a. Contractor shall furnish a minimum of a one (1) year warranty on all materials, labor and workmanship starting at final system acceptance.

b. One original and two copies of Contractor's warranty terms and conditions to include contact information (i.e. Contractor name, Point of Contact, address, phone number and email address) and start and end date for warranty call outs.

END OF SECTION 27 10 00



Cabling Specification

Department of Information Technologies

11-6-15

WILLIAMSON COUNTY CABLING SPECIFICATION

Bill Bingham
Telecom Manager

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WILLIAMSON COUNTY CABLING SPECIFICATION

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WILLIAMSON COUNTY CABLING SPECIFICATION

I. GENERAL

A. Purpose

1. The purpose of this document is to provide a standard defining the structured communications cabling systems to be installed within Williamson County facilities. It is geared toward leveraging our legacy cabling infrastructure while upgrading to more recent technologies in new installations. The goal is to accomplish this in the most economic and systematic fashion possible, and in a manner compliant with the latest codes, cabling standards and industry best practices.

2. Within this document, the facilities owner is Williamson County, and shall be referred to as such, or as “WILCO”, or as the “Department of Information Technologies”. Bidding low-voltage installers shall be referred to as “Contractor”.

3. This specification defines quality standards and practices common to all Williamson County enterprise network cabling upgrades.

4. In addition to this global cabling standard, individual projects will also have associated documentation such as Requests for Proposals (RFP), facility drawings, project schedules and requirements pertaining to that particular job. Such collateral will be referred to in this document as “Project-specific Documentation”, “Project Documentation”, or simply “Construction Documents”. Any conflict between this general specification and any project-specific documentation shall be brought to the attention of Williamson County by the Contractor and must be resolved in writing.

5. It is the responsibility of the installing contractor to evaluate these general recommendations and adapt them effectively to actual projects. Contractor is responsible for identifying and bringing to the attention of Williamson County any design directions that may be improved. All such changes shall be approved in writing from Information Technologies.

6. Note that while many portions of this global specification are addressed to "The Contractor", these requirements apply equally to anyone doing the network cabling and infrastructure work within Williamson County, whether those persons are outside contractors or persons directly employed by Information Technologies.

B. Scope of Work - Typical

1. Contractor shall be solely responsible for all parts, labor, testing, documentation and all other processes and physical apparatus necessary to turn over the completed cabling system and associated infrastructure fully warranted and operational for acceptance by WILCO.

2. This specification includes structured cabling design considerations, product specifications and installation guidelines for low-voltage network systems and associated infrastructure including, but not limited to:

    a. Cabling Sub-system 1 – Horizontal Copper

    b. Cabling Sub-system 2 - Intrabuilding Fiber Backbone Cabling

c. Cabling Sub-system 3 – Interbuilding Fiber Backbone Cabling

d. Telecommunications Pathways

e. Communications Racks and Cable Managers

f. Communications Grounding Systems

g. Cabling Labeling and Administration

3. In addition to systems specifications, this document also addresses applicable codes and standards, contractor qualifications and requirements, system warranties and system testing and acceptance.

4. Products to be used in Williamson County telecommunications infrastructure projects are listed in “Appendix D” at the end of this document.

C. Applicable Regulatory References

1. Contractor is responsible for knowledge and application of current versions of all applicable standards and codes. In cases where listed standards and codes have been updated, Contractor shall adhere to the most recent revisions, including all relevant changes or addenda at the time of installation.

2. ANSI/TIA:

a. TIA-526-7 (OFSTP-7) (2008) Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant

b. TIA-526-14-B (2010) (OFSTP-14) Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant

c. ANSI/TIA/EIA-598-C (January 2005) Optical Fiber Cable Color Coding

d. ANSI/TIA-568-C.0 (September 2010) Generic Telecommunications Cabling for Customer Premises

e. TIA-568-C.0-1 (September 2010) Generic Telecommunications Cabling for Customer Premises-Addendum 1, Updated Reference for Balanced Twisted-Pair Cabling

f. ANSI/TIA-568-C.1 (February 2009) Commercial Building Telecommunications Cabling Standards

g. TIA-568-C.1-2 (November 2011) Commercial Building Telecommunications Cabling Standard, Addendum 2 General Updates

h. ANSI/TIA-568-C.2 (August 2009) Balance Twisted Pair Communications and Components Standards

i. TIA-568-C.2-2 (November 2014) Balanced Twisted-Pair Telecommunications Cabling and Components Standard, Addendum 2: Additional Considerations for Category 6A Patch Cord Testing

j. TSB-155-A: Guidelines for the Assessment and Mitigation of Installed Category 6 Cabling to Support 10GBASE-T

k. TSB-184: Guidelines for Supporting Power Delivery Over Balanced Twisted-Pair Cabling

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l. ANSI/TIA-568-C.3 (June 2008) Optical Fiber Cabling Components Standard

m. ANSI/TIA-568-C.3-1 (December 2011) Optical Fiber Cabling Component Standard- Addendum 1, Addition of OM4 Cabled Optical Fiber and array connectors

n. TSB-4979 (August 2013) Practical Considerations for Implementation of Multimode Launch Conditions in the Field

o. TIA, TSB-140 Additional Guidelines for Field-Testing Length, Loss and Polarity of Optical Fiber Cabling Systems

p. ANSI/TIA-1183 (August 2012) Test Fixtures for Balun-Less Measurements of Balanced Components and Systems

q. ANSI/TIA-568-C.4 (July 2011) Broadband Coaxial Cabling Components Standard

r. ANSI/TIA-942-A (August 2012) Telecommunications Infrastructure Standard for Data Centers

s. ANSI/TIA-942-A-1 (March 2013) Telecommunications Infrastructure Standard for Data Centers, Addendum 1 - Cabling Guidelines for Data Center Fabrics

t. TIA-569-C (May 2012) Telecommunications Pathways and Spaces

u. TIA-569-C.1 (February 2013) Telecommunications Pathways and Spaces Addendum 1- Revised Temperature and Humidity Requirements for Telecommunications Spaces

v. TSB-190: Guidelines on Shared Pathways and Shared Sheaths

w. ANSI/TIA-606-B (June 2012) Administration Standard for Telecommunications Infrastructure

x. TIA-607-B (September 2011) Generic Telecommunications Grounding (Earthing) and Bonding for Customer Premises

y. TIA-607-B-1 (January 2013) Generic Telecommunications Grounding (Earthing) and Bonding for Customer Premises - External Grounding Addendum

z. TIA-607-B-2 (August 2013) Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises Addendum 2 – Structural Metal

aa. TIA-758-B (April 2012) Customer-Owned Outside Plant Telecommunication Infrastructure Standard

bb. ANSI/TIA-598-C-2005, Optical Fiber Cable Color-coding

cc. TIA-1152 (September 2009) Requirements for Field Test Instruments and Measurements for Balanced Twisted-Pair Cabling

dd. ANSI/TIA-862-A (April 2011) Building Automation Systems Cabling Standard

ee. TIA-1005-A (June 2012) Telecommunications Infrastructure Standard For Industrial Premises

ff. TSB-162-A (November 2013) Telecommunications Cabling Guidelines for Wireless Access Points

gg. ANSI/TIA-4966 (May 2014) Telecommunications Infrastructure Standard for Educational Facilities

3. ISO/IEC

a. ISO/IEC 11801 Edition 2.2: Information Technology – Generic Cabling For Customer Premises

b. ISO/IEC TR 11801-99-1 – Balanced cabling for 40Gbps channels – (2014-2015)

c. ISO/IEC 24764 Edition 1.0: Information Technology – Generic Cabling Systems For Data Centres

d. ISO/IEC 24764-1 - Data Centres - Amendment to add Intermediate Distributor (ID) for large or modular data centers

e. ISO/IEC 14763-2 Edition 1.0: Implementation and Operation of Customer Premises Cabling – Part 2: Planning and Installation

f. ISO/IEC 14763-3 Edition 2 – Testing of Optical Fibre Cabling – methods for inspection and testing of installed optical fiber

g. ISO/IEC TR 29125:2010 Information technology -- Telecommunications cabling requirements for remote powering of terminal equipment

4. National Electric Codes

a. National Electrical Safety Code (NESC) (IEEE C2-2012)

b. ANSI/NFPA 70-2011, National Electrical Code© (NEC©)

c. ANSI/IEEE C2-207, National Electrical Safety Code®

d. National Electrical Code (NEC) (NFPA 70)

5. OSHA Standards and Regulations – all applicable

6. Local Codes and Standards – all applicable

7. BICSI – Building Industry Consultative Services International

e. ANSI/BICSI 005-2013, Electronic Safety and Security (ESS) System Design and Implementation Best Practices

f. Information Transport Systems Installation Methods Manual (ITSIMM), 6th Edition

g. ANSI/BICSI 002-2011, Data Center Design and Implementation Best Practices

h. Network Systems and Commissioning (NSC) reference, 1st Edition

i. ANSI/NECA/BICSI 568-2006, Standard for Installing Commercial Building Telecommunications Cabling

j. NECA/BICSI 607-2011, Standard for Telecommunications Bonding and Grounding Planning and Installation Methods for Commercial Buildings

k. BICSI-003-2014 Building Information Modeling (BIM) Practices for Information Technology Systems

l. Telecommunications Distribution Methods Manual, 13th Edition

m. AV Design Reference Manual, 1st Edition

n. Network Design Reference Manual, 7th Edition

o. Outside Plant Design Reference Manual, 5th Edition

p. Wireless Design Reference Manual, 3rd Edition

q. Electronic Safety and Security Design Reference Manual, 3rd Edition

r. Commercial Installation On-the-Job Training Booklet

s. Telecommunications Project Management (TPM) reference, 1st Edition

8. Anywhere cabling standards conflict with one another or with electrical or safety codes, Contractor shall defer to the NEC and any applicable local codes or ordinances, or default to the most stringent requirements listed by either.

9. Knowledge and execution of applicable standards and codes is the sole responsibility of the Contractor.

10. Any violations of applicable standards or codes committed by the Contractor shall be remedied at the Contractor's expense.

D. WILCO Substitution Policy

1. This is a performance-based specification developed from the experience of the Department of Information Technologies in providing exceptional solutions for all of our facilities and departments. As such, substitution of specified systems is discouraged, but allowed if Contractor strictly follows Substitution Policy outlined below.

2. Contractors offering product substitutions or equivalents are responsible for proving equal or superior mechanical and transmission performance to those products listed herein.

3. The process for substituting products other than those specified is as follows:

   a. Any Contractor wishing to offer structured cabling or associated infrastructure products other than those specified shall submit a request for product substitution in writing no less than one week in advance of bid.

   b. Written requests for substitution shall be accompanied by three samples of the substitution product along with associated drawings, specification sheets and engineering documents for evaluation by WILCO.

   c. Any copper or fiber cabling products that carry signal shall be accompanied by third party laboratory performance test reports from an ITS/ETL proving equivalency in transmission performance.

4. Equal product acceptance must be received from Williamson County in writing to be valid.

5. Contractor shall assume all costs for removal and replacement of any substituted product installed without prior written approval. Such costs shall include but not be limited to labor, materials as well as any penalties, fees or costs incurred for late completion.

E. Contractor Qualifications

WILLIAMSON COUNTY CABLING SPECIFICATION

1. General

a. Contractor must have at least 5 years documented experience installing and testing structured cabling systems of similar type and size. Contractor must also provide a list of key installation personnel, their hire dates, and a resume of their experience. Key installation personnel shall include at least one foreman and one journey level installer or technician. By submitting the names of these personnel, the contractor is committing them to the execution of the project outlined in this specification. No temporary labor shall be allowed, all contractor employees shall be full time, and proof showing full time employment must be on file.

b. Contractor shall have offices and service personnel based with a fifty mile radius of Williamson County and be capable of same-day response to service calls.

c. Contractor shall employ at least one BICSI Registered Communication Distribution Designer (RCDD.. The RCDD shall provide approval on the design, installation, and documentation of this communications system along with making sure all Panduit Certification Plus System Warranty documentation and requirements are met and submitted to Panduit upon completion of the project. The RCDD must be local to the office where work is taking place.

d. The contractor shall not subcontract voice/data/video/fiber cabling, termination or testing without the written permission of Panduit and Williamson County. If any work is subcontracted it shall be to a Panduit PCI certified installation company.

e. Contractor shall have all necessary permits, licenses, and inspections required for the performance of data, voice, and fiber optic cable installations

f. Contactor shall be a current Panduit Certified Installer (PCI) or accepted substitute manufacturer (See Substitution Policy). A copy of the corporate manufacturer certification must be included with all quotes.

g. At least 30 percent of the technicians on the job must have a current Panduit Certified Copper Technicians certificate, or accepted substitute manufacturer, to install copper distribution systems.

h. At least 30 percent of the technicians installing any Fiber Distribution Systems must have a current Panduit Certified Fiber Technicians certificate, or accepted substitute manufacturer certificate, to install fiber distribution systems

i. The Telecommunications contractor must provide a project manager to serve as the single point of contact to manage the installation, speak for the contractor and provide the following functions:

- Initiate and coordinate tasks with the Williamson County Project Manager and others as specified by the project schedule.
- Provide day to day direction and-site supervision of Contractor personnel.
- Ensure conformance with all contract and warranty provisions.
- Participate in weekly site project meetings.
- This individual will remain project manager for the duration of the project. The contractor may change Project Manager only with the written approval of Williamson County.

j. Contractor Project manager must be manufacturer certified in the copper and fiber information transport systems to be installed.

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2. References

   a. Communications Contractor shall provide with bid, a list of three reference accounts where similar Data, Voice, Fiber Optic Cable, and related equipment installation work was performed within the last year (twelve month period).

3. Termination of Services

   a. Williamson County reserves the right to terminate the Communication Contractor's services if at any time WILCO determines the Communication Contractor is not fulfilling their responsibilities as defined within this document.

   b. Contractor's appearance and work ethics shall be of a professional manner, dress shall be commensurate with work being performed.

   c. Dress displaying lewd or controversial innuendos will strictly be prohibited.

   d. Conduct on Williamson County property will be professional in nature.

   e. Any person in the Contractor's employ working on a Williamson County project considered by Williamson County to be incompetent or disorderly, or for any other reason unsatisfactory or undesirable to the Department of Information Technologies, such person shall be removed from work on the Wilco project.

   f. Upon termination, the Communications Contractor shall be restricted from the premises and compensated for the percentage of work completed satisfactorily.

4. Other Contractor Responsibilities

   a. All Contractors working within a WILCO facilities are fully responsible for understanding and adhering to all rules and requirements listed in Appendix A – "WILCO Contractor/Vendor Rules and Regulations".

   b. All Contractors working within WILCO facilities are fully responsible for understanding and adhering to all rules and requirements listed in Appendix B – "POLICY & PROCEDURE CONCERNING ALL ELECTRICAL, TELECOMMUNICATIONS AND NETWORKING INSTALLATIONS AND/OR MODIFICATIONS".

   c. Confirmation of Pathway and Cable Manager Sizing:

      - Wherever cabling pathways or managers are installed, it is the Contractor's responsibility to confirm pathway or manager sizing to represent no more than 35% fill according to manufacturer's fill charts based on projected cable densities when racking systems and cabling pathways are fully populated.
      - Pathways overfilled upon installation will not be accepted and shall be remedied at Contractor expense.

   d. Contractor is responsible for the removal and disposal of all installation and construction debris created in the process of the job. All work areas will be cleaned at the conclusion of the workday and no tools or materials shall be left in a manner as to pose a safety hazard.

   e. Contractor must remove all abandoned cable per Article 800 of the National Electrical Code and per TIA and BICSI standards, recycling these materials where possible. Removal of orphaned cable is mandatory. Contractors must consider this when placing bids.

f. Contractor shall abide by the regulations set by local Williamson County's Security Policy pertaining to access and conduct while on WILCO property.

g. Contractor shall all obey all posted speed limits and parking regulations at the Williamson County facilities where the work is being performed.

F. Warranty

1. General

a. Contractor shall provide a 25 year PanGen ™ System Warranty (or Wilco approved equal) on all copper and fiber permanent cabling links.

b. It is understood the PanGen ™ System Warranty is a system performance warranty guaranteeing for 25 years from acceptance that the installed system shall support all data link protocols for which that Category of copper cabling system or fiber OM/OS designation of fiber optic system is engineered to support according to current and future IEEE and TIA standards.

c. The PanGen ™ System Warranty may be invoked only if the cabling channel links are comprised of continuous Panduit/General Cable components, including patch cords, equipment cords and fiber jumpers.

d. Upon acceptance of Warranty, Panduit will mail a notification letter to the installer and a notification letter and warranty certificate to Williamson County.

2. Contractor Warranty Obligations

a. Installation firm (Contractor) must be a current Panduit Certified Installer (PCI) or approved equivalent manufacturer in good standing and shall include a copy of the company installation certification with the bid.

b. Contractor shall name a supervisor to serve on site as a liaison responsible to inspect and assure all terminations are compliant to factory methods taught in Panduit Technician Certification Training, or approved equal, and according to all Standards cited in the Regulatory References section of this document.

c. Contractor liaison (project supervisor) shall have a current, up-to-date Panduit Certified Technician (PCT) certificate in both copper and fiber. Copies of the copper and fiber certificates of the Panduit liaison shall be submitted with the bid. These requirements are the same for accepted equivalent manufacturers. See "Substitution Policy" for mandatory procedure when offering substitutions.

d. Fiber optic cabling system additions and upgrade to existing facilities shall match the fiber type (OM/OS designation) of the system to which it is being installed. Contractor shall under no circumstances mix different OM/OS classes of cable or termination devices (connectors) within the same system.

e. All intra-building new fiber optic installations shall utilize an appropriate cable constructions as specified herein.

f. All UTP cable pulled and terminated shall be Category 6 cable and connectivity whether new or legacy systems.

g. All UTP terminations within the Williamson County (new) projects shall be terminated using the T568B pin-out (wire map). Legacy additions shall match the copper pin-out of the facility to which cabling is being added-to or upgraded.

h. Contractor shall install all racking and support structures according to cited Standards in such fashion as to maintain both cited industry standards as well as manufacturer recommendations for uniform support, protection, and segregation of different cable types,

i. Contractor is responsible for maintenance of maximum pulling tensions, minimum bend radius, and approved termination methods as well as adhering to industry accepted practices of good workmanship.

j. Contractor is responsible for understanding and submitting to Panduit all documents required prior to project start to apply for the PanGen ™ System Warranty. These include but are not limited to the project information form and SCS warranty agreement. These requirements are the same for accepted equivalent manufacturers. See “Substitution Policy” for mandatory procedure when offering substitutions.

k. Contractor is responsible for understanding and submitting to Panduit all documents required at project end. These include, but are not limited to: completed warranty forms, passing test reports and drawings of floor plans showing locations of links tested. These requirements are the same for accepted equivalent manufacturers. See “Substitution Policy” for mandatory procedure when offering substitutions.

l. Test results shall be delivered in the tester native format (not Excel) and represent the full test report, summaries shall not be accepted. Contact your Panduit representative for a current list of approved testers, test leads and latest operating systems.

m. The Communications Contractor will correct any problems and malfunctions that are warranty-related issues without additional charge to Williamson County for the entire warranty period.

n. The warranty period shall commence following the final acceptance of the project by Williamson County and written confirmation of Warranty from Panduit. These requirements are the same for accepted equivalent manufacturers. See “Substitution Policy” for mandatory procedure when offering substitutions.

<END OF SECTION>

II. Installation and Maintenance Guidelines

A. Maintenance of Patch Fields

1. Any persons, whether with a Contractor or Williamson County, adding or moving copper or fiber optic patch (equipment) cords shall do so in a neat, workmanlike fashion in keeping with the intended cable management concept and according to all industry best practices as outlined in cabling standards and applicable BICSI publications referenced in this document.

2. Persons performing such moves, adds or changes (MACs) shall further adhere to the following:

    a. Use existing cabling management pathways and take care to place cable like with like, maintaining original segregation strategies for separating fiber and copper cables as well as any separation necessary between different types of copper cables.

    b. Cables shall be dressed neatly within patch management pathways with care taken to maintain minimum bend radius of not less than 4 times the cord outer diameter for copper and not less than a 1" bend radius for fiber jumpers as per ANSI/TIA 568-C.0.

    c. All patch cords used shall be of same copper Category or fiber OM/OS designation as the media used in the permanent cabling links.

    d. Patching in all cases shall be done using factory terminated cords manufactured for that purpose. Hand terminated patch cords will not be accepted.

    e. All patch cords or jumpers must be completely contained within supplied cable management paths. Cables draped across the front cabinets or racks will not be accepted and shall be remedied at Contractor's expense.

    f. Any persons installing or moving fiber optic patch cords for any reason will clean the connector with lint-free wipes and 99% or higher isopropyl alcohol before replacing the connector in a patch or equipment port.

    g. Any technicians, whether with Williamson County or Contractors performing moves, adds or changes within patch field will label additions to the system according to the labeling conventions in place at that facility.

    h. Any persons with Williamson County or installing Contractor performing moves, adds or changes within patch field will record the move according to record system in place at that facility.

B. Cable Pulling and Termination

1. General

    a. Contractor is responsible for installing systems according to all applicable codes and the standards cited in this document.

    b. Contractor shall use grommets to protect the cable when passing through metal studs or any openings that can possibly cause damage to the cable. This includes grommets on ends of hard conduit where

used.

c. Do not deform the jacket of the cable. The jacket shall be continuous, free from pinholes, splits, blisters, burn holes or other imperfections.

d. Install proper cable supports, spaced less than 5 feet apart, and within manufacturer's requirements for fill ratio and load ratings.

e. Leave a pull string to the end of each conduit run. Replace pull string if it was used for a cable pull.

f. Note service loops may not touch the drop-ceiling assembly. Any portion of the communications cabling making contact with ceiling structures must be remedied at the Contractor expense.

g. Label every cable within 12 in. of the ends with self-laminating wire wrap cable appropriate to that cable size. Use a unique number for each cable segment as required by the project documentation and the labeling section of this document.

h. Dress the cables neatly with hook and loop cable ties in telecommunications rooms. Plastic ties are approved in pathways where cable bundles will not be reentered. Contractor responsible for using plenum ties and appliances in air-return (plenum) spaces as required by the local AHJ (Authority Having Jurisdiction).

i. Contractors installing cabling systems in Williamson County facilities shall install plenum rated cable in all instances. Non-plenum cable is not allowed and shall be removed at Contractor's expense.

2. Copper

a. When making additions to legacy systems, Contractor shall match the cabling configuration (pinout) of the existing systems. Legacy systems at Williamson County are in most cases T568B.

b. Within all new installations within Williamson County facilities, contactor shall use copper pinout T568B.

c. All four pair Category 6 cable runs shall be kept to a maximum permanent link length of 83 meters when using a total 10 meters of 28 awg "small diameter" patch cords.

d. Copper links that are 90 meters in permanent link, shall not exceed 6 meters (total) of patch cords when using 28 awg "small diameter" patch cords.

e. Use low to moderate force when pulling cable. Maximum tensile load may not exceed 25' lbs. maximum pulling force per 4 pair cable.

f. No pathway, including conduits shall have greater than a 35% fill per manufacturer fill charts. Contractor is responsible for bringing to the attention of Williamson County project manager any insufficiently sized conduit or cable pathways discovered on site or in project documentation.

g. Keep Category 6 cables as far away from potential sources of EMI (electrical cables, transformers, light fixtures, etc.) as required in cited TIA Standards.

h. All copper horizontal cabling shall have slack service loops no less than 12" at the work area (equipment outlet) and not less than 3 feet in the telecommunications room.

i. Service loops in the work area shall be stored behind the equipment outlet (faceplate).

j. Service loops in the telecommunications room may be wall mounted or contained in pathways or racking

systems if done in a neat, workmanlike fashion.

k. Service loops shall be stored in such fashion as to not violate bend radius, slack touching the drop ceiling is not allowed and must be remedied at Contractor expense.

l. Maintain the twists of the pairs all the way to the point of termination, or no more than 0.5" (one half inch) untwisted.

m. All UTP patching shall be accomplished using Category 6 rated modular patch panels as indicated elsewhere in this document.

n. All removed copper cable is to be disposed of in a Williamson County recycling bin designated for “copper”, or removed from the property to be disposed of by Contractor if this is the instructions in the project documentation.

3. Fiber

a. When making additions to legacy systems, Contractor shall match the fiber type and fiber connectors used within that system.

b. Within all new fiber installations within Williamson County, contactor shall use Panduit cam-style “Opti-cam” LC connectors. See product section and Appendix D for details.

c. When installing fiber cable, Contractor shall maintain a minimum bend radius, both under pulling load and static (installed), per requirements outlined within TIA standards, or manufacturer’s recommendations, whichever is the most stringent.

d. Fiber terminations shall be done according to recommendations of TIA, manufacturer’s requirements and accepted industry best practices.

e. All unjacketed fiber shall be contained within appropriate fiber enclosures. Exposed tight-buffered or loose-tube strands will not be tolerated and shall be remedied at Contractor’s expense.

f. Contractor shall perform test setup and testing according to guidelines in the “Testing and Acceptance” section of this document.

<END OF SECTION>

III. Cabling Systems and Associated Infrastructure

A. Cabling Subsystem I – Horizontal Cabling System

1. Slack (Service Loops) in Horizontal UTP Cable

    a. Horizontal cable in WILCO facilities are routed through conduit, but electrical boxes are not used for low-voltage communications cable.

    b. Contractor shall use low-voltage mounting brackets (“box-eliminators”) for mounting low-voltage communications faceplates.

    c. Contractor shall provide a minimum 12” slack or service loop at the equipment outlet (work area) on each terminated copper horizontal permanent link. Work area slack shall be contained within the wall behind the faceplate if this may be done easily without violating cable bend radius.

    a. Where there is not sufficient space behind the faceplate, Contractor may pull work area slack into the ceiling space and properly store service loop with appropriately rated hook and loop cable ties. Cable slack shall in no instances touch the ceiling grid or associated drop ceiling components or fixtures.

    b. Contractor shall provide a minimum of 10 feet slack or service loop in the horizontal telecommunications room on each terminated copper horizontal permanent link, to be stored on the wall backboard using appropriate mounting fixtures built for that purpose (i.e. D-rings).

    c. Contractor should consult project-specific documentation or the Williamson County project liaison for other mounting methods where wall mount is not an option.

2. Metal Conduit

    a. Cable in horizontal runs in offices shall be routed and contained in metal conduit.

    b. Contractor shall size conduit large enough to accommodate at least 50% growth. I.e. conduit for 4 cables shall be sized to accommodate 6 cables at less than 40% calculated fill based on cable OD.

3. Equipment Outlets (Faceplates)

    a. When adding horizontal cabling to existing facilities within Williamson County, Contractor shall match the existing cable plant in regards to color of existing raceway and faceplates.

    b. Flush mount faceplates in new projects shall be Panduit NetKey ® faceplates (or approved equivalent) with label fields in either electric ivory or international white as called for in the project documentation.

    c. NetKey ® Faceplates shall be available in one, two, four and/or six-port vertical single gang configurations. Faceplates shall further have the following characteristics:

        - Faceplates with no labels shall include painted combination head screws.
        - The faceplates shall mount to standard U.S. NEMA boxes and adapters with screw-to-screw dimensions of 3.28" (83.3mm).
        - Faceplates shall be available with or without labels.

- Dedicated sloped versions shall be available for improved bend radius control and decreased requirements in wall depth.
- Each faceplate shall accept NetKey ® modules that can be individually inserted and removed as required.

d. See Appendix C for faceplate typicals.

e. See Appendix D for faceplate part numbers.

4. Equipment Outlets – Surface Boxes

a. Wireless access points and IP cameras mounted on walls and ceilings utilize single Category 6 horizontal runs (drops) terminated in NetKey 2 hole surface mount boxes (or approved equivalent) having the following properties.

b. Two hole boxes shall further meet the following requirements:

- Boxes shall be in electric ivory or international white as called for in project-specific documentation.
- Able to accept all NetKey ® Modules
- Include mounting screws and adhesive tape
- Be compatible with Panduit® LD3, LD5, and LD10 Raceway.

5. Copper Jacks

a. Modular jacks shall be Panduit Category 6 NetKey ® Jack Modules (or approved equivalent) featuring 110-termination technology and have the following characteristics.

- The eight position modules shall be used in all work areas and shall meet the connector requirements of the TIA/EIA Category 6 standard.
- Termination shall be accomplished by use of a 110 termination.
- The wiring scheme label shall be available with both T568A and T568B wiring schemes.
- The modules shall terminate four pair 24 and 22 AWG 100 ohm solid unshielded twisted pair cable.
- The modules shall be universal in design, including complying with the intermateability standard IEC 60603-7 for backward compatibility.
- Category 6 modules shall have UL and CSA approval. The modules shall have ETL verified Category 6 performance and ISO Class E performance (as defined in ISO/IEC 11801) in both the basic and channel links.
- They shall be universal in design, accepting six or eight pair modular plugs without damage to the outer module contacts.
- The modules shall be able to be re-terminated a minimum of 10 times and be available in 11 standard colors for color-coding purposes.
- The module shall snap into all NETKEY ® outlets and patch panels.

b. Consult project documentation for jack color coding in use for that installation.

c. See Appendix D at the end of this document for part numbers.

6. Category 6 Unshielded Twisted Pair Cable

a. WILCO Category 6 UTP cable shall be plenum PanGen 6 manufactured by General Cable.

b. Standard blue version is part number 7131800. For other colors use table below:

General Cable Category 6 Cable

Jacket Color	GS 6 Pull-Pac® II CMR (Non-Plenum)	GS 6 Pull-Pac® II CMP (Plenum)
Blue	7133800	7131800
White	7133801	7131801
Yellow	7133802	7131802
Gray	7133803	7131803
Red	7133804	7131804
Orange	7133805	7131805
Green	7133806	7131806
Black	7133807	7131807
Pink	7133808	7131808
Purple	7133809	7131809

c. For cable colors on actual project, consult the project documentation.

d. See Appendix D at the end of this document for cable part numbers.

7. Distributor I (Horizontal Patch Panels) – standard density patch panels

a. Williamson County copper patch panels in the horizontal patch fields shall be flat 1 RU or 2 RU NetKey® type with frames of either metal or molded polymer.

b. If made of molded polymer construction, the patch panels shall have the following features:

- Punchdown patch panels shall be a molded design made of polymer material and mount to standard racks and cabinets.
- Punchdown modules shall meet Category 6/Class E performance levels and terminate unshielded twisted 4-pair, 22 – 26 AWG, 100 ohm cable.
- Punchdown tool properly terminates each conductor for optimum performance. Universal T568A and T568B color-coded wiring schemes included.
- Patch panels shall be available in standard density 24 and 48-port configurations.
- Patch panels include pre-numbered labels with writable surface on back.

- Additional numbering engraved in the front and back of the panel.

c. If made of metal frame construction, the patch panels shall have the following features:

- Category 6/Class E punchdown patch panels shall terminate unshielded twisted 4-pair, 22 – 26 AWG, 100 ohm cable and mount to standard EIA 19" or 23" racks.
- Punchdown tool shall properly terminate each conductor for optimum performance. Universal T568A and T568B.

d. For instructions for which patch panel to use consult project-specific documentation.

e. For detailed part numbers see “Appendix D” at the end of this document.

8. Small Diameter Category 6 Copper Patch Cords

a. Copper patching of Category 6 links in Williamson County facilities shall use Panduit 28 awg “small diameter” patch cords having the following characteristics:

- Cable diameter not more than 0.150 in. (3.8mm) nominal.
- Category 6/Class E channel and component performance.
- Exceeds all ANSI/TIA-568-C.2 Category 6 and ISO 11801 Class E Edition 2.1 electrical performance requirements for all frequencies from 1 to 250 MHz.
- FCC and ANSI compliance: Meets ANSI/TIA/EIA-1096-A; contacts plated with 50 micro inches of gold for superior performance.
- IEC compliance: Meets IEC 60603-7 c (UL) US listed: UL 1863, CSA standard C22.2.
- PoE compliance: Meets IEEE 802.3af and IEEE 802.3at for PoE applications in bundle sizes up to 48 cables.
- Operating temperature: 14°F to 140°F (-10°C to 60°C).
- Storage temperature: -40°F to 158°F (-40°C to 70°C).
- Plug housing: UL94V-0 rated clear Polycarbonate.
- Contacts: Gold plated phosphor bronze.
- RoHS compliance: Compliant.
- Flammability rating: CM/LSZH dual rated.

b. Due to miniature size of patch cords, utilize increased attenuation de-rating value of 1.9. These supports 96 meter channels that include 90 meter permanent links, and 6 meters of patch cord. A channel using 10 meters total of patch cord would support a 93 meter channels.

c. For in telecom patch fields, WILCO projects use color coded small diameter patch cords to indicate

various circuits. These colors and circuits they represent are as follows:

Blue = Adminstrative
Yellow = Academic
Green = Wireless
Orange/Red = Public Safety
Purple = Crossover
Grey = Printer
Black = Utility
White = VoIP/Wallphone

d. Consult project documentation for how color coding is to be used on that job.

e. For more detail on use of patch cord color coding in the telecommunications rooms, see Appendix C.

f. See Appendix D for part numbers.

9. Surface Mount Raceway – Wall Mount

a. See Appendix D at the end of this document for part numbers.

10. Modular Furniture Raceway

a. Office and administrative areas repurposing used modular furniture may require additional cable pathway space and shall utilize Pan-Way ® Office Furniture Raceway System, or approved equivalent.

b. Such modular furniture raceway shall provide cable paths along the top of modular furniture partitions dropping services (equipment outlets) at work surface level.

c. Modular furniture raceway must meet the following requirements:

- UL listed in accordance with UL-5C requirements for Class 2 Communication Cable Management Systems.
- Maintains bend radius control throughout the entire office furniture raceway system as required by TIA/EIA-568-B and 569-B.
- Faceplates are compliant with the labeling requirements of the TIA/EIA-606-A standard.
- Robust design and tamper resistant closure increases product stability and prevents damage to cabling during and after installation.
- Product supplied with adhesive backing for fast and easy installation.
- Creates a virtually invisible solution for routing data cables on panels from all common manufacturers with a top cap width between 1.88" and 2.30".
- Designed for use with Pan-Net ® Connectivity, also accepts all common manufacturers' connectivity with use of a NEMA standard 70mm faceplate or module frame.

d. Consult Appendix D for part numbers.

11. Power and Communications Poles

a. Many WILCO offices use power/communications poles to deliver power and data cables from the ceiling into the work area space below.

b. Power/communications poles shall be Pan-Way® Pan-Pole™ Aluminum Outlet Poles for Power and Communication (or WILCO approved equivalent), and must have the following properties:

- Dual channel aluminum pole is equipped with pre-terminated electrical outlets and provides channel separation for the installation of communication cabling and modules.
- UL and CSA rated 600 V.
- Available in 11 or 13 foot lengths and supplied with a non-metallic cover.
- Electrical outlets are pre-wired.
- Pre-installed components include: Blank non-metallic cover, two 20 A factory wired rectangular outlets with wiring fed through power channel to base of power entry box. power entry with 1/2" and 3/4" conduit breakouts, Removable plate for power wiring connections, ground screw pre-mounted behind removable plate.
- Supplied mounting hardware includes: Entry end bend radius fitting, ceiling T-bar bracket, ceiling tile trim plate, end cap, End cap floor grip pad.

c. See Appendix D for part numbers for 11’ and 13’ power/communications poles.

C. Cabling Subsystem II – Intrabuilding Fiber Backbone

a. Intrabuilding singlemode Fiber Trunks are for Use within Buildings.

b. On additions to existing Williamson County fiber cableplant , Contractor shall match existing fiber and connector types.

c. In new Williamson County projects, backbone fiber running between telecom spaces within buildings (cabling subsystem II) shall be singlemode 24 strand Opti-Core® Fiber Optic Indoor Interlocking Armored Cable Armored plenum-rated tight-buffered singlemode cable shall further have the following characteristics:

- Used in intrabuilding backbone, building backbone, and horizontal installations for riser (OFCR), plenum (OFCP), and harsh environments
- Interlocking aluminum armor eliminates the need for inner duct or conduit to provide a smaller crush resistant pathway for design flexibility and a lower installed cost
- Available in 6, 12, 24, 36, 48, 72, 96 and 144-fiber counts
- Multimode (OM4, OM3, OM2, and OM1) and singlemode (OS1/OS2) fiber available optimized) fiber available
- Sheath markings provide positive identification, quality traceability, and length verification

- 900µm standards-based color-coded buffer coating protects fibers during handling and allows for easy identification and stripping
- Cable design and flexible buffer tubes allow for quick breakout and ease of routing
- Opti-Core ® 10Gig ™ Fiber Optic Cable is designed to support network transmission speeds up to 10 Gb/s for link lengths up to 300 meters for OM3 and up to 550 meters for OM4 with an 850nm source per IEEE 802.3ae 10 GbE standard; backward compatible for use with all 50/125µm system requirements

d. Contractor shall terminate tight-buffered cable constructions with Panduit Opti-cam LC fiber connectors.

e. See Appendix D for part numbers.

D. Cabling Sub-system III – Interbuilding Fiber Backbone

1. Singlemode Fiber Trunks for Use Between Buildings

a. On additions to existing Williamson County fiber cableplant. Contractor shall match existing fiber and connector types.

b. In new Williamson County projects, backbone fiber running between buildings (cabling subsystem III) shall be Panduit 48 strand Opti-Core® Gel-Free Fiber Optic Indoor/Outdoor All-Dielectric Cable, or College approved equivalent.

c. Loose tube outside plant cable shall be terminated in the entrance facility using Panduit Opticam connectors with appropriate fan-out kits.

d. Fanout kits shall have the following properties:

- Used to build up 250µm fiber to 900µm loose buffered coating size for connector termination
- • Include 900µm hollow tubing and plastic housings
- • Include adhesive tape for mounting
- • Include TEFLON* powder for easy insertion of fibers

a. Length: 1 meter (39.37")

b. Refer to Appendix D for part numbers.

c. Interbuilding fiber trunks must have the following features:

- Allows installation using loose tube cable methods within buildings and outdoor environments for transitional aerial and duct applications, and in entrance facilities that require riser (OFNR) or plenum (OFNP) rated cable
- Eliminates the need for building entrance transition point
- All-dielectric cable construction requires no grounding or bonding
- UV resistant cable sheathing meets the light absorption requirement defined by Telcordia GR-20, Issue 2 to withstand harsh outdoor environmental demands
- Dry water-blocking technology allows rapid cable preparation and termination for lower termination

costs and time (no messy gel required)

- Available in 6 and 12-fiber counts in “central loose tube” design, and in 24, 36, 48, 72, 96 and 144-fiber counts in a “stranded loose tube” design
- Multimode (OM4,OM3, OM2, and OM1) and singlemode (OS1/OS2) fiber available
- Sheath markings provide positive identification, quality traceability, and length verification
- 250µm buffer coating protects fibers during handling and allows for ease of stripping
- Opti-Core ® 10Gig ™ Fiber Optic Cable is designed to support network transmission speeds up to 10 Gb/s for link lengths up to 300 meters for OM3 and up to 550 meters for OM4 with an 850nm source per IEEE 802.3ae 10 GbE standard; backward compatible for use with all 50/125µm system requirements
- Contractor shall terminate loose-tube cable constructions between buildings with LC pigtails as indicated elsewhere in this document.

d. See Appendix D part numbers.

E. Fiber Connectivity

1. LC Fiber Connectors

a. All LC terminations shall be done with Panduit fusion splice pigtails having the following properties:

- TIA/EIA-604 FOCIS-10 compatible connectors.
- Exceed TIA/EIA-568-B.3 requirements.
- Connector backbone and boot colors follow TIA/EIA-568-C.3 suggested color identification scheme.
- Insertion loss: 0.3dB average (multimode and singlemode).
- Return loss: >26dB (10Gig ™multimode), >20dB (multimode), >50dB (singlemode).
- Quick installation; provide field termination in less than half the time of field polish connectors.
- Patented re-termination capability provides yield rates approaching 100%.
- Factory pre-polished fiber endface eliminates time-consuming field polishing to reduce installation costs, labor, scrap and the number of tools required.
- Cable retention boot assemblies consistently provide higher than industry standard cable retention.
- Non-optical disconnect maintains data transmission under tensile loads for jacketed cable.

b. See Appendix D for part numbers on cam-style LC fiber connectors.

2. Fiber Enclosures

a. Fiber cable terminations shall be contained in 2 RU, or 4 RU Panduit FCE series rack mount fiber enclosures, or WILCO approved equal.

b. Contractor shall select enclosure size as needed for the number of fibers projected to be in that telecommunication space when fully populated.

c. Contractor shall fill any unused enclosure space with a blank fiber adapter panel (FAP).

d. FCE enclosures shall further have the following properties:

- Be able to hold QuickNet ™ Fiber Optic Cassettes, Opticom ® Fiber Adapter Panels, or splice modules.
- Have a slide-out, tilt-down drawer to provide full front access to all fibers and cables.
- Employ integral bend radius control and cable management appliances for fiber optic patch cords.
- Have rear cable management for proper slacking/spooling of trunk cable break-outs and interconnect cables.
- Have multiple trunk cable entry locations and include fiber optic cable routing kit (grommets, cable ties, spools, strain relief bracket, and ID/caution labels) for different installation configurations.

e. See Appendix D for part numbers.

3. Loose-tube cable and Fusion Splicing with LC Pigtails

a. Outdoor rated loose-tube fiber shall be terminated at the demarcation with fan-out kits and Panduit OptiCom cam-style connectors. The fan out kit shall meet the following requirements:

- Used to build up 250µm fiber to 900µm loose buffered coating size for connector termination.
- Include 900µm hollow tubing and plastic housings.
- Include adhesive tape for mounting.
- Include TEFLON* powder for easy insertion of fibers.
- Length: 1 meter (39.37").

4. Fiber Adapter Panels

a. FCE fiber enclosures shall be populated with fiber adapter panels containing either 6 LC singlemode duplex fiber adapters, or 12 LC singlemode duplex fiber adapters depending on the density needs of the telecom room.

b. Consult project documentation to determine whether 6 or 12 LC singlemode duplex adapters are to be used on a given job.

c. Contractor is responsible to blank out any enclosure spaces where adapter panels are not used.

d. Adapter panels shall further have the following features:

- Loaded with TIA/EIA-604 FOCIS-10 compatible adapters.
- Exceed TIA/EIA-568-B.3 requirements.
- Adapter housing colors follow TIA/EIA-568-C.3 suggested color identification scheme.
- Snap quickly into the front of all Opticom ® components

- LC fiber adapter panels are Sr/Jr. to conserve enclosure space.
- Accept FOCIS-10 compatible senior LC connectors at either end and FOCIS-10 junior LC connectors at the inside end for behind the wall applications.
- Both ends accept FOCIS-10 compatible senior LC connectors.
- Junior end also accepts FOCIS-10 compatible junior (fixed ferrule/springless) LC connectors.
- Choice of phosphor bronze or zirconia ceramic split sleeves to fit specific network requirements; zirconia ceramic split sleeves are recommended for OM4/OM4 multimode and OS1/OS2 singlemode applications.
- Every adapter is laser marked with Q.C. number to assure 100% traceability.
- LC adapters are also available in QuickNet ™ Fiber Optic Cassettes.

e. Consult Appendix D for fiber adapter panels and blank adapter panels.

5. Fiber Patch Cords

a. Fiber patch fields within Williamson County facilities shall utilize riser rated singlemode “push/pull” fiber jumpers (fiber patch cords) that have the following properties:

- Push-Pull LC Duplex Fiber Optic Patch Cords shall feature the push-pull strain relief boot and duplex clip, to allow users easy accessibility in tight areas when deploying very high density LC patch fields.
- Jumpers shall be available in OM3, OM4 and single-mode and be available in in riser (OFNR), plenum (OFNP), and low smoke zero halogen (LSZH) rated jacket materials.

b. See “Appendix D” at the end of this document for singlemode push/pull LC jumper part numbers.

F. Cable Pathways

1. Overhead Metallic Pathway

a. Cable delivery over racking systems in telecommunications rooms shall be done with Wyr-Grid® overhead cable tray routing system or College approved equal.

b. Any pathway offered must have the following properties:

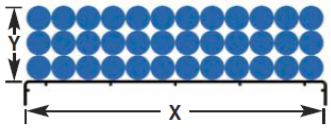
- Wyr-Grid® Pathways are provided in four widths: 12" (305mm), 18" (457mm), 24" (610mm), and 30" (762mm).
- Wyr-Grid® System incorporates non-integral snap-on sidewalls which minimize specification requirements and are offered in three different heights: 2" (50mm), 4" (102mm), and 6" (152mm).
- Wyr-Grid® Splice Connectors have an integral bonding screw that creates a mechanical-electrical bond between cable tray pathway sections.
- Wyr-Grid® Waterfalls are offered in two different configurations that attach to all pathway sections: 12" (305mm), 18" (457mm), 24" (610mm), and 30" (762mm) to facilitate bend radius control and cable management.

- Wyr-Grid® Support Brackets are offered in various widths to accommodate pathways: 12" (305mm), 18" (457mm), 24" (610mm), and 30" (762mm); have integral quick-clip retention; accommodate 1/2" or 12 mm threaded rods.

c. All metallic cable trays must be grounded and all sections bonded in accordance with listing requirements for the particular type of system and per TIA 607-B including most recent revisions, TSB and addenda.

d. Contractor is responsible sizing all pathways to represent no more than a 35% fill upon installation per manufacturer's fill chart below:

Wire Fill for Wyr-Grid® Overhead Cable Tray Routing System



X (in.)	Y (in.)	Internal Area (in^2)	Category 6A (SD) Diameter 6.1mm 0.240"	Category 6A Diameter 7.6mm 0.300"	Category 6 Diameter 6.1mm 0.240"	X (in.)	Y (in.)	Internal Area (in^2)	Category 6A (SD) Diameter 6.1mm 0.240"	Category 6A Diameter 7.6mm 0.300"	Category 6 Diameter 6.1mm 0.240"
12.2	2	24.3	269	172	269	24.2	2	48.3	534	342	534
	4	48.7	538	344	538		4	96.7	1069	684	1069
	6	73.0	807	516	807		6	145.0	1603	1026	1603
18.2	2	36.3	401	257	401	30.2	2	60.3	666	427	666
	4	72.7	804	514	804		4	120.7	1334	854	1334
	6	109.0	1205	771	1205		6	181.0	2000	1280	2000

"Y" equates to the height of the Wyr-Grid® Optional Sidewalls. The internal area defines the allowable fill capacity based on the Wyr-Grid® Pathway width and optional sidewall height. The Wyr-Grid® Pathway cable fill is based on NEC allowable fill of 50%.
The above cable diameters represent the nominal Panduit cable diameter per performance level.

e. All cable trays and grounding conductors should be clearly marked in accordance with manufacturer's instructions, applicable codes, standards and regulations.

f. Contractor shall take care to segregate and protect armored fiber from copper cabling in metallic pathway.

g. Bundled copper and fiber backbones shall be dressed to maintain segregation of cable types throughout the pathway. Innerduct or separate fiber duct is not necessary due to armored construction on fiber backbone.

h. See Appendix D for part numbers.

2. J-Hooks

a. Bundles of 120 Category 6 cables or less may be required to be routed above ceilings using J-hooks. Check project documentation for clarification.

b. J-hook systems used by Williamson County shall be Panduit "J-Pro" series, or Williamson County approved equivalent.

c. Contractor installing J-hook systems shall space them no more than 5 feet apart as per TIA 569-C standard.

d. Contractor is responsible for proper sizing of J-hook systems based upon cable count and manufacturers recommendations for fill, with new J-hooks to have not more than 30% fill per manufacturer's fill charts

based upon projected worst case future bundle size.

e. If J-hooks are deemed too small by above criteria, Contractor shall bring this to the attention of Williamson County for resolution in writing. J-hook pathways that will not have sufficient capacity should be replaced in the design with the proper sized basket tray for future cable additions and flexibility.

f. J-hook systems used by Williamson County shall have the following properties:

- Patented design provides complete horizontal and vertical 1" bend radius control that helps prevent degradation of cable performance.
- UL 2043 and CAN/ULC S102.2 listed and suitable for use in air handling spaces.
- Pre-riveted assemblies allow for attachment to walls, ceilings, beams, threaded rods, drop wires and underfloor supports to meet requirements of a variety of applications.
- Wide cable support base prevents pinch points that could cause damage to cables.
- Cable tie channel allows user to easily install 3/4" (19.1mm) Tak-Ty ® Cable Ties to retain cable bundle.
- Durable non-metallic J Hook materials provide the ability to manage and support a large number of cables.
- Material: Black Nylon 6.6 J Hook with metal attachments.

g. See Appendix D for part numbers.

G. 19” Racks and Rack-mount Cable Managers

1. General:

a. WILCO will often use a “active rack/passive rack” strategy, putting all active electronics on one rack and all associated patching on an adjacent rack. Consult project documentation for details on particular job.

2. Two-post Communications Racks

a. 2-post racks will be Panduit black-powdered aluminum (or WILCO approved equivalent) and have the following properties:

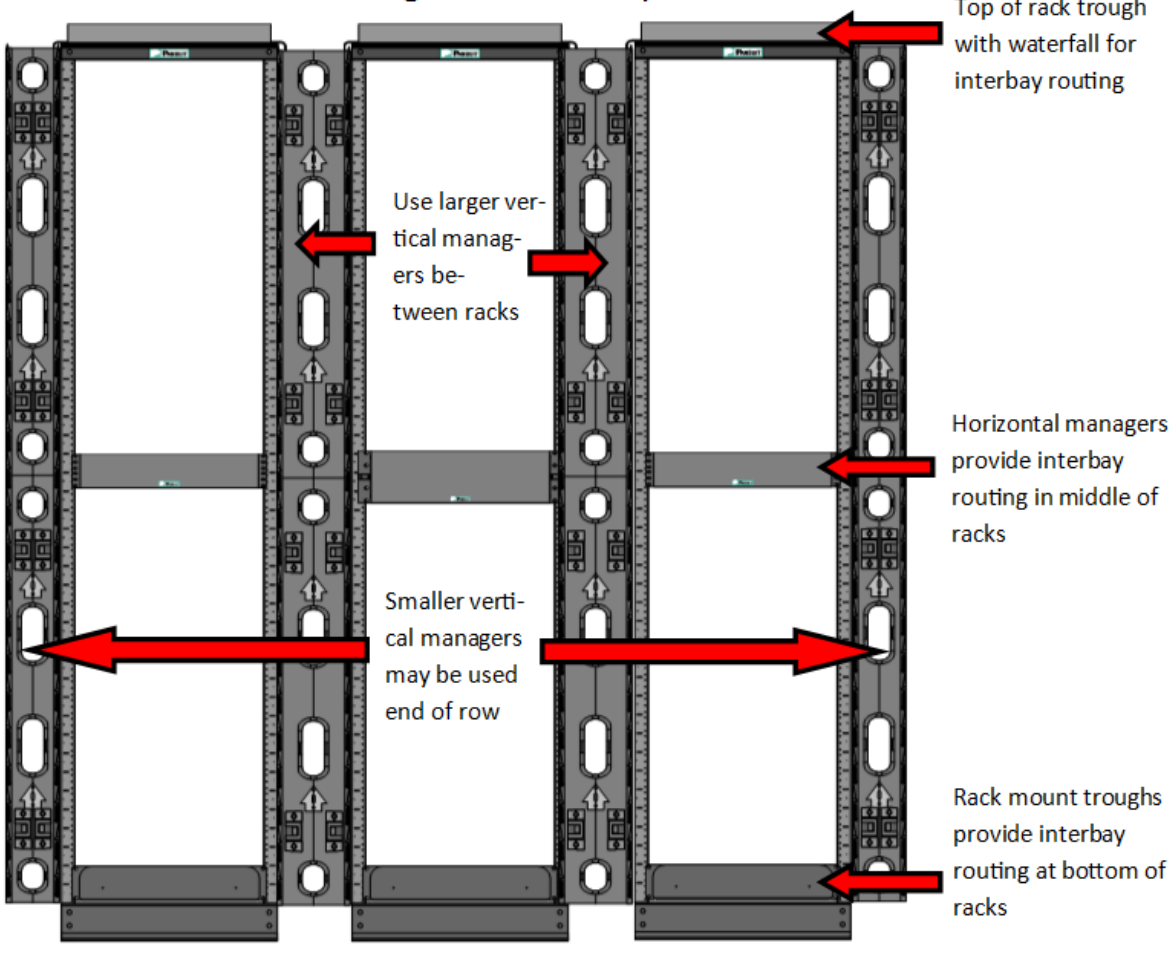
- 19" EIA rack, aluminum.
- Dimensions: 96.0"H x 20.3"W x 3.0"D (2134mm x 514mm x 76mm).
- Rack units numbering up from bottom to allow quick and easy location of rack mount items
- UL listed for 1,000 lbs. load rating.
- Double-sided #12-24 EIA universal mounting hole spacing with 24 #12-24 mounting screws included.
- Accepts all Panduit cable management and patch panel products in addition to any industry standard 19" components.
- Includes paint piercing washers for assembly to assure electrical continuity between components as

pert TIA 607-B Bonding and Grounding Standard.

b. In telecommunications rooms with multi-bay rack rows configured such that patching will take place between racks, Contractor is responsible to include in design interbay routing pathways at the top, middle and bottom of each bay to provide efficient and neat routing between any two points within rack rows.

Interbay routing shall be provided in the form of top troughs, interbay mid-rack path and flanged shelf at the bottom. See rack configuration example below.

Rack Configuration Example



Size all cable managers to contain no more than 35% fill per manufacturer's fill tables upon installation

c. For bottom-of-rack interbay routing where cable quantities exceed capacity of CMUT19 troughs, Contractor shall substitute 4RU trough CMLT19.

d. All racks shall be outfitted with a vertical grounding busbar along one rail, with all equipment bonded to ground according to TIA 607-B Bonding and Grounding Standard. See Bonding and Grounding section of this document for details.

e. See Appendix D for part numbers.

3. 4 Post Racks

a. Racks in large equipment rooms and data centers may require 4 post racks. These racks shall have the following properties:

- Independent adjustable front and rear mounting rails can be adjusted while the rack is secured to the floor
- Printed rack space identification on all equipment rails allows for quick location of rack spaces, speeding
- installation of rack mount items (shipped numbers up per TIA606 specifications; can be set to number down by flipping the rails)
- Rack is UL listed for 2,500 lbs. load rating
- Rear rail construction provides a clear ventilation path for side ventilated switches
- Multiple mounting holes in top flanges for securing ladder rack
- Weld nut construction eliminates the need for a second wrench increasing speed and ease of assembly
- Multiple mounting locations for vertical power strips on any of the four posts or on the adjustable mounting rails
- PatchRunner ™and NetRunner ™ Vertical Cable Managers mount directly to the 4 post rack at any of the four corners to provide a flexible end-to-end cable management solution
- Paint piercing washers included

b. See Appendix D for 4 post racks part numbers.

4. Rack-mounted Cable Management – Vertical Managers

a. Vertical cable managers shall be NetRunner™ Vertical Cable Management System in sizes 4.9” wide, 6.7” wide, or WILCO Williamson County approved equivalent.

b. Contractor will use double sided (front and back) vertical managers on 2-post racks.

c. All vertical cable managers shall have dual hinged doors.

d. Contractor shall choose vertical cable manager width according to manufacturer’s fill tables to not represent more than a 35% fill at installation based on projected worst-case density when racks are fully populated.

e. Contractor shall bring to the attention of WILCO any case where the populated rack will exceed 35% upon installation for resolution from the Department of Information Technologies.

f. Vertical cable managers shall have the following features:

- Large finger openings accommodate up to 24 Category 6 cables
- Integral cable retainers on the end of each finger to help contain cables within each rack unit
- Bend radius fingers align with rack spaces to support cables as they transition to the vertical pathway
- Dual hinged covers can be opened 110° to the left or right to provide complete access to the cables inside the vertical pathway
- Snap-on cable retainers can be placed on to fingers to help retain cables in channel during installation and maintenance
- Vertical managers include hinged covers, cable retainers, mounting brackets and #12-24 screws

g. Part numbers are listed in Appendix D.

5. Rack-mounted Cable Management – Horizontal Managers

a. Contractor shall user double-sided PatchLink ™ Horizontal Cable Managers (or WILCO approved equal) in sizes 1 RU and 2 RU having the following features:

- Lightweight plastic construction provides durability and easy installation.
- Patented dual hinged cover allows cable access without removing cover.
- Rounded edges on fingers protect cables from snags and damage to cable.
- Flexible fingers allows easy installation and removal of cables.
- Increased finger spacing provides larger area for high performance Category 6 cables.
- Pass-through holes allow front to rear cabling.
- Mount to standard 19" EIA racks and cabinets.
- Covers, #12-24 and M6 mounting screws included.

b. Part numbers are listed in Appendix D

H. Cable Accessories

1. Cable Ties

a. Cable bundles on racks and in pathways shall be bundled with re-enterable hook and loop cable ties that come in continuous rolls.

b. Contractor is responsible for using plenum hook and loop ties in air-return spaces.

c. See “Appendix D” for part numbers.

2. Physical Security Devices

    a. Some portions of Williamson County networks require additional physical security devices. These take three forms:

        - Devices that block-out copper and fiber ports in patch fields and faceplates that require a special tool for removal.
        - Devices that lock-in copper patch cords and require a special tool for removal of those patch cords.
        - Devices that temporarily or permanently block USB ports on laptops and computers.

    b. Areas where such devices are required will be called out in the project documentation.

    c. See Appendix D for part numbers.

I. Communications Grounding Network

1. General

    a. Contractor is responsible for bonding to ground all newly placed equipment and installed racks or cabinets per the TIA 607-B Standard.

2. Room Busbars

    a. All Telecommunications spaces and distributor rooms shall have installed an appropriately sized wall-mount busbar with BICSI hole spacing that bonds to the building bonding backbone.

    b. See Appendix D for appropriate room telecommunications grounding busbar.

3. Rack and Equipment Grounding

    a. Contractor is responsible for properly grounding all network equipment, racks and cabinets and bonding them to the wall mounted busbars as described in the TIA 607-B standard.

    b. All newly installed racks and cabinets shall have installed a vertical busbar mounted along one equipment rail to serve as a clean, low-resistance bonding place for any equipment not equipped with a designated grounding pad.

    c. Smaller equipment without an integrated grounding pad shall be bonded to the vertical busbar through the use of a thread-forming grounding screw that is anodized green and includes serrations under the head to cut through oxidation or paint on the equipment flange.

    d. Larger equipment (chassis switches) with a designated grounding terminal shall be bonded to the vertical busbar with an EBC (equipment bonding conductor) kit built to that purpose.

    e. Contractor shall take care to clean (wire brush, scotchbrite pads) any metallic surface to be bonded down to bare metal and apply a film of anti-oxidation paste to the surfaces prior to effecting the bond.

    f. All bonding lugs on racks and busbars shall be of two-hole irreversible compression type. Mechanical lugs and single-hole lugs will not be accepted and shall be removed and replaced at Contractor's expense.

g. Every rack or cabinet shall have an individual bonding conductor into the grounding network, serially connecting (daisy-chaining) of racks is expressly forbidden and will not be accepted.

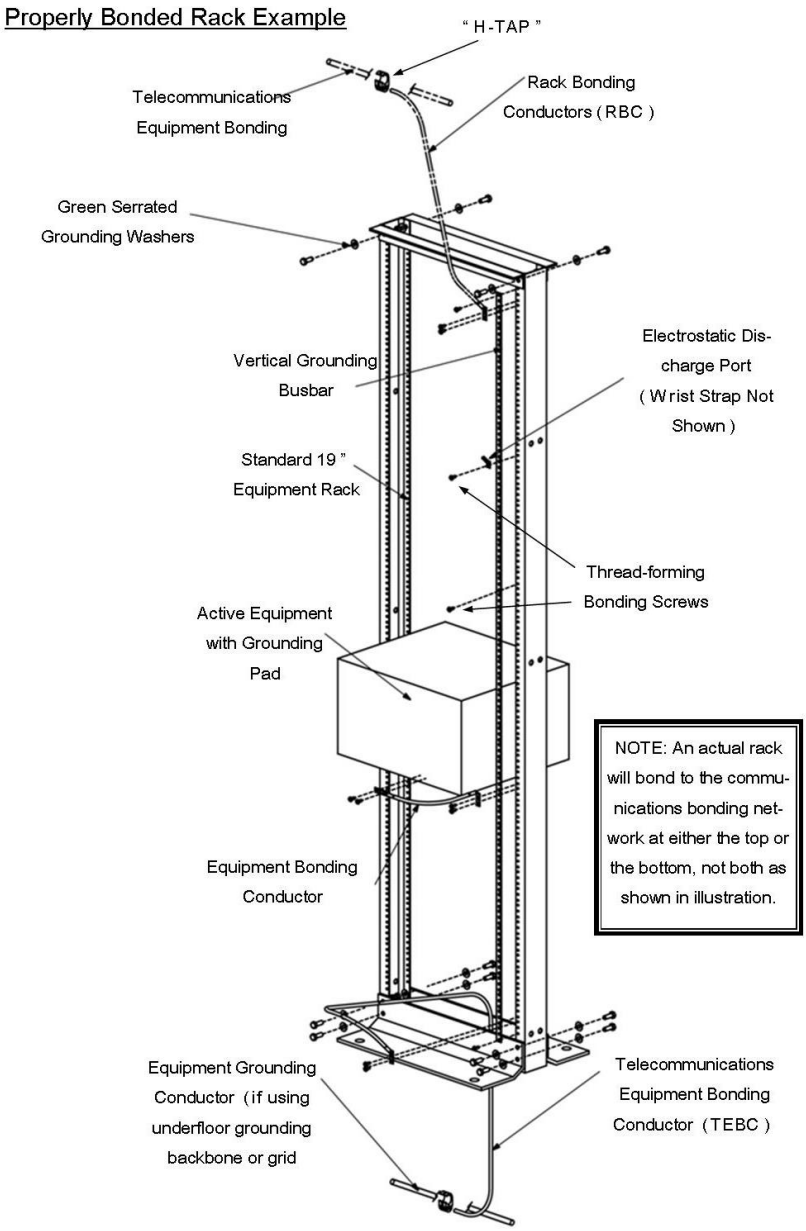
h. Rack Bonding Conductors (RBC) may tap into an overhead or underfloor aisle ground, or may run to the wall-mounted grounding busbar in smaller Telecommunications rooms containing 5 racks or less.

i. A minimum of every other rack or cabinet shall be outfitted with a properly installed and bonded ESD (electro-static discharge) port along with a wrist strap and lead to be used by any technicians servicing network equipment. On four post racks and cabinets these ESC ports and straps shall be provided on front and back to be accessible and able to reach any active equipment needing servicing.

j. Armored cables shall be properly bonded to the earthing system on both ends with a kit built to that purpose.

k. For examples of rack grounding refer to the illustrations below:

WILLIAMSON COUNTY CABLING SPECIFICATION



<END OF SECTION>

IV. Network Labeling

A. General Requirements

1. When labeling any Williamson County network system, Contractor shall adhere to the following requirements:

    a. All cabling added to existing “legacy” installations shall follow the labeling convention in place at that location.

    b. All labeling of installed cabling in new (Greenfield) projects shall satisfy all requirements of TIA 606-B, or be modified as indicated in the project specific documentation.

    c. Contractor shall, wherever possible pre-print labels using Panduit Easy-Mark software and laser jet printer, or WILCO approved equivalent.

    d. The Panduit PanTher (LS8E) hand-held thermal transfer printer or WILCO approved equivalent shall be used on site to print labels that were unanticipated, or that become damaged in application.

    e. This labeling strategy shall, at a minimum, clearly identify all components of the system: racks, cables, panels and outlets, grounding, pathways and spaces like telecommunications rooms.

    f. Racks and patch panels shall be labeled to identify the location within the cable system infrastructure.

    g. All labeling information shall be recorded on the as-built drawings and all test documents shall reflect the appropriate labeling scheme.

    h. All label printing will be machine generated by either hand-held labeling systems or computer generated using programs and materials built specifically for communications labeling.

    i. Hand written labels will not be accepted and must be remedied at Contractors expense.

    j. Cabling system labels shall utilize materials designed to outlast the cabling elements to which they attach. Office quality labels will not be accepted.

    k. Cable labels shall be self-laminating, appropriately sized to the outside diameter of the cable and placed within view at the termination point on each end.

    l. Outlet, patch panel and wiring block labels shall be installed on, or in, the space provided on the device.

    m. Machine-generated labels shall be installed behind the clear lens or cover on any device that provides such an option.

    n. All labels will be permanently affixed to installed cables, patch panels, racks, cabinets, and enclosures.

    o. Conduit shall be marked indicating the identification of the cable within.

    p. Labels shall be legible and placed in a position that insures ease or visibility.

    q. Label type must be as listed in Appendix D - Materials section at the end of this document.

<END OF SECTION>

V. Testing and Acceptance

A. General

1. All cables and termination hardware shall be 100% tested for defects in installation and to verify cabling system performance under installed conditions.

2. All copper pairs or optical fibers of each installed cable shall be tested and verified prior to system acceptance.

3. Any defect in the cabling system performance or installation including but not limited to cable, connectors, feed through couplers, patch panels, and connector blocks shall be repaired or replaced in order to ensure 100% useable conductors or fibers in all cables installed.

4. All cables shall be tested in accordance with this document, the ANSI/TIA Standards, the PANDUIT® ™ System Warranty guidelines and best industry practice.

5. If any of these are in conflict, the Contractor shall bring any discrepancies to the attention of the project team for clarification and resolution.

B. Copper Link Testing

1. All twisted-pair copper cable links shall be tested for compliance to the requirements in ANSI/TIA 1152 and ANSI/TIA 568-C.2 for the appropriate Category of cabling installed using a test unit meeting a minimum IEC IIIe level of accuracy.

2. All testers used must have been factory calibrated by the manufacturer within one year of use or according to factory calibration recommendations, whichever is the more stringent.

3. Contractor shall set references according to manufacturer's recommendation prior to each day's testing and reset references anytime tester is left unused for more than two hours.

4. For warranty purposes, Contractor shall perform the appropriate Permanent Link test. Channel Link testing is rendered void by the movement of patch cords and can be run but not used for final acceptance criteria.

C. Fiber Testing

1. All installed fiber shall be tested for link-loss in accordance with ANSI/TIA-C.0 and shall be within limits specified within ANSI/TIA-C.3, or as spelled out in the project documentation.

2. For horizontal cabling system using multimode optical fiber, attenuation shall be measured in **both directions** at 850 nanometer (nm) **and** 1300 nm using an LED light source and power meter.

3. Attenuation testing shall be performed with a stable launch condition using two-meter jumpers to attach the test equipment to the cable plant. The light source shall be left in place after calibration and the power meter moved to the far end to take measurements.

4. Backbone & WAN single-mode fiber cabling shall be power tested at the 1310 and 1550 wavelengths in both directions. OTDR traces shall be performed in both directions at 1310 and 1550 wavelengths. End face termination/connector captures shall be performed on each connector with a passing result.

5. Test set-up and performance shall be conducted in accordance with ANSI/568-C.0 standard, Method B.

6. Where links are combined to complete a circuit between devices, the Contractor shall test each link from end to end to ensure the performance of the system. Only basic link-loss testing with a power meter is required. The contractor can optionally install patch cords to complete the circuit and then test the entire channel. The test method shall be the same used for the test described above.

7. The values for calculating loss shall be those defined in the ANSI/TIA 568-C.3 Standard. If the link loss requirements defined within the standard are in conflict with those referenced in the project documentation, Contractor shall immediately bring this to the attention of Information Technologies for resolution.

D. System Documentation

1. Upon completion of the installation, the telecommunications contractor shall provide three (3) full documentation sets to Williamson County for approval. Documentation shall include the items detailed in the sub-sections below.

2. Documentation shall be submitted within ten (10) working days of the completion of each testing phase. This is inclusive of all test results and draft as-built drawings. Draft drawings may include annotations done by hand. Machine generated (final) copies of all drawings shall be submitted within 30 working days of the completion of each testing phase.

3. Contractor shall submit with drawings a diagram of each telecommunications room with indicating which cabling drops will terminate in which rooms (rooms). This is both to give an idea of contractor cableplant design, as well as to facilitate future troubleshooting.

4. At the request of the Information Technologies Engineer, the telecommunications contractor shall provide copies of the original test results in tester native format, not spreadsheet.

5. Information Technologies may request that a 10% random field re-test be conducted on the cable system, at no additional cost, to verify documented findings. Tests shall be a repeat of those defined above. If findings contradict the documentation submitted by the telecommunications contractor, additional testing can be requested to the extent determined necessary by Information Technologies, including a 100% re-test. This re-test shall be at no additional cost to Williamson County.

E. Test Results

WILLIAMSON COUNTY CABLING SPECIFICATION

1. Documentation shall be provided in electronic format within three weeks after the completion of the project. The media shall be clearly marked on the outside front cover with the words “Project Test Documentation”, the project name, and the date of completion (month and year).

2. The results shall include a record of test frequencies, cable type, conductor pair and cable (or outlet) I.D., measurement direction, reference setup, and crew member name(s). Documentation shall also include test equipment name, manufacturer, model number, serial number, software version and last factory calibration date.

3. Unless the manufacturer specifies a more frequent calibration cycle, an annual calibration cycle is anticipated on all test equipment used for this installation.

4. The test document shall detail the test method used and the specific settings of the equipment during the test as well as the software version being used in the field test equipment.

5. Printouts generated for each cable by the wire (or fiber) test instrument shall be submitted as part of the documentation package. Alternately, the telecommunications contractor may furnish this information in electronic form.

6. The media shall contain the electronic equivalent of the test results as defined by the specification along with the software necessary to view and evaluate the test reports.

7. When repairs and re-tests are performed, the action taken shall be noted, and both the failed and passed test data shall be documented.

8. The As-Built drawings are to include cable routes and outlet locations. Their sequential number as defined elsewhere in this document shall identify outlet locations.

9. Numbering, icons, and drawing conventions used shall be consistent throughout all documentation provided. Williamson County will provide floor plans in electronic (PDF) formats on which as-built construction information can be added.

10. These documents will be modified accordingly by the Telecommunications Contractor to denote as-built information as defined above and returned to Williamson County.

11. The Contractors shall annotate the base drawings and return a hard copy (same plot size as originals) and electronic (PDF) form.

<END OF DOCUMENT>

Appendix A – WILCO Contractor/Vendor Rules and Regulations

WILCO Contractor/Vendor Rules and Regulations

WILCO maintains specific rules and regulations that apply to all contractors and vendors who perform work or provide services. It is the responsibility of the contractor or vendor to insure that all rules and regulations are adhered to at all times. Any employee of the contractor or vendor who does not adhere to the rules and regulations will be asked to leave the property and will not be permitted to return. Poor conduct will not be tolerated.

You or your company may not perform any work or services in the building or on the grounds until the following mandatory requirements are met:

1. A certificate of liability insurance for your company must be filed in the Facilities Office. The certificate must be current and must meet building insurance requirements for coverage and indemnification.
2. All subcontractors must be approved by the Facilities Office.
3. Each worker, whether employed by your company or by a subcontractor, must possess an understanding of building safety procedures.
4. All permits must be displayed and a copy must be on file in the Facilities office.

The following general rules apply to all vendors, contractors and subcontractors:

1. **Smoking is not allowed. All Wilco Facilities are tobacco free areas.** No smoking in any area of the buildings, roof or loading docks.
2. All workers are expected to behave professionally. Please remember the importance of your appearance and professionalism to our community.
3. All contractors must wear proper attire while on the premises. Shirts or hats with profanity are not permitted on the property. All contractor employees must have identification with their company's name on it.
4. All combustible and flammable materials or liquids must be stored properly and the Facilities Office must be notified of the presence of such materials.
5. Please check in at the Facilities office for building access and/or prior to starting any work.

General Requirements:

1) All construction and construction related activities will conform to all State, Local, Federal & OSHA laws
2) Contractor shall ensure that the construction site and adjoining areas including hallways and access ways are kept clean at all times. Areas not under construction but affected by or used during construction are to be protected from damage. Floors and carpets are to be covered with protective materials.
3) Contractor shall be responsible for the repair of all damages caused by them or their subcontractors.
4) Construction signs and/or barriers visible to tenants and guests of the building must be approved by Facilities Office prior to installation.
5) Physical or verbal abuse or harassment of any individual is prohibited.
6) Workers will be allowed in area where construction is taking place. All work which requires entering other tenant areas or common areas will be coordinated with Facilities Office.

7) No food or coffee breaks are allowed in common areas of the building or in a tenant's space. The only approved break areas are designated within construction area if unoccupied, and the dining area of the café and the courtyard (weather permitting)
8) Work being done outside of the hours of 7:00 am – 4:00 pm must be coordinated with the Facilities Office. If it is determined by Facilities that a fire watch is needed the contractor will be responsible for those charges.

Cleaning

1) It is expected that all areas outside of the work area will be kept clean to include but not limited to:
   a) Common areas
   b) Elevator/Loading dock routes
   c) Exterior areas
2) Work areas must be kept clean at all times. Each contractor is responsible for removing any rubbish associated with their work activities. It is the contractors responsibility to vacuum and dust common areas if work activities create excessive dust and trash
3) It is expected that walk off mats will be used at all areas of entry and exit of the space. The mats should be changed frequently to keep a tidy appearance and upon request of the Facilities Office.
4) It is expected that if construction deliveries coming from the loading docks cause excessive dirt and damage to the existing finish of the common area floors as deemed by Facilities Office, the contractor will be expected to reimburse the facility for stripping and waxing or cleaning of the carpet. If this policy is not adhered to, the building will take appropriate action and charge back the contractor all costs associated with the activity.
5) If damage does not clean or is unable to be repaired the contractor will be responsible for the replacement of the goods.
6) Utility sinks are to be cleaned if used. No construction waste, paint thinner or other obstructing or hazardous materials are to be poured done the drain or left to clog the sinks
7) Carpets and flooring within the work area as well as the common areas must be maintained in a clean and undamaged condition at all times. Contractor shall be responsible for any damage and should report any preexisting conditions prior to the commencement of work.
8) Fire Exit doors and/or evacuation pathways must be open at all time and free of debris or clutter
9) There will be a mandatory post work inspection completed. This will consist of a representative from Facilities, along with a representative from the company completing the work. This will be to inspect the work completed, as well as the cleanliness of the area at the finish of the project. The associated post inspection form must be completed and signed by both representatives. Any requests made from the facilities department during this time must be met prior to receiving payment for work. If contractor does not comply with post work inspection, they will be back charged for any costs associated to correct the issues.

Construction

1) All Air Handling Returns must have additional filtering during heavy construction activity. Contractors must notify Facilities Office prior to using any products that could generate dust or odors that may migrate into the buildings HVAC system or other tenant spaces. Off hour restrictions may be required.
2) All construction related trash must be properly disposed of in a construction dumpster by contractor. Facilities will approve location.
3) A representative of the Facilities will be in attendance at all weekly job meetings.
4) The owner reserves the right of first refusal on all demo'd materials
5) Smoking is not allowed.

6) Any unused materials such as conduit, wiring, building materials must be disposed of by the contractor
7) Prevailing wage rates must be posted at the worksite in accordance with M.G.L. ch.149 sec.27. It is the responsibility of the contractor to maintain all state and local postings
8) Hot Works- will be coordinated and permitted through the Facilities Department. Prior to any welding, soldering or metal cutting, contractors must present the Facilities Office with a fire plan and proof of fire watch and permit.

- All Fire alarm wiring must be installed in conduit clearly labeled every 10'

Roof Access

1) Roof access must be coordinated with Facilities
2) There is no smoking on the roof
3) Clean up all debris including loose screws
4) Any damage to the roof will be the responsibility of the Contractor to repair

Shut Down coordination

1) All shut down's must be coordinated with the Facilities Office. If the building systems are shut down for any reason, the contractor must first coordinate through the Facilities Office such activities allowing time to notify all appropriate parties. At any time the contractor accidentally causes a building system to fail, the contractor will be responsible for all costs associated with that failure.
2) All shut downs must be back on line by the end of the day. Shut downs are NOT permitted overnight.
3) Facilities must approve that services are back on line to their satisfaction BEFORE the contractor leaves the property.

Noise coordination

1) All noise will be contained. Please keep all doors closed to help to contain sound as well as dust. No Music will be allowed
2) Employee occupied space will be handled with the utmost respect.
3) Complaints of excess noise will be handled immediately. Management reserves the right to stop all work if the work causes complaints from other tenants. Any charges, fees and/or other costs associated with scheduled or non-scheduled work stoppage is the responsibility of the contractor doing the work.
4) All floor and wall penetrations must be fire stopped.

Core Drilling

1) Core Drilling or any other work causing noise disruption must be coordinated with the Facilities Office. Absolutely no work will be permitted that in any way disrupts daily activities during normal working hours unless prior authorization from Facilities is granted

Elevator Use

1) The elevators will be used according to their proper designation and weight capacity. Freight Elevator will be used for all construction related materials and or utility carts
2) Priority use must be given to faculty and staff use. Please do not enter an elevator with construction equipment with faculty or staff.
3) Floor and wall protection must be used at all times

Loading dock

1) Use must be coordinated with the Facilities Office
2) Deliveries must be coordinated with the Facilities Office
3) Loading docks will be kept clean and free of construction materials. Storage is not allowed on or around the loading dock
4) Floor protection must be used when entering the common areas from the loading dock
5) No Smoking on or around the loading dock area

Security

1) A contact lists must be provided to the Facilities office of all Trades, to include emergency contact information
2) No smoking allowed. Absolutely no smoking in project area or within any building on site.
3) No alcohol is allowed in any project areas.
4) Entry to other non-project related spaces or unauthorized areas are strictly prohibited.

Insurance:

The Contractor shall purchase and maintain, in a company or companies licensed to do business in the state in which the contract services are to be performed, insurance as set forth below which will protect the Contractor, Owner, and the Agent, and their respective employees, agents, successors and assigns, from claims which may arise out of or resulting from Contractor's operations under the Agreement, whether such operations are to be performed by the Contractor, its subcontractors, or by anyone directly or indirectly employed by any of them for whose acts they may be liable. The Contractor must bring the insurance certificate to the Wilco Purchasing Office prior to any work commencing.

We require Certificate of Liability Insurance from each vendor we contract with. The following information should be included:

a. General Liability
b. Automobile Liability
c. Workers Comp& Employee Liability
d. Description of Operations must be filled out. Please include "It is hereby agreed that Williamson County is additionally insured and will be held harmless for all damages you create"

Life Safety Procedures

1) In the event of a medical emergency, fire or life threatening emergency, workers should call Facilities at 512-943-1599 or house phone 911

2) Facilities must be notified of any injuries that occur on the property

Life Safety Systems

1) If there is a possibility that the life safety equipment has been compromised, Facilities must be notified immediately.
   a) WILCO Facilities Office (512) 943-1599
2) No propping open fire doors.

3) Contractors must maintain the proper equipment to manage water from a broken sprinkler pipe

<END OF APPENDIX>

Appendix B – WILCO Cabling Policies and Procedures

Williamson County (WILCO)

POLICY & PROCEDURE CONCERNING ALL ELECTRICAL, TELECOMMUNICATIONS AND NETWORKING INSTALLATIONS AND/OR MODIFICATIONS

I. Policy

Permits are required for all Electrical, Telecommunication and Network wiring modifications within the WILCO Campus PRIOR to commencing work. By requiring prior authorization and pre and post implementation inspections, WILCO will better maintain the integrity and safety of the telecommunications system, alarms, cameras, elevator, fire alarms and electrical wiring. The goal of instituting this policy is to maintain strict control over the wiring and facilities to significantly reduce the probability of system issues, prevent damage to the facilities and maintain compliance with building and fire codes.

It is therefore, the policy of WILCO that existing telecommunications wiring, including electrical, voice, data, and video, as well as telecommunications facilities located in various buildings may not be altered in any way except by written permission from the Senior Director of Facilities or designee.

II. Procedure for Wiring (Telecommunications and Computer)

1. Existing telecommunications and/or computer wiring and cables may not be altered by anyone except an IT contractor, vendor or WILCO Electrician and must include permission from the Senior Director of Facilities or designee.

2. WILCO Senior Director of Facilities shall review and approve the telecommunications and computer wiring and electrical plans for new and existing buildings and projects.

3. Electrical Inspector shall inspect all telecommunications wiring in new and renovated buildings and projects to ensure proper installation.

4. Any unauthorized wiring found in telecommunication, electrical spaces or within buildings & grounds will be removed immediately at the cost of the department.

5. Any unauthorized wiring which interfaces with telecommunications, wiring or health and safety will be reported to Facilities Office for review. Working with the Information Technology Dept., if the wiring is found to be either a safety hazard; or not in conformance with applicable codes; or detrimental to the functioning of the telecommunications system; it shall be removed by the vendor authorized representative, at the expense of the vendor/contractor's or department that installed or authorized it.

6. All telecommunication will be marked identifying their terminal ends and owner.

III. Telecommunications Manholes and Closets

1. Any manholes or closets containing telecommunications conduit or electrical wiring shall be under the exclusive control of Senior Director of Facilities.

2. No equipment or storage may be placed in these areas without Facilities knowledge and consent. All confined spaces regulations will be complied with for manhole applications including those persons entering the manholes.

IV. Electrical Wiring

1. All electrical wiring will be installed and marked according to National, State and City codes. Only approved licensed and insured vendors/contractors will be approved for such work.

2. Abandoned or discontinued electrical wiring will be properly removed and circuitry identified of such discontinuance.

3. WILCO will review and approve plans for additional wiring before the vendors/contractors performs work.

4. Any unauthorized wiring will be removed at vendor/contractor/departments expense.

Summary of Policy and Procedure

A. Permits for all wiring will be required. NO EXCEPTIONS

B. Telecom or electrical wiring will be run in conduit, independently of all other conduit unless the conduit is specifically designated for that particular wiring. Wiring is never to be hung from or connected to HVAC piping or ducts or fire suppression equipment and piping.

C. All telecommunication and electrical closets are designated areas for Telecomm and network equipment. Closets will be organized and free of clutter. Wiring closets are not to be used for storage and will be readily accessible at all times.

D. All telecom and electrical wiring will be marked with project name and location name and demarcation points. Ends will be clearly marked with destination location.

E. All work will be completed with the approval of the Senior Director of Facilities or designee. As well as IT Approval for network and Telecomm wiring. Limit for Ethernet is 320 feet total.

F. All holes drilled through walls, ceilings and floors etc. will be fire stopped and labeled. Temporary use or construction means and methods still must be approved by Facilities and IT

G. All contractors must sign in at the Senior Director of Facilities or designee's office on a daily basis. Appropriate permits must be posted at the work area. Contractors must submit all hot works permits to Facilities at least 72 hours prior to work. Hot works permits are approved by Facilities.

WILLIAMSON COUNTY CABLING SPECIFICATION

Work may not be done without approval. Contract must arrange with Facilities to be able to take the fire alarm off line prior to any work being performed

H. Hours for drilling or any other work that will create noise/vibrations during work hours will only be allowed between 11 p.m. to 7 a.m. unless exceptions are made by the Senior Director of Facilities. Any work creating noise done outside those hours will be shut down by the Facilities office.

I. Intervals of labeling of conduits and wiring will be left to the discretion of the Senior Director of Facilities or designee and wiring code, however a minimum of every 8-10' is required. Labels should be clearly placed and the beginning and end of each run.

J. Access to office spaces must be requested at least 72 hours in advance to the Senior Director of Facilities or designee.

K. No employees of WILCO will run, pull, manipulate or extend power, terminated Ethernet or fiber (electrical and computer, phone etc.) with the exception of the WILCO Electrician.

L. Any work on or to power, Ethernet or fiber in any of 's buildings or grounds must be done by a Facilities Approved Vendor**. Facilities REQUIRES Notification by all vendors working on any installation of wiring or cabling, new or existing. Notification should include identifying the means and methods of routes.** It is expected that all wires and cables will be run according to State and Federal codes and laws without exception. Any work done that does not meet these requirements will be the responsibility of the contractor to correct.

Requests should be submitted to Facilities at least 2 weeks prior to any work being done. In an emergency, the Senior Director of Facilities or designee should be contacted before any work is done.

M. All IT departments (Applications, Infrastructure and Academic Computing) will coordinate vendor work with the Facilities Department. All bid documents (RFP, RFI etc.) will include WILCO Facilities policies, procedures, requirements and expectations.

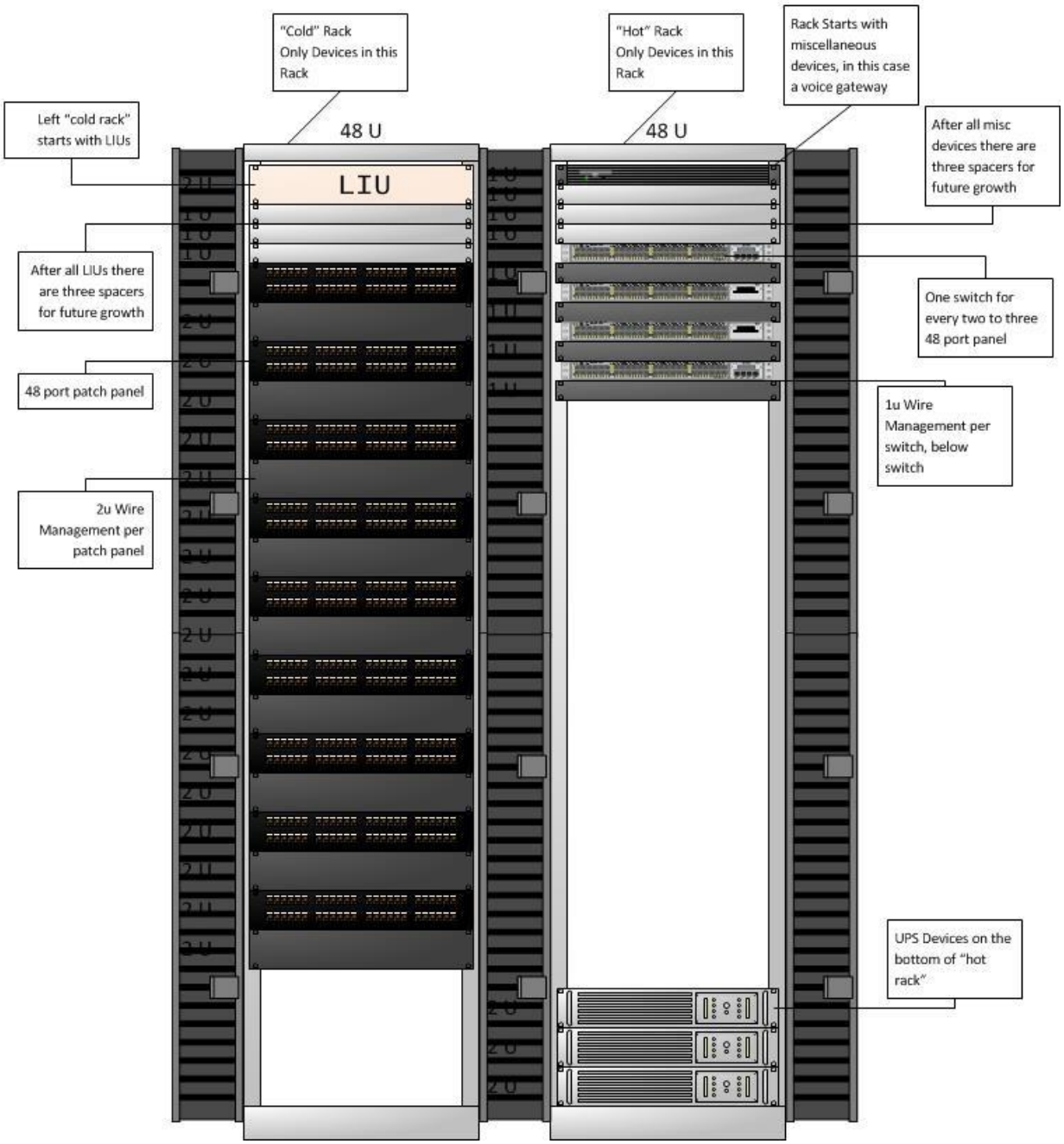
N. All Contractors must sign a Williamson County Contract and provide necessary insurance and certificates to include but not limited to, Terms and Conditions, Certificate of Liability Insurance, W9, etc.

<END OF APPENDIX>

WILLIAMSON COUNTY CABLING SPECIFICATION

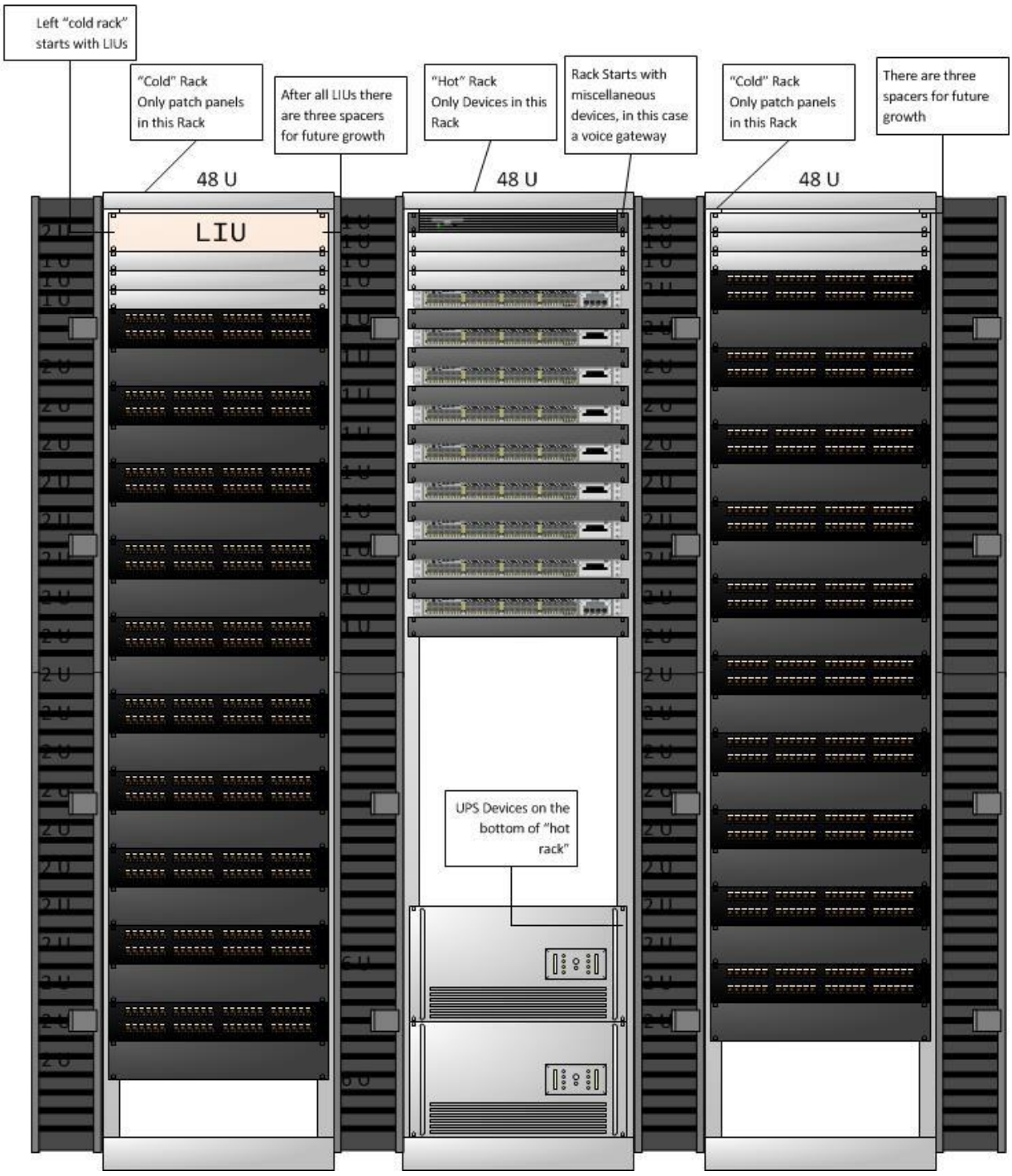
Appendix C – Typicals

STCC IDF Standards			
draft	48 to 480 Port Closet	By Jason J Alves	2014.5.24

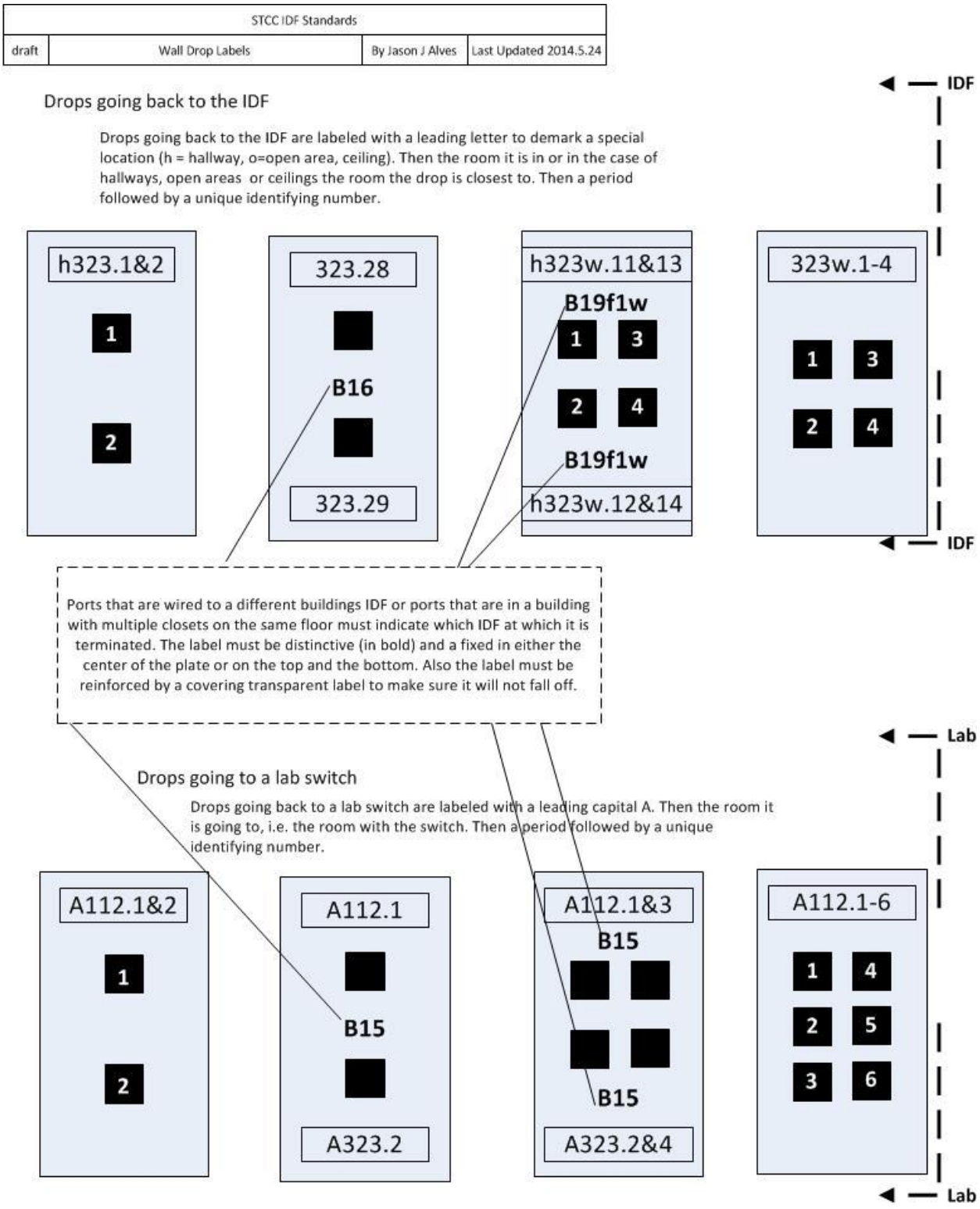


WILLIAMSON COUNTY CABLING SPECIFICATION

STCC IDF Standards			
draft	480 to 960 Port Closet	By Jason J Alves	2014.5.24



WILLIAMSON COUNTY CABLING SPECIFICATION



WILLIAMSON COUNTY CABLING SPECIFICATION

STCC IDF Standards			
draft	Closet Patch Cable Color Guide	By Jason J Alves	Last Updated 2014.5.24

Blue = Adminstrative

Yellow = Academic

Green = Wireless

Orange/Red = Public Safety

Purple = Crossover

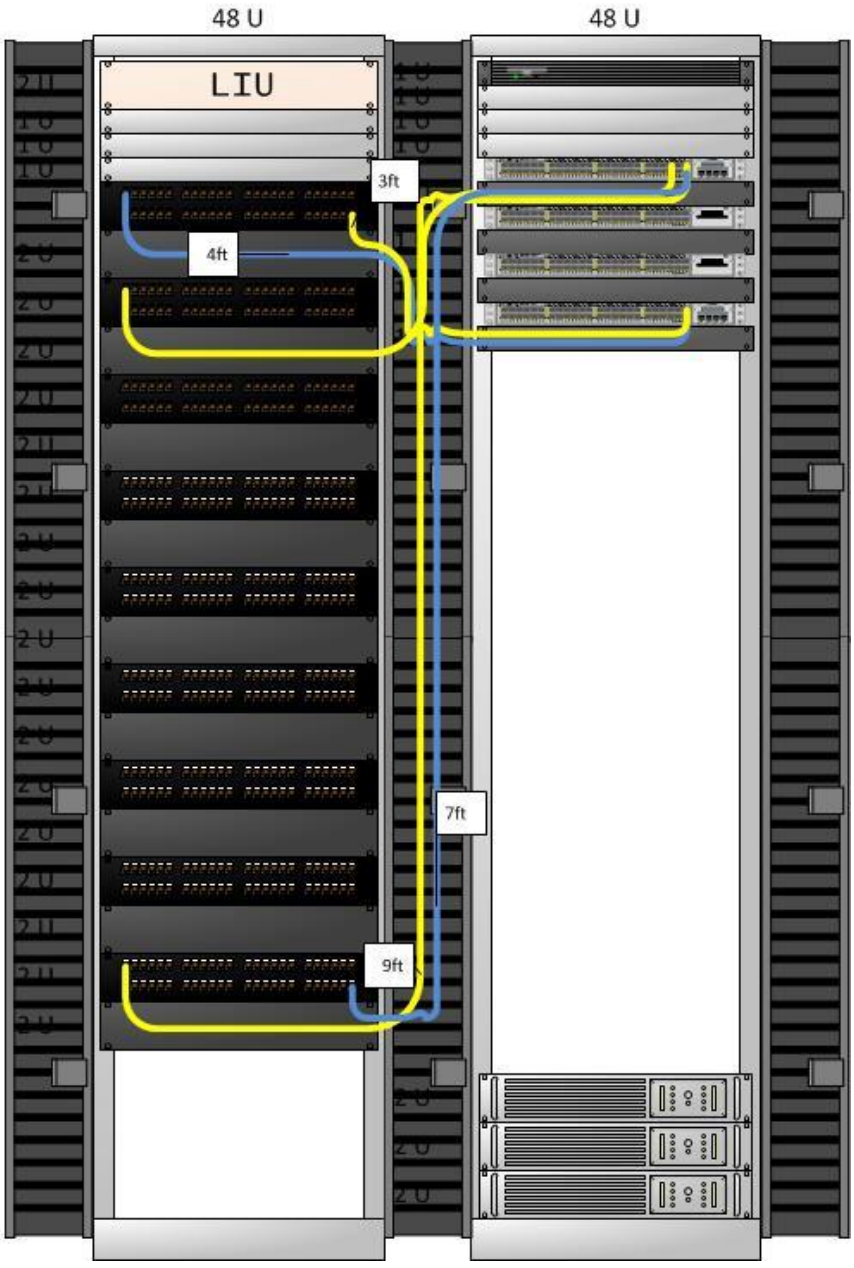
Grey = Printer

Black = Utility

White = VoIP/Wallphone

WILLIAMSON COUNTY CABLING SPECIFICATION

STCC IDF Standards			
draft	Patch Cable Run Routes	By Jason J Alves	Last Updated 2014.5.24



<END OF APPENDIX>

Appendix D – Materials List

Manufacturer	Part Number	Description
		COPPER DISTRIBUTION
General Cable	**7131800**	General PanGen 6 Blue Category 6 UTP cable. For other colors see table in copper section of this document.
Panduit	**NK6FIWY**	NeKey 6-port, single gang, flush mount vertical faceplate with labels. International White color. For Electric Ivory color, replace “IW” with “EI” in part number.
Panduit	**NK2FIWY**	NetKey 2-port, single gang, flush mount faceplate with labels. International White color. For Electric Ivory color, replace “IW” with “EI” in part number.
Panduit	**NK4FIWY**	NetKey 4-port, single gang, flush mount vertical faceplate with labels. International White color. For Electric Ivory color, replace “IW” with “EI” in part number.
Panduit	**NK688MBL**	NetKey Cat 6 punchdown jack module – Black. *For standard colors replace color suffix (BL) with IW (Off White), EI (Electric Ivory), IG (International Gray), WH (White), BL (Black), BU (Blue), RD (Red), YL (Yellow), GR (Green), OR (Orange) or VL (Violet).
Panduit	**NKBMIW-X**	Blank keystone module. Reserves faceplate space for future use. International White. For Electric Ivory substitute “IW” in part number for “EI”.
Panduit	**NK2BXIW-A**	Surface mount box accepts two NetKey® Modules. International White color. For Electric Ivory color, replace “IW” with “EI” in part number.
Panduit	**NK6PP24P**	NeKey All Molded Polymer Punchdown Patch Panel, Cat 6, Flat, 24 Port, 1 RU.
Panduit	**NK6PP48P**	NetKey All Molded Polymer Punchdown Patch Panel, Cat 6, Flat, 48 Port, 2 RU.
Panduit	**NK6PPG24Y**	NetKey Metal Punchdown Patch Panel, Cat 6, Flat, 24 Port, 1 RU.
Panduit	**NK6PPG48Y**	NetKey Metal Punchdown Patch Panel, Cat 6, Flat, 48 Port, 2 RU.
Panduit	**UTP28SP10BU**	Copper Patch Cord, Cat 6 Performance (SD), 28 AWG, Blue CM/LSZH UTP Cable, 10ft. *For lengths 1 to 50 feet (increments of one foot), and 55 to 150 feet (increments of five feet), change the length designation (10) in the part number to the desired length. ** For standard cable colors other than Blue (BU), add suffix IW (Off White), BL (Black), BU (Blue), RD (Red), YL (Yellow), GR (Green), OR (Orange), GY (Gray), PK (Pink), or VL (Violet).
		FIBER DISTRIBUTION SYSTEMS
Panduit	**FLCDMCXAQY**	LC OptiCam® 10Gig™ 50/125µm Multimode Duplex Fiber Optic Connector for 900µm tight-buffered fiber installation.
Panduit	**FLCDSCBUY**	LC OptiCam® Singlemode Duplex Fiber Optic Connector for 900µm tight-buffered fiber installation.
Panduit	**FSPP924Y**	24-fiber OS2 singlemode plenum rated indoor interlocking aluminum armored cable. For intrabuilding use between telecom rooms in the same building.
Panduit	**FSNR948Y**	48-fiber OS2 singlemode riser rated indoor/outdoor stranded cable. For use for between building fiber backbone.
Panduit	**FSNP948Y**	48-fiber OS2 singlemode plenum rated indoor/outdoor stranded cable. For use for between building fiber backbone.
Panduit	**FCE2U**	Opticom® QuickNet™ Rack Mount Fiber Enclosures, holds up to eight QuickNet™ Cassettes, FAP adapter panels, or FOSM splice modules. Dimensions: 3.48"H x 17.60"W x 16.30"D (88.4mm x 447.0mm x 414.0mm).

WILLIAMSON COUNTY CABLING SPECIFICATION

Panduit	**FCE4U**	Opticom® QuickNet™ Rack Mount Fiber Enclosures, holds up to twelve QuickNet™ Cassettes, FAP adapter panels, or FOSM splice modules. Dimensions: 6.98"H x 17.60"W x 16.30"D (177.0mm x 447.0mm x 414.0mm)
Panduit	**FAP6WBUDLCZ**	LC FAP loaded with six LC duplex singlemode fiber optic adapters (Blue) with zirconia ceramic split sleeves.
Panduit	**FAP12WBUDLCZ**	LC FAP loaded with twelve LC duplex singlemode fiber optic adapters (Blue) with zirconia ceramic split sleeves.
Panduit	**F9B10-NM1Y**	LC to Pigtail – OS1/OS2 Singlemode Simplex Pigtails – 900µm Buffered Fiber LC to pigtail singlemode simplex pigtail, 900µm buffered fiber (one LC connector on one end and open on the other end) – 9/125µm.
Panduit	**FAPB**	Blank fiber adapter panel – reserves space for future use.
Panduit	**F92ERQNQNSNM001**	OS1/OS2 2-fiber, riser-rated, LC push-pull to LC push-pull, singlemode patch cord with custom push-pull strain relief boot and duplex clip, 1.6mm jacket, Std. IL. *** At end of part number is for length in meters. Comes in 1 M increments up to 20 meters, then in lengths of 20 M, 25 M, 30 M, and 35 M. Put length in the following (3 digit) format: 001 for 1 M, 020 for 20 M, etc.
Panduit	**FOSMF**	Fiber optic splice module holds and protects up to 24 fusion splices. Self-stacking modules with integral cable management and fiber slacking/spooling features. Black plastic base and clear plastic hinged cover. For use with Panduit Opticom ® FCE*U, FRME*U, and FMT series enclosures. Dimensions: 0.30"H x 14.03"W x 5.28"D (7.6mm x 356.4mm x 134.1mm).
Panduit	**FOSMH2U**	Fiber optic splice module handler, 2 RU. Holds up to eight FOSM splice modules. For use with FCE2U fiber cassette enclosure. Dimensions: 2.91"H x 0.72"W x 2.61"D (74.0mm x 18.3mm x 66.4mm).
Panduit	**FOSMH4U**	Fiber optic splice module holder, 4 RU. Holds up to twelve FOSM splice modules. For use with FCE4U fiber cassette enclosure. Dimensions: 5.50"H x10.42"W x 5.41"D (139.7mm x 264.7mm x 137.4mm)
		RACKS, ZONE ENCLOSURES AND CABLE MANAGERS
Panduit	**PZC12P**	Zone Cabling Wall Mount Cabinet with Perforated Front Door, BL 12 RU.
Panduit	**R2P**	19" EIA 2-post rack, aluminum. Dimensions: 84.0"H x 20.3"W x 3.0"D (2134mm x 514mm x 76mm).
Panduit	**R2PPRVWF**	Waterfall Trough for 2 Post Rack. FOR TOP-OF-RACK INTERBAY ROUTING.
Panduit	**ER4P23**	4 post EIA rack with #12-24 threaded rails. Dimensions: 84.0"H x 20.3"W x 23.0"D (2134mm x 515mm x 584mm). 45 RU.
Panduit	**WMPV45E**	Front and rear vertical manager. Dimensions: 83.0"H x 4.9"W x 12.0"D (2108mm x 125mm x 306mm).
Panduit	**WMPVHC45E**	Front and rear vertical manager. Dimensions: 83.0"H x 6.7"W x 14.1"D (2108mm x 170mm x 357mm).
Panduit	**WMPSE**	19”, 1RU Horizontal cable manager, 1.7"H x 19.0"W x 8.9"D (44mm x 483mm x 226mm).
Panduit	**WMP1E**	19”, 2RU Horizontal cable manager, 3.5"H x 19.0"W x 8.9"D (89mm x 483mm x 226mm).
Panduit	**CMUT19**	2 RU upper trough with 1.3" bend radius mounts to the top of a standard 19" EIA rack. Dimensions: 3.5."H x 19.0"W x 4.5"D (89mm x 483mm x 114mm). FOR BOTTOM-OF-RACK INTERBAY PATHWAY.
Panduit	**CMLT19**	4 RU lower trough with 1.3" bend radius mounts to the bottom of a standard 19" EIA rack. Dimensions: 8.0"H x 19.0"W x 4.5"D (203mm x 483mm x 114mm). FOR BOTTOM-OF-RACK INTERBAY PATHWAY. LARGER OPTION THAN CMUT19 IF NEEDED.
		CABLE PATHWAYS
Wiremold	**Held for metallic raceway**	**Metallic Raceway description here.**

WILLIAMSON COUNTY CABLING SPECIFICATION

Panduit	**J-Pro J-Hook system**	Panduit J-Pro System. Plenum rated composite J-hooks with hardware available for various hardware applications. See www.panduit.com for variations.
Panduit	**JB1IW-A**	Single gang one-piece outlet box with adhesive backing. Box accepts Pan-Way ® Screw-On Faceplates or any NEMA standard single gang faceplate. For use with Pan-Way ® LD profile raceway. 5.09"L x 3.34"W x 1.75"H (129.4mm x 85.0mm x 44.4mm). Breakouts for 1/2", 3/4", or 1" diameter conduit.
Panduit	**OFR20OB8**	Beige modular furniture raceway. 8' sections. For fittings, instructions, other colors see www.panduit.com. One-piece single channel low voltage raceway with adhesive tape backing for data cable routing along top of modular furniture partitions.
Panduit	**PCPA13R20IW**	Pan-Pole ™ Power Pole assembly is supplied in 13' length for maximum ceiling heights of 12'. Dual channel design allows for the installation of communication outlets. For fittings see www.panduit.com.
Panduit	**PCPA11R20IW**	Pan-Pole ™ Power Pole assembly is supplied in 11' length for maximum ceiling height of 10'. Dual channel design allows for the installation of communication outlets. For fittings see www.panduit.com.
Panduit	**T70SDB-X**	Communications Pole standard faceplate bracket. For further fittings and accessories seewww.panduit.com.
Panduit	**WG12BL10**	Wyr-Grid 12" wide x 10' long pathway section used to carry cables horizontally throughout the system. Snap-on sidewalls attach for job specific height requirements. Uses splice connector WGSPL1218BL to connect straight sections and intersection splice WGINTSPLBL to connect pathways at an intersection. For fittings and accessories see www.panduit.com.
Panduit	**WG18BL10**	Wyr-Grid 18" wide x 10' long pathway section used to carry cables horizontally throughout the system. Snap-on sidewalls attach for job specific height requirements. Uses splice connector WGSPL1218BL to connect straight sections and intersection splice WGINTSPLBL to connect pathways at an intersection. For fittings and accessories see www.panduit.com.
		BONDING AND GROUNDING
Panduit	**ACG24K**	#6 AWG (16mm2) jumper for armored cable diameter up to 0.84" (21.3mm); 24" (609.6mm) length; factory terminated on one end with LCC6 two-hole copper compression lug and the other end with grounding terminal; provided with two each #12-24 and M6 thread-forming screws and a black polypropylene terminal cover.
Panduit	**LCC series**	Panduit two-hole compressing lugs for code conductors in BICSI hole spacing.
Panduit	**HTCT series**	Panduit HTAPs. Must be selected according AWG size of run and tap conductors.
Panduit	**CLRCVR series**	Panduit clear covers for HTAPs. Must be selected according to HTAP being covered.
Panduit	**RGS134-1Y**	Grounding strip (vertical busbar) for newly installed racks or cabinets with screw rails. 78.65" (2m) length; .67" (17mm) width; .05" (1.27mm)thickness; provided with .16 oz. (5cc) of antioxidant, one grounding sticker and three each #12-24 x 1/2" and M6 x 12mm thread-forming screws.
Panduit	**RGCBNJ660P22**	Jumper kit for bonding individual racks or cabinets into grounding backbone. #6 AWG (16mm²) jumper; 60" (1.52m) length; 45° bent lug on grounding strip side; provided with .16 oz. (5cc) of antioxidant, two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread forming screws and a copper compression HTAP* for connecting to a #6 to #2 awg sized bonding backbone.
Panduit	**GJ672UH**	Rack jumper (and cabinet) kits for smaller TR (5 bays or less) to bond individual rack or cabinet directly back to wall mounted busbar. One 72" length #6 AWG green wire with yellow horizontal stripe. Jumper is pre-terminated on one end with LCC6-14JAWH-L and the other end with LCC6-14JAW-L. This rack grounding jumper is 72" long. For other lengths replace the "72" in the part

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		number. Available lengths are 72, 96, 120, 144, 168, 192, 216, 240, 264 and 288 inches.
Panduit	**RGESD2-1**	Two-hole ESD port with 5/8" hole spacing; provided with an ESD protection sticker, .16 oz. (5cc) of antioxidant, and two each #12-24 x 1/2" and M6 x 12mm thread-forming screws. LOCATE ONE WITHIN REACH OF ALL EQUIPMENT. WORKS WITH WRIST STRAP RGESDWS.
Panduit	**RGESDWS**	Adjustable fabric ESD wrist strap with 6' coil cord, banana plug, 1 megaohm resistor and 4mm snap. LOCATE ONE WITHIN REACH OF ALL EQUIPMENT. WORKS WITH ESD PORT RGESD2-1.
Panduit	**RGTBSG-C**	Green thread-forming bonding screws for use to mount equipment that does not have a built-in grounding pad (terminal).
Panduit	**RGEJ1024PHY**	24" long pre-terminated equipment grounding jumper #10 AWG (6mm²) jumper; bent lug on grounding strip side to straight lug on equipment; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws. FOR EQUIPMENT LIKE CHASSIS SWITCHES WITH BUILT-IN GROUNDING PAD (TERMINAL).
Panduit	**RGEJ1036PFY**	36" long pre-terminated equipment grounding jumper#10 AWG (6mm²) jumper; bent lug on grounding strip side to straight lug on equipment; provided with .16 oz. (5cc) of antioxidant and two each #12-24 x 1/2", M6 x 12mm, #10-32 x 1/2" and M5 x 12mm thread-forming screws. FOR EQUIPMENT LIKE CHASSIS SWITCHES WITH BUILT-IN GROUNDING PAD (TERMINAL).
Panduit	**GB2B0306TPI-1**	Wall mounted telecommunications busbar suitable for small telecom room. Pre-assembled with BICSI/TIA-607-B hole spacing. Bar is 1/4" x 2" x 12" in size.
Panduit	**GB2B0514TPI-1**	Wall mounted telecommunications busbar suitable for med telecom room. Pre-assembled with BICSI/TIA-607-B hole spacing. Bar is 1/4" x 2" x 24" in size.
Panduit	**GB4B0624TPI-1**	Wall mounted telecommunications busbar suitable for main grounding busbar in medium sized facility. Pre-assembled with BICSI/TIA-607-B hole spacing. Bar is 1/4" x 4" x 20" in size.
Panduit	**LTYK**	Wall mounted busbar label kit. Label kit includes printed tag and one flame retardant cable tie.
		NETWORK LABELING SOFTWARE – FOR INK JET/LASER PRINTER
Panduit	**PROG-EM2GO**	Easy-Mark Labeling Software for PC, supplied on USB Flash Drive. For preprinting communications labels on laser/inkjet printer.
Panduit	**S100X150YAJ**	Self-laminating cable labels for Category 6 cable for use with Easy-Mark software and laser/ink jet printer.
Panduit	**C261X035Y1J**	Patch Panel labels for use with Easy-Mark software and laser/ink jet printer.
Panduit	**C195X040Y1J**	Faceplate labels for single gang stainless or sloped plastic - use with Easy-Mark software and laser/ink jet printer.
Panduit	**C288X040Y1J**	Faceplate labels for double gang stainless - use with Easy-Mark software and laser/ink jet printer.
Panduit	**S100X650YAJ**	Cable label for indoor/outdoor tight-buffered armored fiber optic cable. For use with Easy-Mark software and ink jet printer.
Panduit	**S100X160YAJ and NWSLC-3Y**	Label and turn-tell sleeve for labeling fiber jumpers. For use with Easy-Mark software and ink jet printer.
Panduit	**C200X100FJJ**	1" high, white, vinyl tape labels for labeling grounding busbars, racks, cabinets and pathways. For use with laser/ink jet printer.
		NETWORK LABELING – HANDHELD LABELER
Panduit	**LS8EQ-KIT-ACS**	Panduit PanTher hand-held label printing system in kit. Includes LS8EQ printer with QWERTY keypad, one cassette of S100X150VAC self-laminating labels, six AA alkaline batteries, LS8E-ACS, LS8-CASE, LS8-PCKIT, LS8-IB, LS8-WS,

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		quick reference card and operator's manual. USE FOR LABELS THAT MUST BE PRINTED ON THE JOB SITE.
Panduit	**S100X150VAC**	Self-laminating cable labels for Category 6 cable for use with PanTher LS8E hand-held printer.
Panduit	**C261X035Y1C**	Handheld printer labels for modular faceplate patch panels.
Panduit	**C195X040Y1C**	Faceplate labels for single gang stainless - use with PanTher handheld labeler.
Panduit	**C288X040Y1C**	Faceplate labels for double gang stainless - use with PanTher handheld labeler.
Panduit	**S100X650VAC**	Cable label for indoor/outdoor tight-buffered armored fiber optic cable. For use with handheld labeler.
Panduit	**S100X160VAC and NWSLC-3Y**	Label and turn-tell sleeve for labeling fiber jumpers. For use with hand-held labeler.
Panduit	**T100X000VPC-BK**	1" high, continuous black on white, vinyl tape labels for labeling racks, cabinets and pathways with PanTher LS8E handheld labeler.
		PHYSICAL SECURITY LOCKING DEVICES
Panduit	**PSL-DCJB-C**	Package of 100 RJ45 jack blockout devices and one removal tool. Color red.
Panduit	**PSL-USBA-L**	Package of 50 USB Type 'A' blockout devices and one removal tool. Color red.
Panduit	**PSL-USBB-L**	Package of 50 USB Type 'B' blockout devices and one removal tool. Color red.
Panduit	**PSL-DCPLX-BL-C**	Package of 100 RJ45 plug lock-in devices compatible with flush mount jacks, and one installation/removal tool. Color black.
Panduit	**PSL-DCPLRX-BL-C**	Package of 100 RJ45 plug lock-in devices compatible with recessed jacks, and one installation/removal tool. Color black.
		CABLE TIES – HOOK AND LOOP
Panduit	**TTS-35RX0**	.75" wide, continuous roll Hook and Loop Cable Ties, black. 35 ft. roll. Carton qty 10 rolls.
Panduit	**HLSP1.5S-X12**	Plenum rated hook and loop cable ties for air return spaces. Maroon color, perforated at 6" length.
Panduit	**HLSP3S-X12**	Plenum rated hook and loop cable ties for air return spaces. Maroon color, perforated at 6" length.

<END OF DOCUMENT>

SECTION 28 1300

ACCESS CONTROL SYSTEM

PART 1 GENERAL

1.1 This section identifies the requirements, technical design, and specifications for the access control system at the Williamson County & Cities Health District Office Renovations, located in Round Rock, Texas ("Owner"). The access control system as specified is an industry-standard and includes card readers, electrified locksets, door position sensors, control panels, access control server, and access control cabling as specified.

1.2 The Contractor shall provide a Manufacturer's Performance Certification for the installed access control system.

1.3 Contractor shall include materials, equipment, and labor necessary to provide a complete and functional access control system regardless of any items not listed or described in this specification or associated drawings.

1.4 Requirements

A. Contractor Experience Requirements

B. Submittal Requirements

C. Acceptable Manufacturers

D. Codes, Standards and Regulations

E. General Requirements

F. System Requirements

G. Testing Requirements

H. Training Requirements

I. Project Closeout Documentation

J. Attachments

1.5 Related Requirements

A. The Drawings, Specifications, General Conditions, Supplementary General Conditions, and other requirements of Division 1 apply to the work specified in Division 28, and shall be complied with in every respect. The Contractor shall examine all of the items which make up the Contract Documents, and shall coordinate them with the work on the project.

B. Contractor Experience Requirements

1. The Contractor shall possess all relevant Manufacturer Certifications (i.e. hardware installation, software installation and programming, etc.) for both the company and individual technicians prior to submitting a bid for the work.

2. The Contractor shall have been in business for a minimum of five (5) years.

3. The Contractor shall have a local office with local technicians and an adequate workforce to complete this project within a 75-mile radius of the project site.

4. The Contractor shall have completed a minimum of five (5) projects similar in size and scope to the Owner's installation, where the systems have been in continuous satisfactory operation for at least one (1) year.

C. Subcontractors shall be identified at the time of bid and comply with the requirements and intentions of these specifications, associated drawings, and related contract documents.

1.6 Submittal Requirements

A. Proposal Submittal

1. Itemized list of all equipment, materials, and labor included in bid and required for the installation of the access control system as specified herein. This list shall be provided in printed and electronic format (Microsoft Excel) and contain: Part Number, Description, Unit of Measure, Unit Cost, Quantity, Labor Price, and Extended Price to provide a complete and functional access control system.

2. Estimated cable count required for the access control system listed per Equipment Room and or Telecommunications Room. This list shall be provided in printed and electronic format (Microsoft Excel).

3. Manufacturer Product Certifications for Company.

4. Manufacturer Product Certifications for Installers.

5. Manufacturer Warranty offering.

6. Documentation indicating Contractor has been in business for (5) years.

7. Address of Contractor's local office within a 75-mile radius of the project site.

8. Quantity of full-time local technicians within a 75-mile radius of the project site.

9. List of five (5) contractor-installed projects of a similar size and scope in operation for at least (1) year. The Contractor shall provide the following information for each project: Project Name, Project Location, Project Start Date, Project Completion Date, Project Start Cost, Project Completion Cost, Brief Description of Project, Client Point of Contact Name and Phone Number.

10. List of completed and ongoing projects with the Owner. The Contractor shall provide the following information for each project: Project Name, Project Location, Project Start Date, Project Completion Date, Project Start Cost, Project Completion Cost, and Brief Description of Project.

B. Pre-Installation Submittal

1. Contractor shall not order, purchase, or install any equipment until pre-installation submittals have been accepted in writing by the Architect/Engineer.

2. Manufacturer product data sheets for each proposed system component.

a. For product data sheets containing more than one (1) part number or product, the Contractor shall clearly identify the specific part number or product being submitted Equipment schedules listing all system components, the manufacturer, model number and quantity of each.

3. Shop drawings of the proposed system installation.

a. Shop drawings shall include card reader locations, door position sensor locations, access control panel elevations to include layout and power supply locations, installation typical details, preliminary cable numbers, proposed cable pathways, system schematics, and riser diagrams. Shop drawings shall be submitted on 30” X 42” bond paper.

b. Contractor shall maintain a set of shop drawings on site at all times and shall update the shop drawings on a weekly basis. Shop drawings shall be made available for inspection at the request of the Architect/Engineer.

4. Manufacturer Product Certifications for Company.

5. Manufacturer Product Certifications for Installers.

6. Manufacturer Warranty letter.

7. Documentation indicating that Contractor has been in business for (5) years.

8. Address of Contractor’s local office within a 75-mile radius of the project site.

9. Quantity of full time local technicians within a 75-mile radius of the project site.

10. List of five (5) contractor-installed projects of a similar size and scope in operation for at least (1) year. The Contractor shall provide the following information for each project: Project Name, Project Location, Project Start Date, Project Completion Date, Project Start Cost, Project Completion Cost, Brief Description of Project, Client Point of Contact Name and Phone Number.

11. List of completed and ongoing projects with the Owner. The Contractor shall provide the following information for each project: Project Name, Project Location, Project Start Date, Project Completion Date, Project Start Cost, Project Completion Cost, and Brief Description of Project.

PART 2PRODUCTS

2.1 General Requirements

A. The following sections specifically list the acceptable equipment types and items for this project.

B. Architect/Engineer will have final determination of acceptability of all proposed equipment and must approve submitted equipment prior to purchase or installation.

C. Proposed equivalent items must be approved in writing by the Architect/Engineer prior to submitting a bid. Proposed equivalent items must meet or exceed these specifications and the specifications of the specified item.

D. In the event a manufacturer’s specified product or part number has changed or is no longer available, Contractor shall substitute the appropriate equivalent manufacturer’s part number.

E. In the event of a discrepancy between the specifications and the drawings, the greater quantity and/or better quality will be furnished.

F. For listed products with no part number specified, Contractor shall provide a product that meets the performance requirements of these specifications, industry standard practices, and intended application.

G. All wiring, equipment, and installation materials shall be new and of the highest quality.

H. Labels on all wiring, materials, and equipment must indicate a nationally recognized testing laboratory.

I. Original Equipment Manufacturer (OEM) documentation must be provided to the Architect/Engineer which certifies performance characteristics and compliance with industry standards.

2.2 Acceptable Manufacturers

A. Access Control System Software/Hardware

1. Access Control Software

a. Stanley B.A.S.I.S. ET 693

2. Access Control File Server

a. Per ACS manufacturers recommendation based on design parameters

3. Access Control Workstations

a. Operator Workstation

1) Per ACS manufacturers recommendation.

4. Printers

a. Report Printer

1) Fargo

2) Or approved equal

5. Control Panels

a. Per ACS manufacturers recommendation.

6. Card Reader

a. Proximity Reader

1) Wall Mount

a) HID multiclass SE RP40

7. Access Card

a. HID 35-bit

b. Or approved equal

8. Electrified Locking Mechanism Power Supply

a. Altronix

b. Or approved equal

B. Request-to-Exit (REX) Device

1. REX Pushbutton
    a. Delta Controls
    b. Designed Security, Inc.
    c. Securitron
    d. Security Door Controls
2. REX Infrared Motion Sensor
    a. Detection Systems Inc.
    b. Or approved equal

C. Device Power Supplies
1. Altronix/AL Series
2. Power-One/SPL Series
3. Or approved equal

D. Door Position Switches
1. Concealed Door Position Switch
    a. Sentrol model 1078
2. Surface Mount Door Position Switch
    a. Sentrol model 2500 Series
3. Tamper Switch (for ACMS panel)
    a. Ademco
    b. Flair
    c. Sentrol

E. Access Control System Cabling
1. Category 6 UTP
    a. Refer to Section 27 1000
2. Multi-Conductor Shielded Composite Cable
    a. Belden
    b. Or approved equal

F. Pathway Cable Support
1. Panduit J-Mod Cable Support System
2. Erico – CADDY CAT LINKS J-Hook Series

3. Panduit Plenum Rated Hook & Loop (Black)

G. Labeling

1. Permanent Labels for Copper Cables

a. Panduit Self-Laminating Labels

H. Fire Stop

1. STI Spec Seal

2. 3M Products

PART 3EXECUTION

3.1 Codes, Standards, Regulations

A. TIA/EIA-568-B.1 Commercial Building Telecommunications Cabling Standard Part 1: General Requirements – (May 2001)

B. TIA-569-B Commercial Building Standard for Telecommunications Pathways and Spaces - (October 2004)

C. TIA/EIA-606-A Administration Standard for Commercial Telecommunications Infrastructure - (May 2002)

D. SIA

E. Local

F. NEC

G. ISO

H. FCC

I. UL

J. OSHA

K. NFPA

L. NEMA

M. Plenum Applications

N. Applicable Flame Test: UL 910 (NFPA 262 1990).

3.2 In the event of any conflicts between documents referenced herein and the contents of this specification, the Contractor shall notify the Architect/Engineer in writing of any such occurrences before purchasing or installing any equipment or materials. The Architect/Engineer will notify the Contractor of any actions required to resolve these conflicts. Such actions may include but are not limited to: design changes, equipment,

materials and/or installation changes. In any event Contractor shall not supersede specifications and standards from the latest NFPA and NEC publications.

3.3 General Requirements

A. Contractor shall comply with the requirements of local Authority Having Jurisdiction (AHJ), State of Texas, the National Fire Protection Association (NFPA), and the National Electrical Code (NEC). If the Contractor identifies any item in the plans or specifications that will not strictly comply with the aforementioned laws, ordinances, and rules, the matter shall be referred to the Architect/Engineer for direction before proceeding with that part of the work.

B. The Contractor shall install the materials in accordance with these specifications and the manufacturer's installation guidelines.

C. No deviations from the plans or specifications shall be made without full consent in writing of the Architect/Engineer. The Contractor shall have written approval from the Architect/Engineer for any additional work beyond the Contract Documents prior to beginning such work. If the Contractor does not obtain written approval from the Architect/Engineer prior to proceeding with the work, the contractor shall not be reimbursed for the work.

D. The Contractor shall obtain written permission from the Architect/Engineer before proceeding with any work that would necessitate cutting into or through any part of the building structure such as, but not limited to girders, beams, floors, walls, roofs, or ceilings.

E. Contractor shall notify the Architect/Engineer a minimum of (2) weeks prior to beginning work and will participate in a pre-construction meeting with the Architect/Engineer to perform a walkthrough, review the scope of work, schedule, and escalation procedures.

F. The Contractor shall maintain a work area free of debris, trash, empty wire reels, scrap wire, etc., and dispose of such items on a daily basis and return the site to the original state of cleanliness. The Contractor shall not use Owner's facilities for the disposal of excess or scrap materials.

G. Equipment and materials installed by the Contractor shall be free of defects and damage.

H. Contractor shall be responsible for the repair of any damage caused by the contractor during the installation.

I. Contractor shall test all wires prior to installation. By failing to perform this testing operation, the Contractor shall accept the wire as compliant and assume all liability for the replacement of the wire at no cost to the Owner should it be found defective at a later date.

J. Contractor shall maintain a set of working specifications, design drawings, and shop drawings to be kept on site at all times and shall update the shop drawings on a weekly basis. Shop drawings shall be made available for inspection at the request of the Architect/Engineer.

K. Equipment and materials shall be consistent throughout the installation. Where multiple units of the same type of equipment and materials are required, these units shall be a standard product with the same manufacturer and model number.

L. Equipment and materials shall be delivered and stored in accordance with the manufacturer's guidelines at the Contractor's expense.

M. Contractor shall make all stored equipment and materials available for inspection at the request of the Architect/Engineer.

N. All equipment and material used in the installation shall be approved by the manufacturer for the environment in which it is being installed.

O. Wires shall be properly supported in accordance with industry standards at all times. Improperly supported wires shall be corrected by the Contractor at no cost to the Owner.

P. Contractor shall be responsible to properly protect wiring from damage by other trades during construction.

Q. Cables shall be routed at 90-degree angles to the building structure. At no time shall a diagonal pull be installed.

R. The Contractor shall not install wires in conduits or sleeves without nylon bushings. Wires installed through conduits or sleeves without nylon bushings shall be removed and replaced at no cost to the Owner.

3.4 Installation

A. Coordination

1. Coordinate with the Architect to ensure that adequate conduit is provided and that equipment backboxes are adequate for system installation.

2. Coordinate with the Architect to ensure that adequate power has been provided and properly located for the security system equipment.

3. Coordinate with the Architect to ensure that doors and door frames are properly prepared for electric locking hardware and door position switches.

4. Coordinate the provision key cylinders and cores for LAs, DMUs and bypass keyswitches with the Architect. Coordinate cylinder and master key requirements with the Architect and related trades.

5. Coordinate locations of all devices with the Architect prior to installation.

6. Coordinate and verify the location of each piece of rack mounted equipment with the Owner.

7. Coordinate custom ACS report requirements with the Owner. Submit report formats to the Owner for review and acceptance.

8. Coordinate all initial database partitioning and setup with the Owner prior to initial programming and card holder data entry.

9. Coordinate final camera locations, desired views, and camera housing and mount requirements with the Architect prior to installation.

10. Coordinate camera housing and mount finishes with the Architect prior to installation.

11. Coordinate finishes and colors of all equipment with the Architect. Submit all finish and graphics for all equipment in public areas to the Architect for approval prior to installation.

B. General

1. Verify acceptance of each type of specified request-to-exit hardware for each application with local life safety code officials.

2. Verify fail-safe and fail-secure lock requirements with the Architect.

3. Contractor or equipment manufacturer logos or names shall not be visible on equipment in public areas.

4. Provide tamper proof fasteners for all equipment in public areas. Fastener finish shall match equipment finish.

C. ACS Software

1. ACS Software shall be designed to support multi-tasking / multi-user applications for security systems management. Independent, simultaneous performance of multiple system functions from the File Server or system workstations shall not cause an appreciable reduction in system processing or response time.

2. All software shall be specifically designed for the security and access control industry. All application programs shall have been developed with a current, high level language.

3. The ACS Software shall be menu driven with help screens to assist the operator. The ACS File Server and system workstation keyboards shall be equipped with function keys to call up help screens and standard operator tasks such as arm / disarm, lock / unlock, card holder review, alarm acknowledge, map call up, etc., with a single key stroke or mouse click.

4. The ACS Software shall provide a user-friendly operator interface and provide for simple, logical movement through all applications and screens.

5. The ACS Software shall be fully Open Database Connectivity (ODBC) compliant and shall be capable of bi-directional interface with other external ODBC databases through 32 bit ODBC drivers.

6. The ACS File Server shall display and record the alarm message including the time, date, location, point number, event type, and point status for each point transaction.

7. The ACS history database shall not be editable.

8. The ACS software shall provide the following:

   a. A minimum of 50 password restricted operator access levels. This feature shall restrict access to sensitive programming functions to authorized personnel only.

   b. The ACS shall allow the Owner to independently assign access levels to each operator.

   c. The highest level “system administrator” password shall have access to all ACS databases and functions.

   d. Each password shall be individually programmable to restrict operator access to programming and operator functions, commands, database access and alarm point and control point functions.

e. An audit trail feature to maintain a historical record of what changes were made to the database, when the changes were made, and who made them.

f. Independent time programming of each alarm input, control output, and card reader input via software controls from the File Server / system workstation.

g. Programmable control of printing, displaying and archiving functions for each point transaction. The ACS shall allow the Owner to individually override printing, displaying, and archiving on a point by point basis for each function.

h. The ability to verify current status of any point in the ACS and change any of the programmable point descriptors via the ACS File Server / system workstation.

i. The ability to allow the operator to switch between the ACS Software and other applications while the ACS Software is running. Switching between applications shall be accomplished through the use of hot keys on the system workstation keyboard, and by a computer mouse or similar pointing device. Configure the system such that only an operator logged in at the “System Administrator” or the “Security Director” level can minimize the ACS Software and switch to other applications. If an alarm condition occurs while the ACS Software is minimized, the ACS Software shall be maximized, become the active window in the foreground, and display the map and associated device icon in alarm.

j. A schedule program that shall allow the Owner to automatically schedule events such as report printing, output commands, door access, alarm access, etc. on a time / day programmable basis up to one year in advance.

9. Status Screen

a. The ACS shall automatically display a status screen at the beginning of an operator session.

b. The ACS shall allow the operator to manually display the status screen any time during a session with a function key or mouse selection.

c. The ACS shall allow the operator to select any group from the status screen to view in more detail.

d. The status screen shall display the following:

1) The total number of points in alarm.

2) The total number of points in access (ACS time program access).

3) The total number of card readers in alarm.

4) The total number of card readers in access (ACS time program access).

5) The total number of card readers in access (operator manual bypass).

6) The total number of ACS points in a trouble state.

e. An activity log to allow operators to log events not generated by the ACS. This log shall allow operators to maintain an on-line event log with system generated time and date stamps. The event shall be recorded in the ACS history file with other system generated events.

D. Custom Graphic Displays

1. The ACS Software shall provide for unlimited custom graphic displays that graphically depict ACS status in real time. Icons placed on graphical backgrounds shall be used to indicate the real time status of each ACS connection including card reader inputs, alarm inputs, control point outputs, communication connections, etc.

2. Custom graphic displays shall provide for control of any system command and / or function through the use of icons. The ACS shall only allow users to access icon control and function as identified by the user login password.

3. The icon of the device in alarm shall be differentiated from other device symbols by enhancement, color change and / or flashing. Different enhancements shall indicate normal, alarm, trouble, time program shunt, manual shunt and other status conditions provided by the system.

4. The system shall be configured as to allow for manual call up of custom graphic displays by the operator and shall be easily accessed from the status screen. Navigation icons on the custom graphical displays shall allow the operator to select subsequent related graphics (e.g. more detail, less detail, control graphics, the main custom graphical display screen, etc.). The system shall be configured to automatically call-up a custom graphic display upon system generated alarms without request by the operator.

5. The ACS software shall provide for the assignment of a minimum of five displays / screens to each alarm point, each varying scale, icon size and icon location. When sequencing to a larger scale graphic / screen (zoom), each graphic / screen shall incorporate a key plan indicating what section of the overall plan is being enlarged.

6. Full graphic display shall occur within one second of request by the operator or ACS.

7. Custom graphic display quality shall be comparable to Security Drawings and shall illustrate partitions, doors and other major building structures.

8. The ACS shall include all tools required to create custom graphical displays.

9. The ACS shall provide for the import of graphics generated by other drawing programs. Provide a conversion program with the ACS to convert DXF or DWG files from CAD programs into the format used by the ACS.

10. The ACS shall support the import of pictures, photographs and other scanned images at the request of the Owner.

11. The ACS shall allow for the replacement of floor plan and other drawing backgrounds without recreating system map icons.

12. The ACS shall not require an operator to search through menus to locate a specific graphic. Logical graphics navigation shall be provided so as to allow users to efficiently move from one display to another.

13. Navigation and controls of custom graphic displays shall be by mouse selection.

14. Provide the device icons and controls for each device as follows:

    a. Alarm Input Points: Icon identifying open, closed, alarm, secure, and trouble status.

    b. Card Readers and Card Reader / Intercom units.

    c. Icon identifying open, closed, secure, propped open, intrusion, and trouble status of door.

    d. Icons identifying secure, bypass, and trouble status of card reader.

    e. Icon identifying locked and unlocked status of electric locking mechanism.

    f. Controls for lock, momentary unlock (preprogrammed for five second unlock time), timed unlock with selectable unlock time, and maintained unlock.

E. Door Controls

1. Electric Locks: Controls for lock, momentary unlock (preprogrammed for five second unlock time), timed unlock with selectable unlock time, and maintained unlock.

2. Parking Gates: Controls for open, close, and maintained open functions.

3. Overhead Doors: Controls for open, close, and stop functions.

F. Access Control

1. Card reader and remote control of doors as indicated in the Security Drawings.

2. Remote control of overhead doors as indicated in the Security Drawings.

3. Control point outputs for lock power control activated by card reader, File Server / system workstation keyboard or time schedule.

4. Control of access through card reader controlled devices based on the card user's access levels. An access level shall define a door or group of doors accessible by a card holder during a certain time period. Time periods shall include both authorized days and hours, and shall include independent holiday schedules. The ACS shall allow each card holder to have multiple access levels.

5. Automatic card invalidation after a programmable time period.

6. Alarm indication at the File Server / system workstation for unauthorized reader use attempts. Unauthorized reader use alarms shall be user selectable on an individual card reader basis.

7. System workstation display and event printing of card use (all transactions or violations only; by card and / or by card reader).

8. Momentary, programmable time, or maintained release of card reader controlled door locks via the system workstation keyboard.

9. Monitoring of the status of card reader controlled doors against intrusion or door propping.

10. Selective Card Reader and Card Holder Tracking

    a. Selective card holder tracking by individual cards or groups of cards (range of card numbers, department, access levels, etc.).

11. Selective card reader tracking by individual card reader or groups of card readers.

12. Import of card holder data with ASCII files created from other databases or systems.

13. Initial bulk loading of the cardholder database for large numbers of cards with the same access levels.

14. User programming of 50 card holder data fields (minimum) of 28 characters each (minimum), including but not limited to the following:

    a. Card number (internal and hot stamp)

    b. Access level(s)

    c. Authorized areas

    d. Effective date

    e. Expiration date

    f. Card holder name (separate fields for first, middle and last names)

    g. Card holder employee identification number

    h. Card holder department name

    i. Card holder automotive license number

    j. Card holder home telephone number

    k. Card holder business phone number

    l. Company name (if other than Owner)

    m. Employee status (active, retired, temporary, etc.)

G. Alarm Monitoring and Control Outputs

1. User programming of the following data for each alarm input point:
    a. Point number
    b. Point priority group
    c. Point description
    d. Point normal and abnormal status descriptions (secure, trouble, alarm, shunted, bypassed, etc.).
    e. Operator instructions to be displayed upon acknowledgment of the alarm (Provide a minimum of one page of programmable text).
2. Queuing of multiple alarms in their order of priority. Highest priority alarms shall annunciate from the top of the alarm queue and be displayed downward in order of decreasing priority. Coordinate with the Owner to develop priorities for each type of ACS alarm. Default priorities shall be defined as follows (highest to lowest):
    a. Duress buttons
    b. Delayed egress devices
    c. Auxiliary fire alarms
    d. Building perimeter devices
    e. Local alarm units
    f. Tamper switches
    g. Video loss
    h. UPS alarms
    i. Power supply alarms
3. Automatic and manual software routing of all alarm input points in the ACS for selective reporting at certain system workstations during certain time periods and at other system workstations during other time periods. Coordinate these requirements fully with the Owner prior to system programming.
4. "Transparent" alarms. These points, used to initiate other events within the ACS, shall not be annunciated at the system workstation or printer.
5. User programming of the following data for each control output point:
    a. Point number
    b. Point activation (alarm point, time schedule or real time)
    c. Maintained or momentary output
    d. Normally open or normally closed output
6. Time programmable and real time arming and disarming of all alarm input points and all control output points.

7. Alarm reporting shall take precedence over all other ACS functions. The ACS File Server and system workstation shall visually and audibly annunciate that an alarm condition exists, independent of any other current system activity. The transaction time shall not be more than one second from the time the alarm condition is initiated until it is reported on the system workstation. Response to an alarm condition shall under no circumstance require the operator to log out of one ACS application and log into another for alarm response. The use of a hot key shall be the maximum acceptable operator action.

8. Upon operator acknowledgment of an alarm, the system workstation shall display up to one page of text for each alarm. The first line shall be the alarm message as described above and the additional space shall be used for an Owner programmable response message or an operator instruction list unique to each alarm point. The ACS shall allow the user to move freely between pages of text.

9. The operator shall be required to enter a response / resolution acknowledgement message for each system event, before the event is cleared from the operator screen. The ACS shall allow for programming of a required acknowledgement message on an individual alarm point basis.

H. Badging Software

1. The software shall provide for the photograph capture, photograph preview and data enrollment of Owner employees via the Badging Workstation.

2. The software shall be specifically designed for integration with the ACS.

3. The software shall allow for photograph capture of Owner employees via a high-resolution digital camera.

4. The software shall be fully integrated with; share a common database with, and meet all of the audit trail requirements of the ACS.

5. The software shall provide, at a minimum, the following features:

a. Storage of compressed color video images for each cardholder in the SMS cardholder database.

b. Efficient production of identification badges containing a cardholder image, text, Owner logo / graphics and security hologram.

c. A badge editor package enabling the full customization of the identification badge, including, but not limited to background color(s), location of text and graphics, content and orientation of badge information.

d. The capability of printing identification badges with varying user defined security color backgrounds (5 different colors minimum). For example, a red background may visually designate a card with access to a computer room, a blue background may designate access to sensitive records, etc.

e. The capability of displaying a stored video image on the ACS file server, system workstations, the badge enrollment workstation or any future workstation that the Owner may elect to add to the ACS at a later date

under separate contract, either by manual operator command, or automatically on alarm annunciation (i.e. invalid card read).

6. The software shall incorporate a minimum of ten custom-defined standard identification badge formats. Coordinate with the Owner to establish the custom-defined badge formats and produce each badge format as a template resident within the software for use by the Owner.

7. Photographic images shall be captured using a high-resolution digital camera and high speed digitizing circuitry. The system shall provide for image adjustment including centering, color and brightness control prior to capture.

8. The simultaneous display and printing of multiple cardholder images. The operator shall be able to query multiple card holder images by any combination of card holder database fields. This feature shall allow the operator to simultaneously display and/or print groups of images. The ACS shall allow the operator to select card holder names and other card holder information to display/print simultaneously with the images.

9. Produce identification badges containing an image, text and card holder database fields. The ACS shall provide for individual control of print area for each printed item including font size and type, word wrapping, orientation, automatic sizing of text to fit in allotted space, etc.

10. Badge security shall include features such as full-feature image ghosting and graded background colors across the card.

11. The software shall provide for user entry of the following cardholder data from the ACS File server and Badge Enrollment Workstation:

    a. Card holder name: last name, first name, middle initial, suffix (separate fields)

    b. Employee number

    c. Department

    d. Employee status (active, terminated, temporary contractor)

    e. Company (if other than Owner)

    f. Personal auto license number(s)

    g. Business phone number

    h. Home phone number

    i. Access levels

    j. Authorized areas

    k. Access card number

    l. Badge number (if different from access card number)

    m. Compressed video image

12. The software shall be capable of re-issuing an identification badge by utilizing the previously stored image and record of the badge holder. As this re-issued

badge is printed, the software shall update the ACS database to designate the previous badge as lost, stolen or inactive.

13. The software shall be programmable to allow for automatic display of the video image during valid or invalid card read transactions. The video image shall be capable of being displayed on the ACS file server, system workstation or the badge enrollment workstation or any future ACS workstation the Owner may elect to add to the ACS at a later date under separate contract.

14. Installation, modification, and review of badge holder records shall be password protected and accessible from the SMS file server, the badge enrollment workstation or any system workstation.

15. The identification badge printer shall be capable of printing full color identification badges created by the badge enrollment workstation directly to the specified proximity access cards.

16. Should the initial badge printer fail, repair or replacement shall be accomplished in less than four hours during the initial badging process.

17. The software shall be specifically designed for integration with the ACS.

3.5 Equipment

A. Provide equipment as indicated on the drawings and specified herein. Additional specific installation requirements are as follows:

B. Server

1. Locate the ACS file server as indicated on the drawings.

2. The file server shall provide the following minimum features:

a. Centralized storage, retrieval, and archive of all database and history information.

b. Centralized control of operator access to the ACS.

c. Centralized means of software update downloads/uploads.

d. High availability Redundant Array of Inexpensive Disks (RAID) subsystem.

3. Redundant Array of Inexpensive Disks (RAID) Subsystem

a. The RAID Subsystem shall provide the following features and functions:

1) Full compatibility with the SMS file server and software.

2) Multiple hard disk drives arranged in a striped and mirrored configuration.

3) RAID Level 0 +1 disk subsystem in compliance with the RAID Advisory Board (RAB) RAID Level Definition.

4) Optimized for a request rate intensive application.

5) An integral non-volatile write back cache memory system on the RAID controller providing near memory write speeds.

6) Redundant, hot swappable and parity checked cache memory. Cache memory shall be expandable through the installation of additional industry standard RAM modules.

4. The RAID subsystem shall utilize industry standard drives and shall be housed in a mini tower enclosure located no more than one meter from the ACS file server. Neatly bundle and wrap all interconnecting cables.

5. Provide real time RAID management software on the ACS file server for physical and logical supervision of the RAID Subsystem. Drive errors, electrical faults and degraded modes of operation shall report on specified operator workstations. The RAID management software shall, at a minimum, report the following:

   a. Logical disk error and disposition

   b. Physical disk errors - Drive 1, 2, etc.

   c. Power supply failure, Unit 1 or 2

   d. Over temperature and cooling fan failure

   e. SCSI interface failure

C. Access Control Workstations

1. Operator

   a. Provide operator workstations as indicated on the drawings.

   b. All system workstations shall run on an ACS manufacturer recommended operating system platform.

   c. All operator interfaces with the system shall be through system workstations and shall display real-time system messages, data files and records, operator instructions, data programming information and custom graphic illustrations.

   d. A system workstation keyboard and mouse shall provide for entry of operator commands and acknowledgments, and system database queries.

   e. System workstations shall not be proprietary to the Contractor. The Owner shall be able to purchase additional system workstations from computer vendors other than the Contractor.

2. Badging

   a. Provide badging workstations as indicated on the drawings.

   b. All system workstations shall run on an ACS manufacturer recommended operating system platform.

   c. All operator interfaces with the system shall be through system workstations and shall display real-time system messages, data files and records, operator instructions, data programming information and custom graphic illustrations.

d. A system workstation keyboard and mouse shall provide for entry of operator commands and acknowledgments, and system database queries.

e. System workstations shall not be proprietary to the Contractor. The Owner shall be able to purchase additional system workstations from com.

D. Printers

1. Report

a. Provide report printers as indicated on the drawings.

b. The report printer shall be capable of producing a hard copy of any report that the ACS may generate.

c. The ACS shall provide for report printing and/or display of any group of events within any selectable time period. Reports shall include historical events, defined by any combination of the following categories:

1) All events

2) Location

3) Point number

4) Event type (e.g. intrusion, door open, etc.)

5) Point status (e.g. on, off, alarm, normal, shunted, etc.)

6) Management reports of transaction history by card number, card holder data, card reader number, time period, or invalid attempts

7) Audit trail reports

2. Badging

a. The Badge Printer shall be provided to print badges for use in all card readers.

b. The Badge Printer shall support dye sublimation printing of user selected text and images on all industry standard card technologies.

c. The Badge Printer shall have the following minimum specifications:

1) High-speed printing of 20 second per side in color and six (6) seconds per side in mono

2) Interfaces: Parallel and USB standard with Ethernet as option

3) Edge-to-edge printing in full color throughput on both sides of cad

4) Accepts all industry standard card formats for cards ranging from 0.015” to 0.063” in thickness; including, PCV ISO CR80 cards, magnetic stripe, contactless, smart, adhesive backed, and HoloPatch

5) Options shall include Anti-counterfeiting, magnetic stripe and smart card encoders

6) Card Capacity – 100 in card hopper, 50 in output bin (10 mil), 100 (30 mil)

7) Provide consumables to print number of card provided plus 50%.

E. Control Panels

1. The control panels shall collect alarm input point status and access control data, multiplex the information, and transmit that data back to the ACS System file server / system workstations.

2. The control panel shall incorporate Flash ROM to allow for efficient firmware update downloads from the system software and/or remotely from the ACS System manufacturer.

3. The control panels shall receive and execute instructions issued automatically or manually from the ACS System file server / system workstation.

4. The control panels shall have memory and logic circuits as required to ensure continued operation of connected devices without degradation in system security in the event that communications with the ACS System file server is interrupted.

5. All system control panels shall communicate with the ACS System file server over an Owner provided communications circuit.

6. The control panels shall provide the following:

a. Supervised alarm inputs to monitor the status of alarm circuits and report the status information to the ACS System file server.

b. Control relay outputs for controlling devices by remote command from the ACS System workstations, through time programming or on alarm point activation date on the ACS server. Control relay output contacts shall be rated for 2 A @ 24 VDC.

c. Flash ROM technology and shall provide for remote update of DGPs firmware.

d. Supervision of all wiring / circuits between the DGPs and monitored alarm devices. Wire / device supervision shall meet UL 1076 guidelines.

e. Enough RAM to maintain a minimum card database of 5,000 cards.

f. Automatic disconnection from the communication circuit upon a communication failure within the DGPs to prevent communication to other DGPs in the circuit from being interrupted.

g. Enough RAM to operate normally upon loss of communication with the ACS System file server. In addition, the DGPs shall store up to 5,000 card transactions and up to (16) events per potential alarm input, and transmit that data to the ACS System file server as soon as communication is restored.

h. Activation of a door control relay output and shunting of the intrusion alarm upon verification of a card authorization or request to exit.

i. Adjustable door control relay activation time through ACS System Software from 1 to 30 seconds on an individual card reader basis. The door shall automatically relock upon closure.

j. An intrusion alarm indication on the ACS System if the card reader controlled door is opened without an authorized card use or request to exit.

k. A door prop alarm indication if the card reader controlled door is held open past an adjustable time period after an authorized card use or request to exit. The door prop time delay shall be adjustable through ACS System Software from 1 to 60 seconds on an individual card reader basis.

l. A wiring chart delineating wire routings, labeling, and all termination points. The chart shall be produced by the Contractor, laminated and housed in a clear plastic sleeve affixed to the inside of the enclosure cover.

m. A tamper switch to sense the removal or opening of the enclosure cover.

7. Transaction time for authorized cards shall be less than 0.5 second from the time of card read until the door is unlocked.

8. Provide one spare card reader input point and 20 percent spare alarm input points and output point's after all specified points are initially connected. Sufficient modules shall be provided to accommodate only the number of card readers initially installed, as well as one spare input per control panel at each communications closet or consolidation point.

9. Configure the system such that devices can be connected to spare input points, output points and card reader inputs on the control panel without requiring reconfiguration of the ACS.

10. Configure the control panel communication chains such that no more than 48 card readers (including all possible spare card readers) shall be connected to each control panel chain.

11. Communications

a. Communications between servers, workstations, and control panel will be based on utilizing the Owner's LAN.

b. The ACS shall support 10 Base T Ethernet communications between the ACS File Server and the System Workstations, and between the ACS File Server and the control panel's.

c. Communications shall be encapsulated in a TCP/IP network transport layer in a client / server type Architecture.

F. Card Readers

1. Provide card reader as indicated on the drawings.

2. The card reader shall be smart card technology and shall read encoded data from access cards and transmit the data to the DGP.

3. A two-color LED on the face of the Card Reader and an audible tone shall indicate authorized and unauthorized reader uses.

4. Provide manufacturer recommended power to each reader directly from the DGP or a secondary supply. The power supply shall be UL Class 2, power limited and shall provide necessary output voltage to allow the card reader to operate at its maximum specified read range.

5. Wire card reader LEDs to indicate valid and invalid card reads, and door locked and unlocked conditions. All card reader LED indicators shall operate identically.

G. Access Card

1. The Access Card shall have only a hot stamp card number visible on the card and shall not indicate the Contractor or manufacturer name and/or logo.

2. Access Cards shall be PVC laminate construction.

3. Access Cards shall meet ISO thickness standards.

4. Access Cards shall be available in multi-technology formats, which combine proximity with, magnetic stripe, Wiegand, and / or bar code as required by the Owner.

5. Provide 200 Access Cards.

H. Card Reader Wiegand Signal Extender

1. Provide card reader Wiegand signal extension devices as necessary for card readers with cable distances to the DGP greater than 500 feet as required.

2. Card reader signal extenders shall amplify / extend the Wiegand signal for distances of up to 10,000 feet without signal degradation.

3. Monitor normally closed contacts from card reader, Wiegand, signal extenders for power and communication loss between the remote units and the centralized receiving units.

I. Electric Locking mechanical

1. Interface with electric locking mechanical provided by the door hardware supplier.

2. Wire electric locking mechanism as indicated on the drawings.

3. Wire fail-safe electric locking mechanical in accordance with local codes.

4. Wire fail-secure electric locking mechanical and power supplies such that a fire alarm condition or building power failure shall not affect operation of the lock.

J. Delayed Egress Locking Devices

1. Interface with delayed egress locking devices provided by the door hardware supplier.

2. Wire delayed egress locking devices as indicated on the Drawings.

3. Wire delayed egress locking devices for fail-safe operation in accordance with local codes.

4. Interface with a normally closed alarm contacts that shall open upon activation of the unlock timer.

5. Interface with sounder bypass control contacts. Wire ACS control output contacts to bypass sounder by system workstation.

6. Interface with lock control contacts activated by system workstation and / or time schedule. Wire ACS control output contacts to lock / unlock devices by time schedule and / or system workstation.

K. Electrified Locking Mechanism Power Supply

1. Provide power supplies for all ACS electric locking mechanisms as specified with the exception of those noted as having Time-Delay functions as defined by NFPA 101.

2. Power supplies for time-delay function locks shall be provided by others. The security Contractor shall coordinate with others as necessary to ensure proper ACS operation of all Time-Delay electric locking mechanisms to include the provision of, and final termination of, ACS control and monitoring wire and cable as necessary to facilitate desired operation and integration with the ACS.

3. Provide power supplies for all electric locking mechanisms (with the exception of fire stair doors). Fail-safe locking devices shall unlock automatically under the following conditions:

   a. Any building fire alarm

   b. Loss of building power

   c. Failure of the power supply

4. Provide battery chargers and batteries for all power supplies except those for fail-safe locks.

5. Monitor low battery and power fail alarms for each power supply.

6. Fire Alarm Interface

   a. Connect (hard wire) fail-safe electric and time delay locking mechanical to the building fire alarm system for fail-safe release upon any fire alarm.

   b. Interface with a single low voltage/low current normally closed dry contact from the fire alarm system provided by the fire alarm contractor in the Fire Command Center (FCC). The contact shall open on any fire alarm condition.

   c. Provide all additional UL listed fail-safe relays and power supplies necessary to interface to this contact and unlock all fail-safe doors.

d. Connect fail-safe relays and power supplies to standard building power. Connection of fail-safe devices to emergency or UPS power shall not be acceptable.

e. Reference the drawings for fire alarm interface requirements.

L. Request-to-Exit (REX) Device

1. Provide request-to-exit (REX) pushbuttons for unlocking card reader controlled doors with electromagnetic locks as indicated on the drawings. Wire the REX pushbuttons to the REX input of the associated control panel. Activation of the REX pushbutton shall release the lock and shall shunt the intrusion alarm output. The REX pushbutton shall contain an adjustable time delay relay for door unlock and shall be intrinsically fail-safe in order to release the door(s) in the event of a failure of the exit control circuitry within the control panel. All REX pushbuttons shall be labeled to meet local codes.

2. Provide request-to-exit (REX) infrared motion sensors for detecting authorized exits through card reader controlled doors as indicated on the drawings. Wire the REX motion sensor to the REX input of the control panel. For doors equipped with electromagnetic locks, activation of the REX motion sensor shall release the electric locking mechanism and shall shunt the intrusion alarm output. For doors equipped with electric locking mechanical that are free exiting at all times (i.e. mortise electric locks, electric strikes, etc.), the REX motion sensor shall only shunt the intrusion alarm output and shall not unlock the lock.

3. Provide the manufacturer recommended power supply. The power supply shall be UL Class 2, power limited.

M. Device Power Supply

1. Provide U.L. Listed power supplies for all ACS equipment as specified.

2. Provide battery chargers and batteries for all power supplies except those for fail-safe locks.

3. Monitor low battery and power fail alarms for each power supply.

N. Door Position Switches

1. Provide normally closed magnetic concealed door position switches, surface mount door position switches and overhead door position switches to monitor the open/closed status of doors as specified herein and as indicated on the drawings.

2. Provide double-pole / double-throw (DPDT) contacts if contact is monitored by ACS and Intrusion Detection system.

3. Provide armored cable (as required) from the switch location to the associated junction box in order to conceal the wire.

4. Alarm contact upon removal of the unit from the wall.

O. Access Control Cabling

1. The Contractor shall furnish and install cabling as indicated on the technology drawings, specified herein and on the associated equipment schedules and diagrams.

3.6 Pathway Cable Support

A. All cables shall be installed and supported in conduit systems, cable trays, cores, sleeves, etc. as indicated in the technology drawings.

B. When cables leave the main pathway systems as indicated on the technology drawings, they shall be installed and supported in Contractor furnished and installed j-hooks or saddle straps.

C. No cable pathway shall exceed 40% fill ratio.

D. The contractor shall furnish a separate j-hook or saddle strap pathway for each wire type.

E. J-hooks and saddle straps shall be installed no more than five-feet (5') apart on center, using only manufacturer-approved installation methods and hardware.

F. J-hooks shall be furnished with closure clips.

G. Maximum sag between supports shall not exceed twelve-inches (12").

H. Contractor shall establish j-hook and saddle strap pathways and shall coordinate pathways with all other disciplines. Under no-circumstances shall these pathways be used to support other low-voltage applications not included in this specification.

I. Cable Dressing

1. No nylon cable ties shall be used at any time during the installation of the wire.

2. Above Ceiling

a. Contractor shall furnish and install plenum-rated hook & loop straps in plenum-rated airspaces.

1) The Contractor shall install no more than (1) hook & loop strap between each j-hook or saddle strap or at service loop locations.

3. Security Controller Locations

a. The Contractor shall bundle all visible wires with Contractor furnished and installed hook & loop straps.

b. Hook & loop straps shall be installed twenty-four (24) inches apart on center.

3.7 Labeling

A. Contractor shall verify room numbers and confirm the final room numbering scheme prior to generating any labels.

B. Cables shall be labeled within (12) inches from the termination point inside the Equipment Room/Telecommunications/Security Control Location Rooms.

C. Cables shall be labeled within (6) inches from the termination point at the device end.

D. Cables shall be labeled identically at both ends.

E. Label all controls as necessary to agree with their function.

3.8 Fire Stop

A. Provide fire stop as required.

3.9 System Programming and Data Entry

A. Provide all initial system programming and setup of the ACS including, but not limited to the following:

1. Graphical maps and icons. Coordinate with the Architect to obtain AutoCAD architectural backgrounds for implementation as graphical maps. Import all AutoCAD background information provided by the Architect and produce a complete set of graphical maps depicting all ACS points.

2. ACS card reader information. Coordinate all card reader values and text, including descriptors, alarm messages, ESS Camera call up, map call up and identification with the Architect.

3. Input and output points for the ACS. Coordinate all input and output priorities and text, including descriptors, alarm messages, ESS Camera call up, and map call up and identification with the Architect.

4. Initial system users, including levels of access. This shall include the designation of a Owner’s representative at the "Super User" level immediately upon ACS initialization.

5. Initial ESS Camera call up and alarm information for interface with ESS System.

6. Initial ESS Camera call up and alarm information for interface with Intercom System.

7. Alarm monitoring and automatic shut down information for the UPS interface.

B. Enter all data needed to make the Security System operational. Deliver the data to the Owner on data entry forms, utilizing data from the Contract Documents, Contractor's field surveys and all other pertinent information in the Contractor's possession required for complete installation of the database. Identify and request from the Architect any additional data needed to make the Security System fully operational and integrated. The completed forms shall be delivered to the Owner for review and approval prior to the Contractor's scheduled need date.

3.10 Wiring Techniques

A. Furnish and install all ACS wire and cable with the exception of traveling cable for elevator control and monitoring.

B. Provide code compliant fire proofing techniques for all penetrations of fire rated partitions and slabs, where the penetrations are made by or used for installation of the ACS.

C. Coordinate the routing of wire and cable requiring isolation from power, radio frequency (RF), electromagnetic interference (EMI), telephone, etc. with the Architect.

D. Run all wire and cable continuous from device location to the final point of termination. No mid-run cable splices shall be allowed.

E. Where splicing and/or patching of coaxial cable is deemed necessary, it shall be accomplished through equalization and/or distribution amplifiers. Provide power for

the amplifiers as required. The exact location of all equalization/distribution amplifiers (as applicable) shall be indicated on the Record Drawings.

F. Furnish and install all coaxial cable such that ample slack is supplied at the device terminating end of the cable to compensate for any final field modifications in camera location. The extra cable (approximately three meters) shall be bundled and wrapped.

G. At no time shall any coaxial cable be subjected to a bend less than a 150 mm radius.

H. Wire and cable within DGPs, power distribution cabinets and other security enclosures shall be neatly installed, completely terminated, pulled tight with slack removed and routed in such a way as to allow direct, unimpeded access to the equipment within the enclosure. All wire and cable shall be bundled and tied. Ties shall be similar to T&B TyRap cable ties.

I. Provide heat-shrink to insulate all wire splices and connections. The use of electrical tape for splices and connections shall not be acceptable.

J. Visually inspect all wire and cable for faulty insulation prior to installation.

K. Provide grommets and strain relief material where necessary to avoid abrasion of wire and excess tension on Wire and Cable.

L. Make connections with solderless devices, mechanically and electrically secured in accordance with the manufacturers' recommendations. Wire nuts shall not be an acceptable means of connecting wire and cable.

M. Neatly bundle and wrap all horizontally run (above accessible ceilings and not within conduit) wire and cable at three meter intervals. Provide supports as required. All supports shall be UL listed for the application.

N. All system wiring within vertical riser shafts (as required) shall be bundled, wrapped and tied to the structure at three meter intervals in order to isolate it from other wire and cable within the shaft. Additionally, all wire and cable within the shaft shall be supported at least every two floors using Greenlee Slack Grips (Split Mesh Lace Closing) or approved equal. Provide all personnel and equipment necessary to install and support the cable. All equipment shall be UL listed for the application.

3.11 Conduit, Boxes and Raceways

A. Install all conduit necessary for a complete installation, but not provided for in the Security Conduit Drawings, in finished areas concealed in chases, furrings, concrete slabs and/or above suspended ceilings. No exposed conduit shall be installed within public areas.

B. Conduit shall be carefully installed, properly and adequately supported as required to comply with the requirements outlined herein and as required by the NEC to provide a neat, workmanlike installation. Horizontal conduit runs shall be supported by clamps, pipe straps, special brackets or heavy iron tie, tied to the black iron structural members supporting the ceiling. Fastening of conduit to masonry walls, floor or partitions require malleable pipe clips with screws and suitable expansion sleeves.

C. All conduit shall be cut accurately to measurements established at the building and shall be installed without springing or forcing.

D. All required inserts shall be drilled-in and all openings required through concrete or masonry shall be saw cut or core drilled with tools specifically designed for this purpose.

E. Swab out and remove all burrs from conduit before any wires are pulled.

F. Lay out and install conduit runs as to avoid proximity to hot pipes. In no case shall a conduit be run within 75 mm of such pipes, except where crossings are unavoidable and then the conduit shall be kept at least 25 mm from the covering of the pipe crossed.

G. Provide fire stops where conduits penetrate fire rated walls and/or floors.

H. All conduit installation, whether run exposed or concealed, shall be approved prior to installation by the Architect.

3.12 Power Requirements

A. 120VAC AC power dedicated to security shall be provided by the electrical contractor for the Security System as indicated on drawings. Coordinate with the Architect to establish locations of security dedicated 120VAC AC circuits.

B. Connect to the AC power (provided by electrical contractor) and provide UL listed power supplies and transformers to distribute low voltage power to the system components as required.

C. Provide hinged cover terminal cabinets with tamper switches for all power supplies, transformers and power distribution terminal strips. Provide all conduit and wiring from the AC power facilities to the terminal cabinets.

D. Surge Protection

1. Provide protection against spikes, surges, noise, and other line problems for all system equipment and components.

2. Protect all exterior video, control, power, signal cables and conductors against power surges. Each surge protector shall be UL Listed.

3.13 Labeled Doors and Frames

A. In no instance shall any UL labeled door or frame be drilled, cut, penetrated, or modified in any way.

B. The Contractor shall be responsible for replacing any labeled door or frame that is modified without written approval from the Architect.

3.14 Training

A. Coordinate with the Owner to establish a training outline and schedule. Submit a comprehensive training curriculum to the Owner once all preliminary coordination is complete. The Owner will revise and comment on the curriculum as required.

B. Provide a minimum of 8 hours of operator training, and 4 hours of administrative training, either on or off site on a complete and fully operational system parallel and equal to the system being provided, to representatives of the Owner.

C. Operator training shall include, but not be limited to the following:

1. All operating procedures

2. System configuration

3. Alarm acknowledgement, alarm response logging, and map graphics functionality

4. Image capture, badge printing, and print ribbon replacement

D. Administrative training shall include, but not be limited to the following:

1. All operating system procedures and configuration variables

2. Database functions and setup

3. Cardholder input and deletion procedures

4. Report generation

5. Maps generation and manipulation

6. Card format configuration

7. Badge creation and design

8. Driver loading

E. Record, label, and catalog all training on DVD. Provide the DVD to the Owner for future in-house training sessions and / or reviews. Furnish all temporary equipment necessary for recording all training sessions. Maintain accurate and up-to-date time sheets of all training sessions.

F. The Contractor shall be on call during the Warranty to answer any questions the Owner might have. The Owner reserves the right to use any excess training hours, not used by the time of system completion, for future training as requested by the Owner until the total number of training hours has been completed.

3.15 System Start-Up

A. The Work shall be complete and ready to operate prior to final acceptance.

B. Load all of the initial user database into all programmable systems up to the inaugural day of beneficial use of the Security System. The Architect shall assist in establishing procedural guidelines and in defining terminology and conditions unique to the Owner's operation.

3.16 Substantial Completion

A. In order to qualify for the Architect's consideration of Substantial Completion, the Work must, at a minimum, meet the following requirements:

1. The initial card holder database must be fully loaded into the ACS.

2. All sub-system interfaces must be complete and operational.

3. All required operator training must have been provided to the Owner and/or its representatives.

B. Substantial Completion shall not be construed as final acceptance of the Work.

3.17 System Acceptance

A. Final acceptance testing of the Work will be conducted by the Architect.

B. Prior to any final acceptance testing, the Contractor shall submit two sets of preliminary (draft) Record Drawings to the Architect. The preliminary Record Drawings are to be used by the Architect to conduct the system final test.

C. Submit a paragraph by paragraph completion matrix indicating completion or delinquency for each item included in the Specification and all subsequent addenda and bulletins as part of the Work. Indicate completion of the requirement by the word "Completed" following each paragraph number. Indicate delinquency for the requirement by the words "To Be Completed" following the applicable paragraph number. Should work on any item be under way, but not yet fully complete, indicate the extent (or lack thereof) of completion to date, and the proposed date of completion.

D. Conduct a complete test of the entire Security System and provide the Architect with a written report on the results of that test. During the course of this test, place the integrated Security System in service, and calibrate and test all equipment.

E. Following completion of the initial testing and correction of any noted deficiencies, conduct a five day burn-in test. The intent of the burn-in test shall be to prove the Security System by placing it in near real operating conditions. During this period the Security System shall be fully functional and programmed such that all points, interfaces, controls, reports, messages, prompts, etc. can be exercised and validated. Record and correct any system anomaly, deficiency, or failure noted during this period. Scheduling of the final acceptance test shall be based on a review of the results of this burn-in test.

F. Deliver a report describing the results of functional tests, burn-in tests, diagnostics, calibrations, corrections, and repairs including written certification to the Architect that the installed complete Security System has been calibrated, tested, and is fully functional as specified herein.

G. Prior to the final acceptance test, coordinate with the Architect for security related construction clean-up and patch work requirements. Security equipment closets and similar areas should be free of accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, remove all waste materials, rubbish, the Contractor's and it's subcontractors' tools, construction equipment, machinery and all surplus materials.

H. Upon written notification from the Contractor that the Security System is completely installed, integrated and operational, and the burn-in testing completed, the Architect will conduct a final acceptance test of the entire system.

I. During the course of the final acceptance test by the Architect, the Contractor shall be responsible for demonstrating that, without exception, the completed and integrated system complies with the contract requirements. All physical and functional requirements of the project shall be demonstrated and shown. This demonstration will begin by comparing "as built" conditions of the Security System to requirements outlined in the Specification, item by item. Following the Specification compliance review, all Security System head-end equipment will be evaluated.

J. The functionality of the various interfaces between systems will be tested.

K. Following the Security System head-end equipment and console review, the installation of all field devices will be inspected. This field inspection will weigh heavily on the general neatness and quality of installations, complete functionality of each individual device, and mounting, backbox and conduit requirements compliance.

L. All equipment shall be on and fully operational during any and all testing procedures. Provide all personnel, equipment, and supplies necessary to perform all site testing. Provide a minimum of two employees familiar with the system for the final acceptance test. One employee shall be responsible for monitoring and verifying alarms while the other will be required to demonstrate the function of each device. Supply at least two two-way radios for use during the test. A manufacturer's representative may be present on site to answer any questions that may be beyond the technical capability of the Contractor's employees, if the Contractor so elects or by specific request of the Architect or Owner, at no charge to the Architect or Owner.

M. Upon successful completion of the final acceptance test (or subsequent punch list retest) the Architect will issue a letter of final acceptance.

N. The Architect retains the right to suspend and/or terminate testing at any time when the system fails to perform as specified. In the event that it becomes necessary to suspend the test, all of the Owner's/Architect's fees and expenses related to the suspended test will be deducted from the Contractor's retainage. Furthermore, in the event it becomes necessary to suspend the test, the Contractor shall work diligently to complete/repair all outstanding items to the condition specified in the Specification and as indicated on the Drawings. The Contractor shall supply the Architect with a detailed completion schedule outlining phase by phase completion dates and a tentative date for a subsequent punch list retest. During the final acceptance test, no adjustments, repairs or modifications to the system will be conducted without the permission of the Architect.

3.18 Project Closeout Documentation

A. As-Built Drawings

1. Drawings shall be provided to the Architect/Engineer at the time of substantial completion. Final payment will not be recommended until drawings are received and approved by the Architect/Engineer.

2. Three (3) sets of drawings depicting the condition of the access control system as installed.

3. As-Built drawings shall be produced in AutoCAD 2010 or higher and provided in hardcopy and electronically in .dwg and PDF format.

4. Hardcopy drawings shall be provided in the original size as issued by the Architect/Engineer.

5. Drawings shall retain the formatting and title block of the original drawings as issued by the Architect/Engineer.

6. Drawings shall be provided utilizing the original scale and shall include the exact dimensions and locations of all equipment room/telecommunication room layouts, wall elevations, equipment rack elevations, ladder racks, cable tray, sleeves, pathways, card reader locations and labeling scheme.

SECTION 32 1216
ASPHALT PAVING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface sealer.

1.02 RELATED REQUIREMENTS

A. Section 32 1723.13 - Painted Pavement Markings: Concrete bumpers.

1.03 REFERENCE STANDARDS

A. AI MS-19 - A Basic Asphalt Emulsion Manual; Fourth Edition.

1.04 QUALITY ASSURANCE

A. Perform Work in accordance with State of _____ Highways standard.

B. Mixing Plant: Conform to State of _____ Highways standard.

C. Obtain materials from same source throughout.

1.05 REGULATORY REQUIREMENTS

A. Conform to applicable code for paving work on public property.

PART 2 PRODUCTS

2.01 MATERIALS

A. Seal Coat: AI MS-19, mineral type. Provide MasterSeal manufactured by SealMaster or approved substitute.

2.02 ASPHALT PAVING MIXES AND MIX DESIGN

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing asphalt paving is ready to receive seal coat per manufacturer's required conditions.

3.02 SEAL COAT

A. Apply seal coat to surface in accordance with AI MS-19.

3.03 PROTECTION

A. Immediately after placement, protect pavement from mechanical injury until seal coat has set/dried.

END OF SECTION

SECTION 32 1713
PARKING BUMPERS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Precast concrete parking bumpers and anchorage.

1.02 REFERENCE STANDARDS

A. ASTM A615/A615M - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement; 2015.

B. 11

C. ASTM C260/C260M - Standard Specification for Air-Entraining Admixtures for Concrete; 2010a.

D. ASTM C330/C330M - Standard Specification for Lightweight Aggregates for Structural Concrete; 2014.

PART 2 PRODUCTS

2.01 MATERIALS

A. Parking Bumpers: Precast concrete, conforming to the following:
   1. Cement: ASTM C150/C150M, Portland Type I - Normal; white color.
   2. Concrete Materials: ASTM C330/C330M aggregate, water, and sand.
   3. Reinforcing Steel: ASTM A615/A615M, deformed steel bars; unfinished, strength and size commensurate with precast unit design.
   4. Air Entrainment Admixture: ASTM C260/C260M.
   5. Concrete Mix: Minimum 5,000 psi compressive strength after 28 days, air entrained to 5 to 7 percent.
   6. Use rigid molds, constructed to maintain precast units uniform in shape, size and finish. Maintain consistent quality during manufacture.
   7. Embed reinforcing steel, and drill or sleeve for two dowels.
   8. Cure units to develop concrete quality, and to minimize appearance blemishes such as non-uniformity, staining, or surface cracking.
   9. Minor patching in plant is acceptable, providing appearance of units is not impaired.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install units without damage to shape or finish. Replace or repair damaged units.

B. Install units in alignment with adjacent work.

C. Fasten units in place with 2 dowels per unit.

END OF SECTION

SECTION 32 1723.13
PAINTED PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Parking lot markings, including parking bays, arrows, and handicapped symbols.

1.02 RELATED REQUIREMENTS

A. Section 32 1216 - Asphalt Paving.

1.03 REFERENCE STANDARDS

A. MPI (APL) - Master Painters Institute Approved Products List; Master Painters and Decorators Association; current edition, www.paintinfo.com.

B. FHWA MUTCD - Manual on Uniform Traffic Control Devices for Streets and Highways; U.S. Department of Transportation, Federal Highway Administration; Current Edition.

1.04 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. Extra Paint: 2 containers, 1 gallon size, of each type and color.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver paint in containers of at least 5 gallons accompanied by batch certificate.

B. Store products in manufacturer's unopened packaging until ready for installation.

C. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.06 FIELD CONDITIONS

A. Do not install products under environmental conditions outside manufacturer's absolute limits.

PART 2 PRODUCTS

2.01 MATERIALS

A. Line and Zone Marking Paint: MPI (APL) No. 97 Latex Traffic Marking Paint; white.

PART 3 EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

B. Clean surfaces thoroughly prior to installation.
   1. Remove dust, dirt, and other granular surface deposits by sweeping, blowing with compressed air, rinsing with water, or a combination of these methods.
   2. Completely remove rubber deposits, existing paint markings, and other coatings adhering to the pavement, by scraping, wire brushing, sandblasting, mechanical abrasion, or approved chemicals.

3. Sandblasting: Use equipment of size and capacity necessary, providing not less than 150 cfm of air at pressure not less than 90 psi at each nozzle used.

C. Where oil or grease are present, scrub affected areas with several applications of trisodium phosphate solution or other approved detergent or degreaser, and rinse thoroughly after each application; after cleaning, seal oil-soaked areas with cut shellac to prevent bleeding through the new paint.

3.03 INSTALLATION

A. Begin pavement marking as soon as practicable after surface has been cleaned and dried.

B. Do not apply paint if temperature of surface to be painted or the atmosphere is less than 50 degrees F or more than 95 degrees F.

C. Apply in accordance with manufacturer's instructions using an experienced technician that is thoroughly familiar with equipment, materials, and marking layouts.

D. Comply with FHWA MUTCD manual (http://mutcd.fhwa.dot.gov) for details not shown.

E. Apply markings in locations determined by measurement from survey control points; preserve control points until after markings have been accepted.

F. Apply uniformly painted markings of color(s), lengths, and widths as indicated on the drawings true, sharp edges and ends.
1. Apply paint in one coat only.
2. Wet Film Thickness: 0.015 inch, minimum.
3. Width Tolerance: Plus or minus 1/8 inch.

G. Parking Lots: Apply parking space lines, entrance and exit arrows, painted curbs, and other markings indicated on drawings.
1. Mark the International Handicapped Symbol at indicated parking spaces.
2. Hand application by pneumatic spray is acceptable.

H. Symbols: Use a suitable template that will provide a pavement marking with true, sharp edges and ends, of the design and size indicated.

3.04 DRYING, PROTECTION, AND REPLACEMENT

A. Protect newly painted markings so that paint is not picked up by tires, smeared, or tracked.

B. Provide barricades, warning signs, and flags as necessary to prevent traffic crossing newly painted markings.

C. Allow paint to dry at least the minimum time specified by the applicable paint standard and not less than that recommended by the manufacturer.

D. Remove and replace markings that are applied at less than minimum material rates; deviate from true alignment; exceed length and width tolerances; or show light spots, smears, or other deficiencies or irregularities.

E. Replace removed markings at no additional cost to Owner.

END OF SECTION

Bid 1701-139

Williamson County, Texas

ABBREVIATIONS:

A

ABV	ABOVE
ACOUST	ACOUSTICAL
ACCU	AIR COOLED CONDENSING UNIT
ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR
ADA	AMERICAN WITH DISABILITIES ACT
ADJ	ADJUSTABLE OR ADJACENT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM
AP	ACCESS PANEL
ARCH	ARCHITECT, ARCHITECTURAL

B

BFF	BELOW FINISHED FLOOR
BFE	BRACKET MOUNTED FIRE EXTINGUISHER
BLDG	BUILDING
BOC	BACK OF CURB
BP	BASE PLATE
BRG	BEARING
BRKT	BRACKET
BS	BOTH SIDES
BW	BOTH WAYS
BO	BOTTOM OF

C

CAB	CABINET
CIP	CAST IN PLACE
CJ	CONTROL OR CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CT	CERAMIC TILE
CTR	CENTER

D

D	DEPTH
DEG	DEGREES
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DP	DAMP PROOFING
DS	DOWN SPOUT
DWG	DRAWING
DWL	DOWEL

E

E	EAST
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EFS	EXTERIOR FINISH SYSTEM
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR

F

FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDV	FIRE DEPARTMENT VALVE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FP	FIRE PROTECTION
F/R	FIRE RATED
FRP	FIBERGLASS REINFORCED PLASTIC
FRT	FIRE TREATED

G

GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GFRC	GLASS FIBER REINFORCED CONCRETE
GND	GROUND
GRS	GALVANIZED RIGID STEEL
GTR	GUTTER
GWB	GYPSUM WALL BOARD

H

HT	HEIGHT
HB	HOSE BIB
HC	HANDICAP
HDW	HARDWARE
HDWD	HARD WOOD
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HYD	HYDRANT

I

IBC	INTERNATIONAL BUILDING CODE
ID	INSIDE DIAMETER
IF	INSIDE FACE
IN	INCH OR INCHES
INCAND	INCANDESCENT
INSUL	INSULATION
INT	INTERIOR

J

JAN	JANITOR
JST	JOIST
JT	JOINT

K

KO	KNOCKOUT

L

L	LENGTH
LAV	LAVATORY
LB.#	POUNDS
LDG	LANDING
LF	LINEAR FEET
LG	LONG
LH	LEFT HAND
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LT	LIGHT
LTG	LIGHTING

M

MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MK	MARK
MO	MASONRY OPENING
MTL	METAL
MTD	MOUNTED

N

N	NORTH
N/A	NOT APPLICABLE
NF	NEAR FACE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE

O

OC	ON CENTER
OD	OVERFLOW DRAIN
OF	OUTSIDE FACE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OPPOSITE HAND
OPG	OPENING
OPP	OPPOSITE
OS	OVERFLOW THROUGH WALL SCUPPER

P

PC	PRE-CAST CONCRETE
PERIM	PERIMETER
PERP	PERPENDICULAR
PI	POINT OF INTERSECTION
P	PLATE
PL	PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLBG	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
PR	PAIR
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PTD	PAINTED

Q

QT	QUARRY TILE
QTY	QUANTITY
R	

R

	RADIUS
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REF	REFERENCE, REFER
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION, REVISE
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
RP	RADIUS POINT
RTU	ROOF TOP UNIT
S	

S

	SOUTH
SCHED	SCHEDULED
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SHT MTL	SHEET METAL
SJ	SAW JOINT
SL	SLOPE
SPEC	SPECIFICATION
SS	STAINLESS STEEL
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STRUCT	STRUCTURAL
SURF	SURFACE
T	

T

	TREAD OR TOP
TO	TOP OF
TAS	TEXAS ACCESSIBILITY STANDARDS
TC	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPORARY
THK	THICKNESS
THRD	THREADED
THRU	THROUGH
TYP	TYPICAL

U

UON	UNLESS OTHERWISE NOTED
UR	URINAL

V

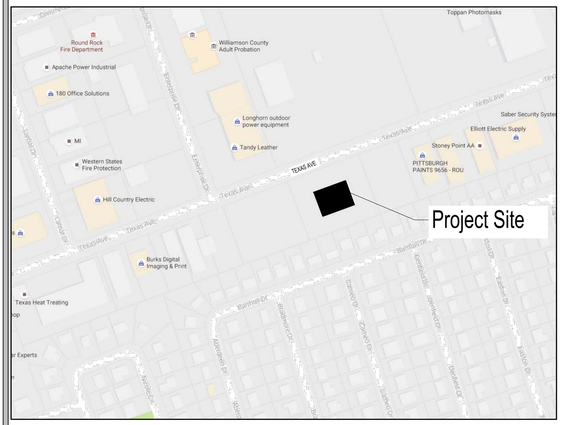
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VEST	VESTIBULE
VR	VAPOR RETARDER
VT	VINYL TILE
VTR	VENT THROUGH ROOF

W

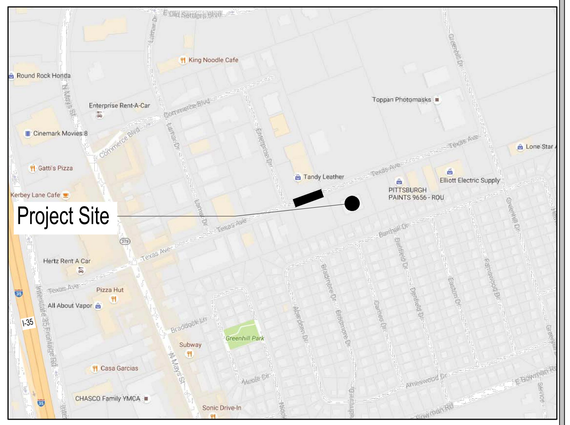
w/	WITH
WC	WATER CLOSET
WH	WATER HEATER
WP	WORK POINT

X,Y, & Z

RESERVED



Site Map



Round Rock, Texas

Vicinity Map

WCCHD Office Renovations

355 Texas Avenue | Round Rock, Texas

100% Construction
Document Issued Bid Set
January 16, 2017

1/16/2017

HADDON+COWAN ARCHITECTS
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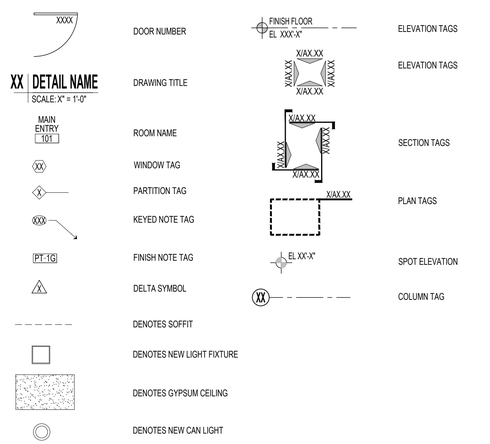
SHEET INDEX

SHEET NO.	TITLE
G0.00	COVER SHEET & SHEET LIST
G0.01	LIFE SAFETY PLAN
	ARCHITECTURE
A0.01	1ST FLOOR DEMOLITION PLAN
A0.02	2ND FLOOR DEMOLITION PLAN
A1.01	ROOF & SITE PLAN
A2.01	1ST FLOOR RENOVATION PLAN
A2.02	2ND FLOOR RENOVATION PLAN
A3.01	1ST FLOOR REFLECTED CEILING PLAN
A3.02	2ND FLOOR REFLECTED CEILING PLAN
A5.01	DOOR SCHEDULE & DETAILS
A7.01	ROOM FINISH SCHEDULE & LEGEND
A7.02	1ST FLOOR FINISH PLAN
A7.03	2ND FLOOR FINISH PLAN
A10.01	INTERIOR ELEVATIONS
A11.01	MILLWORK SECTIONS & PLAN DETAILS
	TECHNOLOGY/SECURITY
T001	TECHNOLOGY SYMBOLS & LEGEND
T101	1ST FLOOR PLAN-TECHNOLOGY
T102	2ND FLOOR PLAN-TECHNOLOGY
T301	TECHNOLOGY DETAILS
T302	SECURITY DETAILS
T303	SECURITY DIAGRAMS/SCHEDULES
	MEP
DM2.01	1ST LEVEL DEMO MECHANICAL PLAN
DM2.02	2ND LEVEL DEMO MECHANICAL PLAN
DEL2.01	1ST LEVEL DEMO LIGHTING PLAN
DEL2.02	2ND LEVEL DEMO LIGHTING PLAN
DEP2.01	1ST LEVEL DEMO POWER PLAN
DEP2.02	2ND LEVEL DEMO POWER PLAN
DP2.01	1ST LEVEL DEMO PLUMBING PLAN
DP2.02	2ND LEVEL DEMO PLUMBING PLAN
M0.00	MECHANICAL SYMBOLS & ABBREVIATIONS
M2.01	1ST LEVEL MECHANICAL PLAN
M2.02	2ND LEVEL MECHANICAL PLAN
M3.01	MECHANICAL DETAILS
M3.02	MECHANICAL CONTROL SCHEMATICS
M4.01	MECHANICAL SCHEDULES
M4.02	MECHANICAL SCHEDULES
M4.03	MECHANICAL LOAD CALCULATIONS
E0.00	ELECTRICAL SYMBOL & ABBREVIATIONS
E3.01	ELECTRICAL NOTES, DETAILS & LIGHT FIXTURE SCHEDULE
E3.02	ELECTRICAL DETAILS
E4.01	ELECTRICAL ONE-LINE DIAGRAMS & PANEL SCHEDULES
EL2.01	1ST LEVEL LIGHTING PLAN
EL2.02	2ND LEVEL LIGHTING PLAN
EP2.01	1ST LEVEL POWER PLAN
EP2.02	2ND LEVEL POWER PLAN
P0.00	PLUMBING SYMBOLS AND ABBREVIATIONS
P2.01	1ST LEVEL PLUMBING PLAN
P2.02	2ND LEVEL PLUMBING PLAN
P3.01	PLUMBING RISERS
P5.01	PLUMBING SCHEDULES
P6.01	PLUMBING DETAILS

GENERAL NOTES:

1. ALL CONSTRUCTION AND DEMOLITION SHALL BE IN COMPLIANCE WITH THE 2015 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS AND WITH ALL OTHER CODES, ORDINANCES AND REQUIREMENTS SET FORTH BY THE CITY OF ROUND ROCK. SUBCONTRACTOR TO VERIFY REQUIREMENTS / AMENDMENTS PER CITY OF ROUND ROCK PRIOR TO STARTING WORK.
2. ALL WORK RELATING TO THIS CONSTRUCTION AND DEMOLITION SHALL COMPLY WITH U.S. DEPARTMENT OF LABOR, THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS AND ALL RELATED LOCAL BUILDING CODES AND ORDINANCES.
3. DO NOT SCALE THE DOCUMENTS.
4. ALL DIMENSIONS ARE TO BE FIELD VERIFIED AND BACK CHECKED FOR CORRECTNESS. IF ANY DEVIATIONS OR DISCREPANCIES OCCUR, CONTACT THE GENERAL CONTRACTOR FOR VERIFICATION PRIOR TO PROCEEDING WITH THE WORK.
5. ALL SUBCONTRACTORS SHALL CAREFULLY REVIEW THE DRAWINGS, SPECIFICATIONS, DETAILS AND NOTES FOR INFORMATION REGARDING THE SCOPE OF THE WORK INTENDED PRIOR TO PROCEEDING WITH THE WORK.
6. ALL PENETRATIONS THROUGH FIRE RATED PARTITIONS, FIRE RATED CEILING ASSEMBLIES SHALL BE INSTALLED ACCORDING TO U.L. STANDARDS AND PER APPLICABLE CODES FOR REQUIRED HOUR FIRE RATED CONSTRUCTION.
7. ALL MATERIALS SHALL BE INSTALLED ACCORDING TO INDUSTRY STANDARDS, ALL AGENCIES OR "STANDARD" RECOMMENDATIONS REFERENCED IN THE SPECIFICATIONS, OR MANUFACTURERS RECOMMENDED INSTALLATION PROCEDURES, WHICHEVER IS THE MOST STRINGENT, IN ORDER TO PROVIDE A COMPLETE AND HIGH QUALITY PROJECT.
8. THE CONTRACTOR AND SUBCONTRACTORS REPRESENTS AND WARRANTS THAT IT HAS EXAMINED THE PLANS, DRAWINGS, SPECIFICATIONS AND ALL CONSTRUCTION CRITERIA OF OWNER AND HAS SATISFIED ITSELF THAT THE INFORMATION CONTAINED THEREIN IS SUFFICIENT TO FULLY AND COMPLETELY CONSTRUCT THE PROJECT.

ARCHITECTURAL SYMBOLS:



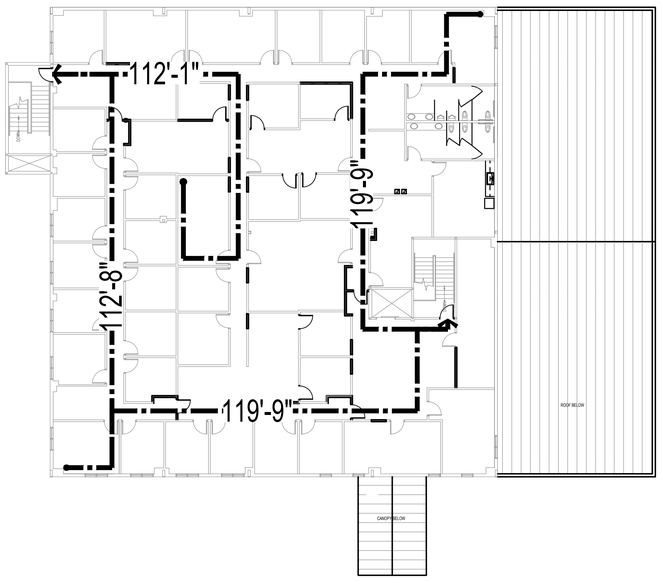
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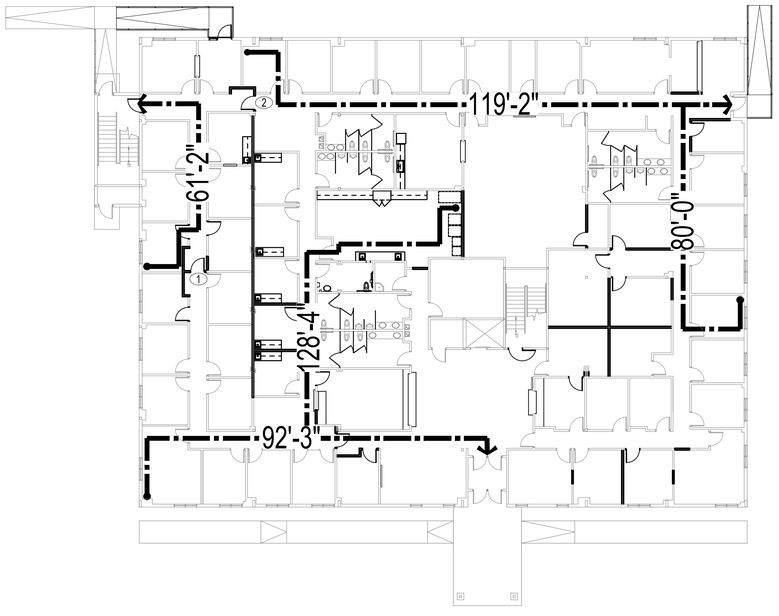
Bid 1701-139

Williamson County, Texas



2 2ND FLOOR LIFE SAFETY PLAN

SCALE: 1/8" = 1'-0"



① DOOR HARDWARE TO BE DELAYED ACCESS TO MEET REQUIREMENTS OF IFC 2015 1010.1.9.7
② DOOR TO BE SIGNED "NOT AN EXIT"

1 1ST FLOOR LIFE SAFETY PLAN

SCALE: 1/16" = 1'-0"

PLUMBING FIXTURE CALCULATIONS:

PLUMBING FIXTURES AND FIXTURE FITTINGS [CHAPTER 4]:

MINIMUM NUMBER OF REQUIRED FIXTURES [SECT 422] PLUBMING FIXTURES SHALL BE PROVIDED FOR THE TYPE OF BUILDING OCCUPANCY AND IN THE MINIMUM NUMBER SHOWN IN TABLE 422.1. THE TOTAL OCCUPANT LOAD SHALL BE DETERMINED IN ACCORDANCE WITH THE BUILDING CODE.

THE MINIMUM NUMBER OF FIXTURES SHALL BE CALCULATED AT 50 PERCENT MALE AND 50 PERCENT FEMALE BASE ON THE TOTAL OCCUPANT LOAD.

BUILDING OCCUPANCY PER IBC TABLE 1004.1.4 = 252 OCCUPANTS

PLUMBING FIXTURE CALCULATIONS:
PER TABLE 2902.1 MINIMUM PLUMBING FACILITIES PER CITY OF ROUND ROCK AMENDMENTS

252 OCCUPANTS = 126 MEN AND 126 WOMEN

OCCUPANCY		WATER CLOSETS		URINALS	LAVATORIES	
		MALE	FEMALE	MALE	MALE	FEMALE
B BUSINESS OCCUPANCY GREATER THAN 5,000 SF	FIXTURES REQUIRED	3: 101-200	5: 101-200	1: 1-150	1: 1-200	1: 1-200
	EXISTING FIXTURES	8	12	8	8	8
		0 UNISEX			0 UNISEX	
		28 TOTAL FIXTURES			16 TOTAL FIXTURES	
	FIXTURES PROVIDED	0	0	0	0	0
		1 UNISEX			1 UNISEX	
		1 TOTAL FIXTURE			1 TOTAL FIXTURE	

PROJECT DATA:

PROJECT: WCCHD Office Renovations
ADDRESS: 355 Texas Avenue
Round Rock, Texas

PROPOSED RENOVATION: 25,232 SF

LOCATION ON PROPERTY -
GREATER THAN 60'-0" ON THREE SIDES

OCCUPANCY CLASSIFICATION -
GROUP "B" BUSINESS

CONSTRUCTION CLASSIFICATION -
TYPE IIB

FIRE EXTINGUISHING SYSTEM -
BUILDING IS SPRINKLERED

BUILDING CODES:

2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL MECHANICAL CODE
2015 INTERNATIONAL PLUMBING CODE
2015 INTERNATIONAL FIRE CODE
2014 NATIONAL ELECTRICAL CODE
2015 INTERNATIONAL ENERGY CONSERVATION CODE
TEXAS ACCESSIBILITY STANDARDS

THESE RENOVATIONS DO NOT CHANGE THE OCCUPANCY OR USE OF THE FACILITY

CODE REVIEW:

BUILDING OCCUPANCY CLASSIFICATION [CHAPTER 3]:

OCCUPANCY CLASSIFICATION [SECT 302]: GROUP "B"

GENERAL BUILDING HEIGHTS AND AREAS [CHAPTER 5]:

GENERAL HEIGHT AND AREA LIMITATIONS [SECT 503]: SECT 503.1 GENERAL - THE HEIGHT AND AREA FOR BUILDINGS OF DIFFERENT CONSTRUCTION TYPES SHALL BE GOVERNED BY THE INTENDED USE OF THE BUILDING AND SHALL NOT EXCEED THE LIMITS IN TABLE 504.

PER TABLE 504 & 506 AND FOR TYPE "B" OCCUPANCY, THE FOLLOWING IS ALLOWED:

TYPE "B":
CONSTRUCTION TYPE: IIB
ALLOWED AREA PER FLOOR: 69,000 SF
MAXIMUM HEIGHT: 4 STORIES

PROPOSED BUILDING HEIGHT AND AREA:
TYPE "B" 25,232 SF, 2 STORIES
TOTAL BUILDING AREA 25,232 SF, 2 STORIES

TYPES OF CONSTRUCTION [CHAPTER 6]:

CONSTRUCTION CLASSIFICATION [SECT 602]: SECT 602.1 GENERAL - BUILDING AND STRUCTURES ERECTED OR TO BE ERECTED, ALTERED OR EXTENDED IN HEIGHT OR AREA SHALL BE CLASSIFIED IN ONE OF THE FIVE CONSTRUCTION TYPES DEFINED IN SECT 602.2 THROUGH 602.5. THE BUILDING ELEMENTS SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THAT SPECIFIED IN TABLE 601 AND EXTERIOR WALLS SHALL HAVE A FIRE-RESISTANCE RATING NOT LESS THAN THAT SPECIFIED IN TABLE 602.

PER TABLE 601 FOR "TYPE IIB" CONSTRUCTION:

BUILDING ELEMENT	FIRE-RESISTANCE RATING
STRUCTURAL FRAME	0 HR
BEARING WALLS	
EXTERIOR	0 HR
INTERIOR	0 HR
NON BEARING EXTERIOR PARTITIONS	0 HR
NON BEARING INTERIOR PARTITIONS	0 HR*
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR

*NOT LESS THAN REQUIRED BY OTHER SECTIONS OF THE CODE [EGRESS]

INTERIOR FINISHES [CHAPTER 8]:

WALL AND CEILING FINISHES [SECT 803]: SECT. 803.1 GENERAL - INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM E84. SUCH INTERIOR FINISH MATERIALS SHALL BE GROUPED IN THE FOLLOWING CLASSES IN ACCORDANCE WITH THEIR FLAME SPREAD AND SMOKE-DEVELOPMENT INDEXES.

CLASS A - FLAME SPREAD 0-25; SMOKE-DEVELOPED 0-450
CLASS B - FLAME SPREAD 26-75; SMOKE-DEVELOPED 0-450
CLASS C - FLAME SPREAD 76-200; SMOKE-DEVELOPED 0-450

MEANS OF EGRESS [CHAPTER 10]:

OCCUPANT LOAD [SECT 1004]: SECT 1004.1.2 NUMBER BY TABLE 1004.1.2 - THE NUMBER OF OCCUPANTS COMPUTED THE RATE OF ONE OCCUPANT PER UNIT OF AREA AS PRESCRIBED IN TABLE 1004.1.2.

OCCUPANCY CALCULATIONS PER TABLE 1004.1.2:

OCCUPANCY	FLOOR AREA PER OCCUPANT [SF]	SF	OCCUPANTS
BUSINESS AREA (B)	100 GROSS	25,232	252
	TOTAL OCCUPANCY		252

EXIT ACCESS TRAVEL [SECT 1016.1] TRAVEL DISTANCE LIMITATIONS - EXITS SHALL BE LOCATED ON EACH STORY SUCH THAT THE MAXIMUM LENGTH OF DISTANCE [SECT 1016] EXIT ACCESS SHALL NOT EXCEED THE DISTANCES GIVEN IN TABLE 1017.2

PER TABLE 1017.2 IN A FULLY SPRINKLERED BUILDING, A MAXIMUM TRAVEL DISTANCE FOR GROUP "B" IS 300'-0".

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REVISIONS

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TITLE

Life Safety Plan

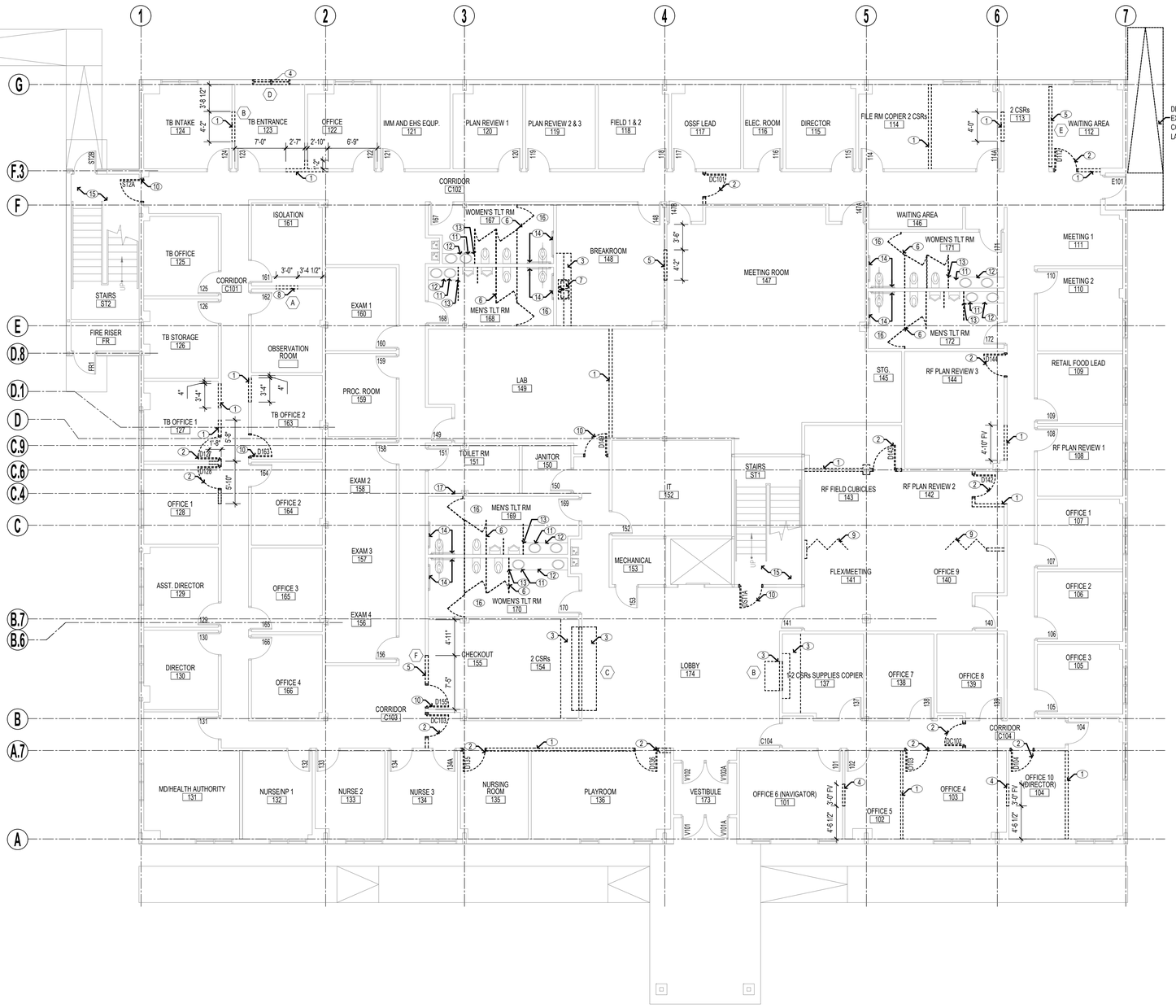
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Bid 1701-139

Williamson County, Texas



1 1ST FLOOR DEMOLITION PLAN
SCALE: 1/8" = 1'-0"

GENERAL DEMOLITION NOTES:

1. ALL FLOORS, FINISHES, CEILINGS, EXISTING BATT INSULATION ABOVE CEILING ASSOCIATED LIGHTING, EQUIPMENT & HVAC TO BE REMOVED. REF MEP SHEETS FOR ADDITIONAL INFO.
2. ALL AREAS SCHEDULED TO RECEIVE NEW FINISHES ARE TO BE INSPECTED FOR ANY PATCHING THAT MAY BE REQUIRED DUE TO EXISTING CONDITIONS. PERFORM ALL PATCHING AS REQUIRED PRIOR TO APPLICATION OF NEW FINISHES.
3. COORDINATE THE LOCATIONS OF THE LIGHTS WITH THE DUCTWORK, AND OTHER CEILING ELEMENTS.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DRAWN INFORMATION SHALL NOT SUPERCEDE ACTUAL CONDITIONS.
5. PROTECT AREAS NOT SCHEDULED FOR RENOVATION FROM DEMOLITION AND CONSTRUCTION ACTIVITIES.
6. SALVAGE DEMOLISHED DOORS ACCORDING TO THE DOOR SCHEDULE ON AS.01. THEY ARE TO BE REMOVED AND STORED WITH PROPER CARE FOR REUSE.
7. EXISTING FURR-OUTS ARE TO REMAIN UNLESS OTHERWISE NOTED. PATCH AND REPAIR TO MAKE FLUSH AND REF. FINISH PLANS/SCHEDULE
8. REFER TO MEP & TECHNOLOGY DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE

LEGEND

CONSTRUCTION TO REMAIN

CONSTRUCTION TO BE REMOVED

DEMOLITION KEYED NOTES:

1. WALL TO BE DEMOLISHED, AND POWER AND DATA, IF PRESENT, NEEDS TO BE REMOVED BACK TO PANEL
2. DOOR TO BE SALVAGED & RE-INSTALLED. REFER TO "RELOCATED & NEW" DOOR SCHEDULE ON SHEET AS.01 FOR NEW LOCATION/DESIGNATION.
3. MILLWORK TO BE DEMOLISHED INCLUDING HARDWARE, BACKSPLASH, ETC.
4. WINDOW TO BE DEMOLISHED. COORDINATE ADDITIONAL DEMOLITION TO BE COMPLETED IN THIS AREA WITH PROPOSED WINDOW TYPE "D".
5. PORTION OF WALL TO BE DEMOLISHED TO ADD WINDOW AND COUNTER @ 36" HIGH MAX. REFER TO 1/A10.01 FOR SIZE AND LOCATION
6. TOILET PARTITIONS TO BE DEMOLISHED
7. PLUMBING FIXTURE TO BE DEMOLISHED
8. DEMO WALL FOR WINDOW OPENING. REFER TO AS.01 FOR SIZE AND LOCATION.
9. DEMO MOBILE PARTITION WALL INCLUDING SUPPORTS, PANELS AND HARDWARE
10. DOOR AND FRAME TO BE DEMOLISHED
11. PROTECT COUNTERTOP FROM TOILET PARTITION DEMO
12. DEMO HORIZONTAL PLAM TRIM PIECE DIRECTLY AFF. PROTECT THE SURROUNDING PLAM BRACING
13. SALVAGE PLAM BACKSPLASH ATTACHED TO TOILET PARTITION DURING DEMO
14. REMOVE & SALVAGE GRAB BARS
15. REMOVE EXISTING RUBBER BASE TREADS
16. REMOVE EXISTING FRP FROM TOILET ROOMS
17. DEMO EXISTING WALL AS REQ'D FOR NEW PLUMBING FIXTURES. REF. PLUMBING

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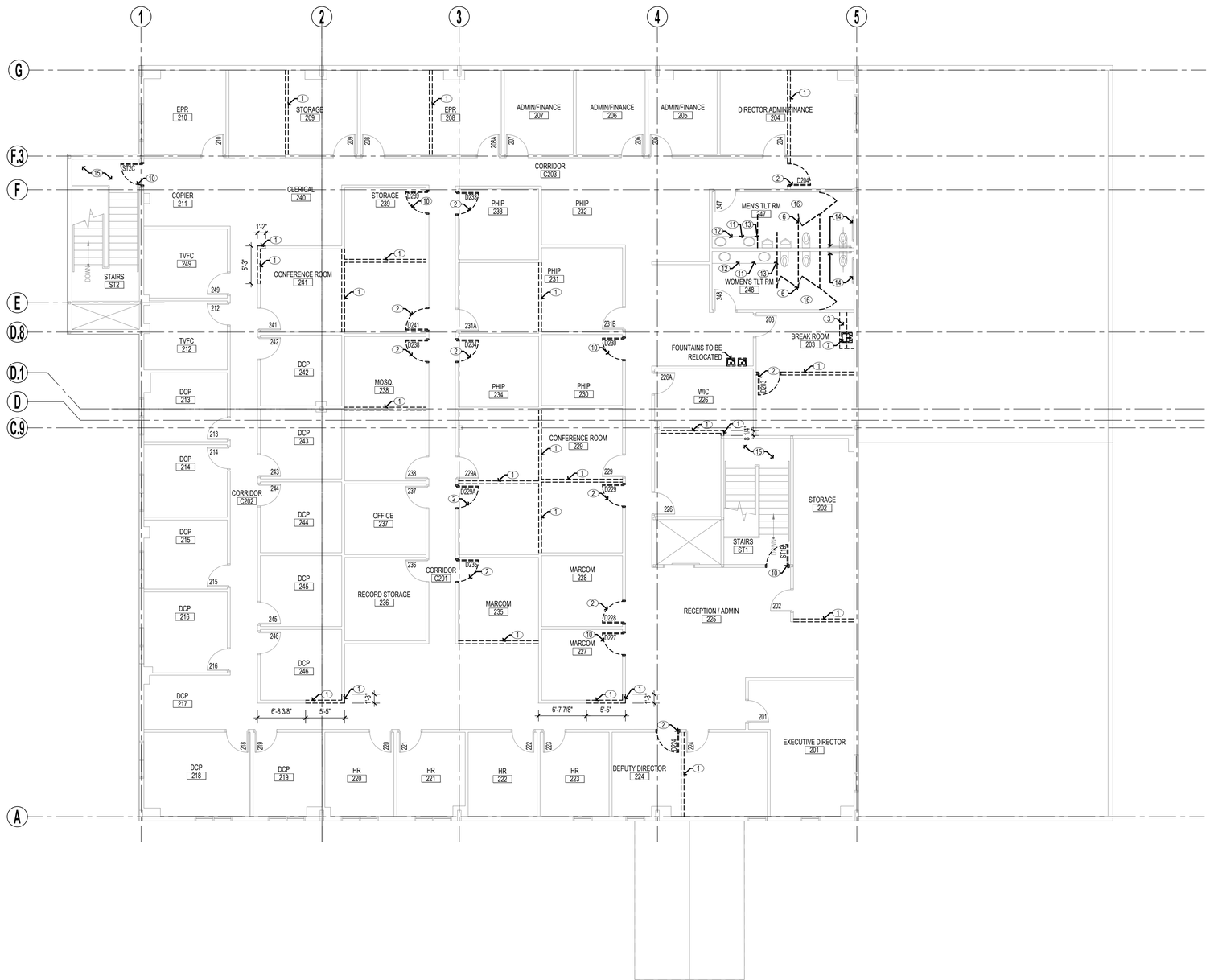
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1st Floor Demolition Plan

SHEET

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1 2ND FLOOR DEMOLITION PLAN

SCALE: 1/8"= 1'-0"

GENERAL NOTES:

1. ALL FLOORS, FINISHES, CEILINGS, EXISTING BATT INSULATION ABOVE CEILING, ASSOCIATED LIGHTING, EQUIPMENT & HVAC TO BE REMOVED. REF MEP SHEETS FOR ADDITIONAL INFO.
2. ALL AREAS SCHEDULED TO RECEIVE NEW FINISHES ARE TO BE INSPECTED FOR ANY PATCHING THAT MAY BE REQUIRED DUE TO EXISTING CONDITIONS. PERFORM ALL PATCHING AS REQUIRED PRIOR TO APPLICATION OF NEW FINISHES.
3. COORDINATE THE LOCATIONS OF THE LIGHTS WITH THE DUCTWORK, AND OTHER CEILING ELEMENTS.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DRAWN INFORMATION SHALL NOT SUPERCEDE ACTUAL CONDITIONS.
5. PROTECT AREAS NOT SCHEDULED FOR RENOVATION FROM DEMOLITION AND CONSTRUCTION ACTIVITIES.
6. SALVAGE DEMOLISHED DOORS ACCORDING TO THE DOOR SCHEDULE ON AS.01. THEY ARE TO BE REMOVED AND STORED WITH PROPER CARE FOR REUSE.
7. EXISTING FURR-OUTS ARE TO REMAIN UNLESS OTHERWISE NOTED. PATCH AND REPAIR TO MAKE FLUSH AND REF. FINISH PLAN/SCHEDULE
8. REFER TO MEP & TECHNOLOGY DRAWINGS FOR ADDITIONAL DEMOLITION SCOPE

LEGEND

CONSTRUCTION TO REMAIN

CONSTRUCTION TO BE REMOVED

DEMOLITION NOTES:

1. WALL TO BE DEMOLISHED. AND POWER AND DATA, IF PRESENT, NEEDS TO BE REMOVED BACK TO PANEL.
2. DOOR AND FRAME TO BE SALVAGED & RE-INSTALLED. REFER TO "RELOCATED & NEW" DOOR SCHEDULE ON SHEET A5.01 FOR NEW LOCATION/DESIGNATION.
3. MILLWORK TO BE DEMOLISHED INCLUDING HARDWARE, BACKSPLASH, ETC.
4. WINDOW TO BE DEMOLISHED. COORDINATE ADDITIONAL DEMOLITION TO BE COMPLETED IN THIS AREA WITH PROPOSED WINDOW TYPE "D".
5. PORTION OF WALL TO BE DEMOLISHED TO ADD WINDOW AND COUNTER @ 36" HIGH MAX. REFER TO 15/A10.01 FOR SIZE AND LOCATION
6. TOILET PARTITIONS TO BE DEMOLISHED
7. PLUMBING FIXTURE TO BE DEMOLISHED
8. DEMO WALL FOR WINDOW OPENING. REFER TO A5.01 FOR SIZE AND LOCATION.
9. DEMO MOBILE PARTITION WALL INCLUDING SUPPORTS, PANELS AND HARDWARE
10. DOOR AND FRAME TO BE DEMOLISHED
11. PROTECT COUNTERTOP FROM TOILET PARTITION DEMO
12. DEMO HORIZONTAL PLAM TRIM PIECE DIRECTLY AFF. PROTECT THE SURROUNDING PLAM BRACING
13. SALVAGE PLAM BACKSPLASH ATTACHED TO TOILET PARTITION DURING DEMO
14. REMOVE & SALVAGE GRAB BARS
15. REMOVE EXISTING RUBBER BASE TREADS
16. REMOVE EXISTING FRP FROM TOILET ROOMS
17. DEMO EXISTING WALL AS REQ'D FOR NEW PLUMBING FIXTURES. REF. PLUMBING

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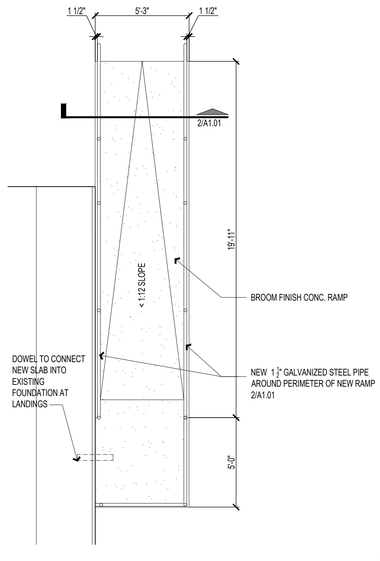
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TITLE

2nd Floor Demolition Plan

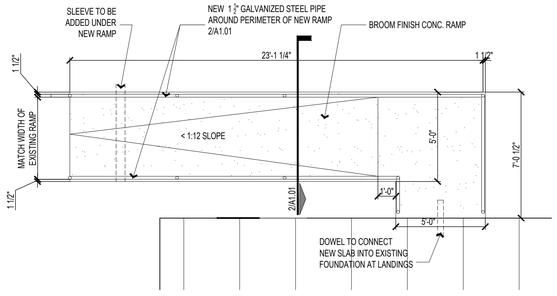
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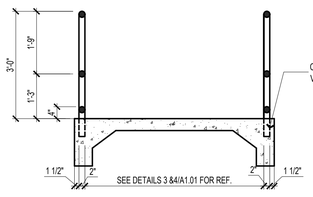
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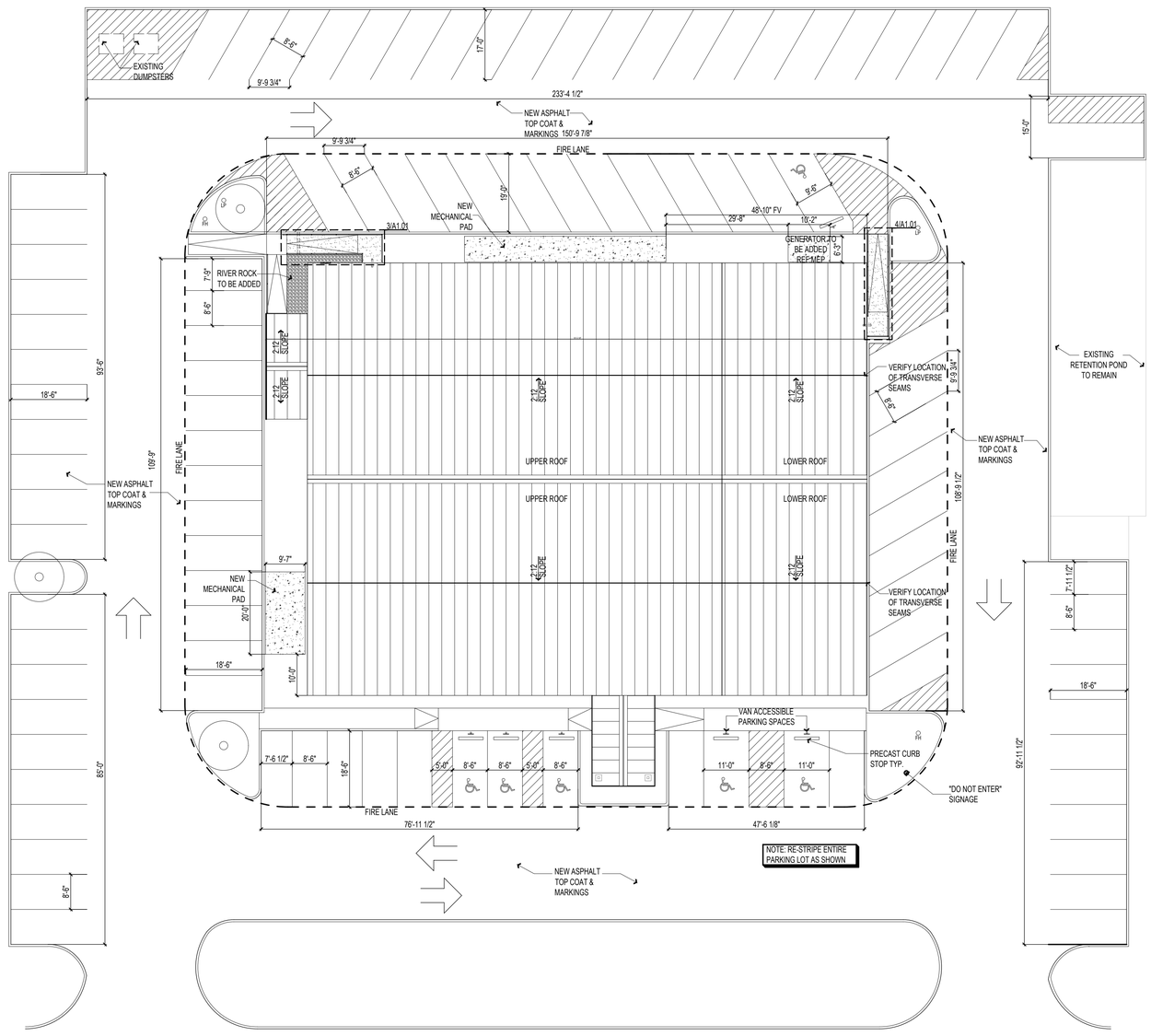
ENTRANCE 3 RAMP 1

SCALE: 1/4"= 1'-0"



RAMP 2 HANDRAILS

SCALE: 1/2"= 1'-0"



1 ROOF & SITE PLAN

SCALE: 1/16"= 1'-0"

GENERAL SITE NOTES:

1. RE-USE EXISTING ACCESSIBLE PARKING SIGNS
2. RE-CENTER ACCESSIBLE PARKING SIGNS ON NEW RE-STRIPED HANDICAPPED PARKING SPACES

LEGEND

- EXISTING TREE
- ACCESSIBLE PARKING SIGN
- FH — EXISTING FIRE HYDRANT
- LP — EXISTING LAMP POST

ROOFING SCOPE: REPAIR RECOMMENDATIONS

1. REPLACE ALL SCREWS AND NEOPRENE GROMMETS
2. TRANSVERSE SEAM REPAIR/RECAULK
3. RESEAL RAKE FLASHING JOINTS
4. REPLACE ROOF PENETRATION FLASHINGS

ROOFING SCOPE INSULATION

OPEN-CELL SPRAY FOAM W/ IGNITION BARRIER COVERING ENTIRE ~14,678 SF OF ROOF AREA

PARKING

EXISTING
97 STANDARD SPACES
5 HANDICAP SPACES
TOTAL: 102 SPACES

RENOVATED
93 STANDARD SPACES
6 HANDICAP SPACES
TOTAL: 99 SPACES

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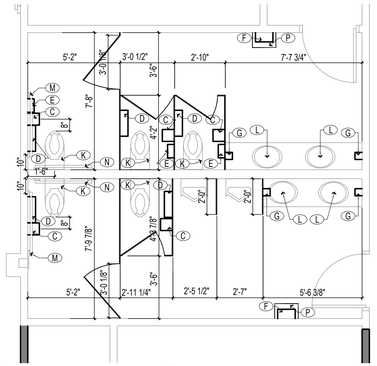
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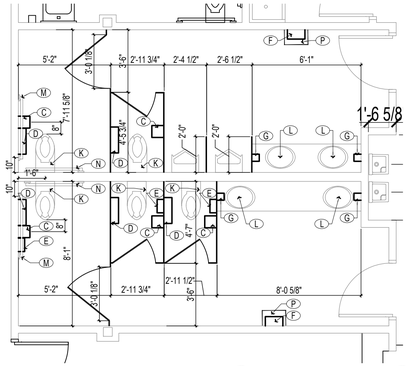
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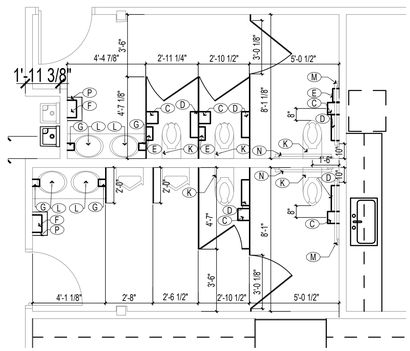
NOTE: INSTALL NEW FRP AND TRIM AT FINISH FLOOR TO 48" AFF



NOTE: INSTALL NEW FRP AND TRIM AT FINISH FLOOR TO 48" AFF



NOTE: INSTALL NEW FRP AND TRIM AT FINISH FLOOR TO 48" AFF



GENERAL NOTES:

1. ALL FLOORS, FINISHES, CEILINGS, ASSOCIATED LIGHTING, EQUIPMENT & HVAC TO BE REMOVED. REF MEP SHEETS FOR ADDITIONAL INFO
2. ALL AREAS SCHEDULED TO RECEIVE NEW FINISHES ARE TO BE INSPECTED FOR ANY PATCHING THAT MAY BE REQUIRED DUE TO EXISTING CONDITIONS. PERFORM ALL PATCHING AS REQUIRED PRIOR TO APPLICATION OF NEW FINISHES.
3. COORDINATE THE LOCATIONS OF THE LIGHTS WITH THE DUCTWORK, AND OTHER CEILING ELEMENTS.
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6. SALVAGE DEMOLISHED DOORS ACCORDING TO THE DOOR SCHEDULE ON AS.01. THEY ARE TO BE REMOVED AND STORED WITH PROPER CARE FOR REUSE.
7. REFER TO FINISH PLANS FOR NEW FINISHES AND CONDITIONS
8. EXISTING FURR-OUTS ARE TO REMAIN UNLESS OTHERWISE NOTED. PATCH AND REPAIR TO MAKE FLUSH AND REF. FINISH PLAN/SCHEDULE
9. PROVIDE BLOCKING FOR TOILET ROOM ACCESSORIES AS REQ'D
10. REINSTALL SALVAGED PLAM BACKSPLASH IN SAME LOCATION ONTO NEW TOILET PARTITIONS
11. ALL TOILET ROOM COMPARTMENT DOORS ARE TO BE SELF-CLOSING WITH A HANDLE ON BOTH SIDES OF THE DOOR

LEGEND

CONSTRUCTION TO REMAIN

CONSTRUCTION TO BE ADDED

TOILET ROOM ACCESSORIES:

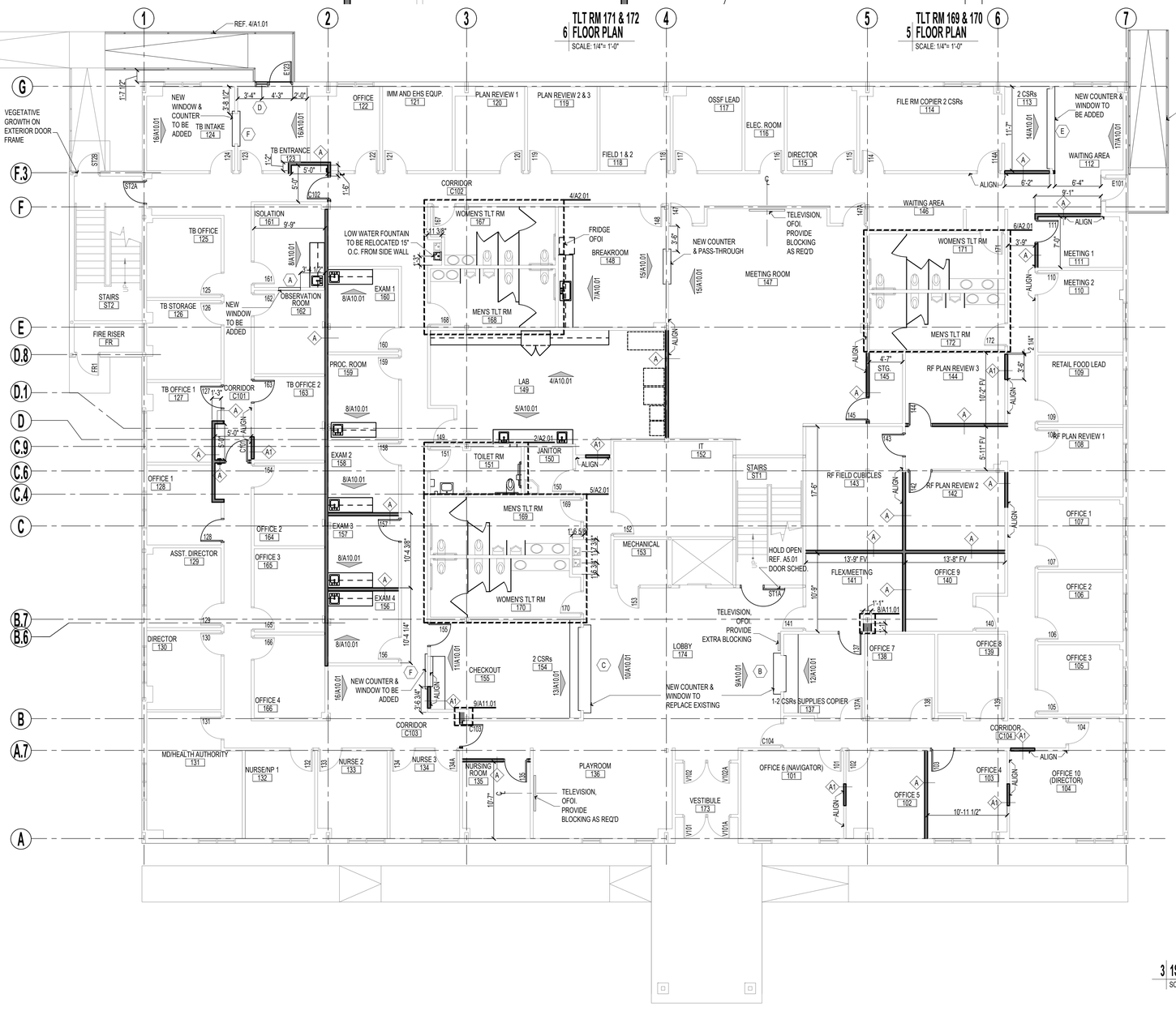
NOTE: REF. 2/A2.02 FOR TOILET ROOM ACCESSORY MOUNTING HEIGHTS

- (A) 42" GRAB BAR
- (B) 36" GRAB BAR
- (C) TOILET PAPER DISPENSER, SAN JAMAR R3590TBK
- (D) TOILET SEAT COVER DISPENSER, HEALTH GARDS HALF-FOLD
- (E) SANITARY NAPKIN DISPOSAL, TECH3
- (F) PAPER TOWEL DISPENSER, SAN JAMAR T1790TBK
- (G) SOAP DISPENSER, SAN JAMAR S880TBK, BOTTOM OF DISPENSER
- (H) 24" x 36" GLASS MIRROR
- (K) FLUSH VALVE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET
- (L) ADA PIPE WRAP
- (M) 42" GRAB BAR TO BE REINSTALLED IN PREVIOUS LOCATION
- (N) 36" GRAB BAR TO BE REINSTALLED IN PREVIOUS LOCATION
- (P) SURFACE MOUNTED WASTE RECEPTACLE TO BE MOUNTED UNDER PAPER TOWEL DISPENSER

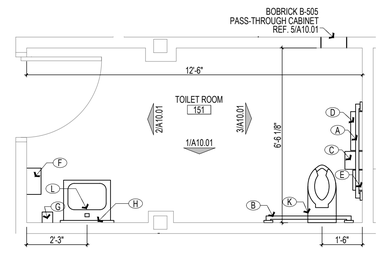
6 TLT RM 171 & 172 FLOOR PLAN
SCALE: 1/4"= 1'-0"

5 TLT RM 169 & 170 FLOOR PLAN
SCALE: 1/4"= 1'-0"

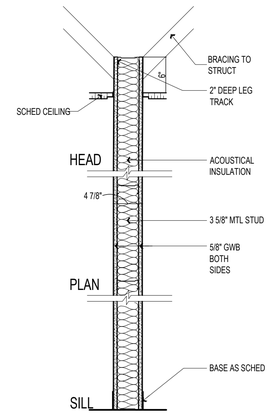
4 TLT RM 167 & 168 FLOOR PLAN
SCALE: 1/4"= 1'-0"



3 1ST FLOOR RENOVATION PLAN
SCALE: 1/8"= 1'-0"



2 TOILET RM 154
SCALE: 3/8"= 1'-0"



A - 4 7/8" PARTITION TO 6" ABOVE CLG., WITH INSULATION

A1 - 4 7/8" PARTITION DOOR INFILL

1 PARTITION TYPES
SCALE: 1"= 1'-0"

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355 Texas Avenue
Round Rock, Texas

1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	

TITLE

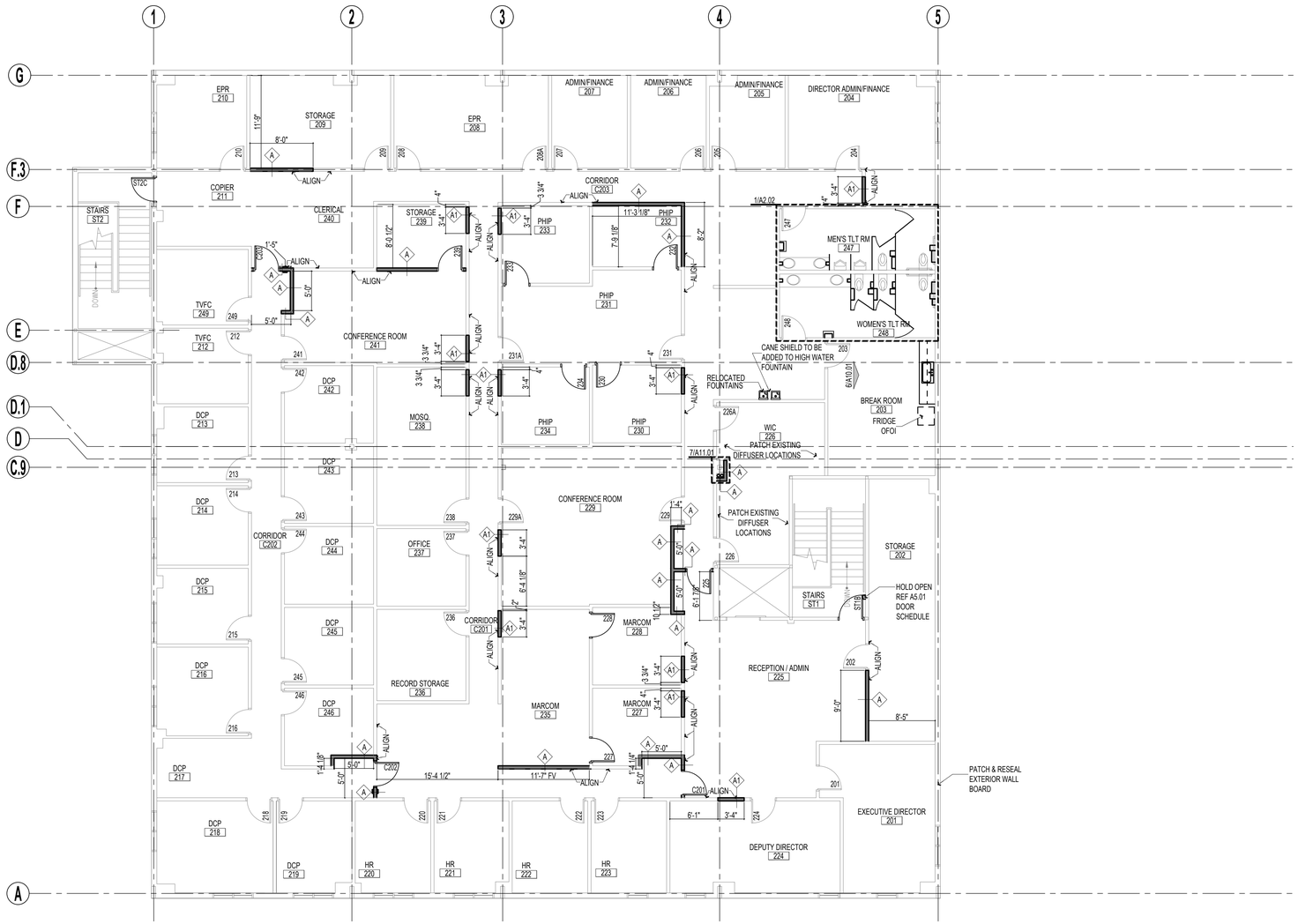
1st Floor Renovation Plan

SHEET

A2.01

Bid 1701-139

Williamson County, Texas



NOTE: REFER TO A2.01 FOR PARTITION TYPE DETAILS

3 2ND FLOOR RENOVATION PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. ALL FLOORS, FINISHES, CEILINGS, ASSOCIATED LIGHTING, EQUIPMENT & HVAC TO BE REMOVED. REF MEP SHEETS FOR ADDITIONAL INFO
2. ALL AREAS SCHEDULED TO RECEIVE NEW FINISHES ARE TO BE INSPECTED FOR ANY PATCHING THAT MAY BE REQUIRED DUE TO EXISTING CONDITIONS. PERFORM ALL PATCHING AS REQUIRED PRIOR TO APPLICATION OF NEW FINISHES.
3. COORDINATE THE LOCATIONS OF THE LIGHTS WITH THE DUCTWORK, AND OTHER CEILING ELEMENTS.
4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DRAWN INFORMATION SHALL NOT SUPERCEDE ACTUAL CONDITIONS.
5. PROTECT AREAS NOT SCHEDULED FOR RENOVATION FROM DEMOLITION AND CONSTRUCTION ACTIVITIES.
6. SALVAGE DEMOLISHED DOORS ACCORDING TO THE DOOR SCHEDULE ON A5.01. THEY ARE TO BE REMOVED AND STORED WITH PROPER CARE FOR REUSE.
7. REFER TO FINISH PLAN FOR NEW FINISHES AND CONDITIONS
8. EXISTING FURR-OUTS ARE TO REMAIN UNLESS OTHERWISE NOTED. PATCH AND REPAIR TO MAKE FLUSH AND REF. FINISH PLAN/SCHEDULE
9. PROVIDE BLOCKING FOR TOILET ROOM ACCESSORIES AS REQD
10. REINSTALL SALVAGED PLAM BACKSPLASH IN SAME LOCATION ONTO NEW TOILET PARTITIONS
11. ALL TOILET ROOM COMPARTMENT DOORS ARE TO BE SELF-CLOSING WITH A HANDLE ON BOTH SIDES OF THE DOOR

LEGEND

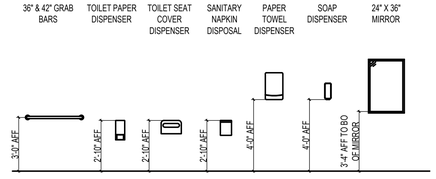
CONSTRUCTION TO REMAIN

CONSTRUCTION TO BE ADDED

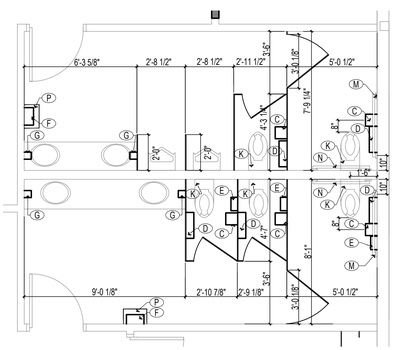
TOILET ROOM ACCESSORIES:

NOTE: REF. 2/A2.02 FOR TOILET ACCESSORY MOUNTING HEIGHTS

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- (B) 36" GRAB BAR
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- (D) TOILET SEAT COVER DISPENSER, HEALTH GARDS HALF-FOLD
- (E) SANITARY NAPKIN DISPOSAL, 1ECK9
- (F) PAPER TOWEL DISPENSER, SAN JAMAR T1750TBK
- (G) SOAP DISPENSER, SAN JAMAR S890TBK, BOTTOM OF DISPENSER
- (H) 24" x 36" GLASS MIRROR
- (K) FLUSH VALVE
- (L) ADA PIPE WRAP
- (M) 42" GRAB BAR TO BE REINSTALLED IN PREVIOUS LOCATION
- (N) 36" GRAB BAR TO BE REINSTALLED IN PREVIOUS LOCATION
- (P) SURFACE MOUNTED WASTE RECEPTACLE TO BE MOUNTED UNDER PAPER TOWEL DISPENSER



2 TLT RM ACCESSORIES MOUNTING HEIGHTS
SCALE: 1/8" = 1'-0"



1 TLT RM 247 & 248 FLOOR PLAN
SCALE: 1/4" = 1'-0"

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Round Rock, Texas

1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	

TITLE

2nd Floor Renovation Plan

SHEET

A2.02

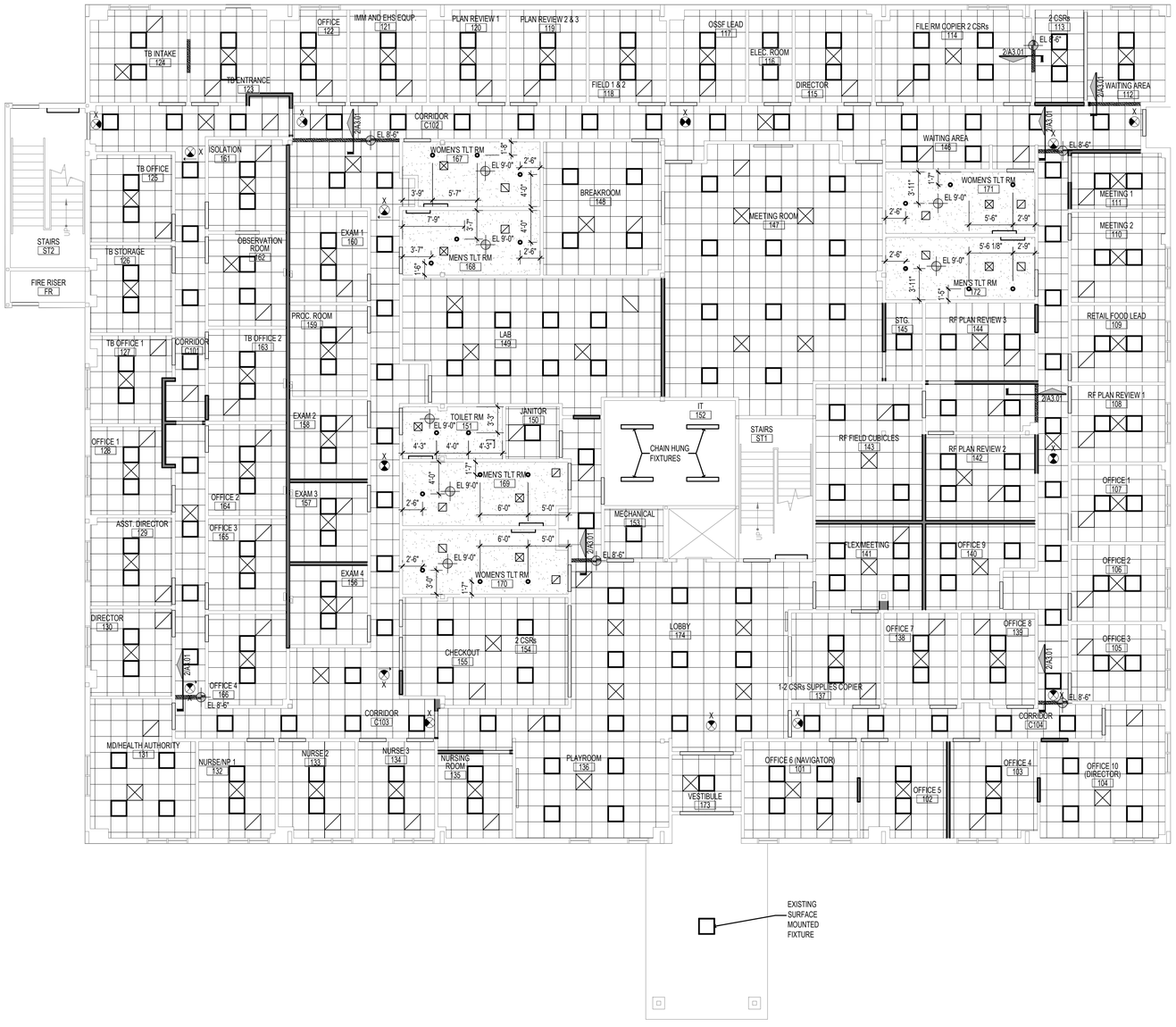
2/2/2017 8:32:

GENERAL NOTES:

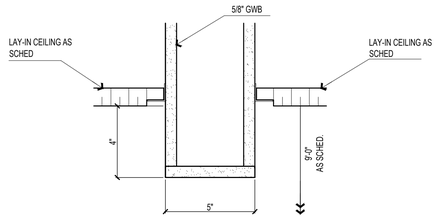
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LEGEND

- DENOTES NEW 2X2 LAY-IN CEILING
- DENOTES NEW 2X2 LIGHT
- DENOTES NEW RECESSED CAN LIGHT
- DENOTES NEW GYPSUM CEILING
- TYPICAL SOFFIT REF. 2/A3.01
- EXIT SIGN. ARROWS AS INDICATED. SHADED AREA DENOTES FACE(S)
- NEW DIFFUSER REF. MEP
- NEW EXHAUST REF. MEP
- NEW WALL MOUNTED FIXTURE



1 1ST FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"



2 TYPICAL SOFFIT
SCALE: 3" = 1'-0"

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Round Rock, Texas

REGISTERED ARCHITECT
STATE OF TEXAS

1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	

TITLE

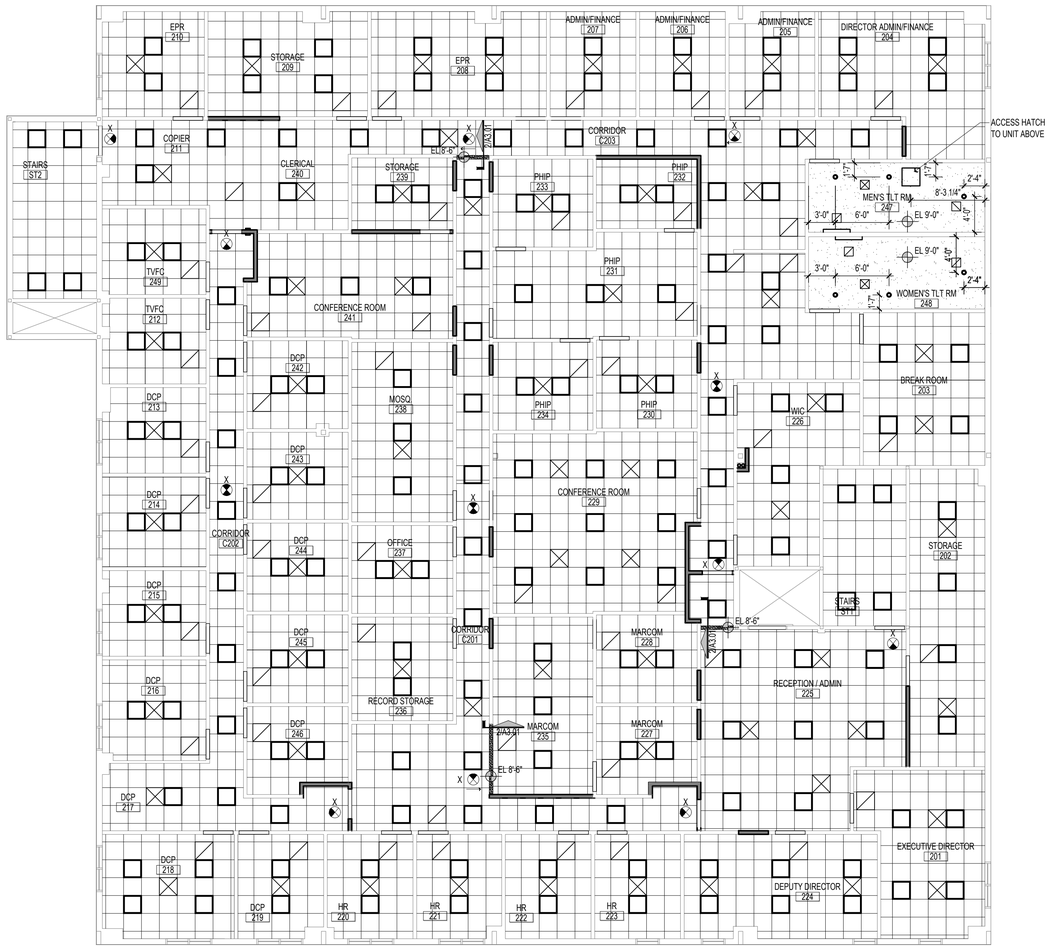
1st Floor Reflected Ceiling Plan

SHEET

A3.01

Williamson County, Texas

Bid 1701-139
Williamson County, Texas



1 2ND FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

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- DENOTES NEW 2X2 LIGHT
- DENOTES NEW RECESSED CAN LIGHT
- DENOTES NEW GYPSUM CEILING
- TYPICAL CEILING HEADER REF. 2/A3.01
- EXIT SIGN. ARROWS AS INDICATED. SHADED AREA DENOTES FACE(S)
- NEW DIFFUSER REF. MEP
- NEW EXHAUST REF. MEP
- NEW WALL MOUNTED FIXTURE

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1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	15-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	

TITLE

2nd Floor Reflected Ceiling Plan

SHEET

A3.02

p. 483
2/2/2017 8:32 AM

Bid 1701-139

Williamson County, Texas

DOOR SCHEDULE - 1ST FLOOR INTERIOR DOORS

⚠	MARK	DOOR															FRAME										HARDWARE	REMARKS
				SIZE			MATERIAL										MATERIAL									NOTE: ALL LOCKSETS TO HAVE 7 PIN INTER-CHANGEABLE CORE		
	DOOR NUMBER	RATING - LABEL	TYPE	WIDTH	HEIGHT	THICKNESS	1 EXISTING WOOD	2 HOLLOW METAL	3 ALUMINUM & GLASS	ST = STAIN TO MATCH EXIST	FINISH	TYPE	1 HOLLOW METAL	2 STEEL	3 ALUMINUM	4 WOOD	G = GLASS BLACK ANODIZED GA = CLEAR ANODIZED P = PAINTED P1 = PLASTIC LAMINATE PF = PAINT	FINISH	HARDWARE SETS			
	101		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	102		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	104		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	105		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	106		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	107		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	108		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	109		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	110		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	114		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	114A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	115		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	116		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.02			
	117		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	118		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	119		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	120		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	121		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.02			
	122		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	123		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	124		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	125		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	126		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.02			
	129		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	130		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	131		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	132		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	133		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	134		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	134A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	137A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	138		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
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	147A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.05			
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	162		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	164		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
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	169		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	170		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	171		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	172		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	V101		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	V101A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	V102		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	V102A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	ST2A	45 MIN	-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	ST2B		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.10			
	E101		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.10			
	FR1		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	C104		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			

DOOR SCHEDULE - 2ND FLOOR INTERIOR DOORS

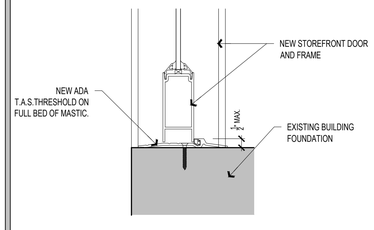
⚠	MARK	DOOR															FRAME										HARDWARE	REMARKS
				SIZE			MATERIAL										MATERIAL									NOTE: ALL LOCKSETS TO HAVE 7 PIN INTER-CHANGEABLE CORE		
	DOOR NUMBER	RATING - LABEL	TYPE	WIDTH	HEIGHT	THICKNESS	1 EXISTING WOOD	2 HOLLOW METAL	3 ALUMINUM & GLASS	ST = STAIN TO MATCH EXIST	FINISH	TYPE	1 HOLLOW METAL	2 STEEL	3 ALUMINUM	4 WOOD	G = GLASS BLACK ANODIZED GA = CLEAR ANODIZED P = PAINTED P1 = PLASTIC LAMINATE PF = PAINT	FINISH	HARDWARE SETS			
	201		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	202		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.02			
	203		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	204		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	205		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	206		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	207		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	208		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	208A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	209		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.02			
	210		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	212		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	213		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	214		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	215		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	216		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	218		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	219		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	220		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	221		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	222		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	223		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	224		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	226		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	226A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.01			
	229		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	229A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	231		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	231A		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	236		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.02			
	237		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	238		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	241		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	0.04			
	242		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	243		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	244		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	245		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	246		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	247		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	248		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			
	249		-	-	-	-	-	-	-	-	-	FT1	-	-	-	-		-	-			

GENERAL NOTES:

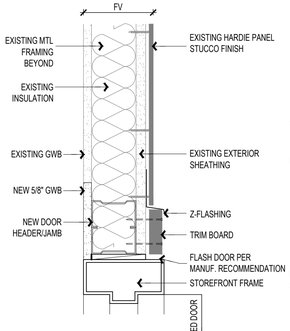
1. GENERAL CONTRACTOR TO CONFIRM EXISTING DOOR SIZE, CONDITION & HARDWARE. COORDINATE ANY DISCREPANCIES WITH DOOR SCHEDULE WITH ARCHITECT
2. ALL DOORS TO BE PREPPED FOR CYLINDRICAL LOCKS
3. SEAL, PATCH & PAINT DOOR WHERE TRIM REMOVE DOES NOT COVER

DOOR SCHEDULE - RELOCATED AND NEW DOORS

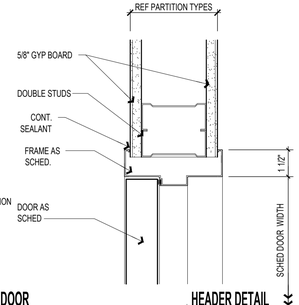
⚠	MARK	DOOR									NEW FRAME							HARDWARE	DETAIL REFERENCE			NOTES
				SIZE		MATERIAL					MATERIAL											
	NEW DOOR NUMBER	RATING - LABEL	TYPE	WIDTH	HEIGHT	THICKNESS	1 WOOD	2 HOLLOW METAL	3 ALUMINUM & GLASS	ST = STAIN TO MATCH EXIST P = PAINTED	TYPE	1 HOLLOW METAL	2 STEEL	3 ALUMINUM	4 WOOD	G = GLASS BLACK ANODIZED GA = CLEAR ANODIZED P = PAINTED PF = PAINT	FINISH	NOTE: ALL LOCKSETS TO HAVE 7 PIN INTER-CHANGEABLE CORE HARDWARE SETS	HEAD	JAMB	THRESHOLD	NOTE: DOORS IN THIS COLUMN ARE LABELED WITH ORIGINAL DOOR #'S. SHOWN ON A0.01 & A0.02
	103		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	D103 to be used
	111		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	DC101 to be used
	E123		DT1	3' - 0"	7' - 0"	1 3/4"			3		FT2			3			BA	3.02	12/A5.01	12/A5.01	13/A5.01	
	127		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.01	11/A5.01	11/A5.01	6/A5.01	D104 to be used
	128		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	D112 to be used
	135		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.03	11/A5.01	11/A5.01	6/A5.01	D136 to be used
	137		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.01	11/A5.01	11/A5.01	6/A5.01	D127 to be used
	142		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	D135 to be used
	143		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	D143 to be used
	144		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	D142 to be used
	145		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.02	11/A5.01	11/A5.01	6/A5.01	DC102 to be used
	155		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.01	11/A5.01	11/A5.01	6/A5.01	D235 to be used
	157		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	D144 to be used
	163		DT2	3' - 0"	6' - 8"	1 3/4"	1			ST	FT1		2				PF	3.01	11/A5.01	11/A5.01	6/A5.01	
	C101		DT2	3' - 0"	6' - 8"	1 3/4"	1			ST	FT1		2				PF	8.01	11/A5.01	11/A5.01	6/A5.01	
	C102		DT2	3' - 0"	6' - 8"	1 3/4"	1			ST	FT1		2				PF	8.02	11/A5.01	11/A5.01	6/A5.01	
	C103		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	DC103 to be used
	225		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	D228 to be used
	227		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	D203 to be used
	228		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	D229A to be used
	230		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	D229 to be used
	232		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.04	11/A5.01	11/A5.01	6/A5.01	D204 to be used
	233		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	D224 to be used
	234		DT2	3' - 0"	6' - 8"	1 3/4"	1			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	
	239		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.02	11/A5.01	11/A5.01	6/A5.01	D128 to be used
	C201		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.07	11/A5.01	11/A5.01	6/A5.01	D238 to be used
	C202		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.06	11/A5.01	11/A5.01	6/A5.01	D234 to be used
	C203		-	3' - 0"	6' - 8"	1 3/4"	-			ST	FT1		2				PF	0.06	11/A5.01	11/A5.01	6/A5.01	D233 to be used
	ST1A	45 MIN	DT3	3' - 0"	7' - 0"	1 3/4"		2		P	FT3	1					PT	6.01	11/A5.01	11/A5.01	6/A5.01	Fire-rated
	ST1B	45 MIN	DT3	3' - 0"	7' - 0"	1 3/4"		2		P	FT3	1					PT	0.08	11/A5.01	11/A5.01	6/A5.01	Fire-rated
	ST2A	45 MIN	DT3	3' - 0"	7' - 0"	1 3/4"		2		P	FT3	1					PT	0.09	11/A5.01	11/A5.01	6/A5.01	Fire-rated
	ST2C	45 MIN	DT3	3' - 0"	7' - 0"	1 3/4"		2		P	FT3	1					PT	0.08	11/A5.01	11/A5.01	6/A5.01	Fire-rated



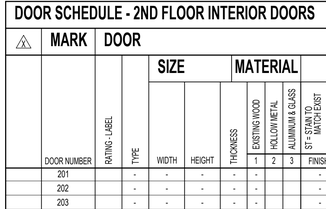
STOREFRONT DOOR THRESHOLD 13
SCALE: 3"= 1'-0"



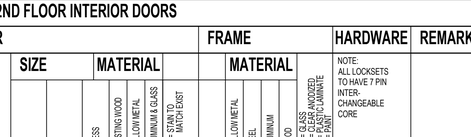
EXTERIOR DOOR HEADER/JAMB SIM 12
SCALE: 3"= 1'-0"



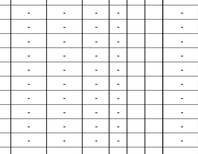
HEADER DETAIL JAMB SIM 11
SCALE: 3"= 1'-0"



EXTERIOR WINDOW HEADER/JAMB SIM 10
SCALE: 3"= 1'-0"

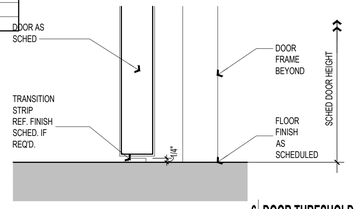


SLIDING WINDOW SILL TYP. 8
SCALE: 3"= 1'-0"

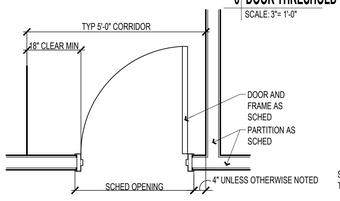


WINDOW HEADER/ JAMB SIM 7
SCALE: 3"= 1'-0"

SLIDING WINDOW HEADER TYP. 9
SCALE: 3"= 1'-0"

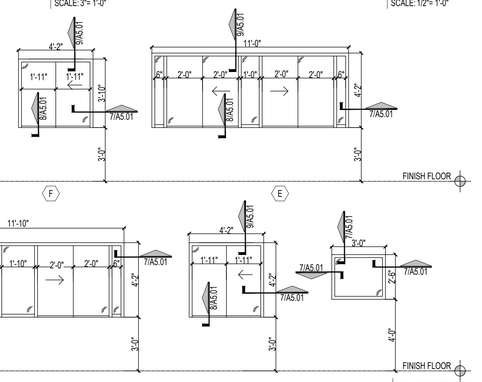


6 DOOR THRESHOLD
SCALE: 3"= 1'-0"

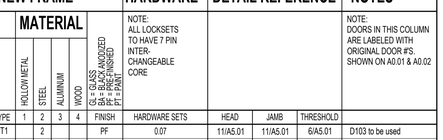


NOTES:
1. TYPICAL DOOR LOCATION UNLESS OTHERWISE NOTED.

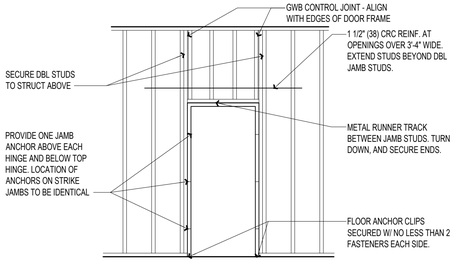
TYPICAL DOOR LOCATION 5
SCALE: 1/2"= 1'-0"



WINDOW TYPES 4
SCALE: 1/4"= 1'-0"

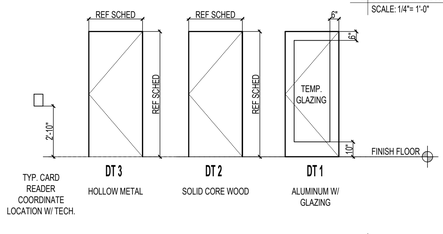


FRAME TYPES 3
SCALE: 1/4"= 1'-0"



NOTES:
1. PROVIDE FRAME ANCHORS AT HEAD

TYPICAL FRAMING DETAIL 2
SCALE: 1/4"= 1'-0"



DOOR TYPES 1
SCALE: 1/4"= 1'-0"

HADDON+COWAN ARCHITECTS
2301 E. Riverside Drive, Bldg A, Suite 80
Austin, TX 78741 | haddoncowan.com

In Association w/

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7800 Shoal Creek Blvd. | Suite 100-W
Austin, Texas 78757
512.637.4393 p 512.637.4396 f
TBPE Firm Registration No. 2234

COMBS Consulting Group
10 years technology & security
SAN ANTONIO
8200 IH-10 West, Ste. 103
San Antonio, Texas 78230
Phone : 210-698-7887
AUSTIN
901 S. Mopac
Bldg. 3, Ste. 400
Austin, Texas 78746
Phone : 512-433-2696

Edwards + Mulhausen INTERIOR DESIGN
2301 E. Riverside Drive, Austin, Texas 78741
Building A, Suite 80
Ph. 512.291.6657

In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	Varies
Drawn	
Checked	
Approved	

TITLE

Door Schedule & Details

SHEET

A5.01

2/22/2017 8:32 AM

ROOM FINISH LEGEND

COUNTERS AND MILLWORK

MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
PLASTIC LAMINATE	PL-1	WILSONART	4877-38	GREY MESH		4'X8' SHEET	COUNTERTOPS AND BACKSPLASH U.N.O.
PLASTIC LAMINATE	PL-2	WILSONART	4941K-18	COSMIC STRANDZ		4'X8' SHEET	VERTICAL SURFACES
PLASTIC LAMINATE	PL-3	WILSONART	7975K-12	RAW CHESTNUT		4'X8' SHEET	VERTICAL SURFACES

FLOORING

MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
CARPET TILE	CPT-1	TANDUS CENTIVA / SYLLABUS	10965	POWER GRID 76504		24X24	INSTALLATION
CARPET TILE	CPT-2	TANDUS CENTIVA / OVERLAY ACCENT II	02977	CLEAN COAL 44030		24X24	INSTALLATION
VINYL COMPOSITION TILE	VCT-1	ARMSTRONG EXCELON	-	FIELD GRAY 51927		-	FIELD COLOR
VINYL COMPOSITION TILE	VCT-2	ARMSTRONG EXCELON	-	COOL WHITE 51899			ACCENT COLOR
CERAMIC TILE	CT-1	DALTILE KEYSTONES		WATERFALL D169		2X2	RESTROOM FLOOR TILE
RUBBER TILE	RT-1	JOHNSONITE SOLID COLOR RUBBER FLOORING		20 CHARCOAL	BAMBOO	24X24	STAIRWELL LANDING

BASE

MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
RUBBER WALL BASE	RB-1	JOHNSONITE / TRADITIONAL WALL BASE	DC-121-4	20 CHARCOAL WG		4" HIGH COIL LENGTH WITH TOE	
CERAMIC WALL BASE	CWB-1	DALTILE WALL SEMI-GLOSS COVE BASE	FLAT TOP COVE A-301	MATTE ARCTIC WHITE	MATTE	4-1/4" X 4-1/4"	
CERAMIC WALL BASE	CWB-2	DALTILE WALL SEMI-GLOSS COVE BASE	SANITARY TOP COVE S-3419T	MATTE ARCTIC WHITE	MATTE	4-1/4" X 6"	

WALLS

MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
INTERIOR PAINT LATEX	PT-1	SHERWIN WILLIAMS - LATEX	SW7671	ON THE ROCKS	EGGSHELL		FIELD COLOR
INTERIOR PAINT LATEX	PT-2	SHERWIN WILLIAMS - LATEX	SW6710	MELANGE GREEN	EGGSHELL		ACCENT COLOR
INTERIOR PAINT LATEX	PT-3	SHERWIN WILLIAMS - LATEX	SW6493	EBBTIDE	EGGSHELL		ACCENT COLOR
INTERIOR PAINT LATEX	PT-4	SHERWIN WILLIAMS - LATEX	SW6669	YARROW	EGGSHELL		ACCENT COLOR
CERAMIC WALL TILE	CT-2	DALTILE WALL SEMI-GLOSS		MATTE ARCTIC WHITE	MATTE	4-1/4" X 4-1/4"	FIELD COLOR
CERAMIC WALL TILE	CT-3	DALTILE WALL SEMI-GLOSS		WATERFALL 0169	SEMI-GLOSS	4-1/4" X 4-1/4"	ACCENT COLOR
WALL PROTECTION	WP-1	CS ACROVYN WALL PROTECTION		262 DRIFTWOOD	SUEDE		REPLACING EXISTING WALL PROTECTION 48" AFF

CEILING

MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
ACOUSTIC CEILING TILE	ACT-1	ARMSTRONG/ DUNE	1774	WHITE	PROFILE: ANGLED TEGULAR	24"X24"X5/8"	SUSPENDED CEILING GRID: ARMSTRONG PREDLUDE XL EXPOSED TEE SYSTEM, COLOR WHITE
INTERIOR PAINT LATEX	PT-5	SHERWIN WILLIAMS - INTERIOR LATEX	SW7005	PURE WHITE	FLAT FINISH/EPOXY AT CLEAN AREAS		PAINT AT GYP. CEILING - U.N.O.

MISC

MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
PHENOLIC PARTITIONS	PH-1	SCRANTON PRODUCTS HINY HIDERS		NICKEL	ROTARY BRUSHED		TOILET PARTITIONS
TRANSITION STRIP	TR-1	SCHLUTER SYSTEMS RENO-U	EU80	BRUSHED STAINLESS STEEL	-	5/16"	VCT TO CERAMIC TILE
TRANSITION STRIP	TR-2	JOHNSONITE SLIM LINE TRANSITION	SLT-121-H	20 CHARCOAL WG	-		VCT TO CARPET
TRANSITION STRIP	TR-3	JOHNSONITE SLIM LINE TRANSITION	SLT-121-J	20 CHARCOAL WG	-		VCT TO CONCRETE
TRANSITION STRIP	TR-4	JOHNSONITE STAIR NOSING	DTN-80	20 CHARCOAL			VCT TO STAIR TREADS
PLASTIC LAMINATE PARTITIONS	PL-4	WILSONART	4878-38	PEWTER MESH	-		TOILET PARTITIONS
STAIR TREADS	ST-1	JOHNSONITE VISUALLY IMPAIRED RUBBER STAIR TREAD WITH INTEGRATED	VIBMTRS	20 CHARCOAL	BAMBOO		STAIR TREAD WITH SOLID COLOR RUBBER INSERT 55 SILVER GREY
WINDOW BLINDS	WB-1	BALI HORIZONTAL MINI BLINDS		BRUSHED ALUMINUM 121		1"	LOCATED ON ALL EXTERIOR WINDOWS

2 FINISH LEGEND
SCALE: NTS

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOORS: FLOOR FINISH	FLOORS: BASE	WALLS: NORTH	WALLS: EAST	WALLS: SOUTH	WALLS: WEST	CEILING: FINISH	MILLWORK: MLWK	MILLWORK: CTR TOPS	NOTES
101	OFFICE 6 (NAVIGATOR)	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
102	OFFICE 5	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
103	OFFICE 4	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
104	OFFICE 10 (DIRECTOR)	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
105	OFFICE 3	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
106	OFFICE 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
107	OFFICE 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
108	RF PLAN REVIEW 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
109	RETAIL FOOD LEAD	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
110	MEETING 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
111	MEETING 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
112	WAITING AREA	VCT-1 / VCT-2	RB-1	PT-1	PT-3	PT-1	PT-1	ACT-1			
113	2 CSRs	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
114	FILE RM COPIER 2 CSRs	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
115	DIRECTOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
116	ELEC. ROOM	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
117	OSSF LEAD	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
118	FIELD 1 & 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
119	PLAN REVIEW 2 & 3	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
120	PLAN REVIEW 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
121	IMM AND EHS EQUP.	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
122	OFFICE	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
123	TB ENTRANCE	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1		PL-1	
124	TB INTAKE	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1		PL-1	
125	TB OFFICE	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
126	TB STORAGE	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
127	TB OFFICE 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
128	OFFICE 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
129	ASST. DIRECTOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			

ROOM FINISH SCHEDULE

ROOM NUMBER	ROOM NAME	FLOORS: FLOOR FINISH	FLOORS: BASE	WALLS: NORTH	WALLS: EAST	WALLS: SOUTH	WALLS: WEST	CEILING: FINISH	MILLWORK: MLWK	MILLWORK: CTR TOPS	NOTES
130	DIRECTOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
131	MD/HEALTH AUTHORITY	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
132	NURSE/NP 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
133	NURSE 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
134	NURSE 3	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
135	NURSING ROOM	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
136	PLAYROOM	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-4	ACT-1			
137	1-2 CSRs SUPPLIES COPIER	VCT-1	RB-1	PT-1	PT-3	PT-1	PT-1	ACT-1	PL-2	PL-1	
138	OFFICE 7	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
139	OFFICE 8	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
140	OFFICE 9	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
141	FLEX/MEETING	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
142	RF PLAN REVIEW 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
143	RF FIELD CUBICLES	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
144	RF PLAN REVIEW 3	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
145	STG.	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
146	WAITING AREA	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-3	PT-1	ACT-1			
147	MEETING ROOM	CPT-1 / CPT-2	RB-1	PT-4	PT-1	PT-1	PT-1	ACT-1			
148	BREAK ROOM	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	PL-3	PL-1	
149	LAB	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	PL-2	PL-1	
150	JANITOR	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
151	TOILET ROOM	CT-1	CWB-1 / -2	PT-1	CT-2 / -3	CT-2 / -3	PT-1	ACT-1			
152	IT	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
153	MECHANICAL	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
154	2 CSRs	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
155	CHECKOUT	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
156	EXAM 4	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
157	EXAM 3	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
158	EXAM 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
159	PROC. ROOM	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
160	EXAM 1	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
161	ISOLATION	VCT-1 / VCT-2	RB-1	PT-2	PT-1	PT-1	PT-1	ACT-1	PL-2	PL-1	
162	ANTEROOM	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
163	TB OFFICE 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
164	OFFICE 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
165	OFFICE 3	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
166	OFFICE 4	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
167	WOMEN'S TLT RM	EXISTING	EXISTING	PT-1	PT-1 / WP-1	PT-1 / WP-1	PT-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
168	MEN'S TLT RM	EXISTING	EXISTING	PT-1 / WP-1	PT-1 / WP-1	PT-1	PT-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
169	MEN'S TLT RM	EXISTING	EXISTING	PT-1	PT-1	EXISTING	PT-1 / WP-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
170	WOMEN'S TLT RM	EXISTING	EXISTING	EXISTING	PT-1	PT-1	PT-1 / WP-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
171	WOMEN'S TLT RM	EXISTING	EXISTING	PT-1	PT-1	PT-1 / WP-1	PT-1 / WP-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
172	MEN'S TLT RM	EXISTING	EXISTING	PT-1 / WP-1	PT-1 / WP-1	PT-1	PT-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
173	VESTIBULE	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
174	LOBBY	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
201	EXECUTIVE DIRECTOR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
202	STORAGE	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
203	BREAK ROOM	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	PL-3	PL-1	
204	DIRECTOR ADMIN/FINANCE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
205	ADMIN/FINANCE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
206	ADMIN/FINANCE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
207	ADMIN/FINANCE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
208	EPR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
209	STORAGE	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
210	EPR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
211	COPIER	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-2	PT-1	ACT-1			
212	TVFC	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
213	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
214	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
215	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
216	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
217	DCP	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1			
218	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
219	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
220	HR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
221	HR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
222	HR	CPT-2	RB-1	PT-1	PT-1	PT-3	PT-1	ACT-1			
223	HR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
224	DEPUTY DIRECTOR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
225	RECEPTION / ADMIN	VCT-1 / VCT-2	RB-1	PT-1	PT-3	PT-1	PT-1	ACT-1			
226	WIC	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
227	MARCOM	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
228	MARCOM	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
229	CONFERENCE ROOM	CPT-1/ CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
230	PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
231	PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
232	PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
233	PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
234	PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
235	MARCOM	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
236	RECORD STORAGE	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
237	OFFICE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
238	MOSQ.	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
239	STORAGE	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
240	CLERICAL	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-2	PT-1	ACT-1			
241	CONFERENCE ROOM	CPT-1 / CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
242	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
243	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
244	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
245	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
246	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
247	MEN'S TLT RM	EXISTING	EXISTING	PT-1	PT-1 / WP-1	PT-1 / WP-1	PT-1	PT-5	PL-4		TOILETS PARTITION TO BE PL-4
248	WOMEN'S TLT RM	EXISTING	EXISTING	PT-1 / WP-1	PT-1 / WP-1	PT-1	PT-1	PT-5	PL-4		TOILETS PARTITION TO BE PL-4
249	TVFC	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
C101	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
C102	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-3	PT-1	ACT-1			
C103	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1			
C104	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
C201	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
C202	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
C203	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1 / PT-3	PT-1 / PT-3	PT-1	ACT-1			
ST1	STAIRS	VCT-2	RB-1	PT-4	PT-1	PT-1	PT-1	ACT-1			
ST2	STAIRS	VCT-2	RB-1	PT-1	PT-1	PT-4	PT-1	ACT-1			

1 FINISH SCHEDULE
SCALE: NTS

HADDON + COWAN
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In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

REGISTERED ARCHITECT — STATE OF TEXAS

1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	&

TITLE

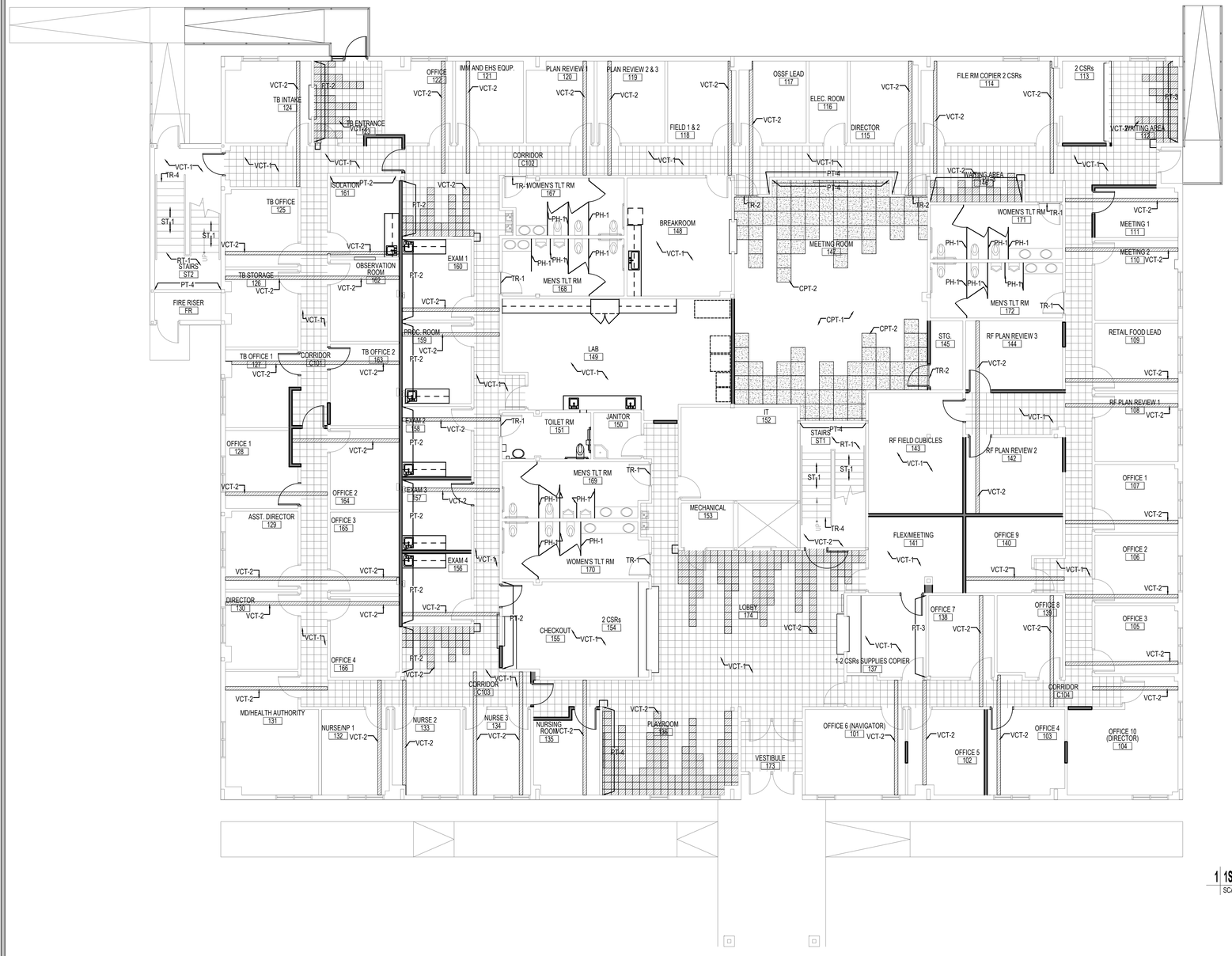
Room Finish Schedule & Legend

SHEET

A7.01

GENERAL NOTES:

1. INSTALL ALL FINISHES PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS
2. FINISHES ON SCHEDULE TO BE LOCATED PER PLAN NORTH, NOT DIRECTION NORTH
3. ALL WINDOWS TO THE EXTERIOR TO HAVE BLINDS (WB-1)



1 **1ST FLOOR FINISH PLAN**
SCALE: 1/8"= 1'-0"

HADDON+COWAN ARCHITECTS
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In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rounds, Texas

1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	

TITLE

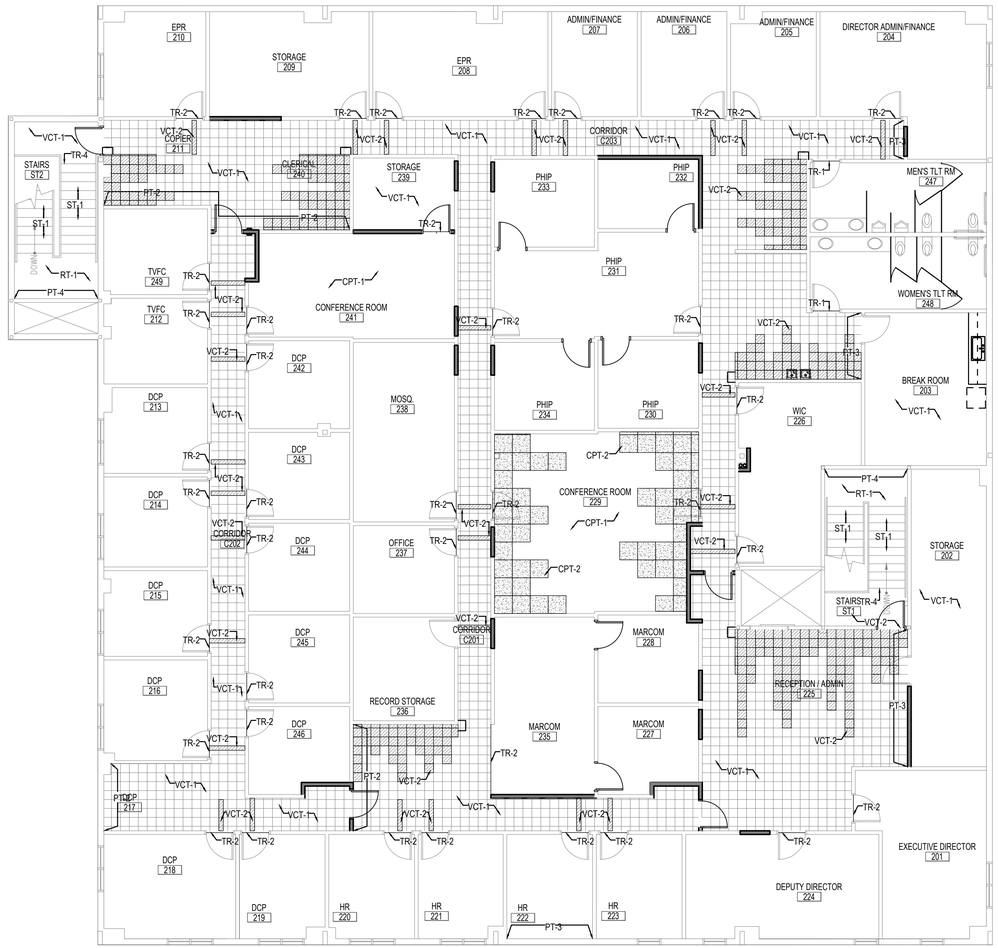
1st Floor Finish Plan

SHEET

A7.02

GENERAL NOTES:

1. INSTALL ALL FINISHES PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS
2. FINISHES ON SCHEDULE TO BE LOCATED PER PLAN NORTH, NOT DIRECTION NORTH
3. ALL WINDOWS TO THE EXTERIOR TO HAVE BLINDS (WB-1)



1 2ND FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"

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In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

REGISTERED ARCHITECT STATE OF TEXAS

1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	

TITLE

2nd Floor Finish Plan

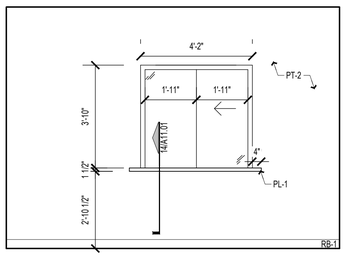
SHEET

A7.03

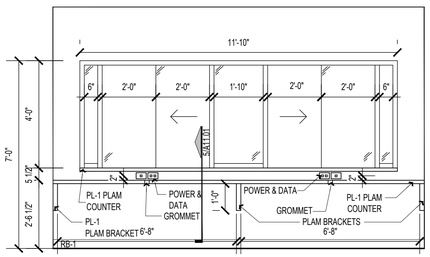
Williamson County, Texas

TOILET ROOM ACCESSORIES:

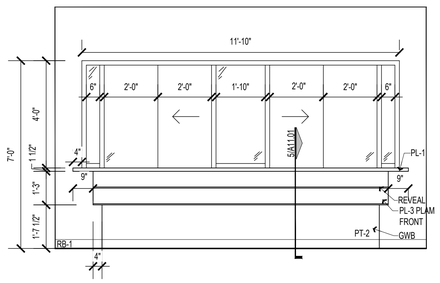
- (A) 42" GRAB BAR
- (B) 36" GRAB BAR
- (C) TOILET PAPER DISPENSER, SAN JAMAR R3590TBK
- (D) TOILET SEAT COVER DISPENSER, HEALTH GARDS HALF-FOLD
- (E) SANITARY NAPKIN DISPOSAL, 1ECK9
- (F) PAPER TOWEL DISPENSER, SAN JAMAR T17909TBK
- (G) SOAP DISPENSER, SAN JAMAR S890TBK
- (H) 24" x 36" GLASS MIRROR
- (K) FLUSH VALVE
- (L) ADA PIPE WRAP



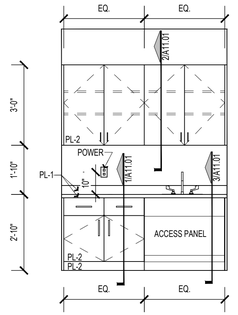
RM 123/124/C103
18 COUNTER
SCALE: 3/8"= 1'-0"



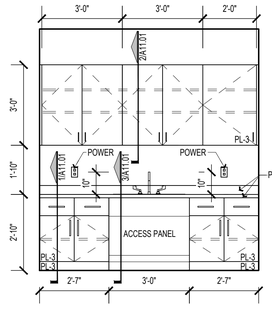
RM 154
13 RECEPTION DESK
SCALE: 3/8"= 1'-0"



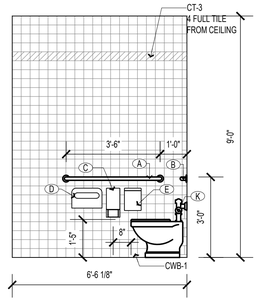
RM 174 LOBBY
10 COUNTER 1
SCALE: 3/8"= 1'-0"



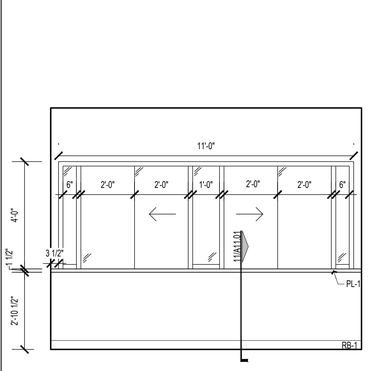
STANDARD EXAM
8 MILLWORK TYP.
SCALE: 3/8"= 1'-0"

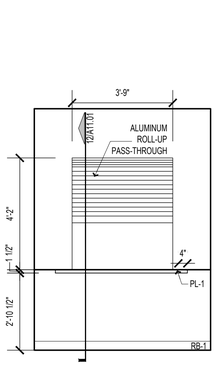


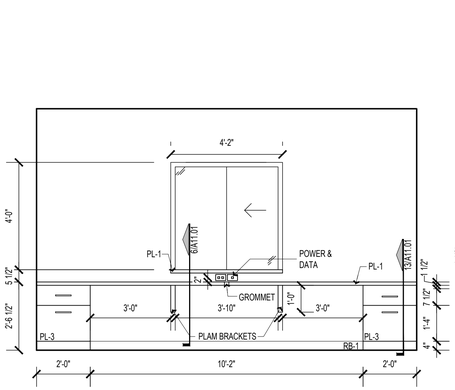
RM 203
6 BREAKROOM
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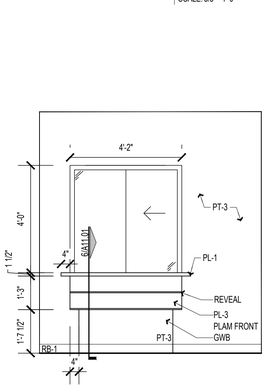


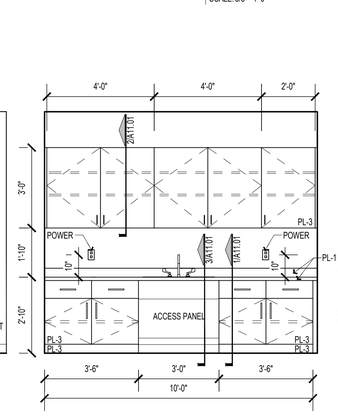
TLT RM
3 151 C
SCALE: 3/8"= 1'-0"

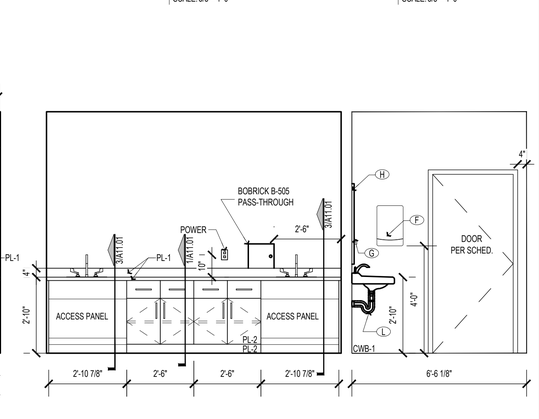












RM 112
17 COUNTER
SCALE: 3/8"= 1'-0"

RM 147/148
15 COUNTER
SCALE: 3/8"= 1'-0"

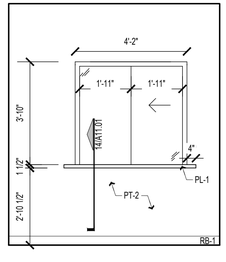
RM 137
12 RECEPTION DESK
SCALE: 3/8"= 1'-0"

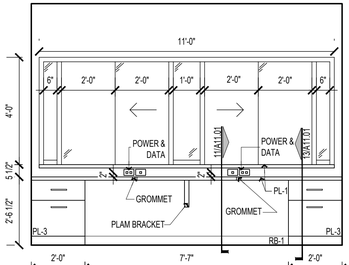
RM 174 LOBBY
9 COUNTER 2
SCALE: 3/8"= 1'-0"

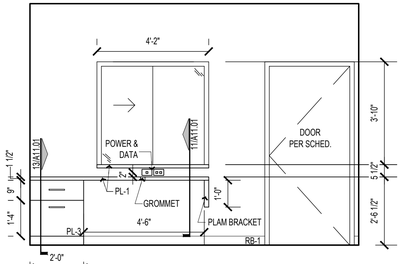
RM 148
7 BREAKROOM
SCALE: 3/8"= 1'-0"

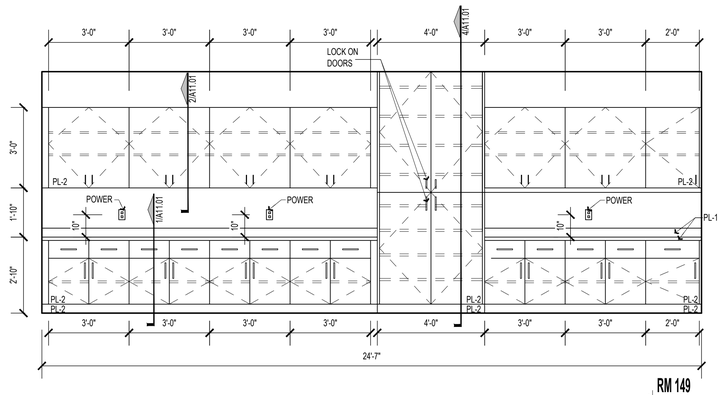
RM 149
5 LAB A
SCALE: 3/8"= 1'-0"

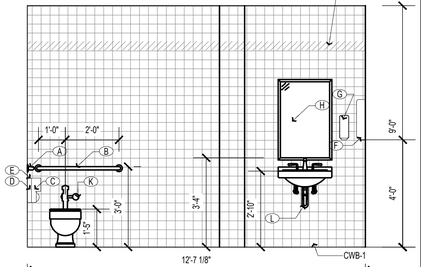
TLT RM
2 151 B
SCALE: 3/8"= 1'-0"











RM 123/124
16 RECEPTION DESK
SCALE: 3/8"= 1'-0"

RM 113
14 RECEPTION DESK
SCALE: 3/8"= 1'-0"

RM 155
11 RECEPTION DESK
SCALE: 3/8"= 1'-0"

RM 149
4 LAB B
SCALE: 3/8"= 1'-0"

TLT RM
1 151 A
SCALE: 3/8"= 1'-0"

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TBPE Firm Registration No. 2234

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AUSTIN
901 S. Mopac
Bldg. 3, Ste. 400
Austin, Texas 78746
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In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

REGISTERED ARCHITECT PERRY L. HADDON 24064 STATE OF TEXAS
1/16/2017

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	1/16/2017

SHEET INFORMATION

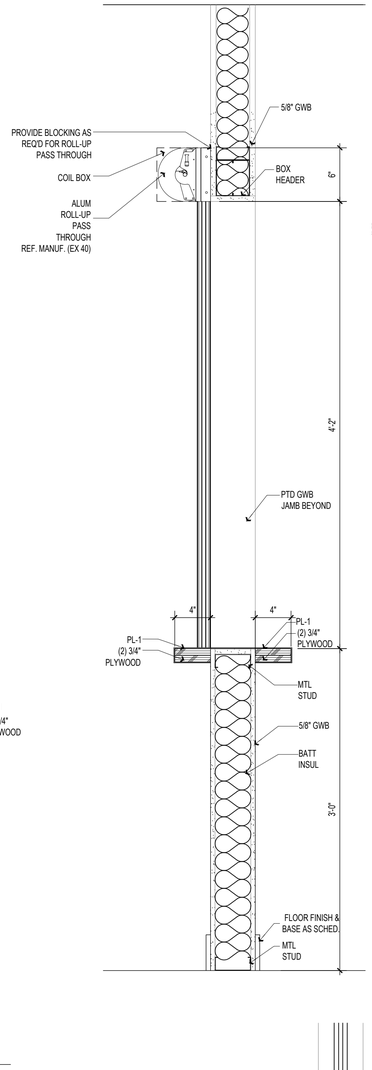
Date	January 16, 2017
Job Number	16-1010
Scale	3/8"=1'-0"
Drawn	
Checked	
Approved	

TITLE

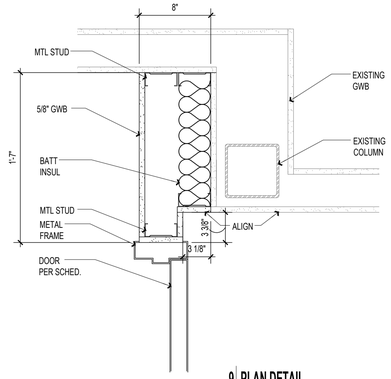
Interior Elevations

SHEET

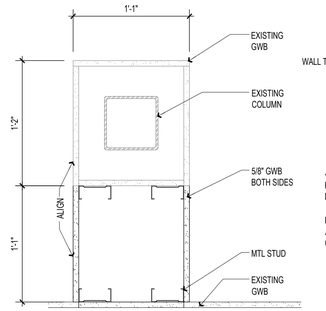
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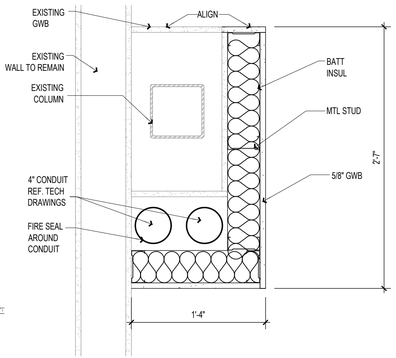
RM 148
12 COUNTER
SCALE: 1 1/2"= 1'-0"



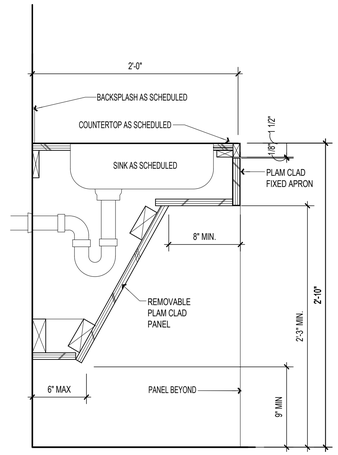
9 PLAN DETAIL
SCALE: 1 1/2"= 1'-0"



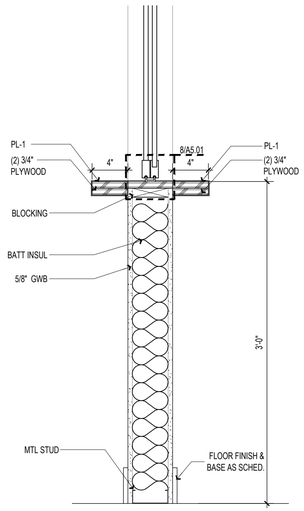
8 PLAN DETAIL
SCALE: 1 1/2"= 1'-0"



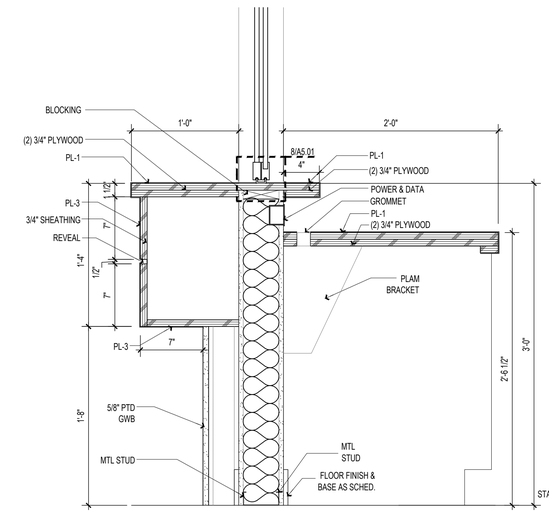
7 PLAN DETAIL
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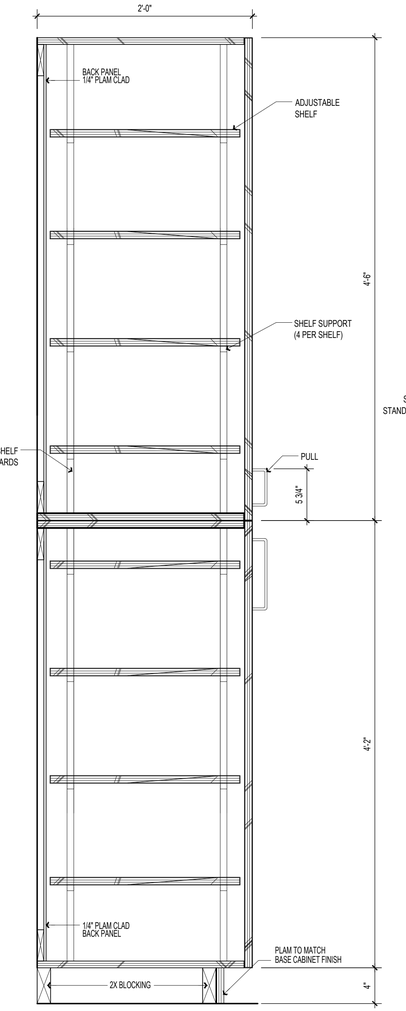
3 ADA SINK
SCALE: 1 1/2"= 1'-0"



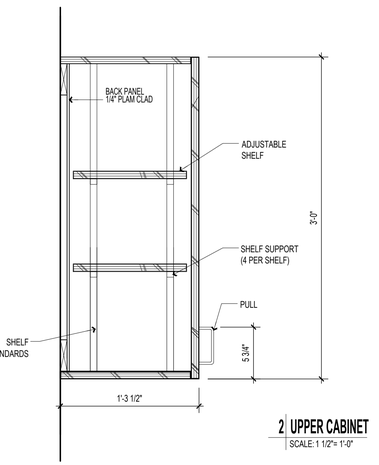
RM 123
14 COUNTER
SCALE: 1 1/2"= 1'-0"



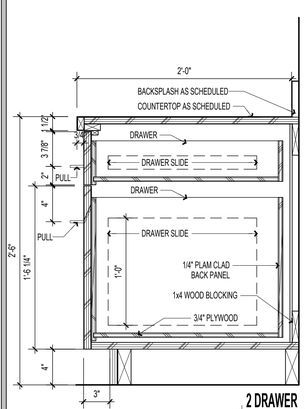
RM 137
6 COUNTER
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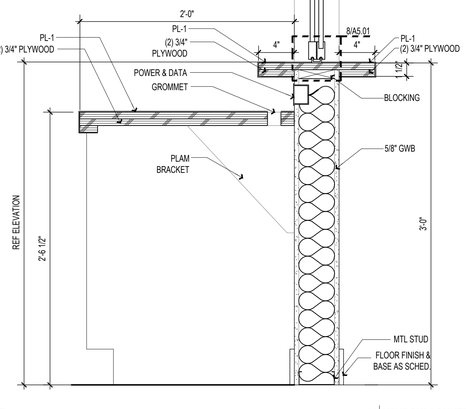
4 LAB CABINET
SCALE: 1 1/2"= 1'-0"



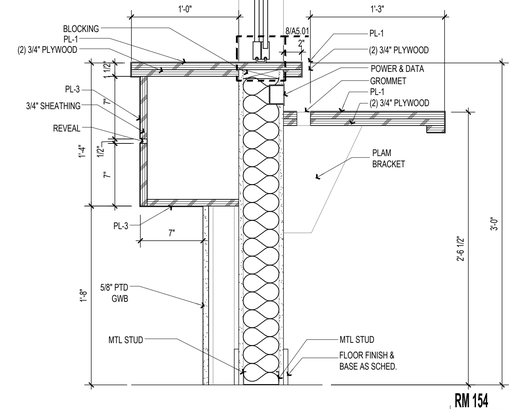
2 UPPER CABINET
SCALE: 1 1/2"= 1'-0"



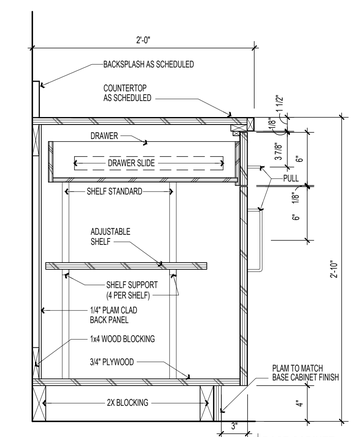
2 DRAWER
13 BASE CABINET
SCALE: 1 1/2"= 1'-0"



11 WINDOW COUNTER
SCALE: 1 1/2"= 1'-0"



RM 154
5 COUNTER
SCALE: 1 1/2"= 1'-0"



1 BASE CABINET
SCALE: 1 1/2"= 1'-0"

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Building A, Suite 80
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In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

REGISTERED ARCHITECT
STATE OF TEXAS
1/16/2017

REVISIONS

No.	Issue	Date
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SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	1 1/2"=1'-0"
Drawn	
Checked	
Approved	

TITLE

Millwork Sections & Plan Details

SHEET

A11.01

TECHNOLOGY/SECURITY SYMBOL LEGEND

VOICE SYMBOLS

▼	SINGLE VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS NOTED OTHERWISE.
▼X	VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS NOTED OTHERWISE. X-NUMBER OF CABLE TERMINATIONS PER LOCATION AS INDICATED.
▼	SINGLE VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +6-INCHES ABOVE COUNTER OR SPLASH UNLESS NOTED OTHERWISE.
▼X	VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +6-INCHES ABOVE COUNTER OR SPLASH UNLESS NOTED OTHERWISE. X-NUMBER OF CABLE TERMINATIONS PER LOCATION AS INDICATED.
▼	POWER/COMMUNICATIONS POLE WITH A SINGLE VOICE TERMINATION PER LOCATION, CABLE TYPE AS SPECIFIED.
▼X	POWER/COMMUNICATIONS POLE WITH X-NUMBER OF VOICE TERMINATIONS PER LOCATION, CABLE TYPE AS SPECIFIED.
▽	SINGLE VOICE OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED.
X ▽	VOICE OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED WITH X-NUMBER OF VOICE TERMINATIONS PER LOCATION.
W ▼	SINGLE VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +52-INCHES A.F.F. UNLESS NOTED OTHERWISE.
P ▼	SINGLE PUBLIC TELEPHONE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED HEIGHT AS SPECIFIED.

DATA SYMBOLS

▽	SINGLE DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS NOTED OTHERWISE.
X ▽	DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS NOTED OTHERWISE. X-NUMBER OF CABLE TERMINATIONS PER LOCATION AS INDICATED.
▽	SINGLE DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +2-INCHES ABOVE COUNTER OR SPLASH UNLESS NOTED OTHERWISE.
X ▽	DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +2-INCHES ABOVE COUNTER OR SPLASH UNLESS NOTED OTHERWISE. X-NUMBER OF CABLE TERMINATIONS PER LOCATION AS INDICATED.
▽	POWER/COMMUNICATIONS POLE WITH A SINGLE DATA TERMINATION PER LOCATION, CABLE TYPE AS SPECIFIED.
X ▽	POWER/COMMUNICATIONS POLE WITH X-NUMBER OF DATA TERMINATIONS PER LOCATION, CABLE TYPE AS SPECIFIED.
▽	SINGLE DATA OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED.
X ▽	DATA OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED WITH X-NUMBER OF DATA TERMINATIONS PER LOCATION.
	SINGLE CEILING DATA OUTLET, CABLE TYPE AS SPECIFIED.
X	CEILING DATA OUTLET, CABLE TYPE AS SPECIFIED WITH X-NUMBER OF CABLE TERMINATIONS PER LOCATION.
▽	EXISTING DATA OUTLET, CABLE TO BE DEMOLISHED, CONDUIT AND BACK BOX TO REMAIN AND BE COVERED WITH CONTRACTOR PROVIDED BLANK PLATE, UNLESS OTHERWISE NOTED.

ROUGH-IN & MISC. SYMBOLS

▽	ROUGH-IN LOCATION, INFRASTRUCTURE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS NOTED OTHERWISE.
▽	ROUGH-IN LOCATION, INFRASTRUCTURE AS SPECIFIED, MOUNTED +6-INCHES ABOVE COUNTER OR SPLASH UNLESS NOTED OTHERWISE.
▽	ROUGH-IN LOCATION, INFRASTRUCTURE AS SPECIFIED, FLOOR MOUNTED.
WAP	WIRELESS ACCESS POINT. CABLING AND EQUIPMENT AS SPECIFIED.
EP	EMERGENCY PHONE. CABLING AND EQUIPMENT AS SPECIFIED.
M/M	MULTIMEDIA OUTLET. CABLING AND INSERTS AS SPECIFIED.

INTRUSION DETECTION SYMBOLS

AL	PROVIDE ALARM ANNUNCIATOR LIGHT MOUNTED 96" A.F.F.
AP	PROVIDE ANNUNCIATOR PANEL AS INDICATED IN BLOCK DIAGRAMS AND/OR DETAILS.
AV	PROVIDE AUDIO VISUAL ANNUNCIATOR MOUNTED 96" A.F.F.
GB	PROVIDE GLASS BREAK SENSOR MOUNTED TO CEILING.
GB	PROVIDE GLASS BREAK SENSOR WALL MOUNTED 96" A.F.F.
KP	PROVIDE PERSONAL IDENTIFICATION NUMBER KEYPAD MOUNTED 48" A.F.F.
M	PROVIDE SOUND DETECTION MICROPHONE MOUNTED TO CEILING.
MS	PROVIDE 360° MOTION SENSOR MOUNTED TO CEILING.
MD	PROVIDE MOTION SENSOR MOUNTED 96" A.F.F.
MD LR	PROVIDE LONG RANGE MOTION SENSOR MOUNTED 96" A.F.F.
ST	PROVIDE STROBE LIGHT SURFACE MOUNTED TO CEILING.
ST	PROVIDE STROBE LIGHT MOUNTED 96" A.F.F.
V	PROVIDE VIBRATION DETECTOR MOUNTED 96" A.F.F.

ACCESS CONTROL SYMBOLS

AD	INTERFACE TO AUTOMATIC DOOR CONTROL AND MONITORING.
DC	PROVIDE CONCEALED DOOR POSITION SWITCH FLUSH MOUNTED IN HEAD OF DOOR FRAME 6" FROM STRIKE SIDE OF FRAME.
DR	PROVIDE SINGLE DOOR RELEASE PUSHBUTTON MOUNTED IN KNEE SPACE OF DESK, TABLE OR COUNTER PROVIDE ARMORED CABLE FROM PUSHBUTTON TO JUNCTION BOX.
DR1	PROVIDE MULTIPLE DOOR RELEASE UNIT, AS INDICATED IN DETAILS, MOUNTED IN KNEE SPACE OF DESK, TABLE OR COUNTER. PROVIDE ARMORED CABLE FROM PUSHBUTTON TO JUNCTION BOX.
EI	INTERFACE TO EXIT DEVICE WITH ELECTRIC LATCH RETRACTION AND POWER TRANSFER.
EL	INTERFACE TO ELEVATOR CONTROL/MONITORING.
FA	INTERFACE TO FIRE ALARM SYSTEM.
L1	INTERFACE TO 24VDC ELECTROMECHANICAL MORTISE LOCKSET AND POWER TRANSFER HINGE.
L2	INTERFACE TO 24VDC ELECTROMECHANICAL MORTISE LOCKSET WITH INTEGRAL DOOR POSITION SWITCH.
M1	INTERFACE TO 24VDC ELECTROMAGNETIC LOCK.
M2	INTERFACE TO 24VDC ELECTROMAGNETIC LOCK WITH INTEGRAL DOOR POSITION SWITCH.
MH	INTERFACE TO 24VDC MAGNETIC DOOR HOLD-OPEN.
CR	PROVIDE CARD READER MOUNTED 42" A.F.F.
FR	PROVIDE ROUGH-IN FOR FUTURE CARD READER MOUNTED 42" A.F.F.

ACCESS CONTROL SYMBOLS

REX	REQUEST-TO-EXIT IS INTEGRAL WITH ELECTRIFIED LOCKING HARDWARE.
ES	INTERFACE TO 24VDC FAIL SECURE ELECTRIC STRIKE.
SD	INTERFACE TO SLIDING DOOR CONTROL/MONITORING.
SR	SECURITY SYSTEM RISER, DATA GATHERING PANEL AND LOW VOLTAGE POWER SUPPLY DISTRIBUTION LOCATION.
VI	PROVIDE VIDEO INTERCOM SUBSTATION MOUNTED 54" A.F.F.
VM	PROVIDE DESKTOP VIDEO INTERCOM MASTER STATION.
WD	PROVIDE WIRELESS DURESS BUTTON MOUNTED IN KNEE SPACE OF DESK, TABLE, OR COUNTER.
WR	PROVIDE WIRELESS DURESS BUTTON RECEIVER ABOVE SUSPENDED CEILING.
	PROVIDE PRE-WIRE AND BLANK COVER PLATE FOR FUTURE DEVICE.
ACMW	ACCESS CONTROL MONITORING CLIENT WORKSTATION.

ELECTRONIC SURVEILLANCE SYMBOLS

	FIXED SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.
	PAN, TILT & ZOOM SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.
	180° SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.
	360° SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.
VMMW	VIDEO MONITORING CLIENT WORKSTATION.

GENERAL SYMBOLS

# SHEET DRAWING TITLE SCALE: SCALE	DRAWING TITLE CALLOUT, # = DETAIL NUMBER.
# SHEET	DETAIL CALLOUT, # = DETAIL NUMBER.
# SHEET	SECTION CALLOUT, # = DETAIL NUMBER.
SHEET #	ELEVATION CALLOUT, # = DETAIL NUMBER.
#	KEYED NOTE.
#	REVISION TRIANGLE, # = REVISION NUMBER (PER SHEET).

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
AER	AERIAL
B	BURIED
CAT.3/5	CATEGORY 3/5
CATV	COMMUNITY ANTENNA TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CLT	CLOSET
CO	CENTRAL OFFICE
DEMARC	DEMARCATION POINT
DPDT	DOUBLE PULL DOUBLE THROW
EMT	ELECTRIC METALLIC TUBE
F.O.C.	FIBER OPTIC CABLE
GIP	GALVANIZED IRON PIPE
HE	PA/INTERCOM HEAD-END
IRC	INTERMEDIATE RIGID CONDUIT
ISP	INSIDE CABLE PLANT
IDF	INTERMEDIATE DISTRIBUTION FRAME
MDF	MAIN DISTRIBUTION FRAME
MH	MANHOLE
MM	MULTIMODE
OSP	OUTSIDE CABLE PLANT
PB	PULLBOX
PR	PAIR
PBX	PRIVATE BRANCH EXCHANGE
PVC	POLYVINYL CHLORIDE
SM	SINGLE MODE
SP	SERVICE PROVIDER
STP	SHIELDED TWISTED PAIR
TB	TERMINAL BLOCK
UTP	UNSHIELDED TWISTED PAIR

NOTES

1. CONTRACTOR SHALL REVIEW DRAWINGS AND SPECIFICATIONS THAT MAKE UP THE CONTRACT DOCUMENTS AND COMPLETE ALL WORK INCLUDED THEREIN.
2. SCALE OF TECHNOLOGY DRAWINGS IS PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER CABLE LENGTHS, SIZE OF PATHWAYS, DIMENSIONS, ETC.
3. TECHNOLOGY DRAWINGS SHALL BE USED TO COMPLEMENT THE WRITTEN SPECIFICATIONS.
4. DISCREPANCIES BETWEEN THE TECHNOLOGY DRAWINGS AND THE WRITTEN SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING PRIOR TO SUBMITTING A BID/PROPOSAL FOR THE WORK.
5. IN THE EVENT OF A DISCREPANCY BETWEEN THE TECHNOLOGY DRAWINGS AND SPECIFICATIONS THE GREATER QUANTITY AND COST SHALL BE FURNISHED.
6. VERIFY THE EXACT MOUNTING LOCATION OF ALL DEVICES WITH ARCHITECT.
7. THE MOUNTING HEIGHTS ARE TO THE CENTERLINE OF THE DEVICE UNLESS NOTED OTHERWISE.
8. SEE THE SECURITY CONDUIT DRAWINGS FOR SECURITY DEVICE BACKBOXES AND CONDUIT PROVIDED BY THE ELECTRICAL CONTRACTOR.
9. ALL MOUNTING SPECIFICS SHALL BE AS INDICATED IN THE LEGEND UNLESS OTHERWISE NOTED IN THE PLAN DRAWINGS. MOUNTING CONDITIONS IDENTIFIED ON THE PLANS SHALL TAKE PRECEDENCE OVER THE LEGEND DESCRIPTIONS.

INDEX OF DRAWINGS

T001	TECHNOLOGY SYMBOLS & LEGEND
T101	1ST FLOOR PLAN - TECHNOLOGY
T102	2ND FLOOR PLAN - TECHNOLOGY
T301	TECHNOLOGY DETAILS
T302	SECURITY DETAILS
T303	DIAGRAMS/SCHEDULES - SECURITY

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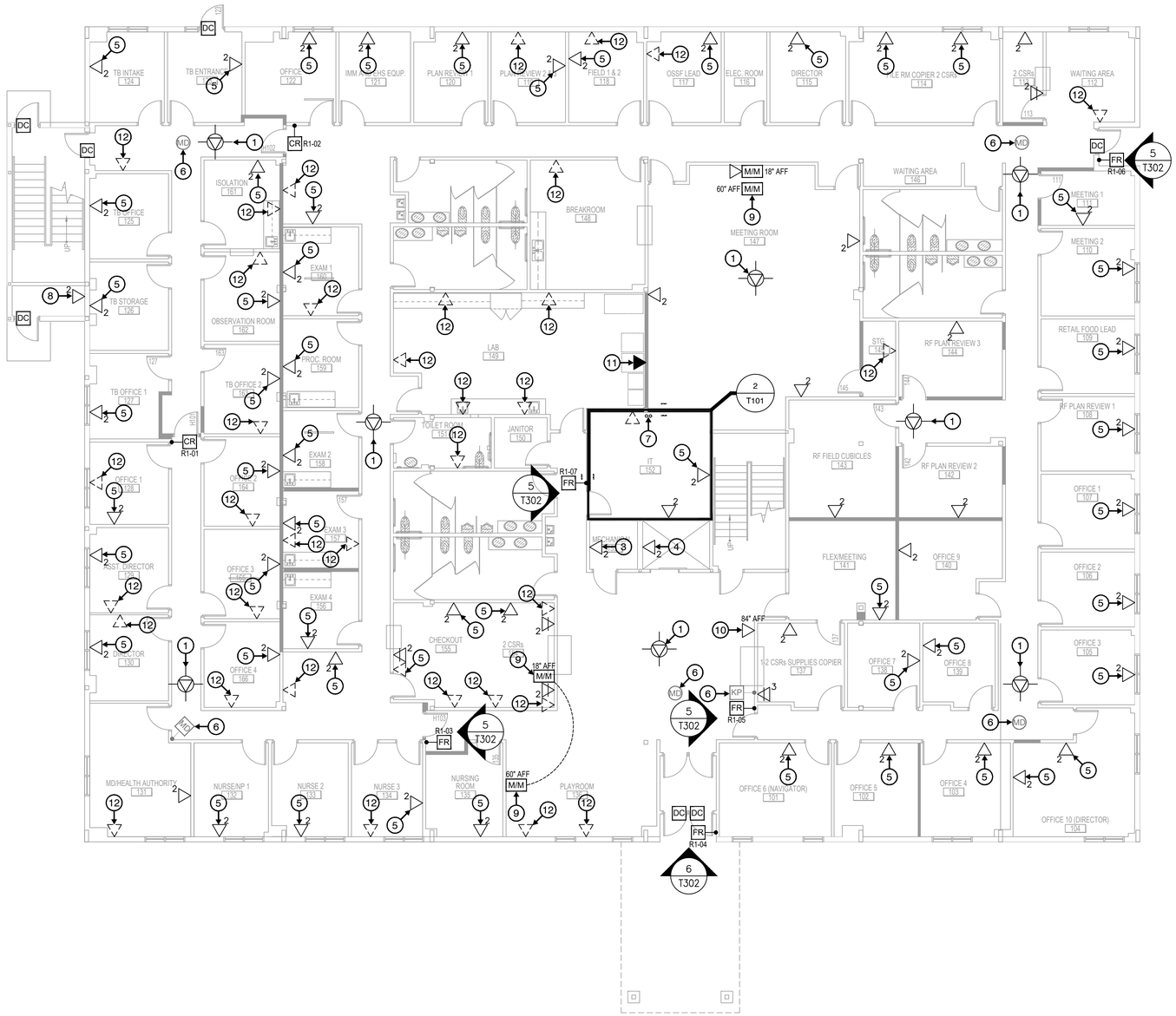
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Scale	VARIES
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Checked	MT
Approved	MT

TITLE

Technology Symbols & Legend

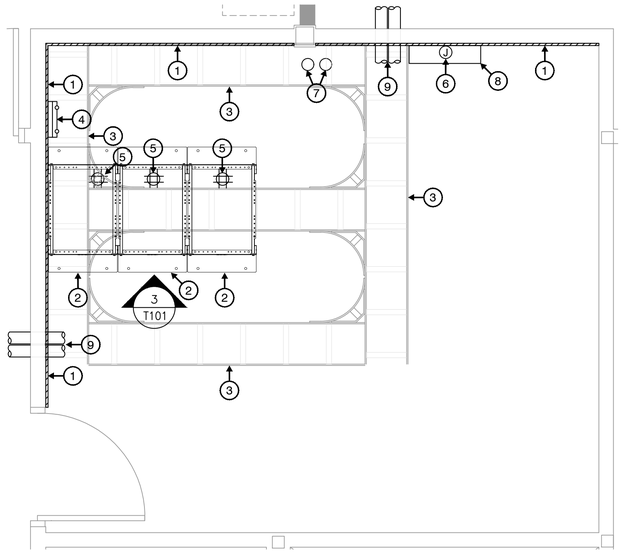
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T001



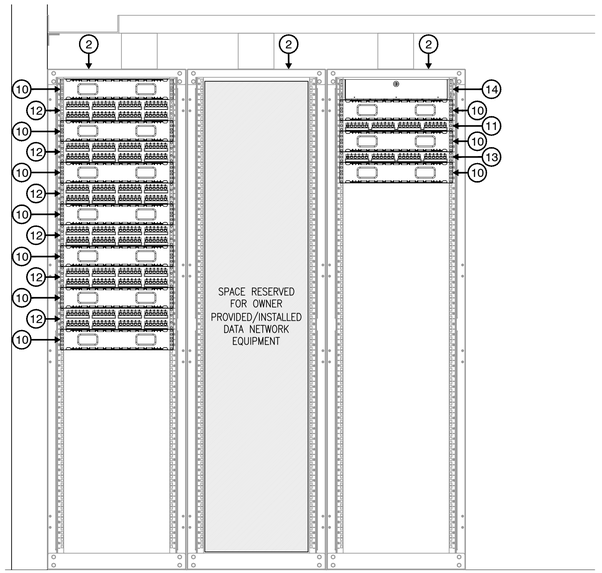
1 T101 **1ST FLOOR PLAN - TECHNOLOGY**

SCALE: 1/8" = 1'-0"



2 T101 **ENLARGED IDF PLAN - TECHNOLOGY**

SCALE: 1/8" = 1'-0"



3 T101 **ELEVATION PLAN - TECHNOLOGY**

SCALE: 1/8" = 1'-0"

FLOOR PLAN GENERAL NOTES

1. CONTRACTOR SHALL RESTORE ALL PENETRATIONS PROVIDED THROUGH FIRE RATED WALLS/STRUCTURES FOR DATA AND VOICE CABLING BACK TO THE ORIGINAL RATING.
2. CONTRACTOR SHALL RESTORE ALL PENETRATIONS PROVIDED THROUGH NON-RATED WALLS/STRUCTURES FOR DATA AND VOICE CABLING FOR SOUND TO REDUCE NOISE TRAVELING THROUGH PENETRATIONS.
3. CABLING FOR DATA AND VOICE SHALL BE ROUTED IN SEPARATE PATHWAYS IN J-HOOKS, CONDUITS, CONDUIT SLEEVES, CORES, ETC. THROUGHOUT THE ENTIRE PATHWAY. DIFFERENT MEDIA TYPES (DATA, VOICE, VIDEO, SECURITY, ETC.) SHALL NOT SHARE THE SAME J-HOOK, CONDUIT, CONDUIT SLEEVE, CORE, ETC.
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5. CONDUIT SEGMENTS SHALL BE NO MORE THAN 100-FEET IN LENGTH WITH NO MORE THAN THE EQUIVALENT OF (2) 90 DEGREE BENDS BETWEEN PULLING POINTS.
6. CONDUITS SHALL MAINTAIN A BEND RADIUS OF 6 TIMES THE DIAMETER OF THE CONDUIT FOR CONDUITS 2-INCHES OR SMALLER AND 10 TIMES THE DIAMETER OF THE CONDUIT FOR CONDUITS GREATER THAN 2-INCHES.
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11. ALL NEW DATA CABLING SHALL ORIGINATE IN IT ROOM 152 ON LEVEL 1.

FLOOR PLAN KEYED NOTES

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11. ANALOG LINE FOR OWNER PROVIDED / OWNER INSTALLED LAB EQUIPMENT. TERMINATE CATEGORY 6 CABLE ON NEW 24-PORT RACK MOUNTED PATCH PANEL.
12. EXISTING ROUGH-IN LOCATION TO REMAIN. CONTRACTOR SHALL DEMOLISH EXISTING DATA CABLES FEEDING THIS OUTLET IN THEIR ENTIRETY, FROM END-TO-END, AND PROVIDE NEW BLANK FACEPLATE.

ENLARGED/ELEVATION PLAN KEYED NOTES

1. 4-FEET X 8-FEET X ¾-INCH BC GRADE VOID FREE FIRE RATED PLYWOOD INSTALLED VERTICALLY STARTING AT 24-INCHES ABOVE FINISHED FLOOR. THE PLYWOOD SHALL BE INSTALLED WITH THE "B" GRADE SIDE EXPOSED AND THE "C" GRADE SIDE AGAINST THE BUILDING WALL OR STRUCTURE. FIRE RATED PLYWOOD SHALL BE PAINTED WITH TWO COATS OF FIRE RETARDANT PAINT. FIRE RATED STAMPS SHALL BE VISIBLE FOR INSPECTION AFTER INSTALLATION. (BY DIV. 27)
2. 19-INCH WIDE X 84-INCH TALL X 29-INCH DEEP 4-POST EQUIPMENT RACK . (BY DIV. 27)
3. 12-INCH LADDER RACK MOUNTED AT 84-INCH ABOVE FINISHED FLOOR. (BY DIV. 27)
4. GROUND BUS BAR MOUNTED AT 84-INCHES ABOVE FINISHED FLOOR. (BY DIV. 27)
5. DEDICATED 20 AMP CIRCUIT WITH QUAD RECEPTACLE NEMA 5-20R FLUSH MOUNTED TO THE LADDER RACK. (BY DIV. 26)
6. DEDICATED 20 AMP CIRCUIT IN JUNCTION BOX FLUSH MOUNTED TO THE FINISHED WALL SURFACE AT 48-INCHES ABOVE FINISHED FLOOR FOR ACCESS CONTROL PANEL. (BY DIV. 26)
7. (2) FOUR INCH EMT CONDUIT SLEEVES ROUTED THROUGH LEVEL 2 SLAB TO ABOVE ACCESSIBLE CEILING OF LEVEL 2. SLEEVES SHALL BE USED FOR DATA CABLING TO LEVEL 2 DEVICES ONLY. PROVIDE FIRE STOP AS REQUIRED. (BY DIV. 26)
8. ACCESS CONTROL PANEL. (BY DIV. 28)
9. (2) FOUR INCH EMT WALL SLEEVES/CONDUITS WITH BUSHING ON EACH END AND FIRESTOP AS REQUIRED. SLEEVES ARE FOR HORIZONTAL DATA/VOICE/SECURITY CABLE ONLY. (BY DIV. 26)
10. DOUBLE-SIDED 2U HORIZONTAL CABLE MANAGER. (BY DIV. 27)
11. RACK MOUNTED 24-PORT CATEGORY 3 PATCH PANEL FOR HIGH PAIR COUNT COPPER BACKBONE CABLING FROM INCOMING SERVICE RJ-21X ON WALL. CONTRACTOR SHALL PROVIDE AMPHENOL CABLE FROM RJ-21X TERMINATED ON THIS PATCH PANEL. (BY DIV. 27)
12. RACK MOUNTED 48-PORT CATEGORY 6 PATCH PANEL FOR DATA. (BY DIV. 27)
13. RACK MOUNTED 24-PORT PATCH PANEL FOR ANALOG TIE CABLING. ALL ANALOG DROPS SHALL TERMINATE ON THIS PATCH PANEL. (BY DIV 27)
14. RACK MOUNTED 2U FIBER OPTIC ENCLOSURE FOR INCOMING FIBER SERVICE. (BY DIV 27)

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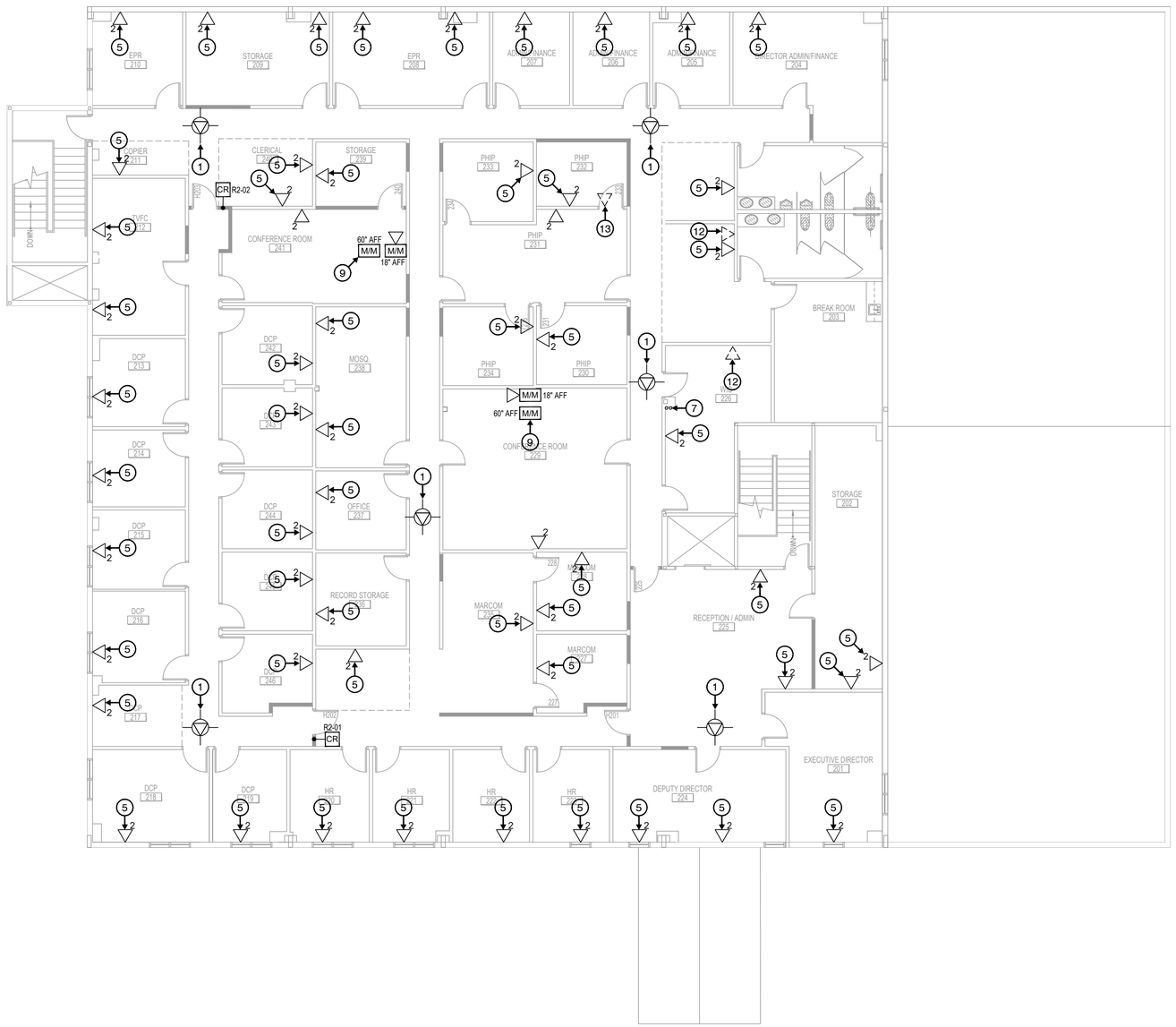
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T101

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1 T102 2ND FLOOR PLAN - TECHNOLOGY

SCALE: 1/8" = 1'-0"

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13. EXISTING ROUGH-IN LOCATION TO BE DEMOLISHED COMPLETELY, FROM END-TO-END, INCLUDING BACK BOX AND CONDUIT.

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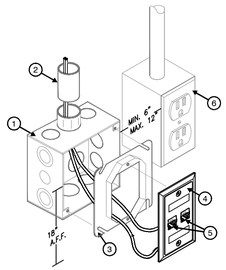
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T102

Williamson County, Texas

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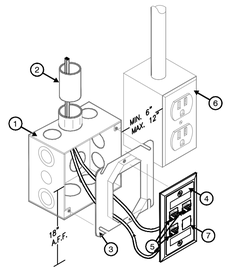


KEYED NOTES:

1. 4 11/16" x 4 11/16" x 2 1/8" RECESSED DOUBLE GANG BOX (BY DIV 26)
2. 1-INCH EMT CONDUIT FROM DOUBLE GANG BOX WITH 200 LBS PULL STRING AND NYLON BUSHING STUBBED OUT ABOVE ACCESSIBLE CEILING IN THE SAME ROOM WHERE THE DEVICE IS LOCATED. IF THE ROOM WHERE THE DEVICE IS LOCATED DOES NOT HAVE AN ACCESSIBLE CEILING, THE CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING OFF OF A MAIN CORRIDOR. CONDUIT PATHWAY SHALL TAKE THE SHORTEST ROUTE TO THE APPLICABLE MDF/IDF ROOM TO MINIMIZE THE CABLE LENGTH. (BY DIV 26)
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4. SINGLE GANG WALL PLATE WITH DESIGNATION IN WINDOW (BY DIV 27)
5. DATA INSERT (BY DIV 27)
6. ELECTRICAL RECEPTACLE, GANG BOX AND CONDUIT SHOWN FOR REFERENCE ONLY (REFER TO DIV 26)

1 / T301 TYPCIAL DUAL DATA OUTLET CONFIGURATION

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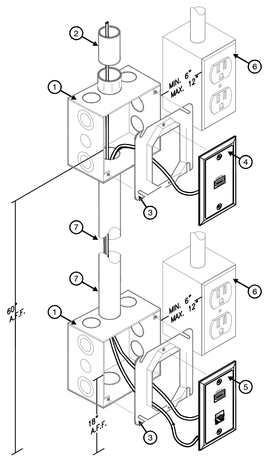


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2 / T301 TYPCIAL THREE DATA OUTLET CONFIGURATION

SCALE: N.T.S.



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2. 1-INCH EMT CONDUIT FROM DOUBLE GANG BOX WITH 200 LBS PULL STRING AND NYLON BUSHING STUBBED OUT ABOVE ACCESSIBLE CEILING IN THE SAME ROOM WHERE THE DEVICE IS LOCATED. IF THE ROOM WHERE THE DEVICE IS LOCATED DOES NOT HAVE AN ACCESSIBLE CEILING, THE CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING OFF OF A MAIN CORRIDOR. CONDUIT PATHWAY SHALL TAKE THE SHORTEST ROUTE TO THE APPLICABLE MDF/IDF ROOM TO MINIMIZE THE CABLE LENGTH. (BY DIV 26)
3. SINGLE GANG REDUCER RING (BY DIV 26)
4. SINGLE GANG HDMI WALL PLATE (BY DIV 27)
5. SINGLE GANG WALL PLATE WITH HDMI AND CATEGORY 6 INSERTS (BY DIV 27)
6. ELECTRICAL RECEPTACLE, GANG BOX AND CONDUIT SHOWN FOR REFERENCE ONLY (REFER TO DIV 26)
7. 1-INCH EMT CONDUIT FROM "LOW" DOUBLE GANG BOX TO "HIGH" DOUBLE GANG WALL BOX FRO ROU. PROVIDE AND NYLON BUSHING ON THE THROAT OF EACH CONDUIT.(BY DIV 26)

3 / T301 TYPCIAL HDMI FACEPLATE CONFIGURATION

SCALE: N.T.S.

KEYED NOTES:

1. 4 11/16" X 4 11/16" X 2 1/8" RECESSED DOUBLE GANG BOX (BY DIV 26).
2. 1-INCH EMT CONDUIT FROM DOUBLE GANG BOX WITH 200 LBS PULL STRING AND NYLON BUSHING STUBBED OUT ABOVE ACCESSIBLE CEILING IN THE SAME ROOM WHERE THE DEVICE IS LOCATED. IF THE ROOM WHERE THE DEVICE IS LOCATED DOES NOT HAVE AN ACCESSIBLE CEILING, THE CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING OFF OF A MAIN CORRIDOR. CONDUIT PATHWAY SHALL TAKE THE SHORTEST ROUTE TO THE APPLICABLE MDF/IDF ROOM TO MINIMIZE THE CABLE LENGTH (BY DIV 26).
3. DOUBLE GANG PLASTER RING (BY DIV 26).
4. SURFACE MOUNT BOX INSIDE THE 4 11/16-IN X 4 11/16-IN X 2 1/8-IN DOUBLE GANG BOX (BY DIV 27).
5. RJ-45 INSERT (BY DIV 27).

4 / T301 TYPICAL CONDUIT ROUGH-IN FOR SURVEILLANCE CAMERA/ACCESS POINT WITHOUT ACCESSIBLE CEILING

SCALE: N.T.S.

KEYED NOTES:

1. J-HOOK ABOVE ACCESSIBLE CEILING (BY DIV 27)
2. DATA CABLE ABOVE ACCESSIBLE CEILING (BY DIV 27)
3. 20 FOOT SERVICE LOOP ABOVE ACCESSIBLE CEILING NEATLY COILED AND SECURED TO J-HOOK (BY DIV 27)
4. SURFACE MOUNT BOX ABOVE ACCESSIBLE CEILING SECURED TO BUILDING STRUCTURE (BY DIV 27)
5. DATA INSERT (BY DIV 27)

5 / T301 TYPICAL ABOVE CEILING DATA OUTLET

SCALE: N.T.S.

KEYED NOTES:

1. J-HOOK ABOVE ACCESSIBLE CEILING (BY DIV 27).
2. DATA CABLE ABOVE ACCESSIBLE CEILING (BY DIV 27).
3. A/V CABLE ABOVE ACCESSIBLE CEILING (BY DIV 27).
4. SECURITY CABLE ABOVE ACCESSIBLE CEILING (BY DIV 28).
5. SPARE J-HOOK (BY DIV 27).

6 / T301 TYPICAL J-HOOK CABLE PATHWAY

SCALE: N.T.S.

KEYED NOTES:

1. SCHEDULED WALL.
2. SCHEDULED CEILING.
3. SCHEDULED DECK ABOVE.
4. 4 11/16" x 4 11/16" x 2 1/8" RECESSED DOUBLE GANG BOX WITH DOUBLE GANG PLASTER RING (BY DIV 26)
5. 1-INCH EMT CONDUIT FROM DOUBLE GANG BOX WITH 200 LBS PULL STRING AND NYLON BUSHING STUBBED OUT ABOVE ACCESSIBLE CEILING IN THE SAME ROOM WHERE THE DEVICE IS LOCATED. IF THE ROOM WHERE THE DEVICE IS LOCATED DOES NOT HAVE AN ACCESSIBLE CEILING, THE CONDUIT SHALL ROUTE TO THE NEAREST ACCESSIBLE CEILING OFF OF A MAIN CORRIDOR. CONDUIT PATHWAY SHALL TAKE THE SHORTEST ROUTE TO THE APPLICABLE MDF/IDF ROOM TO MINIMIZE THE CABLE LENGTH. (BY DIV 26)

7 / T301 TYPICAL TECHNOLOGY CONDUIT ROUGH-IN

SCALE: N.T.S.

KEYED NOTES:

1. SCHEDULED FLOOR OR DECK.
2. CONDUIT SLEEVE (BY DIV 26).
3. NYLON BUSHING (BY DIV 26).

8 / T301 TYPICAL CONDUIT SLEEVE THROUGH FLOOR OR DECK DETAIL

SCALE: N.T.S.

KEYED NOTES:

1. SCHEDULED WALL.
2. SCHEDULED CEILING.
3. CONDUIT SLEEVE (BY DIV 26).
4. NYLON BUSHING (BY DIV 26).

9 / T301 TYPICAL CONDUIT SLEEVE GOING THROUGH WALL

SCALE: N.T.S.

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REVISIONS

No.	Issue	Date
1	100% Construction Documents	11/21/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

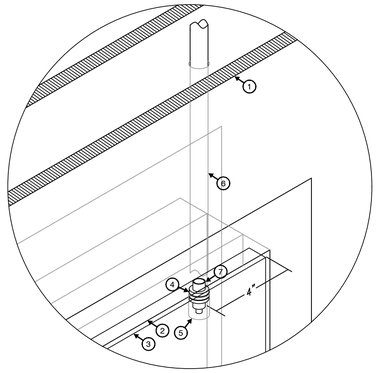
Date	November 21, 2016
Job Number	16-1010
Scale	VARIES
Drawn	EC
Checked	MT
Approved	MT

TITLE

Technology Details

SHEET

T301

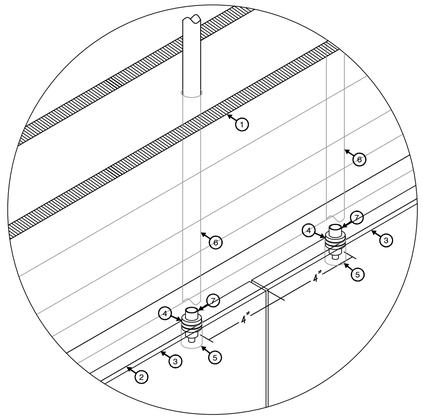


KEYED NOTES:

1. SCHEDULED PARTITION.
2. HEAD OF DOOR FRAME. PROVIDE TAB AT DOOR FRAME TO SECURE CONDUIT DIRECTLY ABOVE DOOR POSITION SWITCH.
3. SCHEDULED DOOR.
4. 15/16" DIAMETER HOLE IN THE HEAD OF FRAME FOR CONCEALED DOOR CONTACT.
5. 15/16" DIAMETER X 1 5/8" DEEP HOLE IN TOP OF DOOR FOR CONCEALED DOOR CONTACT MAGNET.
6. 1/2" CONDUIT FROM 6" X 6" X 4" JUNCTION BOX ABOVE DOOR. (BY DIV 26)
7. DOOR CONTACT (REFERENCE SPECIFICATION).

DOOR CONTACT - SINGLE DOOR RECESSED

1 / T302 SCALE: SCALE

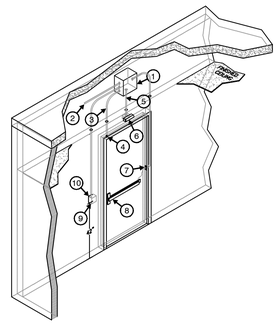


KEYED NOTES:

1. SCHEDULED PARTITION.
2. HEAD OF DOOR FRAME. PROVIDE TAB AT DOOR FRAME TO SECURE CONDUIT DIRECTLY ABOVE DOOR POSITION SWITCH.
3. SCHEDULED DOOR.
4. 15/16" DIAMETER HOLE IN THE HEAD OF FRAME FOR CONCEALED DOOR CONTACT.
5. 15/16" DIAMETER X 1 5/8" DEEP HOLE IN TOP OF DOOR FOR CONCEALED DOOR CONTACT MAGNET.
6. 1/2" CONDUIT FROM 6" X 6" X 4" JUNCTION BOX ABOVE DOOR (BY DIV 26).
7. DOOR CONTACT (REFERENCE SPECIFICATION).

DOOR CONTACT - DOUBLE DOOR RECESSED

2 / T302 SCALE: SCALE

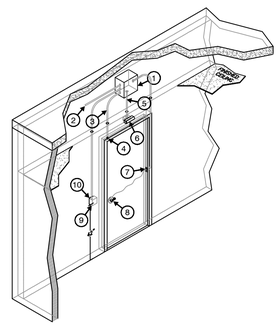


KEYED NOTES:

1. (1) 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR (BY DIV. 26).
2. (1) 1-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR FOR ACCESS CONTROL CABLE (BY DIV. 26).
3. (1) 1/2-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO HEAD OF DOOR FRAME FOR CONCEALED DOOR POSITION SWITCH. STUB CONDUIT INTO HEAD OF DOOR FRAME 6-INCHES FROM THE STRIKE SIDE OF THE DOOR. PROVIDE A 3-INCH BLOCKOUT FOR GROUTED DOORS (BY DIV. 26).
4. CONCEALED DOOR POSITION SWITCH (BY DIV. 28).
5. (1) 1/2-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 12-INCH DEEP JUNCTION BOX TO A RECESSED SINGLE GANG BOX WITH A SINGLE GANG PLASTER RING INSTALLED HORIZONTALLY 6-INCHES ABOVE HEAD OF DOOR FRAME ON CENTERLINE OF DOOR AND ON SECURE SIDE OF DOOR FOR REQUEST TO EXIT MOTION SENSOR (BY DIV. 26).
6. (1) REQUEST TO EXIT MOTION SENSOR ON SECURE SIDE OF DOOR (BY DIV. 28).
7. (1) 3/4-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX DOWN DOOR FRAME FOR POWER TRANSFER HINGE (BY DIV. 26).
8. (1) ELECTRIFIED EXIT DEVICE ON SECURE SIDE OF DOOR (BY DIV. 8).
9. (1) 3/4-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO A RECESSED DOUBLE GANG BOX WITH A SINGLE GANG PLASTER RING FOR CARD READER ON UNSECURE SIDE OF DOOR (BY DIV. 26).
10. (1) CARD READER ON UNSECURE SIDE OF DOOR (BY DIV. 28).

WALL MOUNTED CARD READER WITH ELECTRIFIED EXIT DEVICE AND WALL MOUNTED REQUEST TO EXIT MOTION SENSOR

3 / T302 SCALE: N.T.S.



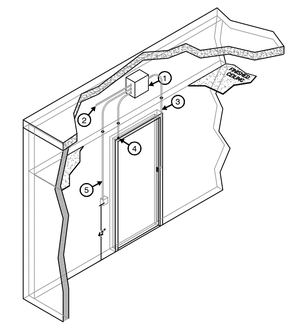
KEYED NOTES:

1. (1) 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR (BY DIV. 26).
2. (1) 1-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR FOR ACCESS CONTROL CABLE (BY DIV. 26).
3. (1) 1/2-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO HEAD OF DOOR FRAME 6-INCHES FROM THE STRIKE SIDE OF THE DOOR. PROVIDE A 3-INCH BLOCKOUT FOR GROUTED DOORS (BY DIV. 26).

   CONCEALED DOOR POSITION SWITCH (BY DIV. 28).
4. (1) 1/2-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 12-INCH DEEP JUNCTION BOX TO A RECESSED
5. SINGLE GANG BOX WITH A SINGLE GANG PLASTER RING INSTALLED HORIZONTALLY 6-INCHES ABOVE HEAD OF DOOR FRAME ON CENTERLINE OF DOOR AND ON SECURE SIDE OF DOOR FOR REQUEST TO EXIT MOTION SENSOR (BY DIV. 26).
6. (1) REQUEST TO EXIT MOTION SENSOR ON SECURE SIDE OF DOOR (BY DIV. 28).
7. (1) 3/4-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX DOWN DOOR FRAME FOR POWER TRANSFER HINGE (BY DIV. 26).
8. (1) ELECTRIFIED LEVERSET ON SECURE SIDE OF DOOR (BY DIV. 8).
9. (1) 3/4-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO A RECESSED DOUBLE GANG BOX WITH A SINGLE GANG PLASTER RING FOR CARD READER ON UNSECURE SIDE OF DOOR (BY DIV. 26).
10. (1) CARD READER ON UNSECURE SIDE OF DOOR (BY DIV. 28).

WALL MOUNTED CARD READER WITH ELECTRIFIED LEVERSET AND WALL MOUNTED REQUEST TO EXIT MOTION SENSOR

4 / T302 SCALE: N.T.S.

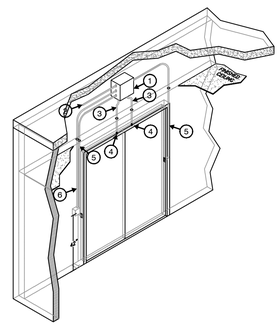


KEYED NOTES:

1. (1) 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR (BY DIV. 26).
2. (1) 1-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR FOR FUTURE ACCESS CONTROL CABLE (BY DIV. 26).
3. (1) 3/4-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX DOWN DOOR FRAME FOR FUTURE POWER TRANSFER HINGE (BY DIV. 26).
4. CONCEALED DOOR POSITION SWITCH (BY DIV. 28).
5. (1) 3/4-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO A RECESSED DOUBLE GANG BOX WITH A SINGLE GANG PLASTER RING FOR FUTURE CARD READER ON UNSECURE SIDE OF DOOR (BY DIV. 26).

FUTURE SINGLE DOOR CARD READER ROUGH-IN

5 / T302 SCALE: N.T.S.

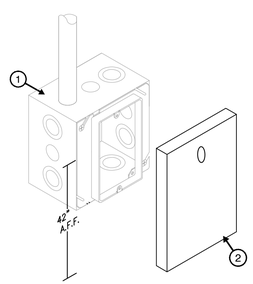


KEYED NOTES:

1. (1) 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR (BY DIV. 26).
2. (1) 1-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR FOR FUTURE ACCESS CONTROL CABLE (BY DIV. 26).
3. (1) 1/2-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO HEAD OF DOOR FRAME FOR CONCEALED DOOR POSITION SWITCH. STUB CONDUIT INTO HEAD OF DOOR FRAME 6-INCHES FROM THE STRIKE SIDE OF THE DOOR. PROVIDE A 3-INCH BLOCKOUT FOR GROUTED DOORS (BY DIV. 26).
4. CONCEALED DOOR POSITION SWITCH (BY DIV. 28).
5. (1) 3/4-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX DOWN DOOR FRAME FOR FUTURE POWER TRANSFER HINGE (BY DIV. 26).
6. (1) 1/2-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX DOWN DOOR FRAME TO 3/8-INCH HOLE IN FRAME AT 42-INCH A.F.F. FOR FUTURE CARD READER (BY DIV. 26).

FUTURE DOUBLE DOOR CARD READER ROUGH-IN

6 / T302 SCALE: N.T.S.

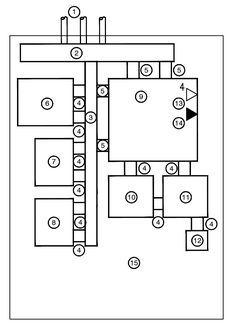


KEYED NOTES:

1. (1) 3/4-INCH EMT CONDUIT FROM 6-INCH WIDE X 6-INCH HIGH X 4-INCH DEEP JUNCTION BOX TO A RECESSED DOUBLE GANG BOX WITH A SINGLE GANG PLASTER RING FOR CARD READER ON UNSECURE SIDE OF DOOR. (BY DIV. 26)
2. CARD READER ON UNSECURED SIDE OF DOOR (BY DIV. 28).

CARD READER - WALL MOUNTED DETAIL

6 / T302 SCALE: N.T.S.



KEYED NOTES:

1. CONDUIT FEEDS FROM FIELD.
2. 8-IN H X 8-IN D X 4-FT W GUTTER RACEWAY WITH COVER.
3. 4-IN FINGERDUCT RACEWAY WITH COVER.
4. 2-IN METALLIC CONDUIT.
5. 4-IN METALLIC CONDUIT.
6. ACCESS CONTROL PANEL.
7. INTRUSION DETECTION CONTROL PANEL.
8. INPUT/OUPUT PANEL.
9. DEMARCATION ENCLOSURE.
10. DEVICE POWER SUPPLY.
11. LOCK POWER SUPPLY.
12. 120VAC EMERGENCY POWER QUAD RECEPTACLE, NON-SWITCHED, DEDICATED 20AMP.
13. NETWORK OUTLET (BY DIV 27).
14. TELEPHONE INTERFACE (BY DIV 27).
15. 8-FT H X 4-FT W 3/4 -IN FIRE RATED PLYWOOD BACKBOARD.

TYPICAL SECURITY RISER BACKBOARD DETAIL

7 / T302 SCALE: N.T.S.

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WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

REVISIONS

No.	Issue	Date
1	100% Construction Documents	11/21/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	November 21, 2016
Job Number	16-1010
Scale	VARIES
Drawn	EC
Checked	MT
Approved	MT

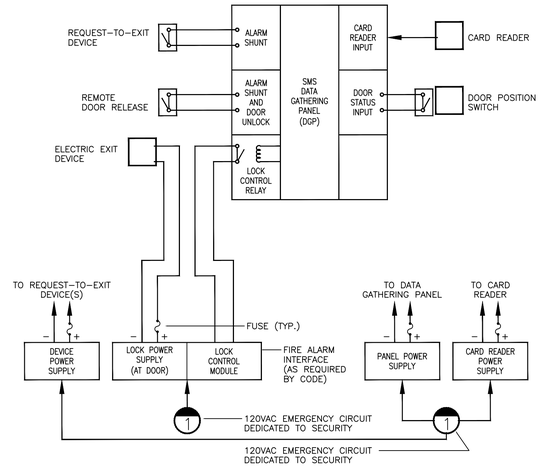
TITLE

Security Details

SHEET

T302

Bid 1701-139
Williamson County, Texas

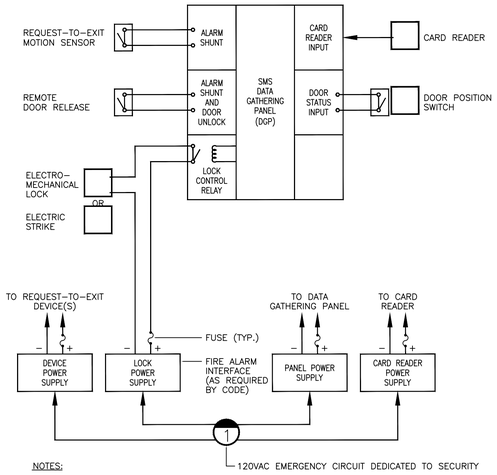


NOTES:

1. BLOCK DIAGRAM REPRESENTS TYPICAL CONTROLLED DOOR WITH ELECTRIC EXIT DEVICE SEE THE PLANS FOR THE EXACT DEVICES ASSOCIATED WITH EACH DOOR.
2. ALL POWER SUPPLIES AND RELAYS SHALL BE U.L. LISTED. PROVIDE INDIVIDUALLY FUSED OUTPUTS TO EACH LOCK/DEVICE. PROVIDE 4 HOUR BATTERY BACK–UP FOR EACH POWER SUPPLY.
3. BLOCK DIAGRAM REPRESENTS FAIL–SECURE LOCK CONDITION FOR FAIL–SAFE WIRE LOCK POWER THROUGH NORMALLY OPEN (CLOSES WHEN PANEL IS ENERGIZED) LOCK CONTROL RELAY CONTACTS, ADD INTERFACE WITH FIRE ALARM SYSTEM (AS REQUIRED BY APPLICABLE CODES), CONNECT POWER SUPPLY TO NON–EMERGENCY BUILDING POWER, AND OMIT BATTERY BACKUP FOR THE LOCK POWER SUPPLY.

1 / T303 CARD READER - ELECTRIC EXIT DEVICE BLOCK DIAGRAM

SCALE: N.T.S.



NOTES:

1. BLOCK DIAGRAM REPRESENTS TYPICAL CONTROLLED DOOR WITH ELECTROMECHANICAL LOCK OR ELECTRIC STRIKE. SEE THE PLANS FOR THE EXACT DEVICES ASSOCIATED WITH EACH DOOR.
2. ALL POWER SUPPLIES AND RELAYS SHALL BE U.L. LISTED. PROVIDE INDIVIDUALLY FUSED OUTPUTS TO EACH LOCK/DEVICE. PROVIDE 4 HOUR BATTERY BACK–UP FOR EACH POWER SUPPLY.
3. BLOCK DIAGRAM REPRESENTS FAIL–SECURE LOCK CONDITION. FOR FAIL–SAFE WIRE LOCK POWER THROUGH NORMALLY OPEN (CLOSES WHEN PANEL IS ENERGIZED) DGP LOCK CONTROL RELAY CONTACTS, ADD INTERFACE WITH FIRE ALARM SYSTEM (AS REQUIRED BY APPLICABLE CODES), CONNECT POWER SUPPLY TO NON–EMERGENCY BUILDING POWER, AND OMIT BATTERY BACKUP FOR THE LOCK POWER SUPPLY.

2 / T303 CARD READER - ELECTROMECHANICAL LOCK OR ELECTRIC STRIKE BLOCK DIAGRAM

SCALE: N.T.S.

FA FIRE ALARM / SECURITY SYSTEM INTERFACE

A. AUTOMATIC UNLOCK OF ELECTRIC LOCKING MECHANISMS
   1. ELECTRIC LOCKING MECHANISMS CONTROLLED BY THE SECURITY SYSTEM SHALL BE AUTOMATICALLY UNLOCKED UPON A FIRE ALARM CONDITION AS REQUIRED BY APPLICABLE CODES AND THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
   2. THE FIRE ALARM CONTRACTOR SHALL PROVIDE NORMALLY CLOSED AUXILIARY DRY OUTPUT CONTACTS SUCH THAT UPON A FIRE ALARM CONDITION, THE CONTACTS SHALL OPEN AND THE SECURITY SYSTEM SHALL UNLOCK THE ELECTRIC LOCKING MECHANISMS. THE CONTACTS SHALL REMAIN OPEN UNTIL THE FIRE ALARM SYSTEM IS MANUALLY RESET.
B. AUXILIARY MONITORING OF FIRE ALARM AND TROUBLE CONDITIONS
   1. THE SECURITY SYSTEM SHALL PROVIDE AUXILIARY MONITORING OF THE FIRE ALARM SYSTEM ALARM AND TROUBLE CONDITIONS.
   2. THE FIRE ALARM CONTRACTOR SHALL PROVIDE SEPARATE NORMALLY CLOSED AUXILIARY DRY OUTPUT CONTACTS FOR ALARM AND TROUBLE CONDITIONS. UPON AN ALARM CONDITION OR TROUBLE CONDITION, THE CONTACTS SHALL OPEN AND THE SECURITY SYSTEM SHALL ANNUNCIATE THE CONDITION. THE CONTACTS SHALL REMAIN OPEN UNTIL THE FIRE ALARM SYSTEM IS MANUALLY RESET.
C. FIRE ALARM/SECURITY SYSTEM INTERFACE
   1. THE FIRE ALARM CONTRACTOR SHALL PROVIDE FIRE ALARM/SECURITY SYSTEM INTERFACE CABINETS IN THE FOLLOWING LOCATIONS:

LOCATION	INTERFACE TERMINALS
SECURITY RISER CLOSETS	AUTOMATIC UNLOCK
DELAYED EXIT DEVICE DOORS	AUTOMATIC UNLOCK

D. INTERFACE CABINETS
   1. PROVIDE A LOCKABLE CONTINUOUS HINGE COVER ENCLOSURE WITH DUAL SCREW BARRIER TERMINAL STRIPS FOR EACH INTERFACE POINT.
   2. THE FIRE ALARM CONTRACTOR SHALL PROVIDE THE INTERFACE CABINETS IN A READILY ACCESSIBLE LOCATION NO MORE THAN 6'-0" A.F.F. COORDINATE THE EXACT INTERFACE CABINET LOCATION WITH THE SECURITY CONTRACTOR.
   3. THE FIRE ALARM CONTRACTOR SHALL LABEL THE COVER OF THE INTERFACE CABINET TO IDENTIFY ITS FUNCTION AND LABEL ALL TERMINALS WITHIN THE CABINET TO IDENTIFY THEIR FUNCTION.
   4. THE FIRE ALARM CONTRACTOR SHALL PROVIDE ANY HARDWARE/SOFTWARE REQUIRED TO INTERFACE THE FIRE ALARM SYSTEM TO THE SECURITY SYSTEM. ALL SECURITY INTERFACE OUTPUTS AND WIRING SHALL BE SUPERVISED BY THE FIRE ALARM SYSTEM.
   5. THE FIRE ALARM CONTRACTOR SHALL PROVIDE AND TERMINATE ALL CONDUIT, POWER AND WIRING REQUIRED FOR THE INSTALLATION OF THE INTERFACE CABINETS. ALL WIRING SHALL BE UL LISTED FOR FIRE ALARM APPLICATIONS.
   6. THE SECURITY CONTRACTOR SHALL PROVIDE AND TERMINATE ALL WIRING FROM THE INTERFACE CABINET TO THE SECURITY SYSTEM. ALL WIRING SHALL BE UL LISTED FOR FIRE ALARM APPLICATIONS.

3 / T303 FIRE ALARM/SECURITY SYSTEM INTERFACE

SCALE: N.T.S.

WILLIAMSON COUNTY - ACCESS CONTROL SYSTEM SCHEDULE

CARD READER POINT NUMBER	SHEET NUMBER	LEVEL	ARCHITECTURAL DOOR NUMBER	ROOM NAME	TERMINATION ROOM NUMBER	DOOR DETAIL NUMBER	NOTES
R1-01	T101	LEVEL 1	C101	CORRIDOR C101-SOUTH	IT 152	3/T302	REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT.
R1-02	T101	LEVEL 1	C102	CORRIDOR C101-NORTH	IT 152	4/T302	REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT.
R1-03	T101	LEVEL 1	C103	CORRIDOR C103	IT 152	5/T302	FUTURE CARD READER LOCATION. PROVIDE CONDUIT AND BACKBOX FOR FUTURE DEVICES AS NOTED. INSTALL DOOR POSITION SWITCH ONLY.
R1-04	T101	LEVEL 1	V101/101A	VESTIBULE 173	IT 152	6/T302	FUTURE CARD READER LOCATION. PROVIDE CONDUIT AND BACKBOX FOR FUTURE DEVICES AS NOTED. INSTALL DOOR POSITION SWITCH ONLY.
R1-05	T101	LEVEL 1	C104	CORRIDOR C104	IT 152	5/T302	FUTURE CARD READER LOCATION. PROVIDE CONDUIT AND BACKBOX FOR FUTURE DEVICES AS NOTED. INSTALL DOOR POSITION SWITCH ONLY.
R1-06	T101	LEVEL 1	E101	WAITING 112	IT 152	5/T302	FUTURE CARD READER LOCATION. PROVIDE CONDUIT AND BACKBOX FOR FUTURE DEVICES AS NOTED. INSTALL DOOR POSITION SWITCH ONLY.
R1-07	T101	LEVEL 1	152	IT 152	IT 152	5/T302	FUTURE CARD READER LOCATION. PROVIDE CONDUIT AND BACKBOX FOR FUTURE DEVICES AS NOTED. INSTALL DOOR POSITION SWITCH ONLY.
R2-01	T102	LEVEL 2	C202	CORRIDOR C202-SOUTH	IT 152	4/T302	REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT.
R2-02	T102	LEVEL 2	C203	CORRIDOR C203-NORTH	IT 152	4/T302	REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT.

4 / T303 ACCESS CONTROL SYSTEM SCHEDULE

SCALE: N.T.S.

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REVISIONS

No.	Issue	Date
1	100% Construction Documents	11/21/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	November 21, 2016
Job Number	16-1010
Scale	VARIES
Drawn	EC
Checked	MT
Approved	MT

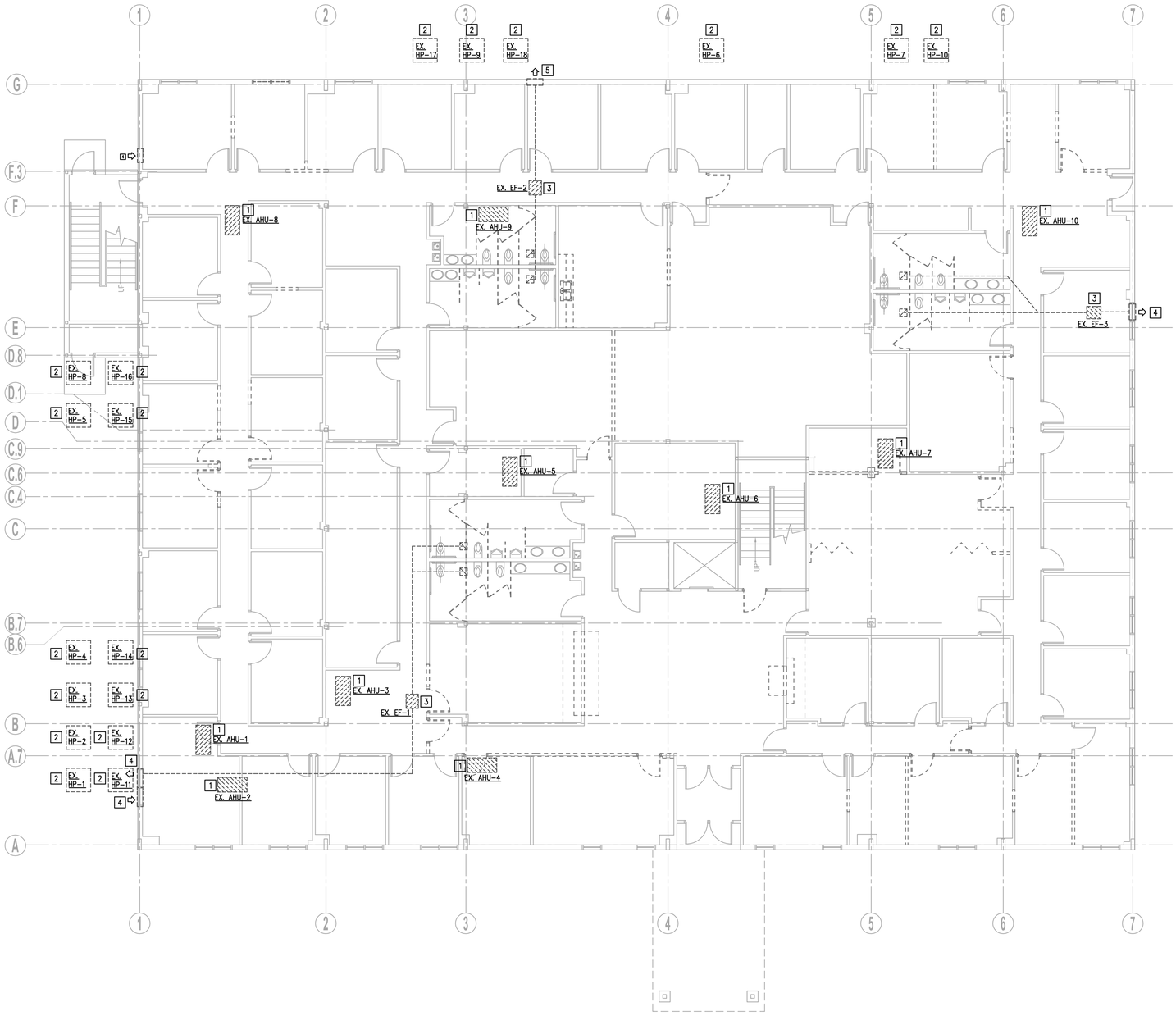
TITLE

Security Diagrams/Schedules

SHEET

T303

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MECHANICAL GENERAL NOTES:

A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS BEFORE ANY DEMOLITION WORK BEGINS.

B. SCHEDULING SHALL BE CLOSELY COORDINATED WITH THE OWNER AND NO WORK SHALL PROCEED WITHOUT AN OWNER-APPROVED SCHEDULE. SCHEDULE ALL SHUTDOWNS AT LEAST 48 HOURS IN ADVANCE WITH OWNER IN WRITING. REFER TO SPECIFICATIONS FOR AREAS REQUIRING SPECIAL ACCESS, SCHEDULING, AND/OR SECURITY.

C. PROTECTION OF FURNISHINGS AND SYSTEMS FROM HAZARD AND/OR CONTAMINATION ASSOCIATED WITH DEMOLITION AND CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.

D. CONTRACTOR SHALL COORDINATE REMOVAL AND OFF-SITE DISPOSAL OF EXISTING MATERIALS AND ROUTING OF ANY NEW PIPING, CONDUIT, DUCTWORK AT THE JOB SITE TO AVOID DAMAGE OR CONFLICT WITH EXISTING SYSTEMS AND STRUCTURE. OBTAIN APPROVAL OF OWNER'S REPRESENTATIVE BEFORE DISPOSING OF ITEMS. ITEMS TO KEEP SHALL BE DELIVERED TO THE OWNER.

MECHANICAL KEYED NOTES:

1 REMOVE EXISTING AIR HANDLING UNIT AND ASSOCIATED DUCTWORK, PIPING, AND DIFFUSERS.

2 REMOVE EXISTING CONDENSING UNIT, EQUIPMENT SUPPORT AND ASSOCIATED PIPING AT GRADE LEVEL. PATCH WALL OPENING WATER TIGHT AND RE-FINISH TO MATCH EXISTING.

3 REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK, CONTROLS AND GRILLES.

4 REMOVE EXISTING LOUVER AND ASSOCIATED DUCTWORK.

DEMO HVAC LEGEND:

- - - - - - - - EXISTING DUCTWORK, DIFFUSER, AND DAMPER TO BE REMOVED OR RELOCATED. (WORK SHOWN IN DASHED LINES)

———— EXISTING DUCTWORK, DIFFUSER, AND DAMPER TO REMAIN. (WORK SHOWN IN SOLID LINES)

1 DM2.01 1ST LEVEL DEMO MECHANICAL PLAN

1/8"=1'-0"

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DBR Project Number 165026.000

MC	SN	NF	AH	--

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7/12/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

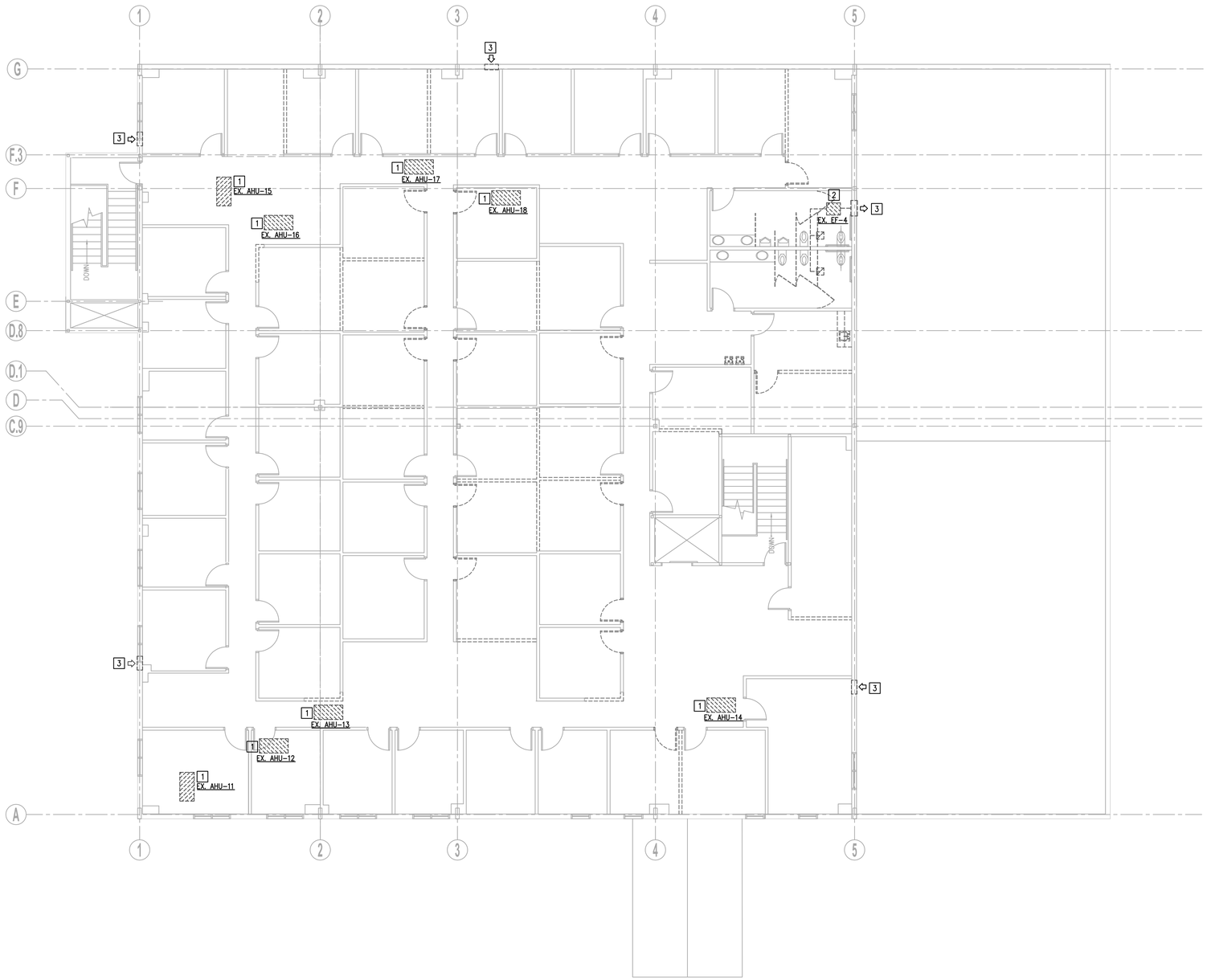
Date	January 16, 2017
Job Number	16-1010
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Approved	

TITLE

1ST LEVEL DEMO MECHANICAL PLAN

SHEET

DM2.01



MECHANICAL GENERAL NOTES:

A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS BEFORE ANY DEMOLITION WORK BEGINS.

B. SCHEDULING SHALL BE CLOSELY COORDINATED WITH THE OWNER AND NO WORK SHALL PROCEED WITHOUT AN OWNER-APPROVED SCHEDULE. SCHEDULE ALL SHUTDOWNS AT LEAST 48 HOURS IN ADVANCE WITH OWNER IN WRITING. REFER TO SPECIFICATIONS FOR AREAS REQUIRING SPECIAL ACCESS, SCHEDULING, AND/OR SECURITY.

C. PROTECTION OF FURNISHINGS AND SYSTEMS FROM HAZARD AND/OR CONTAMINATION ASSOCIATED WITH DEMOLITION AND CONSTRUCTION SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH THE SPECIFICATIONS.

D. CONTRACTOR SHALL COORDINATE REMOVAL AND OFF-SITE DISPOSAL OF EXISTING MATERIALS AND ROUTING OF ANY NEW PIPING, CONDUIT, DUCTWORK AT THE JOB SITE TO AVOID DAMAGE OR CONFLICT WITH EXISTING SYSTEMS AND STRUCTURE. OBTAIN APPROVAL OF OWNER'S REPRESENTATIVE BEFORE DISPOSING OF ITEMS. ITEMS TO KEEP SHALL BE DELIVERED TO THE OWNER.

MECHANICAL KEYED NOTES:

1 REMOVE EXISTING AIR HANDLING UNIT AND ASSOCIATED DUCTWORK, PIPING, AND DIFFUSERS.

2 REMOVE EXISTING EXHAUST FAN AND ASSOCIATED DUCTWORK, CONTROLS AND GRILLES.

3 REMOVE EXISTING OUTSIDE AIR LOUVER AND ASSOCIATED DUCTWORK.

DEMO HVAC LEGEND:

- - - - - - - - EXISTING DUCTWORK, DIFFUSER, AND DAMPER TO BE REMOVED OR RELOCATED. (WORK SHOWN IN DASHED LINES)

———— EXISTING DUCTWORK, DIFFUSER, AND DAMPER TO REMAIN. (WORK SHOWN IN SOLID LINES)

1 DM2.02 2ND LEVEL DEMO MECHANICAL PLAN

1/8"=1'-0"

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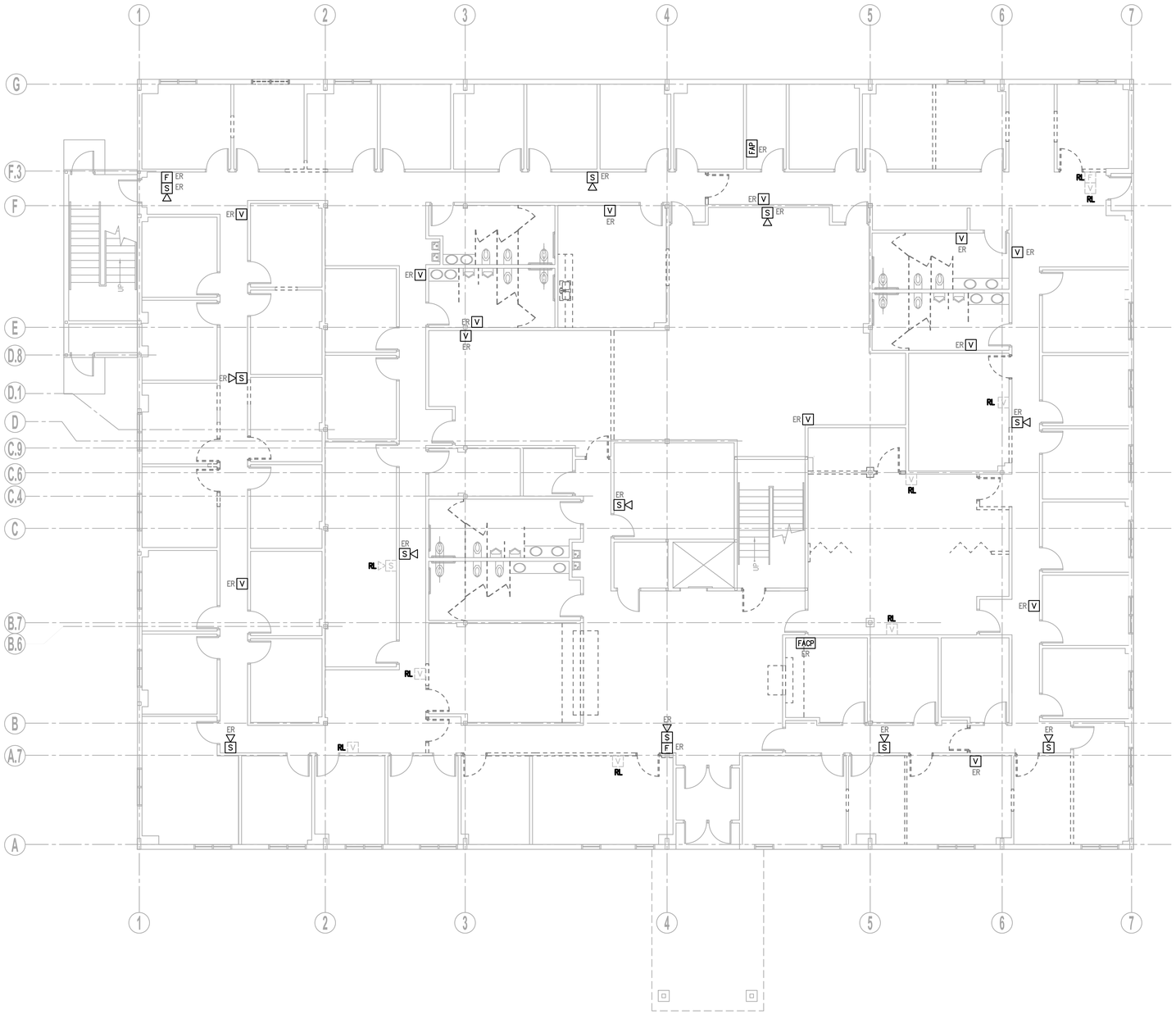
Date	January 16, 2017
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Approved	

TITLE

2ND LEVEL DEMO MECHANICAL PLAN

SHEET

DM2.02



1 DEL2.01 1ST LEVEL DEMO LIGHTING PLAN

1/8"=1'-0"

GENERAL LIGHTING DEMOLITION NOTES:

A. ALL EXISTING LIGHT FIXTURES ARE TO BE REMOVED. DISCONNECT EXISTING WIRING AND CONDUIT AND LEAVE IN PLACE FOR RECONNECTION TO NEW LIGHTING.

B. EXISTING FIRE ALARM EQUIPMENT AND DEVICES ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

C. ELECTRICAL CONTRACTOR SHALL CONSULT ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION TO BE PERFORMED.

D. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT AND CABLING REMOVED DURING DEMOLITION.

E. CONTRACTOR SHALL REMOVE ALL DEVICES WITHIN DEMOLISHED WALLS INCLUDING SWITCHES, FIRE ALARM DEVICES, CONDUIT AND WIRING. REMOVE CONDUIT AND WIRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMO PLAN.

F. EXCEPT FOR ITEMS OR MATERIALS THAT ARE INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. REMOVE FROM OWNER OCCUPIED AREAS DAILY. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT DAMAGE TO ADJACENT SURFACES AND AREAS.

G. CONTRACTOR SHALL REMOVE AND SALVAGE ALL EXISTING FIRE ALARM DEVICES. PROVIDE ADDITIONAL DEVICES AS REQUIRED PER NEW FIRE ALARM DESIGN. EXISTING FIRE ALARM CONTROL PANEL SHALL BE SALVAGED AND REINSTALLED. PROVIDE 120V POWER.

H. REMOVED AND REINSTALLED ITEMS (RL): CLEAN AND REPAIR ITEMS TO FUNCTIONAL CONDITION ADEQUATE FOR INTENDED REUSE. PACK OR CRATE ITEMS AFTER CLEANING. IDENTIFY CONTENTS OF CONTAINERS. STORE ITEMS IN A SECURE AREA TO PROTECT FROM DAMAGE. PROVIDE CONNECTIONS, SUPPORTS, AND MISCELLANEOUS MATERIALS NECESSARY TO MAKE ITEM FUNCTIONAL FOR USE INDICATED.

I. EXISTING TO REMAIN ITEMS (ER): PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY ARCHITECT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE.

J. COORDINATE ALL DEMO ACTIVITIES WITH OWNER AND ARCHITECT. PROVIDE 10 DAYS NOTICE FOR ANY POWER OUTAGES.

K. ALL DEVICES INDICATED 'ER' ARE EXISTING TO REMAIN. DEVICES INDICATED 'RL' ARE RELOCATED EXISTING. DEVICES INDICATED 'RE' ARE TO BE REMOVED.

L. PATCH ALL WALLS REQUIRED TO BE MODIFIED BY DEMOLITION OF RACEWAYS. REMOVE ALL BACK BOXES FOR ABANDONED SWITCH LOCATIONS AND PATCH WALLS TO MATCH FINISH AS SPECIFIED BY ARCHITECT. REINSTALL LOCAL SOUND REINFORCING WHERE POSSIBLE.

M. ANY EXISTING CONDUIT NOT BEING REUSED THAT IS ROUTED BELOW GRADE SHALL BE ABANDONED.

N. CONTRACTOR SHALL REPORT ANY DAMAGED DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN TO THE OWNER BEFORE STARTING WORK. ALL DEVICES FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION THAT ARE NOT REPORTED PRIOR TO STARTING WORK SHALL BE REPLACED BY THE CONTRACTOR AT HIS COST.

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DBR Project Number	165026.000

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REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

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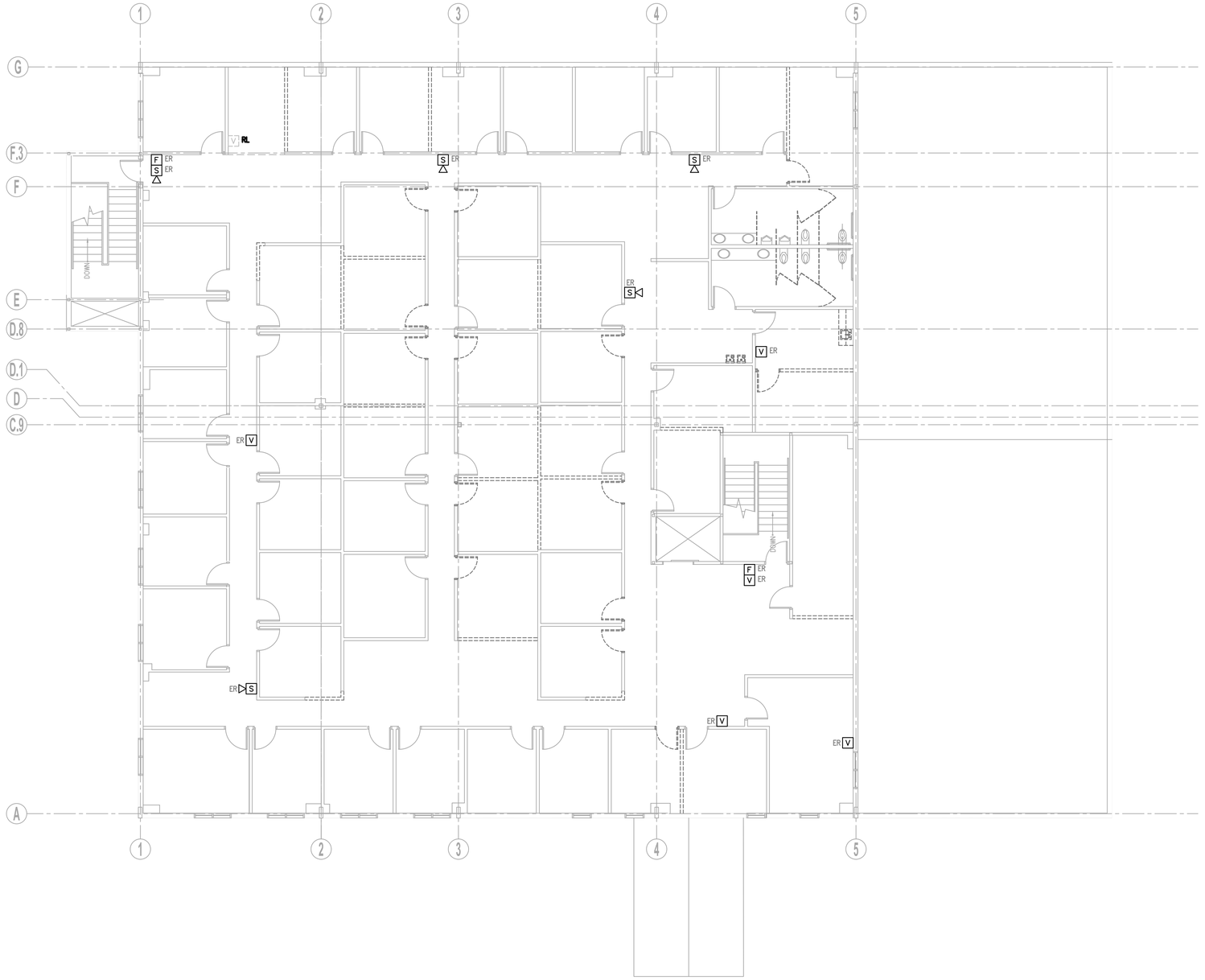
Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

1ST LEVEL DEMO LIGHTING PLAN

SHEET

DEL2.01



GENERAL LIGHTING DEMOLITION NOTES:

A. ALL EXISTING LIGHT FIXTURES ARE TO BE REMOVED. DISCONNECT EXISTING WIRING AND CONDUIT AND LEAVE IN PLACE FOR RECONNECTION TO NEW LIGHTING.

B. EXISTING FIRE ALARM EQUIPMENT AND DEVICES ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

C. ELECTRICAL CONTRACTOR SHALL CONSULT ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION TO BE PERFORMED.

D. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT AND CABLING REMOVED DURING DEMOLITION.

E. CONTRACTOR SHALL REMOVE ALL DEVICES WITHIN DEMOLISHED WALLS INCLUDING SWITCHES, FIRE ALARM DEVICES, CONDUIT AND WIRING. REMOVE CONDUIT AND WIRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMO PLAN.

F. EXCEPT FOR ITEMS OR MATERIALS THAT ARE INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE, REMOVE FROM OWNER OCCUPIED AREAS DAILY. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT DAMAGE TO ADJACENT SURFACES AND AREAS.

G. CONTRACTOR SHALL REMOVE AND SALVAGE ALL EXISTING FIRE ALARM DEVICES. PROVIDE ADDITIONAL DEVICES AS REQUIRED PER NEW FIRE ALARM DESIGN. EXISTING FIRE ALARM CONTROL PANEL SHALL BE SALVAGED AND REINSTALLED. PROVIDE 120V POWER.

H. REMOVED AND REINSTALLED ITEMS (RL): CLEAN AND REPAIR ITEMS TO FUNCTIONAL CONDITION ADEQUATE FOR INTENDED REUSE. PACK OR CRATE ITEMS AFTER CLEANING. IDENTIFY CONTENTS OF CONTAINERS. STORE ITEMS IN A SECURE AREA TO PROTECT FROM DAMAGE. PROVIDE CONNECTIONS, SUPPORTS, AND MISCELLANEOUS MATERIALS NECESSARY TO MAKE ITEM FUNCTIONAL FOR USE INDICATED.

I. EXISTING TO REMAIN ITEMS (ER): PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY ARCHITECT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE.

J. COORDINATE ALL DEMO ACTIVITIES WITH OWNER AND ARCHITECT. PROVIDE 10 DAYS NOTICE FOR ANY POWER OUTAGES.

K. ALL DEVICES INDICATED 'ER' ARE EXISTING TO REMAIN. DEVICES INDICATED 'RL' ARE RELOCATED EXISTING. DEVICES INDICATED 'RE' ARE TO BE REMOVED.

L. PATCH ALL WALLS REQUIRED TO BE MODIFIED BY DEMOLITION OF RACEWAYS. REMOVE ALL BACK BOXES FOR ABANDONED SWITCH LOCATIONS AND PATCH WALLS TO MATCH FINISH AS SPECIFIED BY ARCHITECT. REINSTALL LOCAL SOUND REINFORCING WHERE POSSIBLE.

M. ANY EXISTING CONDUIT NOT BEING REUSED THAT IS ROUTED BELOW GRADE SHALL BE ABANDONED.

N. CONTRACTOR SHALL REPORT ANY DAMAGED DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN TO THE OWNER BEFORE STARTING WORK. ALL DEVICES FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION THAT ARE NOT REPORTED PRIOR TO STARTING WORK SHALL BE REPLACED BY THE CONTRACTOR AT HIS COST.

1 DEL2.02 **2ND LEVEL DEMO LIGHTING PLAN**

1/8"=1'-0"

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TBPE Firm Registration No. 2234

DBR Project Number	165026.000

MC	SN	NF	AH	--

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1/13/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

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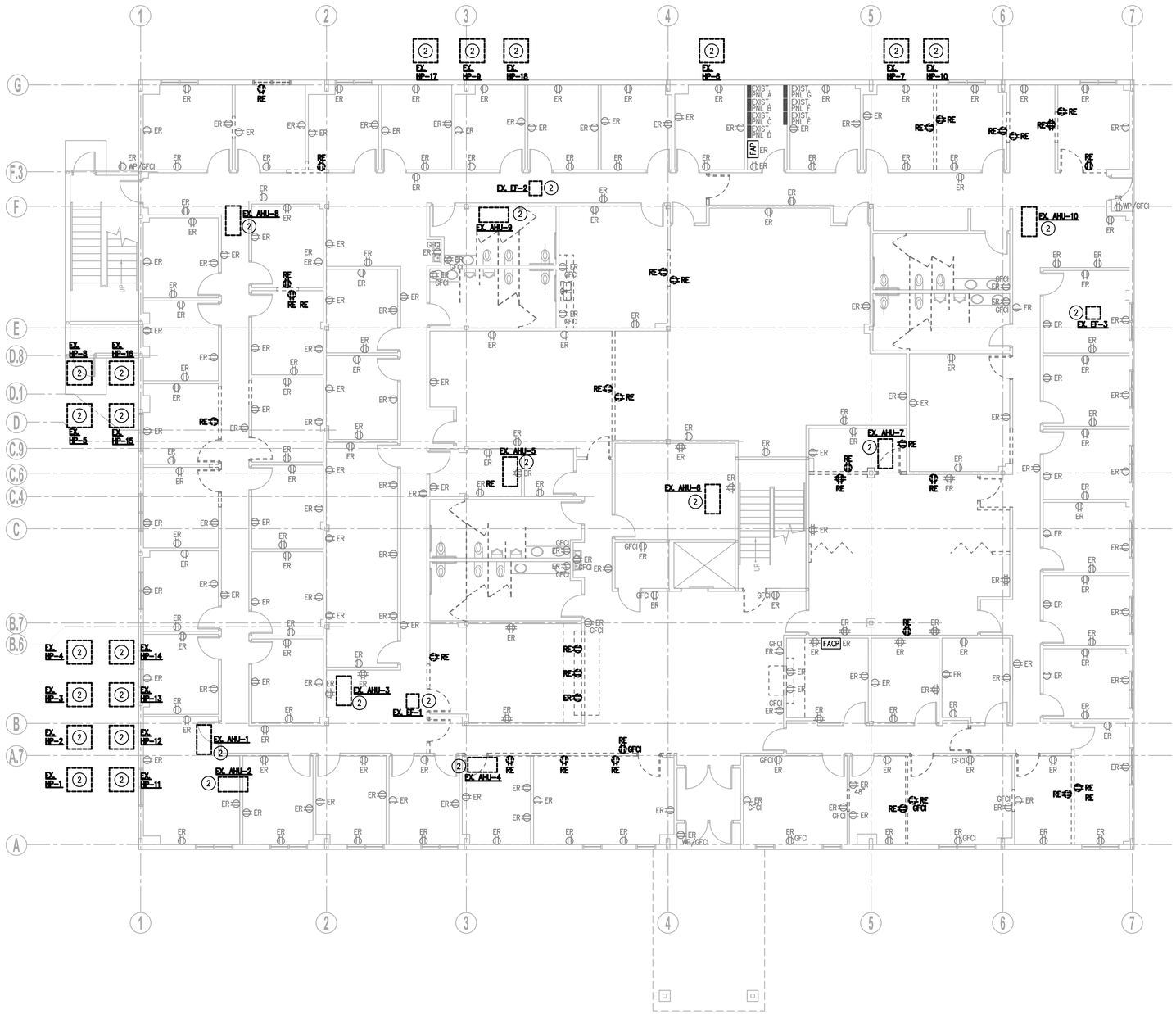
Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

2ND LEVEL DEMO LIGHTING PLAN

SHEET

DEL2.02



GENERAL POWER DEMOLITION NOTES:

A. ALL EQUIPMENT IS EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

B. ELECTRICAL CONTRACTOR SHALL CONSULT ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION TO BE PERFORMED.

C. CONTRACTOR SHALL REMOVE ALL ELECTRICAL CONNECTIONS TO EXISTING PREWIRED FURNITURE. REMOVE CONDUIT AND WIRING BACK TO LAST ACTIVE JUNCTION BOX. ALL DATA CABLING SHALL BE REMOVED BACK TO LAST ACTIVE JUNCTION BOX AND SALVAGED FOR REINSTALLATION.

D. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT AND CABLING REMOVED DURING DEMOLITION.

E. CONTRACTOR SHALL REMOVE ALL DEVICES WITHIN DEMOLISHED WALLS INCLUDING RECEPTACLES, DATA/TELEPHONE DROPS, CONDUIT AND WIRING. REMOVE CONDUIT AND WIRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMO PLAN.

F. EXCEPT FOR ITEMS OR MATERIALS THAT ARE INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE, REMOVE FROM OWNER OCCUPIED AREAS DAILY. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT DAMAGE TO ADJACENT SURFACES AND AREAS.

G. ELECTRICAL CONTRACTOR SHALL CIRCUIT TRACE AND IDENTIFY ALL EXISTING CIRCUITS WITHIN THE TENANT SPACES PRIOR TO DEMOLITION. EXISTING WIRING AND CONDUIT SHALL REMAIN IN PLACE IN AREAS OF THE SPACE THAT ARE NOT PART OF THE DEMOLITION. IF CIRCUITS ARE IN BOTH "TO REMAIN" AND "TO BE REMOVED" AREAS, REMOVE WIRING AND CONDUIT BACK TO NEAREST "TO REMAIN" JUNCTION BOX.

H. EXISTING TO REMAIN ITEMS (ER): PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY ARCHITECT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE.

I. COORDINATE ALL DEMO ACTIVITIES WITH OWNER AND ARCHITECT. PROVIDE 10 DAYS NOTICE FOR ANY POWER OUTAGES.

J. ALL DEVICES INDICATED 'ER' ARE EXISTING TO REMAIN. DEVICES INDICATED 'RL' ARE RELOCATED EXISTING. DEVICES INDICATED 'RE' ARE TO BE REMOVED.

K. PATCH ALL WALLS REQUIRED TO BE MODIFIED BY DEMOLITION OF RACEWAYS. REMOVE ALL BACK BOXES FOR ABANDONED SWITCH LOCATIONS AND PATCH WALLS TO MATCH FINISH AS SPECIFIED BY ARCHITECT. REINSTALL LOCAL SOUND REINFORCING WHERE POSSIBLE.

L. ANY EXISTING CONDUIT NOT BEING REUSED THAT IS ROUTED BELOW GRADE SHALL BE ABANDONED.

M. CONTRACTOR SHALL REPORT ANY DAMAGED DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN TO THE OWNER BEFORE STARTING WORK. ALL DEVICES FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION THAT ARE NOT REPORTED PRIOR TO STARTING WORK SHALL BE REPLACED BY THE CONTRACTOR AT HIS COST.

KEYED POWER DEMOLITION NOTES:

1. LEAVE EXISTING WIRING AND CONDUIT IN PLACE FOR CONNECTION TO NEW RECEPTACLES.
2. DISCONNECT AND COMPLETELY REMOVE ALL EXISTING WIRING AND CONDUIT TO EXISTING HVAC EQUIPMENT TO BE REMOVED. LABEL CIRCUIT BREAKER AS SPARE. COORDINATE DEMOLITION WITH HVAC CONTRACTOR.
3. DISCONNECT EXISTING FEEDER TO EXISTING RECEPTACLE TO REMAIN. RECEPTACLE SHALL BE REFED FROM NEW CIRCUIT.

1 DEP2.01 **1ST LEVEL DEMO POWER PLAN**
1/8"=1'-0"

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2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

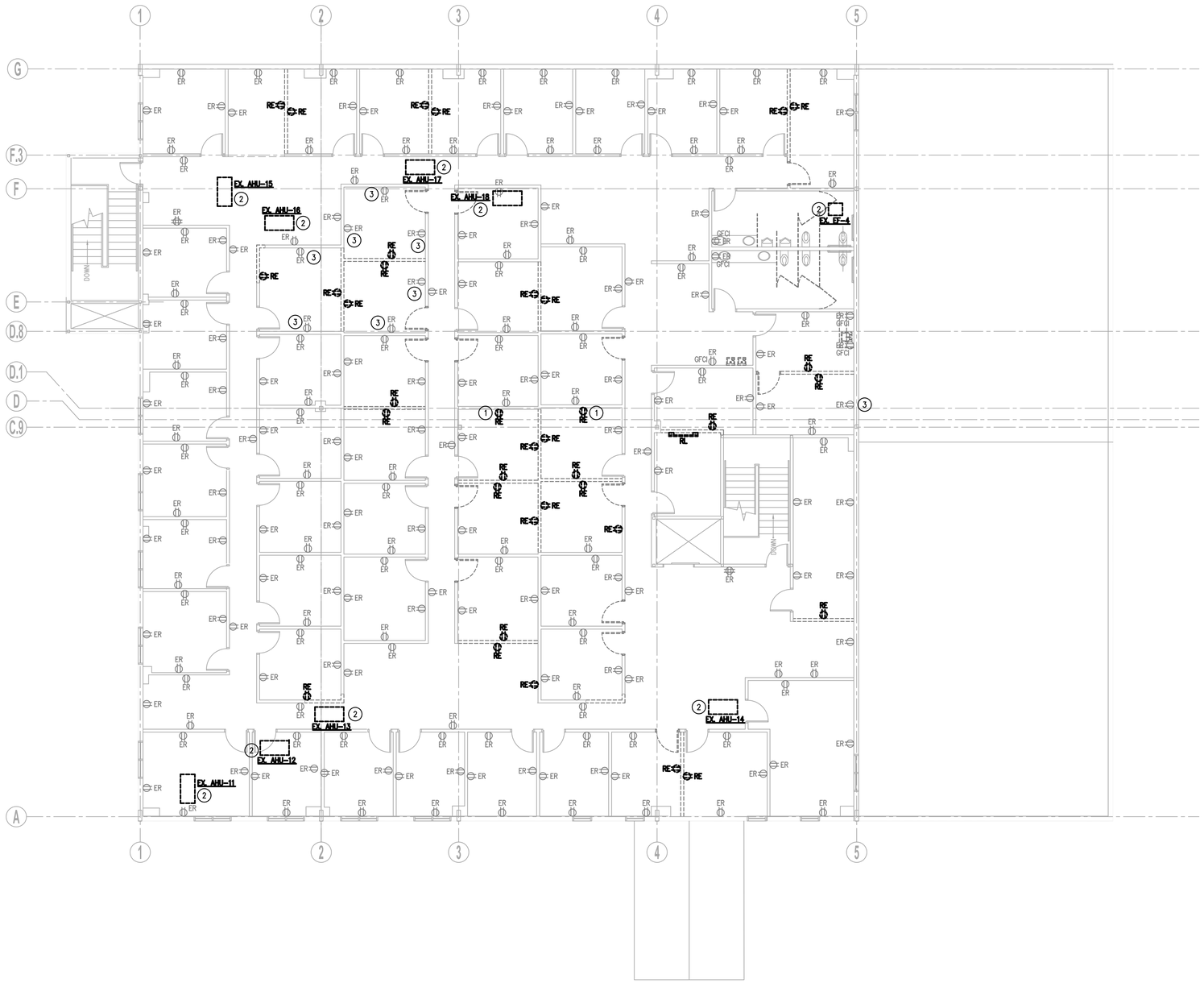
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TITLE

1ST LEVEL DEMO POWER PLAN

SHEET

DEP2.01



GENERAL POWER DEMOLITION NOTES:

A. ALL EQUIPMENT IS EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

B. ELECTRICAL CONTRACTOR SHALL CONSULT ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION TO BE PERFORMED.

C. CONTRACTOR SHALL REMOVE ALL ELECTRICAL CONNECTIONS TO EXISTING PREWIRED FURNITURE. REMOVE CONDUIT AND WIRING BACK TO LAST ACTIVE JUNCTION BOX. ALL DATA CABLING SHALL BE REMOVED BACK TO LAST ACTIVE JUNCTION BOX AND SALVAGED FOR REINSTALLATION.

D. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT AND CABLING REMOVED DURING DEMOLITION.

E. CONTRACTOR SHALL REMOVE ALL DEVICES WITHIN DEMOLISHED WALLS INCLUDING RECEPTACLES, DATA/TELEPHONE DROPS, CONDUIT AND WIRING. REMOVE CONDUIT AND WIRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMO PLAN.

F. EXCEPT FOR ITEMS OR MATERIALS THAT ARE INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN OWNER'S PROPERTY, REMOVE DEMOLISHED MATERIALS FROM PROJECT SITE AND LEGALLY DISPOSE OF THEM IN AN EPA-APPROVED LANDFILL. DO NOT ALLOW DEMOLISHED MATERIALS TO ACCUMULATE ON-SITE. REMOVE FROM OWNER OCCUPIED AREAS DAILY. REMOVE AND TRANSPORT DEBRIS IN A MANNER THAT WILL PREVENT DAMAGE TO ADJACENT SURFACES AND AREAS.

G. ELECTRICAL CONTRACTOR SHALL CIRCUIT TRACE AND IDENTIFY ALL EXISTING CIRCUITS WITHIN THE TENANT SPACES PRIOR TO DEMOLITION. EXISTING WIRING AND CONDUIT SHALL REMAIN IN PLACE IN AREAS OF THE SPACE THAT ARE NOT PART OF THE DEMOLITION. IF CIRCUITS ARE IN BOTH "TO REMAIN" AND "TO BE REMOVED" AREAS, REMOVE WIRING AND CONDUIT BACK TO NEAREST "TO REMAIN" JUNCTION BOX.

H. EXISTING TO REMAIN ITEMS (ER): PROTECT CONSTRUCTION INDICATED TO REMAIN AGAINST DAMAGE AND SOILING DURING SELECTIVE DEMOLITION. WHEN PERMITTED BY ARCHITECT, ITEMS MAY BE REMOVED TO A SUITABLE, PROTECTED STORAGE LOCATION DURING SELECTIVE DEMOLITION AND REINSTALLED IN THEIR ORIGINAL LOCATIONS AFTER SELECTIVE DEMOLITION OPERATIONS ARE COMPLETE.

I. COORDINATE ALL DEMO ACTIVITIES WITH OWNER AND ARCHITECT. PROVIDE 10 DAYS NOTICE FOR ANY POWER OUTAGES.

J. ALL DEVICES INDICATED 'ER' ARE EXISTING TO REMAIN. DEVICES INDICATED 'RL' ARE RELOCATED EXISTING. DEVICES INDICATED 'RE' ARE TO BE REMOVED.

K. PATCH ALL WALLS REQUIRED TO BE MODIFIED BY DEMOLITION OF RACEWAYS. REMOVE ALL BACK BOXES FOR ABANDONED SWITCH LOCATIONS AND PATCH WALLS TO MATCH FINISH AS SPECIFIED BY ARCHITECT. REINSTALL LOCAL SOUND REINFORCING WHERE POSSIBLE.

L. ANY EXISTING CONDUIT NOT BEING REUSED THAT IS ROUTED BELOW GRADE SHALL BE ABANDONED.

M. CONTRACTOR SHALL REPORT ANY DAMAGED DEVICES THAT ARE SHOWN AS EXISTING TO REMAIN TO THE OWNER BEFORE STARTING WORK. ALL DEVICES FOUND TO BE DAMAGED AT THE TIME OF SUBSTANTIAL COMPLETION THAT ARE NOT REPORTED PRIOR TO STARTING WORK SHALL BE REPLACED BY THE CONTRACTOR AT HIS COST.

KEYED POWER DEMOLITION NOTES:

1. LEAVE EXISTING WIRING AND CONDUIT IN PLACE FOR CONNECTION TO NEW RECEPTACLES.
2. DISCONNECT AND COMPLETELY REMOVE ALL EXISTING WIRING AND CONDUIT TO EXISTING HVAC EQUIPMENT TO BE REMOVED. LABEL CIRCUIT BREAKER AS SPARE. COORDINATE DEMOLITION WITH HVAC CONTRACTOR.
3. DISCONNECT EXISTING FEEDER TO EXISTING RECEPTACLE TO REMAIN. RECEPTACLE SHALL BE REFED FROM NEW CIRCUIT.

1 DEP2.02 2ND LEVEL DEMO POWER PLAN

1/8"=1'-0"

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REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

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2ND LEVEL DEMO POWER PLAN

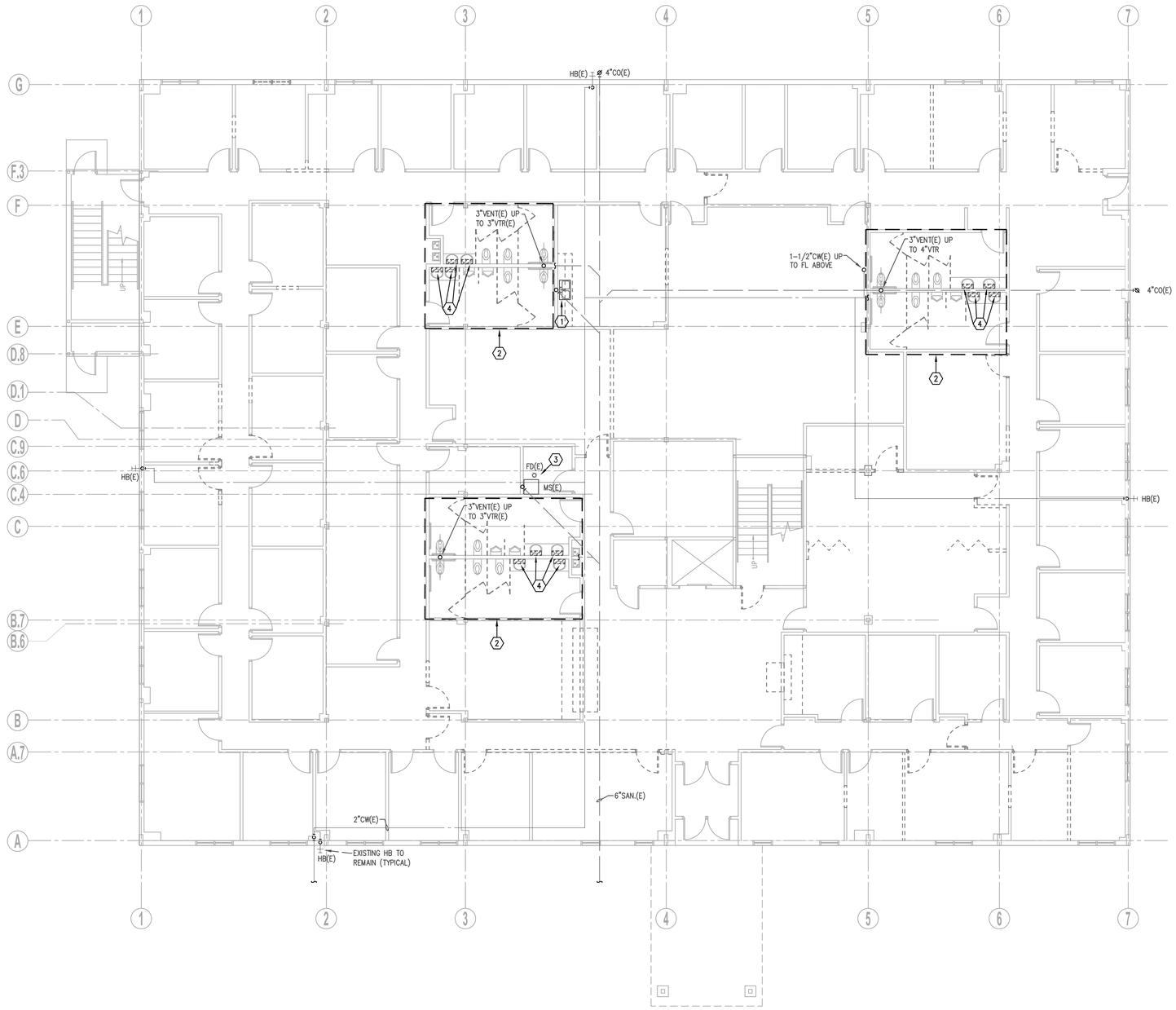
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DEP2.02

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DBR Project Number 165026.000

MC	SN	NF	AH	--



1 DP2.01 **1ST LEVEL DEMO PLUMBING PLAN**

1/8"=1'-0"

GENERAL NOTES:

A. ALL FIXTURES, EQUIPMENT AND PLUMBING LINES SHOWN WITH (E) ARE EXISTING TO REMAIN. UNLESS NOTED OTHERWISE.

B. THE CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING ALL WORK UNDER THIS SECTION OF THE PROJECT IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES INCLUDING THOSE PUBLISHED BY OSHA AND EPA.

C. THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VSIT TO THE SITE WILL BE REQUIRED PRIOR TO BIDDING. CONTRACTOR SHALL IDENTIFY/VERIFY ALL PLUMBING LINES BEFORE STARTING ANY DEMOLITION WORK.

D. CUTTING OF CONCRETE FLOORS SHALL BE BY MACHINE SAW, HOLES FOR PIPES (WALL OR FLOOR) SHALL BE DONE WITH CORE DRILLING EQUIPMENT WITH PRIOR APPROVAL FROM THE STRUCTURAL ENGINEERS. PATCH AND SEAL OPENINGS AS REQUIRED. COORDINATE ALL CUTTING AND PATCHING WITH OTHER TRADES.

E. ALL EXISTING PLUMBING FIXTURES AND EQUIPMENT REMOVED DURING CONSTRUCTION THAT ARE NOT TO BE REUSED SHALL BE REMOVED FROM THE JOB SITE AND PROPERLY RETURNED TO THE OWNER, IF DESIRED BY OWNER.

F. PROVIDE ALL WORK REQUIRED FOR THE REMOVAL OF FIXTURES TO BE DEMOLISHED AND INSTALLATION OF NEW FIXTURES AND ASSOCIATED SERVICES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.

G. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE ARCH'L DOCUMENTS IN ADDITION TO THE MECHANICAL AND ELECTRICAL DOCUMENTS TO DETERMINE THE COMPLETE SCOPE OF WORK.

H. COORDINATE DEMOLITION OF PLUMBING SYSTEMS AS REQUIRED WITH ALL OTHER TRADES.

PLUMBING DEMO KEYED NOTES:

1. DEMOLISH EXISTING PLUMBING FIXTURE. PREPARE EXISTING PLUMBING PIPING FOR NEW FIXTURE LOCATION. CAP ANY UNUSED PIPING AT CONCEALED LOCATION. PATCH WALL AND FLOOR TO MATCH EXISTING. EXTEND PIPING TO NEW FIXTURE LOCATION AS REQUIRED.
2. EXISTING PLUMBING AND FIXTURES TO REMAIN WITH THE EXCEPTION OF NEW SINK FAUCETS TO BE PROVIDED.
3. EXISTING MOP SINK, FLOOR DRAIN & PIPING TO REMAIN.
4. EXISTING SINK FAUCET TO BE REMOVED AND REPLACED. EXISTING SINK AND COUNTER TOP TO REMAIN. PROTECT SINK AND COUNTERTOP FROM DAMAGE DUE TO FAUCET REMOVAL AND NEW FAUCET INTALLATION. REFER TO P2.01 AND P2.02 FOR NEW FAUCET LOCATIONS AND REFER TO PLUMBING FIXTURE SCHEDULE FOR NEW SINK FAUCET.

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1/13/17

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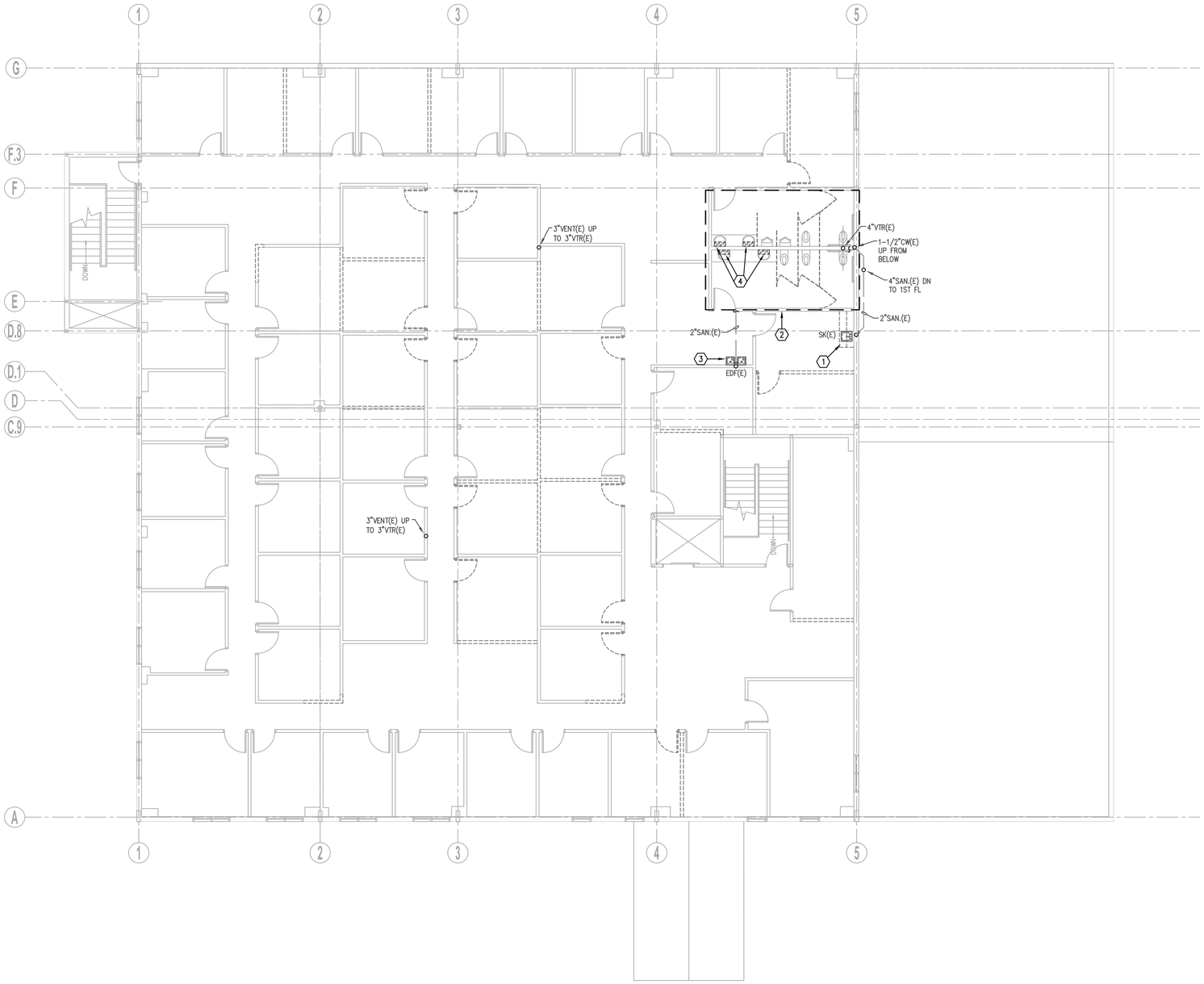
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1ST LEVEL DEMO PLUMBING PLAN

SHEET

DP2.01



1 DP2.02 2ND LEVEL DEMO PLUMBING PLAN

1/8"=1'-0"

GENERAL NOTES:

A. ALL FIXTURES, EQUIPMENT AND PLUMBING LINES SHOWN WITH (E) ARE EXISTING TO REMAIN. UNLESS NOTED OTHERWISE.

B. THE CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING ALL WORK UNDER THIS SECTION OF THE PROJECT IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES INCLUDING THOSE PUBLISHED BY OSHA AND EPA.

C. THE EXTENT OF DEMOLITION WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE WILL BE REQUIRED PRIOR TO BIDDING. CONTRACTOR SHALL IDENTIFY/VERIFY ALL PLUMBING LINES BEFORE STARTING ANY DEMOLITION WORK.

D. CUTTING OF CONCRETE FLOORS SHALL BE BY MACHINE SAW, HOLES FOR PIPES (WALL OR FLOOR) SHALL BE DONE WITH CORE DRILLING EQUIPMENT WITH PRIOR APPROVAL FROM THE STRUCTURAL ENGINEERS. PATCH AND SEAL OPENINGS AS REQUIRED. COORDINATE ALL CUTTING AND PATCHING WITH OTHER TRADES.

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F. PROVIDE ALL WORK REQUIRED FOR THE REMOVAL OF FIXTURES TO BE DEMOLISHED AND INSTALLATION OF NEW FIXTURES AND ASSOCIATED SERVICES TO PROVIDE A COMPLETE AND OPERABLE SYSTEM UPON COMPLETION OF THE PROJECT.

G. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE ARCH'L DOCUMENTS IN ADDITION TO THE MECHANICAL AND ELECTRICAL DOCUMENTS TO DETERMINE THE COMPLETE SCOPE OF WORK.

H. COORDINATE DEMOLITION OF PLUMBING SYSTEMS AS REQUIRED WITH ALL OTHER TRADES.

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1. DEMOLISH EXISTING PLUMBING FIXTURE. PREPARE EXISTING PLUMBING PIPING FOR NEW FIXTURE LOCATION. CAP ANY UNUSED PIPING AT CONCEALED LOCATION. PATCH WALL AND FLOOR TO MATCH EXISTING. EXTEND PIPING TO NEW FIXTURE LOCATION AS REQUIRED.

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4. EXISTING SINK FAUCET TO BE REMOVED AND REPLACED. EXISTING SINK AND COUNTER TOP TO REMAIN. PROTECT SINK AND COUNTERTOP FROM DAMAGE DUE TO FAUCET REMOVAL AND NEW FAUCET INTALLATION. REFER TO P2.01 AND P2.02 FOR NEW FAUCET LOCATIONS AND REFER TO PLUMBING FIXTURE SCHEDULE FOR NEW SINK FAUCET.

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2ND LEVEL DEMO PLUMBING PLAN

SHEET

DP2.02

ABBREVIATIONS (NOT ALL ITEMS INDICATED APPLY TO THIS PROJECT)

A

A	AIR (COMPRESSED)
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT AIR COMPRESSOR
ACCH	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR, AREA DRAIN
ADJ	ADJUSTABLE
AF	AIR FILTER
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AMB	AMBIENT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
ARI	AMERICAN REFRIGERANT INSTITUTE
ARCH	ARCHITECT, ARCHITECTURAL
AS	AIR SEPARATOR
ASHRAE	AMERICAN SOCIETY OF HEATING AND REFRIGERATION ENGINEERS
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AV	ACID VENT, AIR VENT
AVG	AVERAGE
AWS	AMERICAN WELDING SOCIETY
AUX	AUXILIARY

B

B	BOILER
BC	BELOW COUNTER
B/C	BACK OF CURB
BFV	BUTTERFLY VALVE
BH	BOX HYDRANT
BLDG	BUILDING
BM	BENCHMARK
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STRUCTURE
BT	BATH TUB, BREAK TANK
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACK WATER VALVE

C

C	CELSIUS
CAB	CABINET
CB	CATCH BASIN
CD	CONDENSATE DRAIN LINE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	CHILLER
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CI	CAST IRON
CIRC	CIRCULATING
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CPI	CAST IRON PIPE INSTITUTE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CO	CLEAN OUT
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESSOR
CON	CONVERTER
CONC	CONCRETE, CONCENTRIC
COND	CONDENSER, CONDENSATE
CONN	CONNECTION
CONT	CONTINOUS, CONTINUATION
CONTR	CONTROLLER, CONTRACTOR
CRAC	COMPUTER ROOM A/C UNIT
CRT	CATHODE RAY TUBE
CT	COOLING TOWER
CTR	CENTER
CU	COPPER
CW	COLD WATER
CWP	CONDENSER WATER PUMP
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY

D

D	DEPTH, DRAIN, DRYER
DB	DRY BULB
DC	DOUBLE DUCT CONSTANT VOLUME, DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DESIG	DESIGNATION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DPR	DAMPER
DS	DOWNSPOUT, DOUBLE SUCTION
DV	DOUBLE DUCT VAV
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DX	DIRECT EXPANSION

E

EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
EDB	ENTERING DRY BULB
EDF	ELECTRIC DRINKING FOUNTAIN
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EFF	EFFICIENCY
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR EMERGENCY ENCLOSURE
EMERG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPMENT
ES	END SUCTION, EMERGENCY SHOWER
ESP	EXTERNAL STATIC PRESSURE EXPANSION TANK
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EVAP	EVAPORATOR
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EX	EXPLOSION-PROOF
EXT	EXTERNAL
EXTG	EXISTING

F

F	FAHRENHEIT, FIRE
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEAN OUT
FCS	FLOOR CONTROL STATION
FCU	FAN COIL UNIT
FD	FLOOR DRAIN, FIRE DAMPER
FDS	FIRE DEPARTMENT SIAMESE
FDV	FIRE DEPARTMENT VALVE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FL	FLOW LINES
FLR	FLOOR
FP	FIRE PUMP
FPT	FAN POWERED TERMINAL
FRZR	FREEZER
FS	FLOW SWITCH, FIRE SPRINKLER
FSK	FLOOR SINK
FT	FOOT, FEET
FUT	FUTURE

G

G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GSH	GRAND SENSIBLE HEAT
GTH	GRAND TOTAL HEAT
GV	GATE VALVE

H

HB	HOSE BIBB
HD	HEAD, HUB DRAIN
HE	HEAT EXCHANGER
HF	HUMIDIFIER
HORIZ	HORIZONTAL
HP	HORSEPOWER, HALON PANEL
HPU	HEAT PUMP UNIT
HKP	HOUSEKEEPING PAD
HSC	HORIZONTAL SPLIT CASE
HSTAT	HUMIDISTAT
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HW	HOT WATER
HWC	HOT WATER CIRCULATOR
HWP	HEATING WATER PUMP
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ

I

ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IH	INFRARED HEATER
IN	INCH
INSUL	INSULATION
INT	INTERNAL, INTERIOR
IW	INDIRECT WASTE

J

JB	JUNCTION BOX
JP	JOCKEY PUMP

K

KEC	KITCHEN EQUIPMENT CONTRACTOR
KO	KNOCKOUT
KVA	KILOVOLT- AMPS
KW	KILOWATT

L

L	LENGTH, LAVATORY
LAT	LEAVING AIR TEMPERATURE
LAV	LAVATORY
LF	LINEAR FEET
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LVL	LEVEL
LWB	LEAVING WET BULB
LWCO	LOW WATER CUT OFF
LWT	LEAVING WATER TEMPERATURE

M

MAT	MIXED AIR TEMPERATURE
MAX	MAXIMUM
MBTUH	THOUSAND OF BTU'S
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MP	MEDIUM PRESSURE
MS	MOP SINK
MTD	MOUNTED
MU	MAKE-UP
MVD	MANUAL VOLUME DAMPER

N

N.C.	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

O

OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN
OFCU	OUTSIDE AIR FAN COIL UNIT
OPG	OPENING
OS&Y	OPEN STEM AND YOLK

P

P	PUMP, PLUMBING EQUIPMENT
PC	PLUMBING CONTRACTOR
PCR	PUMPED CONDENSATE RETURN
PD	PRESSURE DROP, PLANTER DRAIN
PH	PHASE, POST HYDRANT
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
PNTH	PENTHOUSE
PP	POLYPROPYLENE
PPM	PART PER MILLION
PRI	PRIMARY
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	PLUMBING TRIM
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE

Q

QTY	QUANTITY

R

RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RAG	RETURN AIR GRILL
RAT	RETURN AIR TEMPERATURE
RCP	REFLECTED CEILING PLAN, REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RE	REFERENCE, REFER
RECIRC	RECIRCULATE
RED	REDUCER
REFR	REFRIGERATOR
REG	REGISTER
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION, REVISE
RH	RELATIVE HUMIDITY
RHG	REFRIGERANT HOT GAS
RKVA	RUNNING KILOVOLT-AMPS
RKW	RUNNING KILOWATTS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RM	ROOM, REFRIGERATION MACHINE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RV	RELIEF VALVE

S

S	STEAM
SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SAG	SUPPLY AIR GRILLE
SAN	SANITARY SEWER
SAR	SUPPLY AIR REGISTER
SC	STEAM CONDENSATE
SCHED	SCHEDULED
SCR	SILICON CONTROLLED RECTIFIER
SD	STORM DRAIN
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SENS	SENSIBLE
SF	SQUARE FEET
SFCS	SPRINKLER FLOOR CONTROL STATION
SH	SHOWER
SHT	SHEET
SIM	SIMILAR
SK	SINK
SKVA	STARTING KILOVOLT-AMPS
SKW	STARTING KILOWATTS
SM	SHEETMETAL
SP	SUMP PUMP, STATIC PRESSURE
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	SERVICE SINK
SSD	SUBSURFACE DRAIN
SSFU	SANITARY SEWER FIXTURE UNITS
SSSC	SOLID STATE SPEED CONTROL
STD	STANDARD
STL	STEEL
STR	STRAINER
SURF	SURFACE
SUSP	SUSPEND
SV	SANITARY VENT

T

TC	TEMPERATURE CONTROL
TCC	TEMPERATURE CONTROL COMPRESSOR
TD	TRENCH DRAIN
TF	TRANSFER FAN
TDH	TOTAL DYNAMIC HEAD
TH BLK	THRUST BLOCK
TP	TRAP PRIMER
TPD	TRAP PRIMER DEVICE
TSP	TOTAL STATIC PRESSURE
TSTAT	THERMOSTAT
TYP	TYPICAL

U

U	URINAL
UCD	UNDER CUT DOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
U/F	UNDERFLOOR
U/S	UNDERSLAB

V

V	VOLT, VENT
VA	VOLT- AMPERE
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VALVE BOX, VACUUM BREAKER
VCP	VITRIFIED CLAY PIPE
VD	VOLUME DAMPER
VEL	VELOCITY
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VIB	VALVE IN BOX
VOV	VALVE ON VERTICAL
VP	VACUUM PUMP
VR	VARIABLE AIR VOLUME REHEAT
VTR	VENT THRU ROOF

W

W	WATT, WASTE, WIDTH, WASHER
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WCO	WALL CLEAN OUT
WH	WALL HYDRANT
WM	WATER METER
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWF	WELDED WIRE FABRIC
WT	WATERTIGHT, WEIGHT

Y

Y	YARD HYDRANT

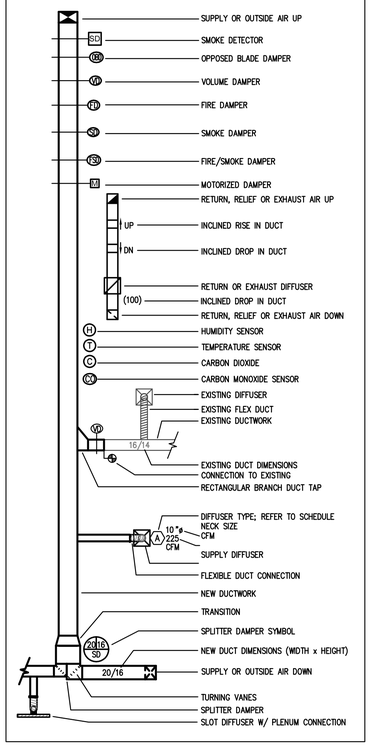
Z

Z	ZONE

MECHANICAL PIPING SYMBOLS

CWS	CONDENSER WATER SUPPLY		STRAINER WITH BLOW DOWN VALVE
CWR	CONDENSER WATER RETURN		GATE VALVE, HVAC BALANCING/STOP VALVE
CHS	CHILLED WATER SUPPLY		GLOBE VALVE
CHR	CHILLED WATER RETURN		BALL VALVE
CD	CONDENSATE DRAIN LINE		BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS
	CAP ON END OF PIPE		OS&Y VALVE
	ELBOW UP		CHECK VALVE
	ELBOW DOWN		BUTTERFLY VALVE
	VALVE IN DROP		TWO-WAY MODULATING CONTROL VALVE
	VALVE IN RISE		THREE-WAY MODULATING CONTROL VALVE
	DIRECTION OF FLOW		SOLENOID VALVE
	DIRECTION OF SLOPE DOWN		PRESSURE REDUCING VALVE
	CONCENTRIC REDUCER		GAS REGULATOR
	ECCENTRIC REDUCER		GAS COCK
	TEE OUTLET UP	FCS	SPRINKLER FLOOR CONTROL STATION
	TEE OUTLET DOWN		MANUAL AIR VENT
	UNION		AUTOMATIC AIR VENT
	FLANGE		T&P RELIEF VALVE
	PIPE ANCHOR		PRESSURE GAUGE WITH GAUGE COCK
	EXPANSION JOINT		STEAM TRAP
	PRESSURE AND TEMPERATURE TAP		WATER METER
	FLOW VENTURI		FLEXIBLE CONNECTION
	VACUUM BREAKER		
	VACUUM RELIEF VALVE		
	BACKFLOW PREVENTOR		
	THERMOMETER		
	CIRCULATING PUMP		

DUCTWORK SYMBOLS - NEW



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1/13/17

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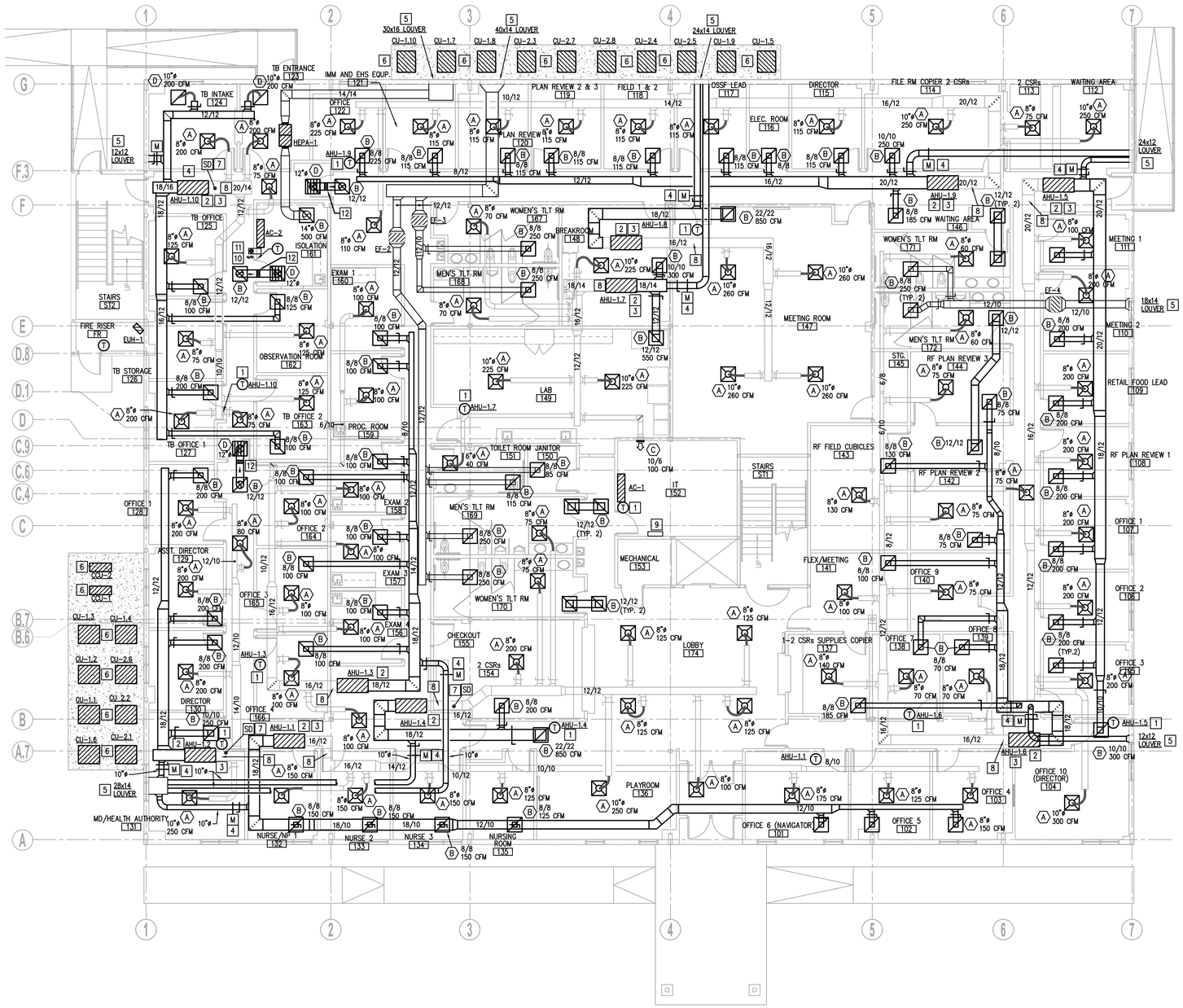
Date	January 16, 2017
Job Number	16-1010
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Approved	

TITLE

MECHANICAL SYMBOLS AND ABBREVIATIONS

SHEET

M0.00



1 1ST LEVEL MECHANICAL PLAN
M2.01 1/8"=1'-0"

GENERAL MECHANICAL NOTES:

A. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION OF CONDUIT, LIGHTS, FIRE SPRINKLER PIPING, CONDENSATE PIPING, EQUIPMENT, DUCTS, AND GRILLES, ETC. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS THAT UPON PROJECT COMPLETION, THE EXISTING MECHANICAL SYSTEMS, FIRE SPRINKLER PIPING, CONDUIT, DUCTWORK, ETC... BE READY FOR OPERATION WHETHER OR NOT EVERY ITEM OF EQUIPMENT, ACCESSORY, DEVICE, ETC. IS SHOWN. REFERENCE SHALL BE MADE TO THE FULL DRAWING PACKAGE INCLUDING ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR COORDINATION AND POTENTIAL CONFLICTS. THE MECHANICAL SUBCONTRACTOR SHALL, WITHOUT EXTRA CHARGE, MAKE REASONABLE MODIFICATIONS IN THE LAYOUT AS NEEDED TO PREVENT CONFLICTS WITH OTHER TRADES, OR FOR PROPER EXECUTION OF THE WORK. FIELD VERIFY ALL DIMENSIONS BEFORE FABRICATING DUCTWORK.

B. COORDINATE FLOOR, WALL, ROOF OPENINGS WITH ARCHITECT AND STRUCTURAL ENGINEER.

C. EQUIPMENT SIZES, DIMENSIONS, AND REQUIRED CONNECTIONS SHALL BE VERIFIED WITH THE MANUFACTURER DRAWINGS AND CUT SHEETS BEFORE FABRICATING OF DUCTWORK, PIPING, OR POURING OF HOUSEKEEPING PADS.

D. DUCT SIZES SHOWN ON PLANS ARE CLEAR, INSIDE DIMENSIONS.

E. ALL DUCTWORK AND ASSOCIATED ACCESSORIES SHALL BE CONSTRUCTED TO MEET THE LATEST SMACNA STANDARDS FOR LOW PRESSURE DUCTWORK.

F. EXACT LOCATION OF GRILLES AND DAMPERS SHALL BE FIELD COORDINATED WITH OTHER TRADES TO AVOID CONFLICTS AND ALLOW ADEQUATE CLEARANCES.

G. DIVISION 23 MECHANICAL CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR FOR ALL ELECTRICAL POWER REQUIREMENTS.

H. PROVIDE INSULATION FOR ALL PIPING AND DUCTWORK THAT MEETS LATEST ASHRAE 90.1.

I. PROVIDE AIRFOIL TYPE TURNING VANES IN ALL NEW 90 DEGREE ELBOWS.

J. ALL CEILING MOUNTED AND WALL MOUNTED AIR DEVICES SHALL MATCH ADJACENT ARCHITECTURAL SURFACE. CONTRACTOR SHALL COORDINATE COLOR WITH ARCHITECT.

K. MECHANICAL CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF ALL OUTSIDE AIR INTAKES AND ANY EXHAUST AIR OUTLET, FLUES, OR PLUMBING VENTS. COORDINATE WITH PLUMBING CONTRACTOR AND OTHER TRADES.

L. ALL SUPPLY AIR TAPS TO DIFFUSERS AND GRILLES SHALL BE SUPPLIED WITH MANUAL VOLUME DAMPERS. PROVIDE YOUNG REGULATORS FOR DAMPERS LOCATED ABOVE INACCESSIBLE CEILINGS.

M. REFER TO ARCHITECTURAL DRAWINGS FOR AIR DIFFUSER FINISHES.

N. ENCLOSED SPACES RECEIVING MORE THAN 2000 CFM SUPPLY AIR FROM MULTIPLE FAN COIL UNITS SHALL HAVE A SMOKE DETECTOR INSTALLED AT THE SUPPLY AIR DISCHARGE OF EACH FAN COIL UNIT FOR AUTOMATIC SHUT-OFF UPON SMOKE DETECTION. ALL DUCT SMOKE DETECTORS SHALL BE TIED TO THE BUILDING FIRE ALARM SYSTEM.

MECHANICAL KEYED NOTES

1 PROVIDE WALL MOUNTED THERMOSTAT. COORDINATE WITH ARCHITECT FOR FINAL LOCATION AND MOUNTING HEIGHT. TYP. ALL.

2 SUSPEND UNIT WITH SECONDARY DRAIN PAN TO STRUCTURE AND BETWEEN JOIST SPACE. ROUTE REFRIGERANT PIPING TO ASSOCIATED OUTDOOR UNIT LOCATED ON ROOF. ALL PIPING ROUTING SHALL BE CONCEALED FROM VIEW AS MUCH AS POSSIBLE. PROVIDE DUCT TRANSITION TO UNIT CONNECTION AS REQUIRED. INSTALL UNIT AND PROVIDE CLEARANCE REQUIREMENT PER MANUFACTURER'S RECOMMENDATIONS.

3 ROUTE AHU 3/4" SCHEDULE 40 GALVANIZED CONDENSATE DRAIN WITH P-TRAP TO MOP SINK IN JANITOR'S CLOSET. PROVIDE LITTLE GIANT VCMA-15ULS CONDENSATE PUMP OR APPROVED EQUAL; 1/50 HP, 65 GPH @ 1 FT, 115V/1PH. REFER TO SPECIFICATION 23 21 13, 3.05 FOR ADDITIONAL INFORMATION.

4 BALANCE OUTSIDE AIR INTAKE CFM AS INDICATED ON THE SPLIT SYSTEM HEAT PUMP SCHEDULE ON M4.01. INTERLOCK MOTORIZED DAMPER WITH ASSOCIATED AIR HANDLING UNIT. DAMPER SHALL BE IN CLOSED POSITION WHEN UNIT IS DE-ENERGIZED.

5 PROVIDE ALUMINUM STATIONARY LOUVER WITH MIN. 50% FREE AREA, BACK DRAFT DAMPER AND BIRD SCREEN. LOUVER SHALL BE RUSKIN ELF575DX OR APPROVED EQUAL. COORDINATE LOUVER COLOR, EXACT LOCATION AND MOUNTING HEIGHT WITH ARCH. MODIFY AND REUSE EXISTING LOUVER OPENING AS MUCH AS POSSIBLE.

6 INSTALL CONDENSING UNIT ON A 4" THICK CONCRETE PAD. ROUTE REFRIGERANT PIPING TO ASSOCIATED INDOOR UNIT. INSTALL UNIT WITH CLEARANCE PER MANUFACTURER'S RECOMMENDATION. REUSE EXISTING CONCRETE PAD AS MUCH AS POSSIBLE.

7 PROVIDE AND INSTALL DUCT SMOKE DETECTOR IN SUPPLY DUCT. CONTRACTOR SHALL VERIFY THAT SMOKE DETECTORS ARE INSTALLED AND FUNCTIONAL IN AIR HANDLING UNITS WHERE INDICATED. AIR HANDLING UNIT SHALL BE TIED TO THE MAIN FIRE ALARM CONTROL PANEL. UNIT SHALL DE-ENERGIZE UPON SMOKE DETECTION. BUILDING FIRE ALARM PANEL MUST INDICATE LOCATION AND STATUS OF ALL SMOKE DETECTORS. MECHANICAL CONTRACTOR SHALL COORDINATE WIRING REQUIREMENTS WITH ELECTRICAL CONTRACTOR.

8 INSTALL IONIZATION UNIT IN SUPPLY DUCT (TYPICAL ALL).

9 AUTOMATED LOGIC HVAC MAIN CONTROL PANEL. COORDINATE WITH ELECTRICAL FOR POWER REQUIRMENTS AND IT VENDOR FOR DATA REQUIREMENTS.

10 ON/OFF SWITCH FOR HEPA-1 EXHAUSTING TB CLINIC ISOLATION ROOM.

11 NEGATIVE PRESSURE VISUAL-ONLY INDICATOR MOUNTED ON WALL OUTSIDE OF ISOLATION ROOM. PROVIDE AND INSTALL "BALL-IN-THE-WALL" TECHNOLOGY SIMILAR TO DEVICE FROM AIRFLOW DIRECTION INCORPORATED (WWW.AIRFLOWDIRECTION.COM).

12 LOW-LEAKAGE MOTORIZED DAMPER TO BE INTERLOCKED WITH ISOLATION ROOM EXHAUST UNIT HEPA-1. WHEN HEPA-1 IS ENERGIZED, DAMPER SHALL OPEN. WHEN HEPA-1 IS DE-ENERGIZED, DAMPER SHALL BE TIGHTLY CLOSED. DAMPER SHALL REQUIRE 24V POWER. MECHANICAL CONTRACTOR TO COORDINATE POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR.

NOTE TO MECHANICAL CONTRACTOR:

RUN ALL DUCTWORK AND INSTALL ALL INDOOR UNITS AS CLOSE TO STRUCTURE AS POSSIBLE AND COORDINATE WITH ARCHITECT ON FIELD VERIFIED CEILING HEIGHTS PRIOR TO INSTALLATION OF ANY MECHANICAL EQUIPMENT OR DUCTWORK. MECHANICAL CONTRACTOR SHALL PLAN, SIZE, AND SLOPE CONDENSATE PIPING TO JANITOR'S CLOSET ON FIRST FLOOR. MECHANICAL CONTRACTOR SHALL INCLUDE COST OF CONDENSATE PIPING IN HIS BID.

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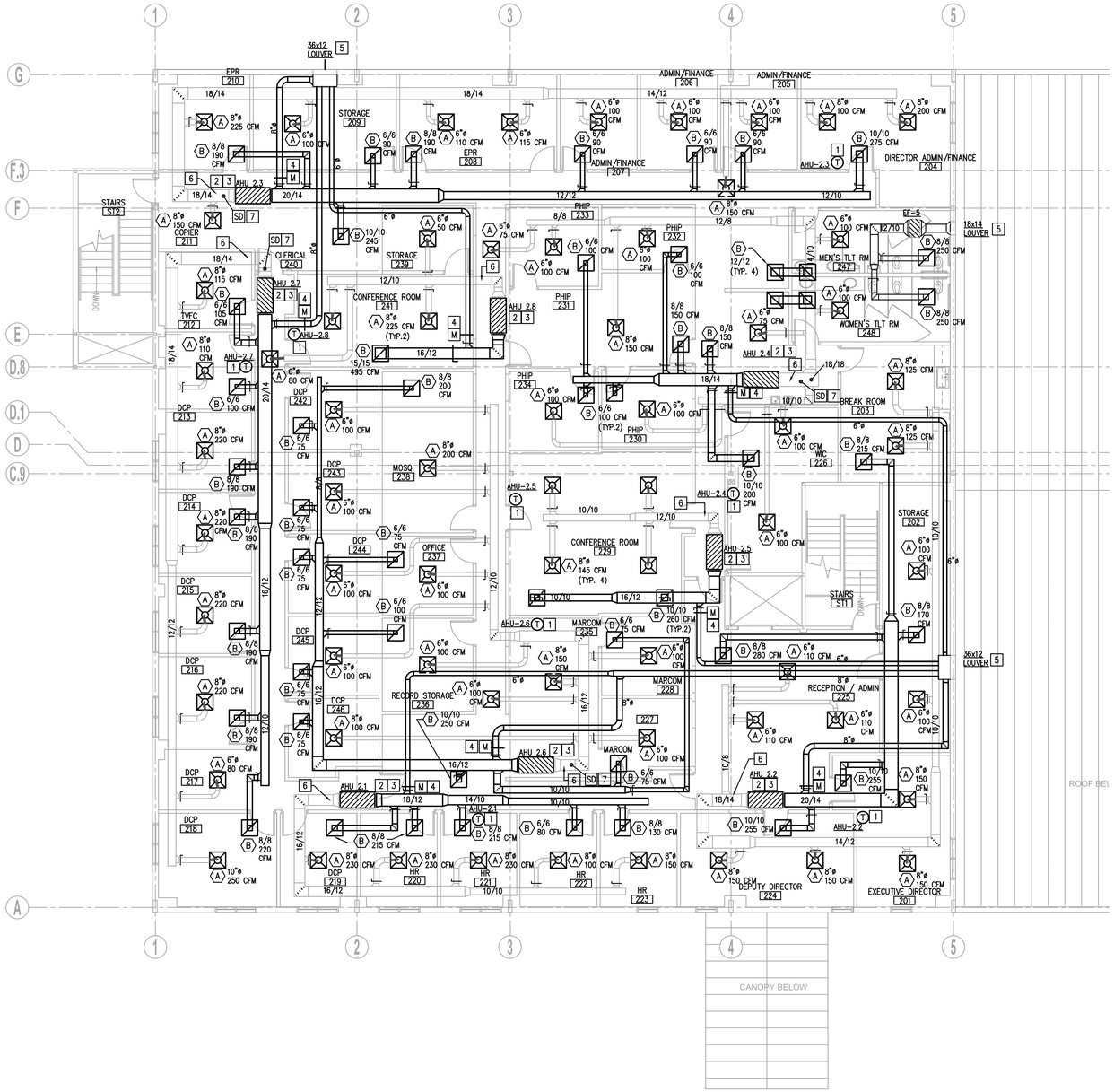
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1ST LEVEL MECHANICAL PLAN

SHEET

M2.01



1 2ND LEVEL MECHANICAL PLAN

M2.02

1/8"=1'-0"

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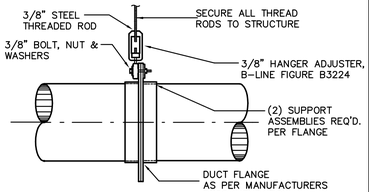
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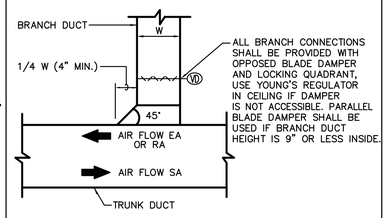
2ND LEVEL MECHANICAL PLAN

SHEET

M2.02

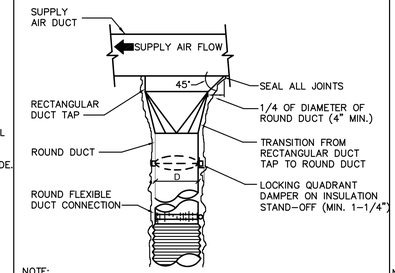


1 OVAL OR ROUND DUCT HANGER
NOT TO SCALE — MAGD103.DWG



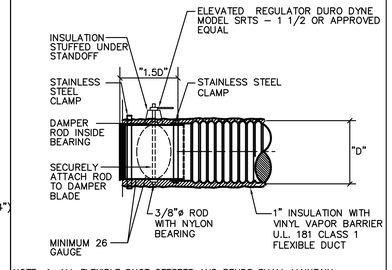
NOTE: THIS CONNECTION SHALL BE TYPICAL FOR ALL RECTANGULAR BRANCH DUCT CONNECTIONS TO RECTANGULAR TRUNK DUCTS, INCLUDING SUPPLY, RETURN, OUTSIDE AIR AND EXHAUST DUCTS.

2 RECTANGULAR BRANCH DUCT TAP
NOT TO SCALE — MAGD300.DWG



NOTE:
SEE FLOOR PLAN FOR SIZES

3 RECTANGLUAR TAP TO ROUND TRANSITION
NOT TO SCALE — MAGD302.DWG



NOTE: 1. ALL FLEXIBLE DUCT OFFSETS AND BENDS SHALL MAINTAIN A RADIUS OF 1.5 X ("D") MINIMUM 3'–0" AND MAXIMUM 6'–0"
2. TYPICAL OF ROUND DUCT CONNECTIONS TO RECTANGULAR DUCTS
3. ALL JOINTS SHALL BE SEALED WITH MASTIC AND FIBER CLOTH PER SPECIFICATIONS.

4 SPIN-IN DETAIL
NOT TO SCALE

NOTES:
1. PROVIDE MISC. GALV. SUPPORT ANGLE OR CHANNEL AS REQ'D. TO BRIDGE STRUCTURE
2. ALL CONDENSATE DRAIN PIPING SHALL BE COPPER

EXTEND INSULATED PRIMARY CONDENSATE DRAIN LINE TO DRAIN, 8" MINIMUM SIZE; INSULATE W/ ARMAFLEX AP-2000 (25/50)

5 FAN COIL UNIT MOUNTING
NOT TO SCALE

NOTE:
1. MAINTAIN MINIMUM 1" AIR GAP AT FLOOR DRAIN OR ROOF DRAIN.
2. ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVANIZED WITH MALLABLE IRON SCREWED FITTINGS.

6 COOLING COIL CONDENSATE DRAIN
NOT TO SCALE

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901 S. Mopac
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Austin, Texas 78746
Phone : 512-433-2696

In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

STATE OF TEXAS
MELISSA B. COAD
93852
REGISTERED
PROFESSIONAL ENGINEER
1/13/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

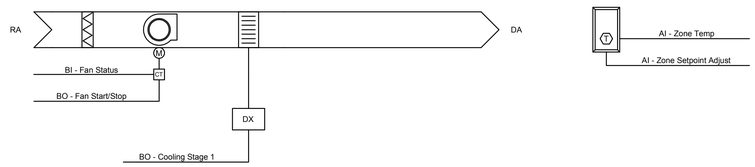
Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

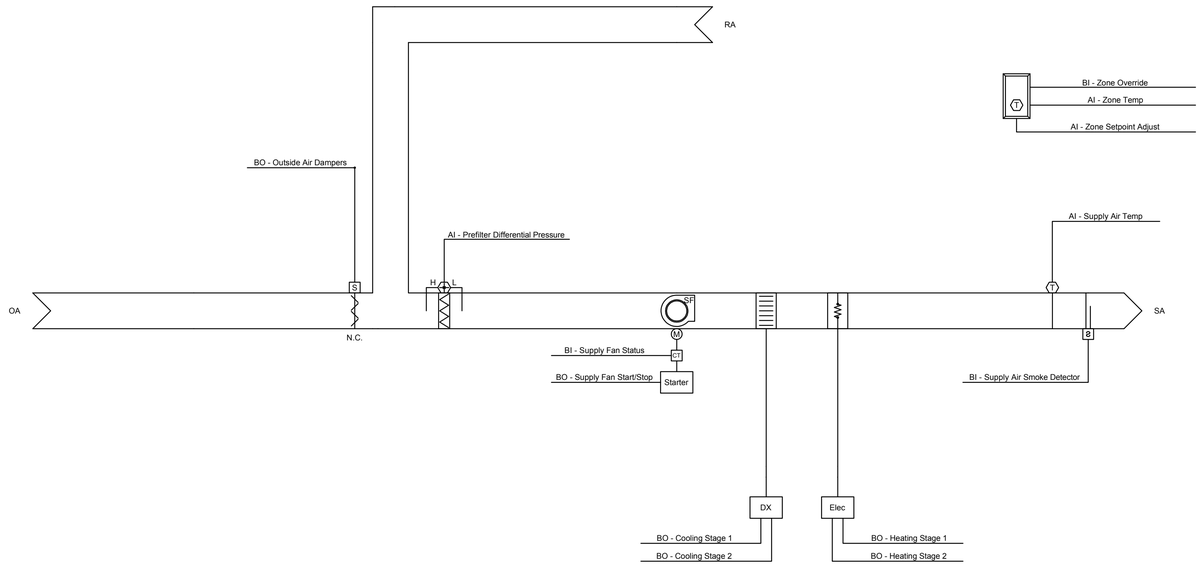
MECHANICAL DETAILS

SHEET

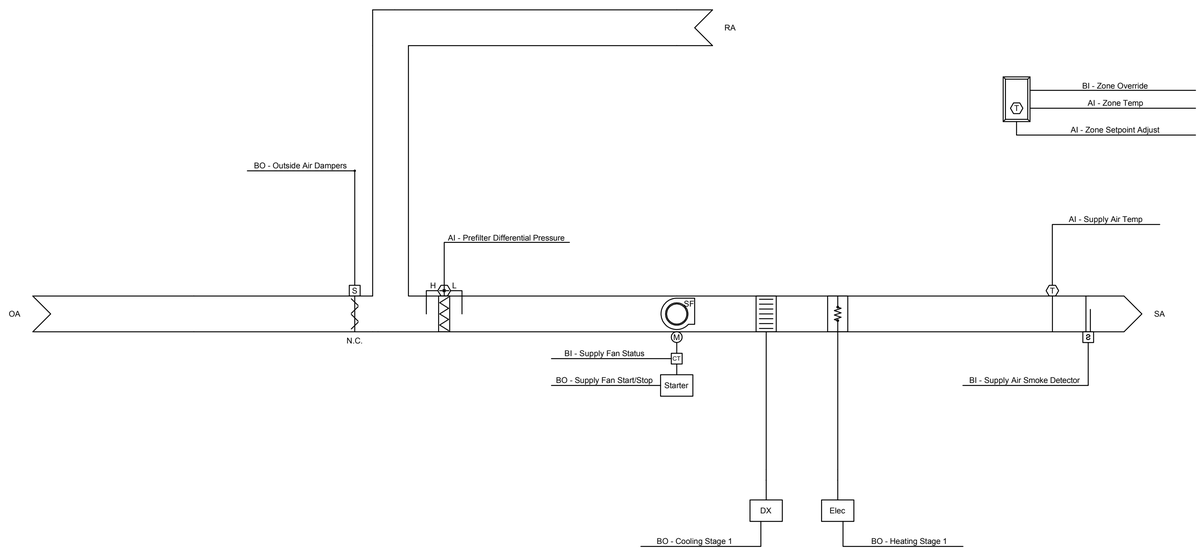
M3.01



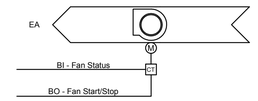
1 DUCTLESS SPLIT SYSTEM
NOT TO SCALE



2 DX SPLIT SYSTEM (TWO STAGES COOLING/HEATING)
NOT TO SCALE



3 DX SPLIT SYSTEM (SINGLE STAGES COOLING/HEATING)
NOT TO SCALE



4 EXHAUST FAN
NOT TO SCALE



5 UNIT HEATER
NOT TO SCALE

NOTE TO MECHANICAL AND CONTROLS CONTRACTORS:

AUTOMATED LOGIC CONTROLS SYSTEM TO BE PROVIDED. PROVIDE WEBCTRL SYSTEM AND ALL ASSOCIATED CONTROLLERS, GATEWAYS, ROUTERS, ETC...REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. MECHANICAL CONTRACTOR AND CONTROLS CONTRACTOR SHALL COORDINATE ALL POINTS REQUIRED FOR ENTIRE BUILDING WITH WILLIAMSON COUNTY HVAC SUPERVISOR, TOBY BONNET, PRIOR TO ORDERING AND INSTALLATION. PLEASE CONTACT TOBY AT 512-943-1599 OR TBONNET@WILCO.ORG. PLEASE NOTE: FOUR ADDITIONAL POINTS SHALL BE PROVIDED TO INTEGRATE EXISTING EXTERIOR SITE LIGHTING CONTROLS.

DBR
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512.637.4393 p 512.637.4396 f
TBPE Firm Registration No. 2234

DBR Project Number 165026.000

MC	SN	NF	AH	--

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MECHANICAL CONTROL SCHEMATICS

SHEET

M3.02

Air Purification Schedule

Zone Tag	S/A Flow	O/A Flow	GPS Model	GPS Quantity	Pressure Drop	Voltage	Watts	Location	Notes
AHU-1.1	1050	200	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.2	930	180	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.3	930	180	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.4	1200	220	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.5	1600	120	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.6	930	180	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.7	930	180	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.8	1050	220	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.9	1600	250	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-1.10	1200	220	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.1	930	100	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.2	1450	250	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.3	1450	250	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.4	930	100	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.5	580	85	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.6	1050	150	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.7	1450	250	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5
AHU-2.8	580	85	GPS-FC-3	1	0.05" W.C.	24	4.8	SA DUCT	1 to 5

NOTE:
1. Basis of Design: Global Plasma Solutions: Approved equals by Airgenics and Bioxgen subject to specification compliance
2. Mount bi-polar ion generator where indicated on schedule
3. If contractor substitutes basis of design with another manufacturer, contractor shall coordinate all electrical and mechanical changes
4. Bi-polar ionization systems requiring perishable glass tubes are not acceptable
5. All manufacturers must pass UL-867-2007 ozone chamber testing by either UL or ETL

DUCTED UVC/HEPA AIR FILTRATION UNIT, FAN POWERED

INDOOR UNIT	MARK	HEPA-1			
	TYPE	ABOVE CEILING INSTALL			
	AIRFLOW (CFM)	500			
	FAN VOLTS/PHASE/HERTZ	120/1/60			
	TOTAL WATTS	560 W			
	MCA	1			
	MOCP	20			
	MANUFACTURER	ISOLATE, CORP.			
	MODEL NUMBER	ISO-HEPA-500HR			
NOTES:		ALL NOTES APPLY			

NOTES:

1. PROVIDE UNIT WITH 99.97% EFFICIENT HIGH EFFICIENCY HEPA AIR FILTER (TO 0.3 MICRON PARTICLE SIZE), UL CLASS 2.
2. PROVIDE UNIT WITH HIGH INTENSITY ULTRAVIOLET (UVC FIXTURE) FROM MANUFACTURER.
3. INSTALL UNIT TO ALLOW FOR SIDE AND/OR BOTTOM ACCESS. SUSPEND UNIT FROM STRUCTURE WITH 5/16" HANGER RODS WITH NYLON LOCK-NUT FASTENERS.
4. UNIT SHALL BE PROVIDED WITH FACTORY WIRED ON-OFF SWITCH TO AN INTERNAL UNIT JUNCTION BOX OR POWER CORD WITH PLUG.
5. PROVIDE WITH MODEL H800 CURRENT SWITCH FOR USE IN REMOTE INDICATION. PROVIDE WITH ONE SPARE UVC/HEPA ELEMENT, MODEL UVC/HEPA-12R.
6. PROVIDE UNIT WITH 12 MONTH WARRANTY FROM DATE OF COMMISSIONING.
7. CONTRACTOR SHALL OBTAIN WIRING DIAGRAM FROM MANUFACTURER FOR INSTALLATION.
8. PROVIDE UNIT WITH ADJUSTABLE SPEED CONTROL FOR UNIT VOLUME CONTROL. INSTALL ON WALL IN ROOM.

AIR DEVICE SCHEDULE

MARK	MFR. & MODEL	TYPE	REMARKS
A	TITUS TMS-AA	LOUVERED FACE SUPPLY AIR DIFFUSER	24"x24" FACE, ALUMINUM CONSTRUCTION.
B	TITUS PAR-AA	PERFORATED FACE RETURN/EXHAUST AIR GRILLE	24"x24" FACE, ALUMINUM CONSTRUCTION. PROVIDE 22"x22" NECK UNLESS OTHERWISE NOTED.
C	TITUS 300FL	SIDEWALL SUPPLY AIR GRILLE	ALUMINUM CONSTRUCTION WITH FRAME FOR SURFACE MOUNT. 3/4" BLADE SPACING, 45 DEG.DOUBLE DEFLECTION, BLADES PARALLEL TO SHORT DIMENSION. SEE PLANS FOR SIZE.
D	TITUS TLFR-AA & HEPA-R	LAMINAR FLOW CEILING DIFFUSER WITH FILTER	24"x24" FACE, ALUMINUM CONSTRUCTION. PROVIDE 99.99%, 4" HEPA FILTER AND FILTER RACK AND HEPA FILTER ALERT LED LIGHT KIT. PROVIDE 24 VAC TRANSFORMER FOR HEPA ALERT KIT.

NOTES:
1. PROVIDE STANDARD WHITE FINISH FOR ALL AIR DEVICES UNLESS NOTED OTHERWISE ON PLAN. COORDINATE FINISH WITH ARCH.
2. UNLESS NOTED OTHERWISE, BRANCH DUCT SIZE SHALL BE SAME SIZE AS NECK OF AIR DEVICE.
3. REFER TO ARCH. CEILING PLAN FOR CEILING TYPE. PROVIDE FRAME AND ACCESSORIES AS REQUIRED FOR LAY IN GRID OR SURFACE MOUNT.

FAN SCHEDULE

MARK	EF-01	EF-02	EF-03	EF-04	EF-05
TYPE/DRIVE	NOT USED	DIRECT	DIRECT	DIRECT	DIRECT
CFM		700	500	500	500
EXT. S.P. (IN. W.G.)		0.5	0.5	0.5	0.500
HORSEPOWER OR WATTS		181 W	192 W	192 W	192 W
RPM (MAX.)		1050	1325	1325	1,325
SONES (MAX.)		1.5	1.5	1.5	1.5
VOLTS/PHASE/HERTZ		115 / 1 / 60	115 / 1 / 60	115 / 1 / 60	115 / 1 / 60
MANUFACTURER		COOK	COOK	COOK	COOK
MODEL NUMBER		GN-842	GN-720	GN-720	GN-720
NOTES		1,2	1,2	1,2	1,2

NOTES:
1. PROVIDE WITH SPEED CONTROL, BACKDRAFT DAMPER, AND
2. UNIT CONTROL BY TIME CLOCK.
3. FAN SHALL RUN CONTINUOUSLY.

OUTSIDE AIR CALCULATION - TABLE 6.1 ASHRAE 62.1 2013

SPACE DESIGNATION	USAGE TYPE	AREA (FT^2)	PEOPLE / 1,000 FT^2	PEOPLE	PEOPLE OVERRIDE	CFM / PERSON	CFM / FT^2	O.A. CFM REQUIRED
FIRST FLOOR								
LOBBY/WAITING AREAS	OFFICE	1,067		15	-	5.0	0.06	139
OFFICES/NURSES	OFFICE	6,329		36		5	0.06	560
LAB	OFFICE	485		4		5	0.06	49
EXAMS/TREATMENTS	EXAM	1,050		10		15	0.00	150
BREAKROOM	OFFICE	250		5		5	0.06	40
STORAGES	STORAGE	750					0.12	90
CORRIDOR	CORRIDOR	2,000					0.06	120
TOILETS		1,040						
MEETING	OFFICE	870		25		5	0.06	177
SECOND FLOOR								
OFFICES/NURSES	OFFICE	7,450		47		5	0.06	682
TOILETS		320						
CORRIDOR	CORRIDOR	1,040					0.06	62
BREAKROOM	OFFICE	250		5		5	0.06	40
CONFERENCES	OFFICE	715		20		5	0.06	143
STORAGES	STORAGE	500					0.12	60
							TOTAL OA CFM REQUIRED:	**2,312**
							TOTAL OA CFM DESIGNED:	**3,220**

DX SPLIT SYSTEM HEAT PUMP SCHEDULE (ELECTRIC HEAT)

	MARK	AHU-1.1	AHU-1.2	AHU-1.3	AHU-1.4	AHU-1.5	AHU-1.6	AHU-1.7	AHU-1.8	AHU-1.9	AHU-1.10	AHU-2.1	AHU-2.2	AHU-2.3	AHU-2.4	AHU-2.5	AHU-2.6	AHU-2.7	AHU-2.8
INDOOR UNIT	SUPPLY AIR (CFM)	1,050	930	930	1,200	1,600	930	930	1,050	1,600	1,200	930	1,380	1,440	1,100	580	1,350	1,440	580
	OUTSIDE AIR (CFM)	200	180	180	220	120	180	180	220	250	250	100	250	250	200	85	200	250	85
	EXT. SP. (IN W.G.)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.8	0.6	0.6	0.6	0.8	0.6	0.6	0.6	0.6
	FAN MOTOR HORSEPOWER	1/2	1/3	1/3	1/2	0.75	1/3	1/3	1/2	0.75	0.75	1/3	0.75	0.75	1/2	1/3	0.75	0.75	1/3
	NOMINAL TONS	3 TONS	2.5 TONS	2.5 TONS	3 TONS	4 TONS	2.5 TONS	2.5 TONS	3 TONS	4 TONS	4 TONS	2.5 TONS	4 TONS	4 TONS	3 TONS	1.5 TONS	4 TONS	4 TONS	1.5 TONS
	AHRI COOLING CAPACITY (MBH)	37	29	29	37	47	29	29	37	47	47	29	47	47	37	18	47	47	18
	ELECTRIC HEAT (KW) @ 208 V	7.2	7.2	7.2	7.2	10.8	7.2	7.2	7.2	10.8	10.8	7.2	10.8	10.8	7.2	3.6	10.8	10.8	3.6
	HEAT PUMP CAPACITY (MBH) @ 47°F	32.7	28.1	28.1	32.7	46	28.1	28.1	32.7	46	46	28.1	46	46	32.7	16.7	46	46	16.7
	HEAT PUMP COP	4	4.1	4.1	4	4.3	4.1	4.1	4	4.3	4.3	4.1	4.3	4.3	4	3.8	4.3	4.3	3.8
	VOLTS/PHASE/HERTZ	208 /3 / 60	208 / 3 / 60	208 / 3 / 60	208 /3 / 60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208 /3 / 60	208 / 3 / 60	208 /3 / 60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208 /3 / 60	208 /1 / 60	208 / 3 / 60	208 / 3 / 60	208 /1 / 60
	MCA / MOP	30 / 30	28 / 30	28 / 30	30 / 30	45 / 45	28 / 30	28 / 30	30 / 30	45 / 45	45/45	28 / 30	45 / 45	45 / 45	30 / 30	25 / 25	45 / 45	45 / 45	25 / 25
	MANUFACTURER	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE
	MODEL	TEM6A0C36	TEM6A0B30	TEM6A0B30	TEM6A0C36	TEM6A0D48	TEM6A0B30	TEM6A0B30	TEM6A0C36	TEM6A0D48	TEM6A0C48	TEM6A0B30	TEM6A0D48	TEM6A0D48	TEM6A0C36	TEM6A0B24	TEM6A0D48	TEM6A0D48	TEM6A0B24
	WEIGHT (LBS)	155	117	117	155	292	117	117	155	292	292	117	292	292	155	126	292	292	126
	NOTES	4,5,6,7	4,5,7	4,5,7	4,5,6,7	4,5,6,7	4,5,7	4,5,7	4,5,6,7	4,5,6,7	4,5,6,7	4,5,7	4,5,6,7	4,5,6,7	4,5,6,7	4,5,7	4,5,6,7	4,5,6,7	4,5,7
CONDENSING UNIT	MARK	CU-1.1	CU-1.2	CU-1.3	CU-1.4	CU-1.5	CU-1.6	CU-1.7	CU-1.8	CU-1.9	CU-1.10	CU-2.1	CU-2.2	CU-2.3	CU-2.4	CU-2.5	CU-2.6	CU-2.7	CU-2.8
	MIN. SEER/EER (ARI)	17.5 / 13	15.25 / 12.5	15.25 / 12.5	17.5 / 13	17.5 / 13	15.25 / 12.5	15.25 / 12.5	17.5 / 13	17.5 / 13	17.5 / 13	15.25 / 12.5	17.5 / 13	17.5 / 13	17.5 / 13	15 / 12.5	17.5 / 13	17.5 / 13	15 / 12.5
	AMBIENT AIR	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
	VOLTS/PHASE/HERTZ	208 / 3 / 60	208 / 1 / 60	208 / 1 / 60	208 / 3 / 60	208 / 3 / 60	208 / 1 / 60	208 / 1 / 60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208 / 1 / 60	208 / 3 / 60	208 / 3 / 60	208 / 3 / 60	208 / 1 / 60	208 / 3 / 60	208 / 3 / 60	208 / 1 / 60
	MCA	15	17	17	15	18	17	17	15	18	18	17	18	18	15	12	18	18	12
	MOCP	25	25	25	25	30	25	25	25	30	30	25	30	30	25	20	30	30	20
	MANUFACTURER	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE	TRANE
	MODEL	4TWA7036	4TWR5030	4TWR5030	4TWA7036	4TWA7048	4TWR5030	4TWR5030	4TWA7036	4TWA7048	4TWA7048	4TWR5030	4TWA7048	4TWA7048	4TWA7036	4TWR5019	4TWA7048	4TWA7048	4TWR5019
	NOMINAL TONS	3 TONS	2.5 TONS	2.5 TONS	3 TONS	4 TONS	2.5 TONS	2.5 TONS	3 TONS	4 TONS	4 TONS	2.5 TONS	4 TONS	4 TONS	3 TONS	1.5 TONS	4 TONS	4 TONS	1.5 TONS
	WEIGHT (LBS)	257	216	216	257	292	216	216	257	292	292	216	292	292	257	162	292	292	162
	NOTES	1, 2, 3,	1, 2, 3,	1, 2, 3,	1, 2, 3,	1, 2, 3,6, 7	1, 2, 3,	1, 2, 3,	1, 2, 3,	1, 2, 3,6, 7	1, 2, 3,	1, 2, 3,	1, 2, 3,6, 7	1, 2, 3,6, 7	1, 2, 3,	1, 2, 3	1, 2, 3,	1, 2, 3,6, 7	1, 2, 3

NOTES
1. PROVIDE CONDENSER COIL HAIL GUARDS.
2. PROVIDE LOW AMBIENT CONTROL.
3. INSTALL REFRIGERANT PIPING IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
4. PROVIDE SECONDARY DRAIN PAN WITH FLOAT SWITCH UNDER UNIT TO DISENGAGE THE UNIT.
5. PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION AND EXTERNAL FILTER WITH FILTER RACK.
6. PROVIDE UNIT WITH TWO STAGES HEATING AND TWO STAGES COOLING.
7. INSTALL LITTLE GIANT VCMA-15ULS CONDENSATE PUMP ON ALL UNITS. REFER TO M2.01 AND M2.02. KEYED NOTE 3.

ELECTRIC UNIT HEATER SCHEDULE

MARK	EUH-1
CFM	400
KW	3.3
VOLTS/PHASE/HERTZ	208/1/60
AMPS	16
MANUFACTURER	MARKEL
MODEL NO.	F1FUH03003
NOTES	1

NOTES:

1. SHALL INCLUDE FUSED CONTROL CIRCUIT, MANUAL RESET HIGH LIMIT, "FAN ONLY" SWITCH, AND WALL MOUNTING BRACKET/ KIT.

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Austin, Texas 78757
512.637.4393 p 512.637.4396 f
TBPE Firm Registration No. 2234

DBR Project Number 165026.000

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MECHANICAL SCHEUDULES

SHEET

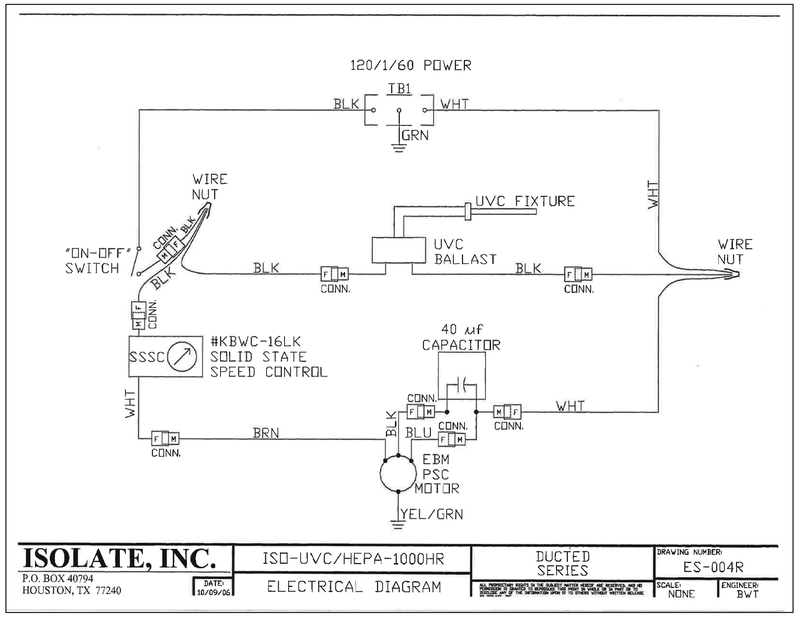
M4.01

DUCTED UVC/HEPA AIR FILTRATION UNIT, FAN POWERED

INDOOR UNIT	MARK	HEPA-1			
	TYPE	ABOVE CEILING INSTALL			
	AIRFLOW (CFM)	500			
	FAN VOLTS/PHASE/HERTZ	120/1/60			
	TOTAL WATTS	560 W			
	MCA	1			
	MOCP	20			
	MANUFACTURER	ISOLATE, CORP.			
	MODEL NUMBER	ISO-HEPA-500HR			
NOTES:		ALL NOTES APPLY			

NOTES:

1. PROVIDE UNIT WITH 99.97% EFFICIENT HIGH EFFICIENCY HEPA AIR FILTER (TO 0.3 MICRON PARTICLE SIZE), UL CLASS 2.
2. PROVIDE UNIT WITH HIGH INTENSITY ULTRAVIOLET (UVC FIXTURE) FROM MANUFACTURER.
3. INSTALL UNIT TO ALLOW FOR SIDE AND/OR BOTTOM ACCESS. SUSPEND UNIT FROM STRUCTURE WITH 5/16" HANGER RODS WITH NYLON LOCK-NUT FASTENERS.
4. UNIT SHALL BE PROVIDED WITH FACTORY WIRED ON-OFF SWITCH TO AN INTERNAL UNIT JUNCTION BOX OR POWER CORD WITH PLUG.
5. PROVIDE WITH MODEL H800 CURRENT SWITCH FOR USE IN REMOTE INDICATION. PROVIDE WITH ONE SPARE UVC/HEPA ELEMENT, MODEL UVC/HEPA-12R.
6. PROVIDE UNIT WITH 12 MONTH WARRANTY FROM DATE OF COMMISSIONING.
7. CONTRACTOR SHALL OBTAIN WIRING DIAGRAM FROM MANUFACTURER FOR INSTALLATION.
8. PROVIDE UNIT WITH ADJUSTABLE SPEED CONTROL FOR UNIT VOLUME CONTROL. INSTALL ON WALL IN ROOM.



ISOLATE, INC.
P.O. BOX 40794
HOUSTON, TX 77240

ISO-UVC/HEPA-1000HR
ELECTRICAL DIAGRAM
DATE: 10/09/06

DUCTED SERIES

DRAWING NUMBER: ES-004R
SCALE: NONE
ENGINEER: BWT

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TBPE Firm Registration No. 2234

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In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

STATE OF TEXAS
MELISSA B. COAD
93852
REGISTERED
PROFESSIONAL ENGINEER
1/13/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

MECHANICAL SCHEDULES

SHEET

M4.02

DBR
7800 Shoal Creek Blvd I Suite 100W
Austin, Texas 78757
512.637.4393 p 512.637.4396 f
TBPE Firm Registration No. 2234

DBR Project Number 165026.000

MC	SN	NF	AH	--

Load / Airflow Summary

By dbr

System	Zone	Room **		Floor Area ft²	People #	Coil Cooling Sensible Btu/h	Coil Cooling Total Btu/h	Space Design Max SA cfm	Air Changes ach/hr	VAV Minimum SA cfm	VAV Minimum %	Main Coil Heating Sensible Btu/h	Heating Fan Max SA cfm	Percent OA Clg	Percent OA Htg
Alternative 1															
	101 OFFICE 6		Rm Peak	172	1.0	3,639	4,209	154	5.97	0	0	-2,501	154	9.9	9.9
	102 OFFICE 5		Rm Peak	130	1.0	1,870	2,437	73	3.74	0	0	-1,450	73	17.5	17.5
	103 OFFICE 4		Rm Peak	130	1.0	3,292	3,801	142	7.27	0	0	-2,241	142	9.0	9.0
	132 NURSE 1		Rm Peak	116	1.0	3,186	3,675	138	7.94	0	0	-2,159	138	8.7	8.7
	133 NURSE 2		Rm Peak	116	1.0	3,186	3,675	138	7.94	0	0	-2,159	138	8.7	8.7
	134 NURSE 3		Rm Peak	116	1.0	3,186	3,675	138	7.94	0	0	-2,159	138	8.7	8.7
	135 NURSING RM		Rm Peak	116	2.0	2,340	3,453	81	4.68	0	0	-2,222	81	33.1	33.1
AHU-01			**Sys Peak**	**896**	**8.0**	**20,700**	**24,924**	**865**				**-14,891**	**865**	**12.0**	**12.0**
AHU-01			**Sys Block**	**896**	**8.0**	**20,680**	**24,586**	**865**				**-14,891**	**865**	**12.0**	**12.0**
	123 TB ENTRANCE		Rm Peak	115	0.0	4,078	4,093	190	11.00	0	0	-2,491	190	3.6	3.6
	124 TB INTAKE		Rm Peak	115	2.0	5,395	6,416	241	13.95	0	0	-4,025	241	11.2	11.2
	125 OFFICE		Rm Peak	115	1.0	1,771	2,323	67	3.89	0	0	-1,332	67	17.7	17.7
	126 TB STORAGE		Rm Peak	115	0.0	1,052	1,488	30	1.76	0	0	-1,005	30	45.6	45.6
	127 TB OFFICE 1		Rm Peak	115	1.0	4,743	5,105	214	12.40	0	0	-3,004	214	5.6	5.6
	161 ISOLATION		Rm Peak	115	1.0	1,991	3,056	58	3.39	0	0	-2,190	58	54.6	54.6
	162 ANTEROOM		Rm Peak	115	1.0	1,991	3,056	58	3.39	0	0	-2,190	58	54.6	54.6
	163 TB OFFICE 2		Rm Peak	115	1.0	1,540	2,082	58	3.39	0	0	-1,234	58	20.4	20.4
AHU-010			**Sys Peak**	**920**	**7.0**	**22,561**	**27,617**	**917**				**-17,470**	**917**	**16.0**	**16.0**
AHU-010			**Sys Block**	**920**	**7.0**	**19,427**	**24,129**	**917**				**-17,470**	**917**	**16.0**	**16.0**
	128 OFFICE 1		Rm Peak	115	1.0	4,744	5,106	214	12.40	0	0	-3,009	214	5.6	5.6
	129 ASST DIR		Rm Peak	115	1.0	4,744	5,106	214	12.40	0	0	-3,009	214	5.6	5.6
	130 DIR		Rm Peak	115	1.0	4,744	5,106	214	12.40	0	0	-3,009	214	5.6	5.6
	131 MD HEALT AUTH		Rm Peak	200	1.0	6,046	6,577	265	8.85	0	0	-3,841	265	6.4	6.4
AHU-02			**Sys Peak**	**545**	**4.0**	**20,277**	**21,894**	**907**				**-12,867**	**907**	**5.8**	**5.8**
AHU-02			**Sys Block**	**545**	**4.0**	**20,236**	**21,757**	**907**				**-12,867**	**907**	**5.8**	**5.8**
	156 EXAM 4		Rm Peak	100	2.0	1,926	2,854	68	4.52	0	0	-1,753	68	31.0	31.0
	157 EXAM 3		Rm Peak	100	2.0	1,926	2,854	68	4.52	0	0	-1,753	68	31.0	31.0
	158 EXAM 2		Rm Peak	100	2.0	1,926	2,854	68	4.52	0	0	-1,753	68	31.0	31.0
	159 PROC RM		Rm Peak	115	2.0	2,012	2,969	71	4.09	0	0	-1,827	71	31.0	31.0
	160 EXAM 1		Rm Peak	115	2.0	2,012	2,969	71	4.09	0	0	-1,827	71	31.0	31.0
	164 OFFICE 2		Rm Peak	115	1.0	1,539	2,081	59	3.39	0	0	-1,213	59	20.3	20.3
	165 OFFICE 3		Rm Peak	115	1.0	1,539	2,081	59	3.39	0	0	-1,213	59	20.3	20.3
	166 OFFICE 4		Rm Peak	115	1.0	1,539	2,081	59	3.39	0	0	-1,213	59	20.3	20.3
	CORRIDOR EXAM AREA		Rm Peak	425	0.0	2,457	3,277	80	1.26	0	0	-2,108	80	31.7	31.7
	CORRIDOR TB AREA		Rm Peak	320	0.0	1,850	2,468	61	1.26	0	0	-1,587	61	31.7	31.7

*** This report does not display heating only systems.**

Project Name:
Dataset Name: 165026 WilliamsonHealthDept.trc

TRACE® 700 v6.3.2 calculated at 11:17 AM on 11/30/2016
Load/Airflow Summary Report Page 1 of 4

System	Zone	Room **		Floor Area ft²	People #	Coil Cooling Sensible Btu/h	Coil Cooling Total Btu/h	Space Design Max SA cfm	Air Changes ach/hr	VAV Minimum SA cfm	VAV Minimum %	Main Coil Heating Sensible Btu/h	Heating Fan Max SA cfm	Percent OA Clg	Percent OA Htg
AHU-03			**Sys Peak**	**1,620**	**13.0**	**18,724**	**26,486**	**661**				**-16,248**	**661**	**28.3**	**28.3**
AHU-03			**Sys Block**	**1,620**	**13.0**	**15,724**	**26,486**	**661**				**-16,247**	**661**	**28.3**	**28.3**
	136 PLAYROOM		Rm Peak	235	4.0	5,155	6,643	207	5.88	0	0	-3,928	207	16.5	16.5
	154 155 CHECKOUT		Rm Peak	285	4.0	5,145	6,995	201	4.70	0	0	-4,005	201	18.5	18.5
	CORRIDOR NURSE ARE		Rm Peak	380	0.0	2,198	2,937	72	1.26	0	0	-1,891	72	31.8	31.8
	WAITING CHECKOUT AREA		Rm Peak	700	15.0	9,995	15,553	338	3.22	0	0	-9,366	338	34.6	34.6
AHU-04			**Sys Peak**	**1,600**	**23.0**	**22,493**	**32,127**	**818**				**-19,190**	**818**	**25.8**	**25.8**
AHU-04			**Sys Block**	**1,600**	**23.0**	**21,962**	**31,882**	**818**				**-19,190**	**818**	**25.8**	**25.8**
	104 OFFICE 10		Rm Peak	220	1.0	7,583	8,250	326	9.87	0	0	-4,548	326	5.6	5.6
	105 OFFICE 3		Rm Peak	116	1.0	5,193	5,671	229	13.17	0	0	-3,159	229	5.2	5.2
	106 OFFICE 2		Rm Peak	116	1.0	5,193	5,671	229	13.17	0	0	-3,159	229	5.2	5.2
	107 OFFICE 1		Rm Peak	116	1.0	5,193	5,671	229	13.17	0	0	-3,159	229	5.2	5.2
	108 RF PLAN REVIEW 1		Rm Peak	116	1.0	5,193	5,671	229	13.17	0	0	-3,159	229	5.2	5.2
	109 RETAIL FOOD LEAD		Rm Peak	116	1.0	5,193	5,671	229	13.17	0	0	-3,159	229	5.2	5.2
	110 MEETING 2		Rm Peak	135	4.0	6,401	7,747	270	13.35	0	0	-4,398	270	10.4	10.4
	111 MEETING 1		Rm Peak	88	2.0	1,961	2,760	78	5.88	0	0	-1,608	78	19.7	19.7
	CORRIDOR OFFICE AREA		Rm Peak	430	0.0	2,496	3,360	81	1.25	0	0	-2,149	81	31.9	31.9
AHU-05			**Sys Peak**	**1,453**	**12.0**	**44,407**	**50,471**	**1,901**				**-28,495**	**1,901**	**7.7**	**7.7**
AHU-05			**Sys Block**	**1,453**	**12.0**	**43,848**	**49,460**	**1,901**				**-28,495**	**1,901**	**7.7**	**7.7**
	137 SUPPLIES		Rm Peak	120	0.0	3,255	3,513	146	8.10	0	0	-1,937	146	4.9	4.9
	138 OFFICE 7		Rm Peak	110	1.0	1,513	2,045	57	3.46	0	0	-1,183	57	20.3	20.3
	139 OFFICE 8		Rm Peak	110	1.0	1,513	2,045	57	3.46	0	0	-1,183	57	20.3	20.3
	140 OFFICE 9		Rm Peak	150	1.0	1,745	2,352	65	2.87	0	0	-1,380	65	21.7	21.7
	141 FLEX MEETING		Rm Peak	150	4.0	2,608	3,848	101	4.48	0	0	-2,016	101	18.9	18.9
	142 RE PLAN REVIEW 2		Rm Peak	110	1.0	1,513	2,045	57	3.46	0	0	-1,183	57	20.3	20.3
	143 RF FIELD CUBICLES		Rm Peak	200	2.0	2,910	3,937	111	3.69	0	0	-2,268	111	19.9	19.9
	144 RF PLAN REVIEW 3		Rm Peak	130	1.0	1,629	2,198	61	3.12	0	0	-1,282	61	21.0	21.0
AHU-06			**Sys Peak**	**1,080**	**11.0**	**16,686**	**21,983**	**654**				**-12,434**	**654**	**16.8**	**16.8**
AHU-06			**Sys Block**	**1,080**	**11.0**	**16,686**	**21,983**	**654**				**-12,434**	**654**	**16.8**	**16.8**
	147 MEETING		Rm Peak	870	25.0	17,559	26,604	626	4.80	0	0	-15,385	626	28.3	28.3
AHU-07			**Sys Peak**	**870**	**25.0**	**17,559**	**26,604**	**626**				**-15,385**	**626**	**28.3**	**28.3**
AHU-07			**Sys Block**	**870**	**25.0**	**17,559**	**26,604**	**626**				**-15,385**	**626**	**28.3**	**28.3**
	148 BREAKROOM		Rm Peak	250	5.0	4,409	5,815	188	5.02	0	0	-2,776	188	8.0	8.0
	149 LAB		Rm Peak	485	4.0	11,103	13,459	466	6.41	0	0	-7,452	466	10.5	10.5
AHU-08			**Sys Peak**	**735**	**9.0**	**15,512**	**19,274**	**654**				**-10,228**	**654**	**9.8**	**9.8**
AHU-08			**Sys Block**	**735**	**9.0**	**15,512**	**19,274**	**654**				**-10,228**	**654**	**9.8**	**9.8**
	112 WAITING		Rm Peak	132	2.0	5,117	5,927	242	12.23	0	0	-3,639	242	7.4	7.4
	113 CSR		Rm Peak	230	1.0	5,467	6,137	258	7.48	0	0	-3,864	258	7.3	7.3
	115 DIRECTOR		Rm Peak	115	1.0	1,977	2,452	74	4.30	0	0	-1,420	74	16.0	16.0
	117 OSSF LEAD		Rm Peak	115	1.0	1,977	2,452	74	4.30	0	0	-1,420	74	16.0	16.0
	118 FIELD		Rm Peak	115	1.0	1,977	2,452	74	4.30	0	0	-1,420	74	16.0	16.0

*** This report does not display heating only systems.**

Project Name:
Dataset Name: 165028 WilliamsonHealthDept.trc

TRACE® 700 v6.3.2 calculated at 11:17 AM on 11/30/2016
Load/Airflow Summary Report Page 2 of 4

System	Zone	Room **		Floor Area ft²	People #	Coil Cooling Sensible Btu/h	Coil Cooling Total Btu/h	Space Design Max SA cfm	Air Changes ach/hr	VAV Minimum SA cfm	VAV Minimum %	Main Coil Heating Sensible Btu/h	Heating Fan Max SA cfm	Percent OA Clg	Percent OA Htg
	119 PLAN REVIEW 2 3		Rm Peak	115	1.0	1,977	2,452	74	4.30	0	0	-1,420	74	16.0	16.0
	120 PLAN REVIEW 1		Rm Peak	115	1.0	1,977	2,452	74	4.30	0	0	-1,420	74	16.0	16.0
	121 IMM ESH EQUP		Rm Peak	115	1.0	1,977	2,452	74	4.30	0	0	-1,420	74	16.0	16.0
	122 OFFICE		Rm Peak	125	1.0	4,524	5,032	226	12.14	0	0	-3,214	228	5.5	5.5
	CORRIDOR MEETING AREA		Rm Peak	370	0.0	2,137	2,843	72	1.30	0	0	-1,888	72	30.8	30.8
AHU-09			**Sys Peak**	**1,547**	**10.0**	**29,107**	**34,650**	**1,245**				**-21,126**	**1,245**	**11.5**	**11.5**
AHU-09			**Sys Block**	**1,547**	**10.0**	**28,662**	**34,100**	**1,245**				**-21,125**	**1,245**	**11.5**	**11.5**
	219 DCP		Rm Peak	116	1.0	5,375	5,853	231	13.25	0	0	-3,415	231	5.2	5.2
	220 HR		Rm Peak	116	1.0	5,375	5,853	231	13.25	0	0	-3,415	231	5.2	5.2
	221 HR		Rm Peak	116	1.0	5,375	5,853	231	13.25	0	0	-3,415	231	5.2	5.2
	222 HR		Rm Peak	116	1.0	2,129	2,648	77	4.43	0	0	-1,515	77	15.5	15.5
	223 HR		Rm Peak	116	1.0	3,765	4,230	153	8.78	0	0	-2,452	153	7.8	7.8
AHU-21			**Sys Peak**	**580**	**5.0**	**22,020**	**24,438**	**922**				**-14,213**	**922**	**6.5**	**6.5**
AHU-21			**Sys Block**	**580**	**5.0**	**22,046**	**24,387**	**922**				**-14,213**	**922**	**6.5**	**6.5**
	201 EXEC DIR		Rm Peak	235	1.0	7,294	7,992	302	8.56	0	0	-4,878	302	6.3	6.3
	202 STORAGE		Rm Peak	276	0.0	3,184	4,249	93	2.24	0	0	-2,752	93	35.7	35.7
	203 BREAK ROOM		Rm Peak	240	5.0	5,195	6,598	211	5.87	0	0	-3,464	211	6.8	6.8
	224 DEPUTY DIRECTOR		Rm Peak	255	1.0	6,900	7,570	279	7.31	0	0	-4,637	279	7.3	7.3
	225 RECEPTION ADMIN		Rm Peak	470	5.0	8,856	11,427	327	4.64	0	0	-6,778	327	16.3	16.3
AHU-22			**Sys Peak**	**1,476**	**12.0**	**31,430**	**37,835**	**1,213**				**-22,509**	**1,213**	**11.6**	**11.6**
AHU-22			**Sys Block**	**1,476**	**12.0**	**30,376**	**36,580**	**1,213**				**-22,509**	**1,213**	**11.6**	**11.6**
	204 DIR ADMIN		Rm Peak	265	1.0	7,414	8,101	298	7.49	0	0	-4,927	298	7.0	7.0
	205 ADMIN FINANCE		Rm Peak	115	1.0	2,177	2,654	77	4.46	0	0	-1,570	77	15.5	15.5
	206 ADMIN FINANCE		Rm Peak	115	1.0	2,177	2,654	77	4.46	0	0	-1,570	77	15.5	15.5
	207 ADMIN FINANCE		Rm Peak	115	1.0	2,177	2,654	77	4.46	0	0	-1,570	77	15.5	15.5
	208 EPR		Rm Peak	230	4.0	6,080	7,628	227	6.59	0	0	-4,580	227	14.9	14.9
	209 STORAGE		Rm Peak	208	0.0	2,625	3,247	72	2.32	0	0	-2,110	72	34.5	34.5
	210 EPR		Rm Peak	130	1.0	4,981	5,428	223	11.41	0	0	-3,552	223	5.8	5.8
	211 COPIER		Rm Peak	115	0.0	2,830	3,075	116	6.72	0	0	-1,861	116	6.0	6.0
AHU-23			**Sys Peak**	**1,293**	**9.0**	**30,461**	**35,439**	**1,167**				**-21,741**	**1,167**	**11.6**	**11.6**
AHU-23			**Sys Block**	**1,293**	**9.0**	**27,978**	**32,936**	**1,167**				**-21,741**	**1,167**	**11.6**	**11.6**
	226 WIC		Rm Peak	240	3.0	4,616	6,065	173	4.80	0	0	-3,669	173	17.0	17.0
	230 PHIP		Rm Peak	110	1.0	1,715	2,252	62	3.74	0	0	-1,360	62	18.8	18.8
	231 PHIP		Rm Peak	230	2.0	3,309	4,118	126	3.64	0	0	-2,320	126	11.0	11.0
	232 PHIP		Rm Peak	110	1.0	1,715	2,252	62	3.74	0	0	-1,360	62	18.8	18.8
	233 PHIP		Rm Peak	110	1.0	1,715	2,252	62	3.74	0	0	-1,360	62	18.8	18.8
	234 PHIP		Rm Peak	110	1.0	1,715	2,252	62	3.74	0	0	-1,360	62	18.8	18.8
	240 CLERICAL		Rm Peak	110	1.0	1,715	2,252	62	3.74	0	0	-1,360	62	18.8	18.8
	CORRIDOR ADMIN FINANACE		Rm Peak	360	0.0	2,793	3,497	82	1.51	0	0	-2,084	82	26.5	26.5
AHU-24			**Sys Peak**	**1,380**	**10.0**	**19,292**	**24,938**	**689**				**-14,870**	**689**	**17.8**	**17.8**
AHU-24			**Sys Block**	**1,380**	**10.0**	**19,292**	**24,938**	**689**				**-14,870**	**689**	**17.8**	**17.8**

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Project Name:
Dataset Name: 165026 WilliamsonHealthDept.trc

TRACE® 700 v6.3.2 calculated at 11:17 AM on 11/30/2016
Load/Airflow Summary Report Page 3 of 4

System	Zone	Room **		Floor Area ft²	People #	Coil Cooling Sensible Btu/h	Coil Cooling Total Btu/h	Space Design Max SA cfm	Air Changes ach/hr	VAV Minimum SA cfm	VAV Minimum %	Main Coil Heating Sensible Btu/h	Heating Fan Max SA cfm	Percent OA Clg	Percent OA Htg
	229 CONFERENCE		Rm Peak	460	14.0	8,819	12,269	350	5.07	0	0	-5,764	350	7.9	7.9
AHU-25			**Sys Peak**	**460**	**14.0**	**8,819**	**12,269**	**350**				**-5,764**	**350**	**7.9**	**7.9**
AHU-25			**Sys Block**	**460**	**14.0**	**8,819**	**12,269**	**350**				**-5,764**	**350**	**7.9**	**7.9**
	227 MARCOM		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	228 MARCOM		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	235 MARCOM		Rm Peak	230	2.0	3,299	4,109	127	3.68	0	0	-2,368	127	10.9	10.9
	236 RECORD STORAGE		Rm Peak	130	0.0	1,155	1,637	30	1.55	0	0	-1,123	30	51.7	51.7
	237 OFFICE		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	238 MOSQ		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	239 STORAGE		Rm Peak	130	0.0	1,155	1,637	30	1.55	0	0	-1,123	30	51.7	51.7
	242 DCP		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	243 DCP		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	244 DCP		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	245 DCP		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	246 DCP		Rm Peak	110	1.0	1,708	2,246	62	3.78	0	0	-1,382	62	18.6	18.6
	CORRIDOR DCP AREA		Rm Peak	240	0.0	1,852	2,322	56	1.55	0	0	-1,419	56	25.8	25.8
	CORRIDOR MARCOM		Rm Peak	440	0.0	3,396	4,257	102	1.55	0	0	-2,601	102	25.8	25.8
AHU-26			**Sys Peak**	**2,160**	**11.0**	**26,230**	**34,174**	**906**				**-21,071**	**906**	**21.0**	**21.0**
AHU-26			**Sys Block**	**2,160**	**11.0**	**26,230**	**34,173**	**906**				**-21,070**	**906**	**21.0**	**21.0**
	212 TVFC		Rm Peak	230	4.0	5,969	7,717	223	6.45	0	0	-4,379	223	15.2	15.2
	213 DCP		Rm Peak	125	1.0	4,902	5,272	217	11.56	0	0	-3,312	217	5.8	5.8
	214 DCP		Rm Peak	125	1.0	4,902	5,272	217	11.56	0	0	-3,312	217	5.8	5.8
	215 DCP		Rm Peak	125	1.0	4,902	5,272	217	11.56	0	0	-3,312	217	5.8	5.8
	216 DCP		Rm Peak	125	1.0	4,902	5,272	217	11.56	0	0	-3,312	217	5.8	5.8
	217 DCP		Rm Peak	125	1.0	2,125	2,689	74	3.93	0	0	-1,510	74	17.0	17.0
	218 DCP		Rm Peak	160	1.0	5,946	6,526	253	10.52	0	0	-3,860	253	5.8	5.8
AHU-27			**Sys Peak**	**1,015**	**10.0**	**33,650**	**38,021**	**1,416**				**-22,998**	**1,416**	**7.8**	**7.8**
AHU-27			**Sys Block**	**1,015**	**10.0**	**32,547**	**36,473**	**1,416**				**-22,998**	**1,416**	**7.8**	**7.8**
	241 CONFERENCE		Rm Peak	255	10.0	6,223	8,588	256	6.68	0	0	-3,904	256	6.0	6.0
AHU-28			**Sys Peak**	**255**	**10.0**	**6,223**	**8,588**	**256**				**-3,904**	**256**	**6.0**	**6.0**
AHU-28			**Sys Block**	**255**	**10.0**	**6,223**	**8,588**	**256**				**-3,904**	**256**	**6.0**	**6.0**

*** This report does not display heating only systems.**

Project Name:
Dataset Name: 165028 WilliamsonHealthDept.trc

TRACE® 700 v6.3.2 calculated at 11:17 AM on 11/30/2016
Load/Airflow Summary Report Page 4 of 4

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STATE OF TEXAS
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REGISTERED
PROFESSIONAL ENGINEER
1/3/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

MECHANICAL LOAD CALCULATIONS

SHEET

M4.03

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MC	SN	NF	AH	--

ABBREVIATIONS

A

A	AMPERES
ABV	ABOVE
A/C	AIR CONDITIONING
AC	ALTERNATING CURRENT, AIR COMPRESSOR, ABOVE COUNTER
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CHILLER UNIT
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FUSE, AMPERE FRAME
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPT CAPACITY
AL	ALUMINUM
AM	AMMETER
AMP	AMPLIFIER
ANN	ANNUNCIATOR
AP	ACCESS PANEL, ALARM PANEL
ARCH	ARCHITECT, ARCHITECTURAL
ASC	AMPERES SHORT CIRCUIT
AT	AMPERE TRIP RATING
ATS	AUTOMATIC TRANSFER SWITCH
AVG	AVERAGE
AUX	AUXILIARY
AWG	AMERICAN WIRE GUAGE

B

BC	BELOW COUNTER
BKR	BREAKER
BLDG	BUILDING

C

C	CONDUIT, CELSIUS
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CWP	CONDENSER WATER PUMP
CH	CHILLER
CHP	CHILLED WATER PUMP
CIRC	CIRCULATING
CKT	CIRCUIT
CL	CENTERLINE
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS, CONTINUATION
CONTR	CONTROLLER, CONTRACTOR
CP	CIRCULATING PUMP
CPUC	CPU CHILLER
CRU	CONDENSATE RETURN UNIT
CT	CURRENT TRANSFORMER, COOLING TOWER
CTR	CENTER
CU	COPPER

D

dB	DECIBEL
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DTL	DETAIL
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DP	DISTRIBUTION PANEL
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DR	DROPPED RECEPTACLE
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DXFC	DX FAN COIL UNIT

E

(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR
E.C.	EMPTY CONDUIT
EDF	ELECTRIC DRINKING FOUNTAIN
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMERG	EMERGENCY
EMS	ENERGY MANAGEMENT SYSTEM
ENCL	ENCLOSURE
ENGR	ENGINEER
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
(ER)	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST

F

F	FAHRENHEIT, FAN, FIRE
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FCU	FAN COIL UNIT
FIXT	FIXTURE
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE
FLR	FLOOR
FLUOR	FLUORESCENT
FP	FIRE PUMP, FAN POWERED
FPTB	FAN POWERED TERMINAL BOX
FRZR	FREEZER
FS	FUSED SWITCH, FLOW SWITCH
FSD	MOTORIZED FIRE SMOKE DAMPER
FT	FOOT, FEET
FTL	FEED-THRU LUGS
FUT	FUTURE
FVNR	FULL VOLTAGE, NON-REVERSING

G

GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
GUH	GAS UNIT HEATER

H

HACR	HEATING, AIR CONDITIONING RATED CIRCUIT BREAKER
HD	ELECTRIC HAND DRYER
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HS	HAND SET
HSC	HAND SCANNER
HTG	HEATING WATER PUMP
HTR	HEATER
GUH	HOT WATER/GAS UNIT HEATER
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HVU	HEATING/VENTILATING UNIT
HWB	HOT WATER BOILER
HWC	HOT WATER CIRCULATOR
HWP	HOT WATER PUMP
HZ	HERTZ

I

ID	INSIDE DIAMETER
IG	ISOLATED GROUND
IN	INCH
INCAND	INCANDESCENT
INT	INTERNAL, INTERIOR

J,K,L

JB	JUNCTION BOX
JP	JOCKEY PUMP
KEC	KITCHEN EQUIPMENT
KO	CONTRACTOR KNOCKOUT
KVA	KILO-VOLT AMPS
KW	KILOWATT
KWH	KILOWATT-HOUR
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
LTG	LIGHTING
LV	LOW VOLTAGE TRANSFORMER
LVL	LEVEL

M

M	METER
MAP	MASTER ALARM PANEL
MATV	MASTER ANTENNA TELEVISION SYSTEM
MAX.	MAXIMUM
MBP	MAINTENANCE BYPASS
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MECH.	MECHANICAL
MFR	MANUFACTURER
MH	METAL HALIDE
MIC	MICROPHONE
MIN.	MINIMUM
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MV	MERCURY VAPOR

N

N3R	NEMA 3R ENCLOSURE
N4X	NEMA 4X ENCLOSURE
N.C.	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATON
NF	NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFS	NON FUSED SWITCH
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

O

OAF	OUTSIDE AIR FAN
OAHU	OUTSIDE AIR HANDLING UNIT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHE	OVERHEAD ELECTRICAL
OPG	OPENING

P,Q

P	POLE, PUMP
PB	PUSHBUTTON
PC	PLUMBING CONTRACTOR
PH	PHASE
PL	PILOT LIGHT
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
POS	POINT OF SALE
PP	POWER POLE
PR	PAIR
PRI	PRIMARY
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY

R

R	EXISTING TO BE REMOVED
RA	RETURN AIR
RAD	REFRIGERATED AIR DRYER
RAF	RETURN AIR FAN
RC	RECONNECT EXISTING DEVICE TO CIRCUIT INDICATED
RCP	REFLECTED CEILING PLAN
RCPT	RECEPTACLE
RE	REFERENCE, REFER
REC	RECEPTACLE
REFR	REFRIDGERATOR
REINF	REINFORCING
REL	EXISTING TO BE RELOCATED
REL/EX	NEW LOCATION OF RELOCATED EQUIPMENT
REQD	REQUIRED
REV	REVISION, REVISE
RGS	RIGID GALV. STEEL CONDUIT
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RR	REMOVE AND REPLACE
RTU	ROOFTOP UNIT

S

SA	SUPPLY AIR
SAF	SUPPLY AIR FAN
SCHED	SCHEDULE
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SC	SHARED CIRCUIT
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SKVA	STARTING KILOVOLTOAMPS
SKW	STARTING KILOWATTS
SP	SUMP PUMP
SPEC	SPECIFICATION
SPF	STAIR PRESSURIZATION FAN
SPKR	SPEAKER
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SQ	SQUARE
SRF	SMOKE REMOVAL FAN
SS	START-STOP PUSH BUTTON
SSSC	SOLID STATE SPEED CONTROL
ST	SHUNT TRIP
STB	STEAM BOILER
STD	STANDARD
STL	STEEL
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD

T

TC	TEMPERATURE CONTROL
TEL	TELEPHONE
TF	TRANSFER FAN
TL	TWIST LOCK
TOC	TOP OF CURB
TOS	TOP OF STEEL
TP	CHILD TAMPER PROOF DEVICE
TSTAT	THERMOSTAT
TTB	TELEPHONE TERMINAL BOARD
TTC	TELEPHONE TERMINAL CABINET
TU	TERMINAL UNIT
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TYP	TYPICAL

U

UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY

V

V	VOLT
VA	VOLT-AMPERE
VAV	VARIABLE AIR VOLUME
VC	VOLUME CONTROL
VERT	VERTICAL
VFD	VARIABLE FREQUENCY DRIVE
VP	VACUUM PUMP
VM	VOLT METER

W

W	WATT, WIRE, WIDTH
WG	WIREGUARD
W/	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WS	WATER SOFTENER
WT	WATERTIGHT, WEIGHT
WWF	WELDED WIRE FABRIC

X,Z

XFMR	TRANSFORMER
Z	ZONE

ELECTRICAL EQUIPMENT

- DISTRIBUTION PANEL
- SWITCHBOARD, MAIN DISTRIBUTION PANEL, OR MOTOR CONTROL CENTER
- PANELBOARD (FLUSH/SURFACE MOUNT)
- FLOOR MOUNTED DRY-TYPE TRANSFORMER
- SUSPENDED OR WALL MOUNTED TRANSFORMER
- ATS — AUTOMATIC TRANSFER SWITCH
- PLYWOOD TERMINAL BOARD. 4'x8'x3/4" U.N.O
- TERMINAL CABINET (FLUSH/SURFACE MOUNT) 24"x48"x3-1/2" U.N.O.
- BAT — BATTERY/INVERTER UNIT
- LV — LOW VOLTAGE TRANSFORMER.

ELECTRICAL SYMBOLS

MOTORS AND CONTROLS

- (5) — SINGLE/THREE PHASE MOTOR –NUMBER INDICATES HORSE POWER
- DISCONNECT (SAFETY) SWITCH – '200/3/150/N3R' DENOTES 'FRAME-SIZE/POLE/FUSE/NEMA-RATING' 'NF' DENOTES NON-FUSED
- ENCLOSED CIRCUIT BREAKER – '200/3/250/N3R' DENOTES 'FRAME-SIZE/POLE/TRIP-RATING'
- MOTOR STARTER – FURNISHED BY DIV. 23, INSTALLED BY DIV. 26
- COMBINATION STARTER/DISCONNECT (SAFETY) – '30/3/15' DENOTES 'FRAME-SIZE/POLE/FUSE'. 'NF' DENOTES NON-FUSED. PROVIDED BY DIV. 23, INSTALLED BY DIV. 26.
- VFD — VARIABLE FREQUENCY DRIVE. –PROVIDED BY DIV. 23, INSTALLED BY DIV. 26.
- EPO — EMERGENCY POWER OFF BUTTON
- LC — LIGHTING CONTACTOR
- TC — TIME CLOCK
- TS — TIME SWITCH
- PC — PHOTOCELL (AS PART OF OR ADDITION TO TIME-CLOCK)
- R — RELAY – MULTIPLE TYPES (REFER TO PLANS FOR USE)

RECEPTACLES AND OUTLETS

REFER TO SPECIFICATIONS FOR MOUNTING HEIGHT OF ALL DEVICES

- SIMPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V
- DUPLEX WALL RECEPTACLE, NEMA 5-20R, 20A, 125V
  - 'AC': ABOVE COUNTER
  - 'DR': DROPPED RECEPTACLE
  - 'GFI': GROUND FAULT INTERRUPTER
  - 'IG': ISOLATED GROUND
  - 'TP': TAMPER PROOF
  - 'UC': UNDER COUNTER
  - 'WP': WATERPROOF
  - 'USB': UNIVERSAL SERIAL BUS
  - 'C': CEILING
  - 'H': HORIZONTALLY ORIENTED RECEPTACLE REFER TO ARCHITECTURAL DRAWINGS FOR EXACT MOUNTING HEIGHT
- DUPLEX WALL RECEPTACLE ON EMERGENCY CIRCUIT. RED COLOR.
- DUPLEX WALL RECEPTACLE ON A DEDICATED CIRCUIT TO DATA PROCESSING, GRAY COLOR. PROVIDE ISOLATED GROUND WHERE NOTED.
- SPLIT WIRED RECEPTACLE. TOP RECEPTACLE SHALL BE SWITCHED ACCORDING TO PLANS, BOTTOM REMAINS UNSWITCHED
- FOURPLEX (DOUBLE DUPLEX) WALL RECEPTACLE. NEMA 5-20R, 20A, 125V.
- FOURPLEX WALL RECEPACLE ON EMERGENCY CIRCUIT. RED COLOR.
- SPECIAL RECEPTACLE. NEMA CONFIGURATION AS NOTED ON PLAN
- DUPLEX RECEPTACLE, PEDESTAL MOUNT
- FLUSH MOUNTED FLOOR OUTLET.
- MULTI-OUTLET SURFACE RACEWAY OR PLUGMOLD. SEE ARCHITECTURAL DRAWINGS FOR EXACT LENGTH AND MOUNTING HEIGHT.
- J,J — JUNCTION BOX
- P — PULL BOX (OVER 4" SQUARE)
- 2 GANG FLOOR OUTLET
- 3 GANG FLOOR OUTLET
- PP — POWER POLE
- DIRECT CONNECTION TO EQUIPMENT
- C — CLOCK RECEPTACLE, MOUNTED 12" BELOW FINISHED CEILING. (2) DENOTES DOUBLE SIDED
- CRP — CORD REEL POWER
- FF — FURNITURE FEED
- TV — TELEVISION SET, SEE 'COMMUNICATION' SECTION
- PUSHBUTTON ROUGH-IN. 42" AFF
- H — HAND DRYER CONNECTION

COMMUNICATIONS

THE FOLLOWING NOTATIONS REFER TO ALL COMMUNICATIONS OUTLETS:

- DATA OUTLET, SAME HEIGHT AS RECEPTACLES
- FLUSH DATA FLOOR OUTLET,
- TV — TELEVISION OUTLET: PROVIDE (1) RECESSED BOX WITH (2) SINGLE GANG BOXES. DIV. 26 SHALL PROVIDE (1) DUPLEX RECEPTACLE IN 1 GANG AND (1) SPARE GANG BOX FOR A/V/DATA. 60" U.N.O.
- VC S — CEILING MOUNTED SPEAKER. "VC" INDICATES VOLUME CONTROL ON SPEAKER.
- S — WALL MOUNTED SPEAKER.
- C — SCHOOL INTERCOMMUNICATION CALLBACK.
- VC — VOLUME CONTROL – WALL MOUNTED

SCOPE OR WORK REQUIRED BY DIV. 26:

ALL DATA/AV DEVICES SHALL BE 'ROUGH-IN' ONLY. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH DIV. 27 AND 28 FOR EXACT ROUGH-IN REQUIREMENTS. AT A MINIMUM, ALL ROUGH-INS PROVIDED BY DIV. 26 SHALL HAVE A 3/4" CONDUIT FROM ROUGH-IN TO NEAREST ACCESSIBLE CEILING SPACE. TV ROUGH-INS SHALL BE PROVIDED WITH 1-1/4" CONDUIT FROM THE DATA/AV BOX TO CEILING SPACE ABOVE.

LIGHTING

LETTER(S) DENOTE TYPE – REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.

- 2'x4' FLUORESCENT LIGHTING FIXTURE.
- 2'x2' FLUORESCENT LIGHTING FIXTURE
- 1'x4' FLUORESCENT LIGHTING FIXTURE
- 1'x2' FLUORESCENT LIGHTING FIXTURE
- 1'x1' FLUORESCENT LIGHTING FIXTURE
- FLUORESCENT STRIP FIXTURES
- STAGGERED STRIP FIXTURE
- INCANDESCENT, FLUORESCENT, LED, OR HID DOWNLIGHT
- WALL MOUNTED INCANDESCENT, FLUORESCENT, LED OR HID FIXTURE
- TRACK LIGHTING FIXTURE.
- CEILING MOUNTED EXIT SIGHT. ARROWS AS INDICATED. SHADED AREA DENOTES FACE(S)
- WALL MOUNTED EXIT SIGN. ARROWS AS INDICATED. SHADED AREA DENOTES FACE(S)
- EMERGENCY WALL MOUNTED LIGHTING FIXTURE. BATTERY OPERATED UNLESS NOTED OTHERWISE
- HID SECURITY WALL-PACK
- SITE LIGHTING FIXTURE
- POST-TOP FIXTURE/ACORN FIXTURE. BRACKET ARM INDICATES WALL MOUNT WITH ARM
- LIGHT FIXTURE ON EMERGENCY BRANCH CIRCUIT OR WITH BATTERY PACK.

RACEWAYS AND WIRING

- HASH MARKS INDICATE NUMBER OF CONDUTORS. LEFT TO RIGHT:PHASE/NEUTRAL/GROUND/ISOLATED GROUND. NO HASH MARKS INDICATE (2) #12, PLUS #12 GROUND, UNLESS OTHERWISE
- 1LA-2,4 — HOMERUN TO PANEL WITH CIRCUIT NUMBER(S) INDICATED
- (SC) 1LA-2,4 — PARTIAL (SHARED) CIRCUIT HOMERUN
- CAP AND STAKE CONDUIT
- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT UNDERSLAB OR UNDERGROUND
- EXPOSED CONDUIT
- CONDUIT TURNED UP
- CONDUIT TURNED DOWN
- 'X' — CONDUIT OR CABLE, WHERE 'X':
  - 'C' MASTER CLOCK
  - 'D' DATA
  - 'FA' FIRE ALARM
  - 'I' INTERCOM
  - 'PA' PAGING
  - 'S' SECURITY
  - 'T' TELEPHONE
  - 'V' VIDEO
  - 'OHE' OVERHEAD ELECTRIC
  - 'UG' UNDERGROUND ELECTRIC
  - 'DB' CONCRETE ENCASE DUCTBANK
  - 'EM' EMERGENCY CONDUIT

SECURITY/ACCESS CONTROL

- K — CARD KEY ACCESS
- CR — CARD READER
- CAMERA
- CAMERA WITH TILT/PAN
- DC — DOOR CONTACT SWITCH
- KP — KEYPAD
- HSC — HAND SCANNER
- CEILING MOUNTED MOTION DETECTOR
- WALL MOUNTED MOTION DETECTOR
- DC — DOOR CONTACT
- GB — GLASS BREAK SENSOR
- VS — SAFE VIBRATION SENSOR
- H — HOLD UP BUTTON
- ACB — ALARM CONTROL BOX
- A — ALARM AUDIO DEVICE

SCOPE OR WORK REQUIRED BY DIV. 26:

ALL SECURITY DEVICES SHALL BE 'ROUGH-IN' ONLY. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH DIV. 27 AND 28 FOR EXACT ROUGH-IN REQUIREMENTS. AT A MINIMUM, ALL ROUGH-INS PROVIDED BY DIV. 26 SHALL HAVE A 3/4" CONDUIT FROM ROUGH-IN TO NEAREST ACCESSIBLE CEILING SPACE.

ONE LINE AND RISER DIAGRAMS

- TRANSFORMER, TYPE & RATINGS AS NOTED
- 800A/3P — SWITCH, RATINGS AS SHOWN
- 400A — FUSE, RATING AS SHOWN
- CL — CIRCUIT BREAKER, RATING AS SHOWN. 3-POLE U.N.O. 'CL' DENOTES CURRENT LIMITING
- DRAWOUT CIRCUIT BREAKER, RATING AS SHOWN. 3-POLE U.N.O.
- ST — SHUNT TRIP
- GFI — GROUND FAULT RELAY
- K — KIRK KEY INTERLOCK
- M — DIGITAL METER
- 1200/5 — CURRENT TRANSFORMER, RATED AS SHOWN.
- 12.47KV/120V — POTENTIAL TRANSFORMER, RATING AS SHOWN
- GROUND CONNECTION
- LIGHTING ARRESTOR
- G — GENERATOR SET
- AUTOMATIC TRANSFER SWITCH
- BUS DUCT PLUG
- SPD — SURGE PROTECTION DEVICE
- M — ELECTRICAL METER

FIRE ALARM

- W — WATER FLOW SWITCH
- SP — SUPERVISORY SWITCH
- D — SMOKE DETECTOR – "D" INDICATES DUCT TYPE
- HEAT DETECTOR
- BT — BEAM DETECTOR TRANSMITTER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- BR — BEAM DETECTOR RECEIVER, HIGH IN CEILING WALL DIRECT LINE OF SIGHT.
- D — MAGNETIC DOOR HOLDER
- R — AUXILIARY CONTROL RELAY
- F — FIRE ALARM PULL STATION +42" AFF
- FIREMAN'S TELEPHONE JACK +42" AFF
- SPEAKER STROBE/HORN STROBE. (REFER TO SPECIFICATIONS TO DETERMINE IF F.A. WILL CONTAIN VOICE EVAC.) +80" AFF– 15/75cd U.N.O.
- SPEAKER/HORN (REFER TO SPECIFICATIONS TO DETERMINE IF F.A. WILL CONTAIN VOICE EVAC) +80" AFF
- VISUAL FIRE ALARM (STROBE) +80" AFF– 15/75cd U.N.O.
- FACP — FIRE ALARM CONTROL PANEL
- ANN — REMOTE FIRE ALARM ANNUNCIATOR PANEL
- VEP — FIRE ALARM VOICE EVACUATION PANEL
- S — FIRE ALARM SPEAKER
- FH — FIRE FIGHTER HANDSET
- RPS — REMOTE POWER SUPPLY FOR AUDIO/VISUAL FIRE ALARM DEVICES.
- FSD — FIRE SMOKE DAMPER

FIRE ALARM NOTES:

DO NOT PROVIDE SPEAKER AND HORNS IN THE SAME STRUCTURE. IF FIRE ALARM SPECIFIED REQUIRES VOICE EVACUATION, PROVIDE SPEAKER STROBES. IF VOICE EVACUATION IS NOT REQUIRED, PROVIDE SPEAKER STROBES. REFER TO SPECIFICATIONS FOR DETAILS.

ANNOTATIONS AND TAGS

- 1 — KEYED NOTE REFERENCE
- 1 — FEEDER SCHEDULE REFERENCE

DRAWING/DETAIL REFERENCE

REFER TO DRAWING/DETAIL NUMBER 1 E3-2

RE: 1 /E3-2 — SHEET NUMBER

GENERAL NOTES

1. NOT ALL SYMBOLS SHOWN ON THIS SYMBOL LIST ARE USED IN THE CONTRACT DOCUMENTS.
2. REFER TO SPECIFICATIONS FOR ALL MOUNTING HEIGHTS. MOUNTING HEIGHT STATED IN SPECIFICATIONS TAKE PRECEDENCE TO HEIGHTS STATED ON THIS SHEET.

SWITCHES

ALL SWITCHES SHALL BE MOUNTED AT 42" ABOVE FINISHED FLOOR TO CENTER OF DEVICE U.N.O.
ALL SWITCHES SHALL BE RATED FOR 20A, 120/277V U.N.O

- $ — SWITCH, SPST
- $x — SWITCH, WHERE 'X':
  - '2' DENOTES DPST
  - '3' DENOTES THREE-WAY
  - '4' DENOTES FOUR-WAY
  - 'F' FAN SPEED CONTROLLER
  - 'K' DENOTES KEY SWITCH
  - 'P' DENOTES PILOT LIGHT
  - 'R' DENOTES RED
  - 'M' MOTOR RATED SWITCH WITH THERMAL OVERLOADS
  - 'T' TIMER SWITCH
  - 'DM' DIMMER CONTROL SWITCH, 600 WATT U.N.O
  - 'MC' SPDT, CENTER OFF, MOMENTARY CONTACT
  - 'OC' OCCUPANCY SENSOR
  - 'OC2' DUAL RELAY OCCUPANCY SENSOR
  - 'PS' MOTORIZED PROJECTION SCREEN SWITCH
  - 'RS' ROLL-UP DOOR SWITCH OR CONTROLLER MODULE
- OC — CEILING MOUNTED OCCUPANCY SENSOR
- MP — MASTER OCCUPANCY SENSOR POWER PACK
- $D — DIGITAL ADDRESSABLE SWITCH, WHERE:
  - 'D1' 1-BUTTON DIGI-SWITCH
  - 'D2' 2-BUTTON DIGI-SWITCH
  - 'D3' 3-BUTTON DIGI-SWITCH
  - 'D4' 4-BUTTON DIGI-SWITCH
  - 'D5' 5-BUTTON DIGI-SWITCH
  - 'D6' 6-BUTTON DIGI-SWITCH
  - 'DM' SINGLE DIMMER DIGI-SWITCH
  - 'DM2' DOUBLE DIMMER DIGI-SWITCH
  - 'DK' KEYED DIGI-SWITCH

$D1 — SWITCH ADDRESS (IF APPLICABLE); SWITCH TYPE

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355 Texas Avenue
Round Rock, Texas

STATE OF TEXAS — NICOLE M. FENSTL — 99123 — REGISTERED PROFESSIONAL ENGINEER — 11/3/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

ELECTRICAL SYMBOLS AND ABBREVIATIONS

SHEET

E0.00

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DBR Project Number 165026.000

MC	SN	NF	AH	--

Bid 1701-139

Williamson County, Texas

GENERAL ELECTRICAL SPECIFICATIONS

1. COMPLY WITH THE MOST RECENTLY REVISED VERSIONS OF ALL APPLICABLE RULES, REGULATIONS AND ORDINANCES ADOPTED BY THE AUTHORITY HAVING JURISDICTION AND AS PER 2014 NATIONAL ELECTRICAL CODE, NFPA-70.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH OWNER FOR ALL CONSTRUCTION STANDARDS.
3. THE SCOPE OF THE ELECTRICAL WORK INCLUDES FURNISHING AND INSTALLING ALL ELECTRICAL WORK FOR A COMPLETE INSTALLATION.
4. THIS DRAWING IS FOR FIXTURE AND OUTLET CIRCUITING INFORMATION. REFER TO ARCHITECTURAL DRAWING FOR NOTES, MOUNTING DETAILS AND EXACT LOCATIONS.
5. CONTRACTOR TO PROVIDE PULL STRING ROUTED TO CEILING PLENUM, TYPICAL FOR EACH TELEPHONE OUTLET USING PLENUM RATED CABLE. IF CABLE ROUTING IS RESTRICTED, BY ROUTING HORIZONTALLY OR IN AN INSULATED WALL, PROVIDE 3/4" CONDUIT WITH PULL STRING ROUTED TO ABOVE CEILING. COORDINATE WITH TENANT'S CABLE INSTALLER.
6. VERIFY ELECTRICAL REQUIREMENTS (IF ANY) FOR ANY SPECIAL EQUIPMENT PRIOR TO ANY WORK PERFORMED. PROVIDE ISOLATED GROUND WIRE AND GROUNDING BUS IN PANEL PER MANUFACTURER'S INSTALLATION REQUIREMENTS.
7. ALL RECEPTACLES TO BE MOUNTED A MINIMUM OF 18" A.F.F. AND ALL SWITCHES SHALL BE A MAXIMUM OF 42" A.F.F. UNLESS NOTED OTHERWISE. ALL DIMENSIONS ARE TO THE CENTERLINE. NEW DEVICE TYPES SHALL MATCH ORIGINAL BASE BUILDING STANDARDS WITH COLOR SELECTION BY ARCHITECT, UNLESS OTHERWISE NOTED.
8. CONTRACTOR SHALL PROVIDE ONE SET OF SUBMITTALS VIA EMAIL ON ALL ELECTRICAL EQUIPMENT, INCLUDING, BUT NOT LIMITED TO, SWITCH GEAR, LIGHT FIXTURES, ELECTRICAL DEVICES, DIMMERS, RACEWAYS, FIRE ALARM DEVICES ETC.
9. ALL WIRING SHALL BE COPPER. ALUMINUM WIRING IS NOT ACCEPTABLE. MINIMUM WIRE SIZE IS #12 AWG. CONDUCTORS SIZED SHALL BE STRANDED. INSULATION SHALL BE "UL" TYPE THW OR THHN/THWN. HOSPITAL GRADE METAL CLAD CABLE MAY BE USED FOR BRANCH CIRCUITS IF APPROVED BY THE AUTHORITY HAVING JURISDICTION.
10. MANUFACTURER AND CLASS OF ALL NEW DISCONNECT SWITCHES, ETC. SHALL MATCH ORIGINAL BASE BUILDING ELECTRICAL GEAR. ALL SAFETY SWITCHES ARE TO BE HEAVY DUTY TYPE UNLESS APPROVED BY OWNER.
11. ALL ELECTRICAL MATERIALS USED ON THIS PROJECT MUST BE U.L. LISTED AND LABELED.
12. CONTRACTOR SHALL COORDINATE WITH OTHER TRADES AND SUBCONTRACTORS TO PROVIDE A COMPLETE WORKING SYSTEM.
13. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL MOTOR STARTERS NOT PROVIDED WITH MECHANICAL OR PLUMBING EQUIPMENT.
14. THIS CONTRACTOR SHALL PROVIDE CONDUIT FOR CONTROL WIRING. COORDINATE WITH MECHANICAL CONTRACTOR.
15. COORDINATE WITH MECHANICAL AND PLUMBING DRAWINGS FOR EXACT EQUIPMENT LOCATIONS.
16. MAINTAIN ALL U.L. FIRE RATED ASSEMBLIES AS NOTED ON ARCHITECTURAL DRAWINGS WHENEVER PENETRATING FLOOR SLABS, FIRE RATED CEILINGS AND FIRE RATED WALLS. ALL FIRE PROOFING MUST BE U.L. LISTED FOR THAT APPLICATION. MAINTAIN THE FIRE RESISTANCE RATING AS REQUIRED PER ARTICLE 300-21 N.E.C.
17. PROVIDE IDENTIFICATION OF ALL NEW PANEL BOARD AND DISTRIBUTION EQUIPMENT WITH ENGRAVED PHENOLIC PLASTIC LABEL SCREWED TO COVER. LABEL MUST IDENTIFY EQUIPMENT NAME, VOLTAGE AND PHASE, AMPACITY, AND SERVICE SOURCE.
18. PROVIDE UPDATED, TYPED DIRECTORY FOR EACH PANEL BOARD, DESIGNATING CIRCUITS BEING SERVED.
19. WHEN A LIFE SAFETY SYSTEM EXISTS, MAINTAIN THIS EXISTING SYSTEM IN ACCORDANCE WITH THE LOCAL CODES AND N.F.P.A., COORDINATING WITH OWNER FOR APPROVED LIFE SAFETY CONTRACTOR. BUILDING CORRIDORS MUST BE PROTECTED WITH SMOKE DETECTORS. AUDIBLE DEVICES MUST BE DISTINCT THROUGHOUT THE BUILDING. VISUAL ALARMS MUST PROVIDE COVERAGE PER AMERICANS WITH DISABILITIES ACT. THIS CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THAT EXISTING SYSTEM IS ADEQUATE FOR ADDITIONS AND MODIFICATIONS REQUIRED IN THESE PLANS. REFER TO SEPARATE FIRE ALARM REMODELING NOTES.
20. IT IS THE RESPONSIBILITY OF THE CONTRACTOR OR CONTRACTORS TO VISIT THE SITE OF THE PROPOSED CONSTRUCTION IN ORDER TO FULLY UNDERSTAND THE FACILITIES, DIFFICULTIES AND RESTRICTION ATTENDING THE EXECUTION OF WTH WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED THIS CONTRACTOR FOR WORK OR ITEMS OMITTED FROM HIS ORIGINAL PROPOSAL DUE TO HIS FAILURE TO INFORM HIMSELF REGARDING SUCH MATTERS AFFECTING THE PERFORMANCE OF THE WORK IN THIS CONTRACT OR NECESSARY FOR THE INSTALLATION AND COMPLETION OF THE WORK INCLUDED HEREIN.

FIRE ALARM REMODELING NOTES:

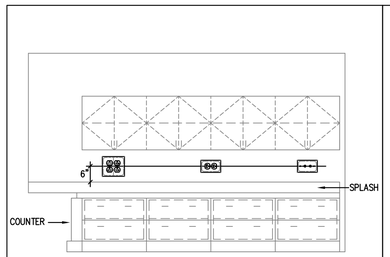
1. REFER TO THE FIRE ALARM PLAN FOR FIRE ALARM DEVICES, NEW OR EXISTING. BEING ADDED, RE-USED OR REMOVED BY THIS REMODEL.
2. THE INTENT OF THIS PLAN IS TO INCORPORATE NEW AND RELOCATED DEVICES WITH THE EXISTING BASE BUILDING FIRE ALARM SYSTEM. WHEN A PULL STATION OR SMOKE DETECTOR IS ACTIVATED THE STROBES WILL FLASH AND SPEAKERS WILL SOUND ON THE FLOOR ABOVE AND THE FLOOR BELOW THE FLOOR OF INCIDENCE.
3. IT IS ASSUMED WITH THIS REMODEL THAT THE EXISTING SYSTEM MEETS REQUIRED CODES FOR THE ORIGINAL DATE OF INSTALLATION, AND BUILDING MANAGEMENT HAS MAINTAINED SYSTEM IN COMPLIANCE WITH LIFE SAFETY 101. FOR SEQUENCE OF OPERATIONS AND SPECIFICATIONS, REFER TO ORIGINAL SYSTEM DOCUMENT. COORDINATE WITH OWNER.
4. THE EQUIPMENT SUPPLIER AND INSTALLING CONTRACTOR SHALL BE LICENSED BY THE STATE FIRE MARSHALL TO SELL, INSTALL, AND SERVICE FIRE ALARM SYSTEMS AS REQUIRED BY ARTICLE 5.49-2 OF THE TEXAS INSURANCE CODE.
5. ALL NEW EQUIPMENT REQUIRED FOR THIS REMODEL SHALL BE COMPATIBLE WITH THE EXISTING BUILDING SYSTEM AND IS TO BE A PART OF THE SUBMITTAL PROCESS AS NOTED IN THE ELECTRICAL SPECIFICATIONS FOR THIS PROJECT. PROVIDE ADDITION SYSTEM POWER BOOSTER WHERE REQUIRED.
6. APPROVED FIRE ALARM CONTRACTOR TO FIELD VERIFY THAT THE EXISTING SYSTEM IS ADEQUATE FOR ADDITIONS AND MODIFICATIONS AND DETERMINE EXACT LOCATIONS OF NEW, RELOCATED AND EXISTING DEVICES. VERIFY QUANTITIES OF NEW DEVICES TO INTERFACE WITH THE EXISTING BUILDING SYSTEM. THE CONTRACTOR SHALL COORDINATE WITH OWNER AND SHALL NOTIFY THE ENGINEER IF ANY CONFLICT EXISTS PREVENTING MODIFICATIONS REQUIRED IN THESE PLANS.
7. THE SYSTEM WHEN MODIFIED, SHALL BE A COMPLETE AND WORKING SYSTEM, AND COMPLY WITH THE MOST RECENT RULES, REGULATIONS, AND ORDINANCES THAT PRESENTLY APPLY TO THIS REMODEL.
8. ALL FIRE ALARM WORK IS TO BE APPROVED BY THE OWNER PRIOR TO START OF CONSTRUCTION.
9. ALL EXISTING SMOKE DETECTORS SUBJECTED TO DUST AND DEBRIS DURING CONSTRUCTION SHALL BE REPLACED WITH HEAT TYPE DETECTORS. REPLACE SMOKE DETECTORS WITH NEW UPON COMPLETIONOF CONSTRUCTION. FIELD VERIFY LOCATIONS OF ALL DEVICES.
10. FIRE ALARM CONTRACTOR SHALL SUBMIT AUDIBILITY TESTING RESULTS TO BUILDING MANAGEMENT UPON COMPLETION.

GENERAL ELECTRICAL REMODELING NOTES:

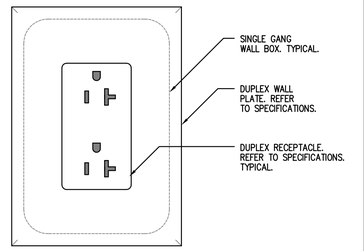
1. WHEN OUTLETS ARE ABANDONED, WIRE MUST BE PULLED OUT OF CONDUIT BACK TO THE NEAREST REMAINING BOX OR CABINET AND EXPOSED CONDUIT, THAT HAS BEEN ABANDONED, MUST BE REMOVED.
2. REESTABLISH SERVICE TO ALL OUTLETS THAT MAY HAVE BEEN INTERRUPTED BECAUSE OF REMODELING WORK.
3. PROVIDE ALL APPURTENANCES REQUIRED TO REROUTE, RELOCATE, REMOVE, OR REINSTALL ALL ITEMS DESCRIBED IN THESE NOTES.
4. VERIFY THE LOADING OF EACH CIRCUIT AFFECTED BY REMODELING WORK. THE MAXIMUM LOAD OF ANY BRANCH CIRCUIT MUST NOT EXCEED 80% OF ITS RATING.
5. REMOVE ALL OUTLETS AND WIRING ASSOCIATED WITH ALL EQUIPMENT BEING REMOVED, INCLUDING MECHANICAL AND PLUMBING EQUIPMENT.

LIGHT FIXTURE SCHEDULE

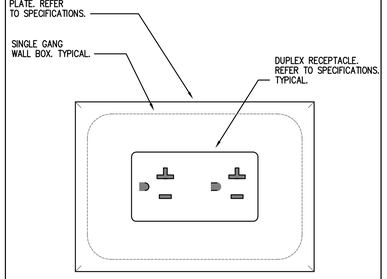
TYPE	MANUFACTURER	MOUNTING	LAMPS	VOLTS	REMARKS
A/AE	METALUX #22GR-L04-32-F1-UNV-L835-CD1-U	RECESSED	33W LED	120V	RECESSED 2'X2' LED TROFFER.
B/BE	HALO COMMERCIAL #PD6-15-ED010-PDMBA-835	RECESSED	17W LED	120V	6" RECESSED DOWNLIGHT.
C/CE	METALUX #4SWLED-L04-36SLLC-UNV-GTD2L840-CD1-U	SURFACE	35W LED	120V	4" SURFACE MOUNTED LED. WET LISTED.
D/DE	LUMARK #LDWP-FC-4A-DT	SURFACE	40W LED	120V	WET LISTED, FULL CUT OFF LED WALL PACK.
F	NEO-RAY #S23DR-2L35-SR-3-UDD-S1S93	RECESSED	28W LED	120V	RECESSED NARROW DIRECT LED. VERIFY FINISH WITH ARCHITECT.
GE	MCGRAW-EDISON #TT-O6-LED-E1-WQ-TR	SURFACE	108W LED	120V	SURFACE MOUNTED LED CANOPY LIGHT.
X	SURE-LITES #LPX-7	SURFACE	LED	120V	SURFACE MOUNTED POLYCARBONATE LED EXIT SIGN.



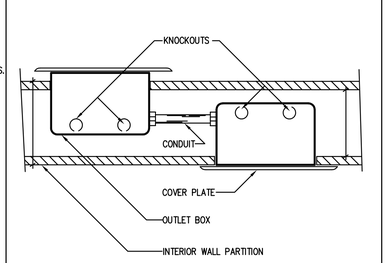
1 TYPICAL COUNTERTOP DEVICE ELEVATION
NOT TO SCALE EPR001.DWG



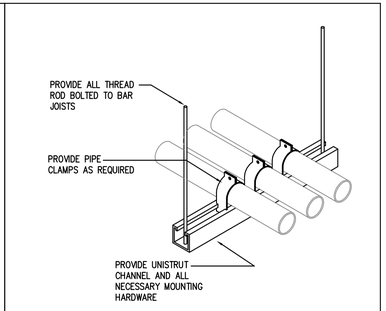
2 TYPICAL RECEPTACLE MOUNTING DETAIL
NOT TO SCALE EPR009.DWG



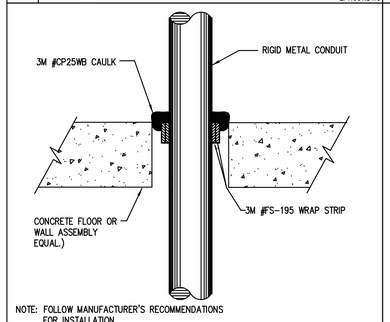
3 HORIZONTAL RECEPTACLE MOUNTING DETAIL
NOT TO SCALE EPR007.DWG



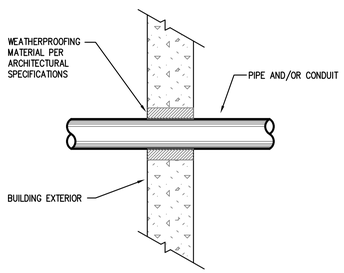
4 BACK-TO-BACK OUTLETS
NOT TO SCALE EPR013.DWG



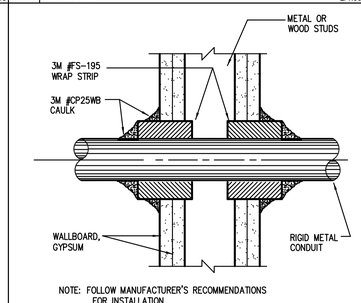
5 UNISTRUT CONDUIT DETAIL
NOT TO SCALE EPC001.DWG



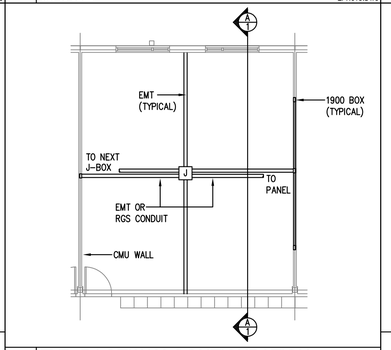
9 2, 3 AND 4 HR. PENETRATIONS FOR CONCRETE FLOOR AND WALL
NOT TO SCALE EPC013.DWG



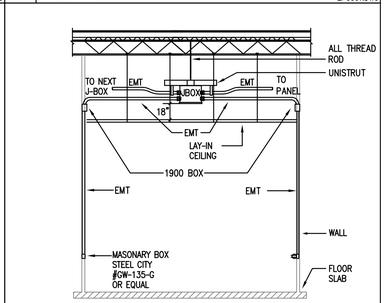
10 PIPE AND/OR CONDUIT PENETRATION
NOT TO SCALE EPC014.DWG



6 1 AND 2 HR. GYPSUM/WALLBOARD PIPE PENETRATION
NOT TO SCALE EPC012.DWG



7 TYP. RACEWAY CONFIGURATION
NOT TO SCALE EPW005.DWG



8 SECTION A-A FOR TYPICAL RACE WAY CONFIGURATION
NOT TO SCALE EPW009.DWG

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STATE OF TEXAS
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REGISTERED PROFESSIONAL ENGINEER
11/3/17

REVISIONS

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2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
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TITLE

ELECTRICAL NOTES, DETAILS AND LIGHT FIXTURE SCHEDULE

SHEET

E3.01

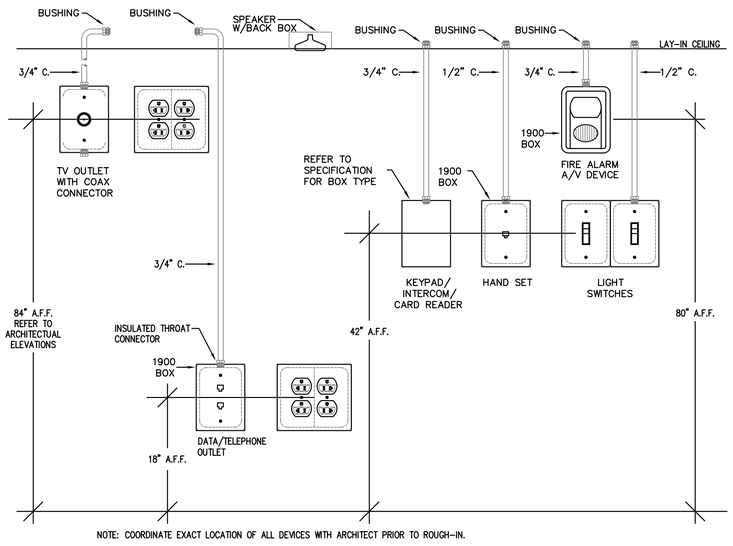
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DBR Project Number 165026.000

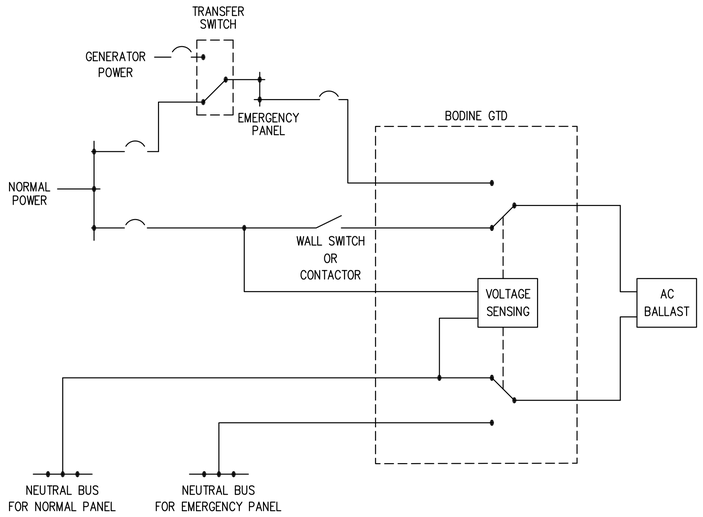
MC	SN	NF	AH	--

p. 513

2/2/2017 8:32 AM

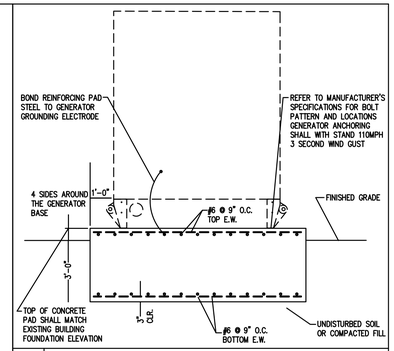


1 TYPICAL DEVICE ELEVATIONS
NOT TO SCALE EDo001.DWG

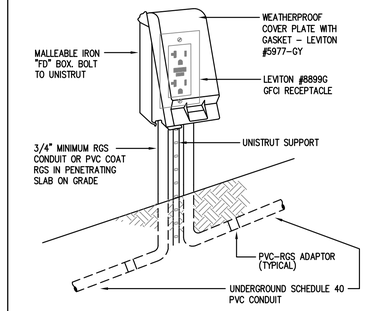


* REFER TO ONE LINE DIAGRAM FOR FEEDER SIZES

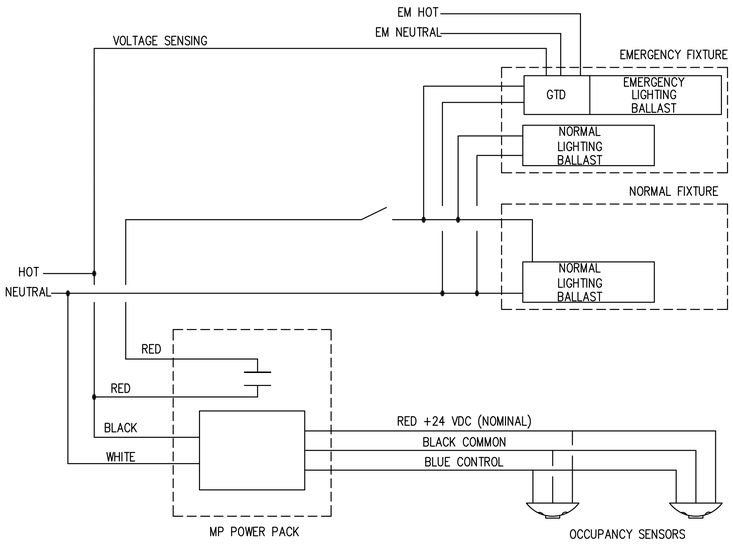
2 BODINE GTD GENERATOR TRANSFER DEVICE
NOT TO SCALE EPG001.DWG



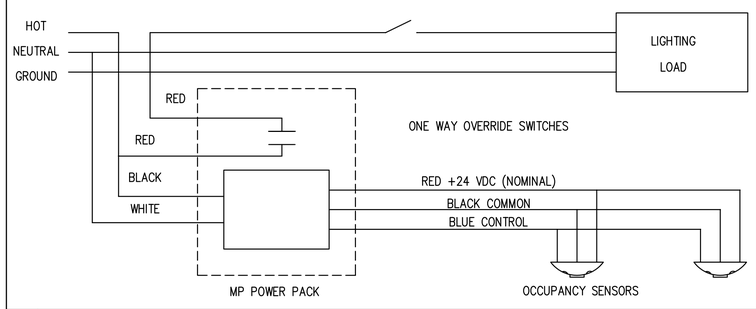
3 GENERATOR PAD DETAIL
NOT TO SCALE



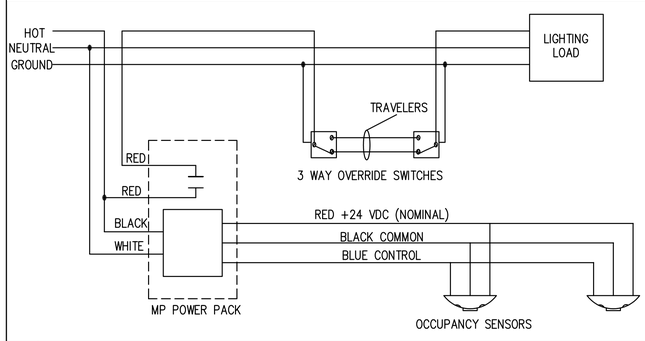
4 RECEPTACLE MOUNTING DETAIL
NOT TO SCALE epr018



5 EMERGENCY GTD WITH OCCUPANCY SENSORS
NOT TO SCALE EPG001.DWG



6 1 WAY OCCUPANCY SENSOR
NOT TO SCALE ELC018.DWG



7 3 WAY OCCUPANCY SENSOR
NOT TO SCALE ELC019.DWG

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STATE OF TEXAS
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REGISTERED PROFESSIONAL ENGINEER
11/3/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE
ELECTRICAL DETAILS

SHEET
E3.02

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DBR Project Number 165026.000

MC	SN	NF	AH	--

Distribution Panelboard M

42,000 AIC Rating
X Existing
New

120/208 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB
X MLO

1200 AMP MCB
AMP BUS (Copper)

X Single
Double
Feed - Thru

Mounting
X Surface
Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
1	66480	PANEL B	SP	3/0	200/3	1	A	2	150/3	1/0	SP	PANEL G	45200	1
1		-		3/0	-	3	B	4	-	1/0		-		1
1		-		3/0	-	5	C	6	-	1/0		-		1
1	25780	PANEL E	SP	3/0	200/3	7	A	8	100/3	3	SP	PANEL D	23360	1
1		-		3/0	-	9	B	10	-	3		-		1
1		-		3/0	-	11	C	12	-	3		-		1
1	43709	PANEL C	SP	1/0	150/3	13	A	14	100/3	3	SP	PANEL F	20120	1
1		-		1/0	-	15	B	16	-	3		-		1
1		-		1/0	-	17	C	18	-	3		-		1
4	27779	PANEL EM	SP	3	100/3	19	A	20				SPACE		
4		-		3	-	21	B	22				SPACE		
4		-		3	-	23	C	24				SPACE		
		SPACE				25	A	26				SPACE		
		SPACE				27	B	28				SPACE		
		SPACE				29	C	30				SPACE		
		SPACE				31	A	32				SPACE		
		SPACE				33	B	34				SPACE		
		SPACE				35	C	36				SPACE		
1	122375	PANEL A	SP	500	400/3	37	A	38				SPACE		
1		-		500	-	39	B	40				SPACE		
1		-		500	-	41	C	42				SPACE		
	286,123	Subtotal										Subtotal	88,680	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	210.20(a)	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	0	100%	0	220.50	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	0	100%	0		(SP) Sub Panel	374,803	100%	374,803

Total Connected Load 374,803 VA = 1041.1 AMPS
Total Load (Diversified 374,803 VA = 1041.1 AMPS

Location of Panel: ELECTRICAL ROOM

Panelboard A

42,000 AIC Rating
X Existing
New

120/208 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB
X MLO

400 AMP MCB
AMP BUS (Copper)

X Single
Double
Feed - Thru

Mounting
X Surface
Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
3,5	2335	AHU-1.1	C	10	30/3	1	A	2	25/2	10	C	CU-1.6	1150	3,5
3,5	2335	-	C	10	-	3	B	4	-	10	C	-	1150	3,5
3,5	2335	-	C	10	-	5	C	6	45/3	8	C	AHU-2.3	3510	3,5
3,5	2185	AHU-1.2	C	10	30/3	7	A	8	-	8	C	-	3510	3,5
3,5	2185	-	C	10	-	9	B	10	-	8	C	-	3510	3,5
3,5	2185	-	C	10	-	11	C	12	45/3	8	C	AHU-2.7	3510	3,5
3,5	2185	AHU-1.3	C	10	30/3	13	A	14	-	8	C	-	3510	3,5
3,5	2185	-	C	10	-	15	B	16	-	8	C	-	3510	3,5
3,5	2185	-	C	10	-	17	C	18	25/2	10	C	CU-2.1	1150	3,5
3,5	2335	AHU-1.4	C	10	30/3	19	A	20	-	10	C	-	1150	3,5
3,5	2335	-	C	10	-	21	B	22	25/3	10	C	CU-1.3	1150	3,5
3,5	2335	-	C	10	-	23	C	24	-	10	C	-	1150	3,5
3,5	3510	AHU-1.5	C	8	45/3	25	A	26	30/3	10	C	AHU-2.4	2335	3,5
3,5	3510	-	C	8	-	27	B	28	-	10	C	-	2335	3,5
3,5	3510	-	C	8	-	29	C	30	-	10	C	-	2335	3,5
3,5	3510	AHU-1.9	C	8	45/3	31	A	32	45/3	8	C	AHU-2.2	3510	3,5
3,5	3510	-	C	8	-	33	B	34	-	8	C	-	3510	3,5
3,5	3510	-	C	8	-	35	C	36	-	8	C	-	3510	3,5
1	500	EXISTING LOAD	M	12	20/1	37	A	38	20/1	12	M	EXISTING LOAD	500	1
4,5	1550	AHU-2.5	C	10	25/2	39	B	40	25/2	10	C	CU-2.4	1150	4,5
4,5	1550	-	C	10	-	41	C	42	-	10	C	-	1150	4,5
	51,780	Subtotal										Subtotal	48,295	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	210.20(a)	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	99,075	100%	99,075	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	0	100%	0	220.50	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	1,000	100%	1,000		(SP) Sub Panel	0	100%	0

Total Connected Load 100,075 VA = 278.0 AMPS
Total Load (Diversified 100,075 VA = 278.0 AMPS

Location of Panel: ELECTRICAL ROOM

Panelboard B

10,000 AIC Rating
X Existing
New

120/208 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB
X MLO

225 AMP MCB
AMP BUS (Copper)

X Single
Double
Feed - Thru

Mounting
X Surface
Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
3,5	1170	CU-1.1	C	10	25/3	1	A	2	45/3	8	C	AHU-1.10	3510	3,5
3,5	1170	-	C	10	-	3	B	4	-	8	C	-	3510	3,5
3,5	1170	-	C	10	-	5	C	6	-	8	C	-	3510	3,5
3,5	1150	CU-1.2	C	10	25/2	7	A	8	30/3	10	C	AHU-1.6	2185	3,5
3,5	1150	-	C	10	-	9	B	10	-	10	C	-	2185	3,5
3,5	1170	CU-2.6	C	10	25/3	11	C	12	-	10	C	-	2185	3,5
3,5	1170	-	C	10	-	13	A	14	30/3	10	C	AHU-1.8	2335	3,5
3,5	1170	-		10	-	15	B	16	-	10	C	-	2335	3,5
		SPACE				17	C	18	-	10	C	-	2335	3,5
3,5	1170	CU-1.4	C	10	25/3	19	A	20	25/3	10	C	CU-1.8	1170	3,5
3,5	1170	-	C	10	-	21	B	22	-	10	C	-	1170	3,5
3,5	1170	-	C	10	-	23	C	24	-	10	C	-	1170	3,5
3,5	1405	CU-1.5	C	10	30/3	25	A	26	30/3	10	C	AHU-2.1	2185	4,5
3,5	1405	-	C	10	-	27	B	28	-	10	C	-	2185	4,5
3,5	1405	-	C	10	-	29	C	30	-	10	C	-	2185	4,5
3,5	1405	CU-1.9	C	10	30/3	31	A	32	30/3	10	C	CU-2.3	1405	4,5
3,5	1405	-	C	10	-	33	B	34	-	10	C	-	1405	4,5
3,5	1405	-	C	10	-	35	C	36	-	10	C	-	1405	4,5
4,5	1170	CU-1.10	C	10	25/3	37	A	38	30/3	10	C	CU-2.2	1405	4,5
4,5	1170	-	C	10	-	39	B	40	-	10	C	-	1405	4,5
4,5	1170	-	C	10	-	41	C	42	-	10	C	-	1405	4,5
	24,770	Subtotal										Subtotal	42,585	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	0		0	210.20(a)	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	66,185	100%	66,185	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	0	100%	0	220.50	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	0	100%	0		(SP) Sub Panel	0	100%	0

Total Connected Load 66,185 VA = 183.8 AMPS
Total Load (Diversified 66,185 VA = 183.8 AMPS

Location of Panel: ELECTRICAL ROOM

Panelboard C

10,000 AIC Rating
X Existing
New

120/208 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB
X MLO

225 AMP MCB
AMP BUS (Copper)

X Single
Double
Feed - Thru

Mounting
X Surface
Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
3,5	3510	AHU-2.6	C	8	45/3	1	A	2	20/2	12	C	CU-2.5	810	2
3,5	3510	-	C	10	-	3	B	4	-	12	C	-	810	2
3,5	3510	-	C	10	-	5	C	6	20/2	12	C	AC-2	104	3
3,5	1405	CU-2.7	C	10	30/3	7	A	8	-	12	C	-	104	3
4,5	1405	-	C	10	-	9	B	10	20/1	12	F	HEPA-1	560	2
4,5	1405	-	C	10	-	11	C	12	20/1	12	F	EXHAUST FANS	1019	4
1	7100	ELEVATOR	MT	3	100/3	13	A	14	20/1	12	L	ELEVATOR CAB LTS	500	1
1	7100	-	MT	3	-	15	B	16	20/1	12	MT	SUMP PUMP	500	1
1	7100	-	MT	3	-	17	C	18	20/1	12	R	ELEV PIT LT/RECEPT	500	1
1	300	F/Q BOOSTER	M	12	20/1	19	A	20	20/1	12	M	FA PANEL	400	1
1	500	EXISTING LOAD	M	12	20/1	21	B	22	20/1	12	M	1ST FL COND PMPS	800	2
1	500	EXISTING LOAD	M	12	20/1	23	C	24	20/1	12	M	SUMP PUMP ALARM	200	1
1	1200	COPIER #122	M	12	20/1	25	A	26	20/1	12	M	IRRIGATION CNTL	400	2
1	500	EXISTING LOAD	M	12	20/1	27	B	28	20/1	12	M	EXISTING LOAD	500	1
		SPACE				29	C	30	20/1	12	M	2ND FL COND PMPS	640	4
	39,045	Subtotal										Subtotal	7,847	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	500		500	210.20(a)	(L) Lighting	500	125%	625
220.56	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	16,573	100%	16,573	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	1,579	100%	1,579	220.50	(MT) Lrg. Mot.	21,800	125%	27,250
	(M) Misc.	5,940	100%	5,940		(SP) Sub Panel	0	100%	0

Total Connected Load 46,892 VA = 130.3 AMPS
Total Load (Diversified 52,467 VA = 145.7 AMPS

Location of Panel: ELECTRICAL ROOM

Panelboard D

10,000 AIC Rating
X Existing
New

120/208 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB
X MLO

225 AMP MCB
AMP BUS (Copper)

X Single
Double
Feed - Thru

Mounting
X Surface
Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
1	720	REC 113-116,118,133	R	12	20/1	1	A	2	20/1	12	R	REC 110,131,119,120	720	1
1	720	REC 121/2/9,130/1/7	R	12	20/1	3	B	4	20/1	12	R	REC 123/5/6/8,138/9	720	1
1	720	REC 154/5/6/9,165/6	R	12	20/1	5	C	6	20/1	12	R	REC 140-143,149,150	720	1
1	720	REC 169-171,177	R	12	20/1	7	A	8	20/1	12	R	REC 147,152,164,179	720	1
1	720	R152,163,206-209	R	12	20/1	9	B	10	20/1	12	R	REC 210-215	720	1
1	720	R216?,232/3/5,240	R	12	20/1	11	C	12	20/1	12	R	REC 230/1/6/7/8,218	720	1
1	720	219-221,228,239,240	R	12	20/1	13	A	14	20/1	12	R	REC 224-227,241/2	720	1
1	720	REC 243/4,270-273	R	12	20/1	15	B	16	20/1	12	R	246/7,268/9,276/7	720	1
1	720	249/50/66/67/81/82	R	12	20/1	17	C	18	20/1	12	R	203,251,260,263-5	720	1
1	720	RECEPT 204,205	R	12	20/1	19	A	20	50/2	8	M	1ST FLOOR TELE RM	3600	1
1	720	REC 1-FLR TEL RM	R	12	20/1	21	B	22	-	8	M	RECTIFIER	3600	1
1	720	REC 2-FLR TEL RM	R	12	20/1	23	C	24	20/1	12	R	REC 2-FLR TEL RM	720	1
1	720	EXISTING LOAD	R	12	20/1	25	A	26	20/1	12	R	EXISTING LOAD	720	1
1	720	EXISTING LOAD	R	12	20/1	27	B	28	20/1	12	R	EXISTING LOAD	720	1
1	720	EXISTING LOAD	R	12	20/1	29	C	30	20/1	12	R	EXISTING LOAD	720	1
1	720	EXISTING LOAD	R	12	20/1	31	A	32	20/1	12	R	EXISTING LOAD	720	1
1	720	EXISTING LOAD	R	12	20/1	33	B	34	20/2	12	H	EUH-1	1650	4
		SPACE				35	C	36	-	12	H	-	1650	4
4	1667	GENERATOR	H	12	20/3	37	A	38	20/2	12	C	CCU-2	1560	4
4	1667	WATER JACKET	H	12	-	39	B	40	-	12	C	-	1560	4
4	1667	HEATER	H	12	-	41	C	42				SPACE		
	17,241	Subtotal										Subtotal	23,700	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	22,320		16,160	210.20(a)	(L) Lighting	0	125%	0
220.56	(K) Kitchen	0	100%	0		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	3,120	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	8,301	100%	8,301		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	0	100%	0	220.50	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	7,200	100%	7,200		(SP) Sub Panel	0	100%	0

Total Connected Load 40,941 VA = 113.7 AMPS
Total Load (Diversified 31,661 VA = 87.9 AMPS

Location of Panel: ELECTRICAL ROOM

Panelboard E

10,000 AIC Rating
X Existing
New

120/208 Volt,3-Phase,4-Wire
1 Section
1 -Nema Rating

MCB
X MLO

225 AMP MCB
AMP BUS (Copper)

X Single
Double
Feed - Thru

Mounting
X Surface
Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
2	500	CARD READERS	M	12	20/1	1	A	2	20/1	12	R	EXTERIOR RECEPT	540	2
2	1419	1ST FLOOR LIGHTS	L	12	20/1	3	B	4	20/1	12	R	CHECKOUT RECEPT	540	2
2	964	1ST FLOOR LIGHTS	L	12	20/1	5	C	6	20/1	12	R	REFRIGERATOR	1200	2
2	726	1ST FLOOR LIGHTS	L	12	20/1	7	A	8	20/1	12	R	MEETING 147 RECPT	540	2
2	924	1ST FLOOR LIGHTS	L	12	20/1	9	B	10	20/1	12	R	MEETING 147 RECPT	540	2
2	858	1ST FLOOR LIGHTS	L	12	20/1	11	C	12	20/1	12	R	RECEPTACLES	720	2
2	860	1ST FLOOR LIGHTS	L	12	20/1	13	A	14	20/1	12	R	2CSRS RECEPTS	1080	2
2	1101	1ST FLOOR LIGHTS	L	12	20/1	15	B	16	20/1	12	K	REFRIGERATOR	1200	2
		SPARE		12	20/1	17	C	18	20/1	12	R	CONFER. 229 RECPT	540	2
		SPARE		12	20/1	19	A	20	20/1	12	R	2CSRS RECEPTS	540	2
		SPARE		12	20/1	21	B	22	20/1	12	L	2ND FLOOR LIGHTS	1254	2
		SPARE		12	20/1	23	C	24	20/1	12	L	2ND FLOOR LIGHTS	1254	2
		SPARE		12	20/1	25	A	26	20/1	12	L	2ND FLOOR LIGHTS	1683	2
		SPARE		12	20/1	27	B	28	20/1	12	L	2ND FLOOR LIGHTS	1421	2
1	1200	LIGHT POLES	L	12	20/1	29	C	30	20/1	12	R	HVAC CONT. PANEL	360	2
1	300	CONTACTOR	M	12	20/1	31	A	32	20/1	12	H	GEN COND. HEATER	100	2
		SPARE		12	20/1	33	B	34	20/1	12		SPARE		
		SPARE		12	20/1	35	C	36	20/1	12		SPARE		
		SPARE		12	20/1	37	A	38	20/1	12		SPARE		
		SPACE				39	B	40				SPACE		
		SPACE				41	C	42				SPACE		
	8,852	Subtotal										Subtotal	13,512	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	5,400		5,400	210.20(a)	(L) Lighting	13,664	125%	17,080
220.56	(K) Kitchen	2,400	100%	2,400		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	0	0%	0	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	100	100%	100		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	0	100%	0	220.50	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	800	100%	800		(SP) Sub Panel	0	100%	0

Total Connected Load 22,364 VA = 62.1 AMPS
Total Load (Diversified 25,780 VA = 71.6 AMPS

Location of Panel: ELECTRICAL ROOM

Panelboard EM

10,000 AIC Rating
Existing
X New

120/208 Volt,3-Phase,4-Wire
1 Section
3R -Nema Rating

MCB
X MLO

100 AMP MCB
100 AMP BUS (Copper)

X Single
Double
Feed - Thru

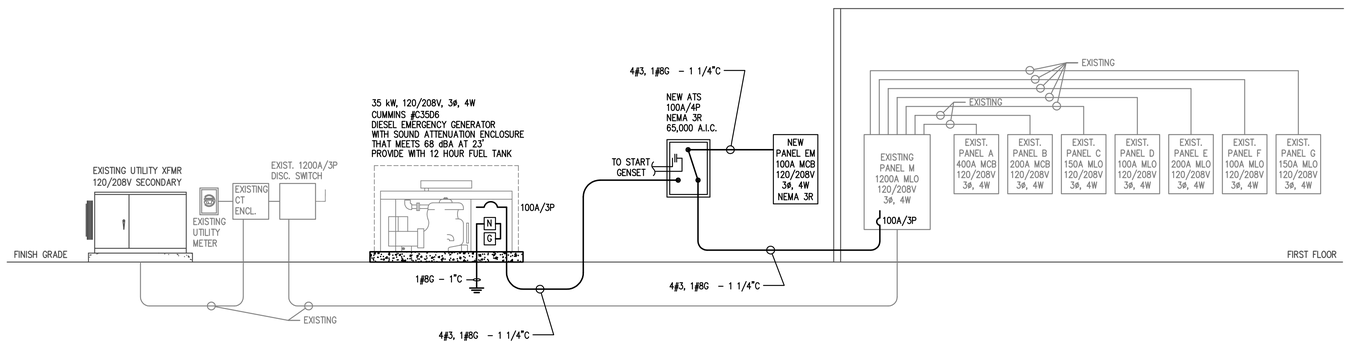
Mounting
X Surface
Flush

Notes	Load (VA)	Description	Type	Wire	CB	CKT #	PH	CKT #	CB	Wire	Type	Description	Load (VA)	Notes
	264	LAB LIGHTING	L	12	20/1	1	A	2	30/3	10	C	AHU-1.7	2185	5
	99	CONF LIGHTING	L	12	20/1	3	B	4	-	10	C	-	2185	5
	836	2ND FL EM LIGHTS	L	12	20/1	5	C	6	-	10	C	-	2185	5
	1414	1ST FL EM LIGHTS	L	12	20/1	7	A	8	25/2	10	C	CU-1.7	1150	5
	900	LAB RECEPTS	R	12	20/1	9	B	10	-	10	C	-	1150	5
	1200	LAB FRIDGE	K	12	20/1	11	C	12	25/2	10	C	AHU-2.8	1150	5
	1200	LAB FRIDGE	K	12	20/1	13	A	14	-	10	C	-	1150	5
	1200	LAB FRIDGE	K	12	20/1	15	B	16	20/2	12	C	CU-2.8	810	5
	1200	LAB FRIDGE	K	12	20/1	17	C	18	-	12	C	-	810	5
	900	CONF RECEPTS	R	12	20/1	19	A	20	15/2	12	C	AC-1	104	5
	720	IT RECEPTS	R	12	20/1	21	B	22	-	12	C	-	104	5
	540	STORAGE RECEPT	R	12	20/1	23	C	24	30/3	10	C	CCU-1	1500	5
	360	IT RACK	R	12	20/1	25	A	26	-	10	C	-	1500	5
	360	IT RACK	R	12	20/1	27	B	28	20/1	12		SPARE		
	360	IT RACK	R	12	20/1	29	C	30	20/1	12		SPARE		
	500	ACCESS CNTL PNL	M	12	20/1	31	A	32				SPACE		
		SPARE		12	20/1	33	B	34				SPACE		
		SPARE		12	20/1	35	C	36				SPACE		
		SPACE				37	A	38				SPACE		
		SPACE				39	B	40				SPACE		
		SPACE				41	C	42				SPACE		
	12,053	Subtotal										Subtotal	15,983	

N.E.C.	Load Type	Conn.	Fct.	Diversity	N.E.C.		Conn.	Fct.	Diversity
220.44	(R) Recept.	4,140		4,140	210.20(a)	(L) Lighting	2,613	125%	3,266
220.56	(K) Kitchen	4,800	80%	3,840		(EL) Ext. Ltg.	0	125%	0
220.60	(C) Cooling	15,983	100%	15,983	620.14	(E) Elevators	0	100%	0
220.60	(H) Heating	0	0%	0		(WH) Water Ht.	0	100%	0
220.60	(F) Fans	0	100%	0	220.50	(MT) Lrg. Mot.	0	125%	0
	(M) Misc.	500	100%	500		(SP) Sub Panel	0	100%	0

Total Connected Load 28,036 VA = 77.9 AMPS
Total Load (Diversified 27,729 VA = 77.0 AMPS

Location of Panel: EXTERIOR



ONE-LINE DIAGRAM GENERAL NOTES:

A. ELECTRICAL SERVICE AND ALL PANELBOARDS ARE EXISTING TO REMAIN, UNLESS NOTED OTHERWISE.

ONE-LINE DIAGRAM KEYED NOTES:

(1) PROVIDE NEW 100A/3P CIRCUIT BREAKER IN EXISTING AVAILABLE SPACE TO FEED NEW ATS. NEW CIRCUIT BREAKER SHALL MATCH EXISTING.

PANEL SCHEDULE NOTES:

1. EXISTING LOAD TO REMAIN.
2. CONNECT NEW LOAD TO EXISTING SPARE CIRCUIT BREAKER.
3. DISCONNECT EXISTING CIRCUIT BREAKER AND PROVIDE NEW AS SCHEDULED.
4. PROVIDE NEW CIRCUIT BREAKER IN EXISTING AVAILABLE SPACE.
5. PROVIDE HACR TYPE CIRCUIT BREAKER.

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1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
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Approved	

TITLE

ELECTRICAL ONE-LINE DIAGRAM AND PANEL SCHEDULES

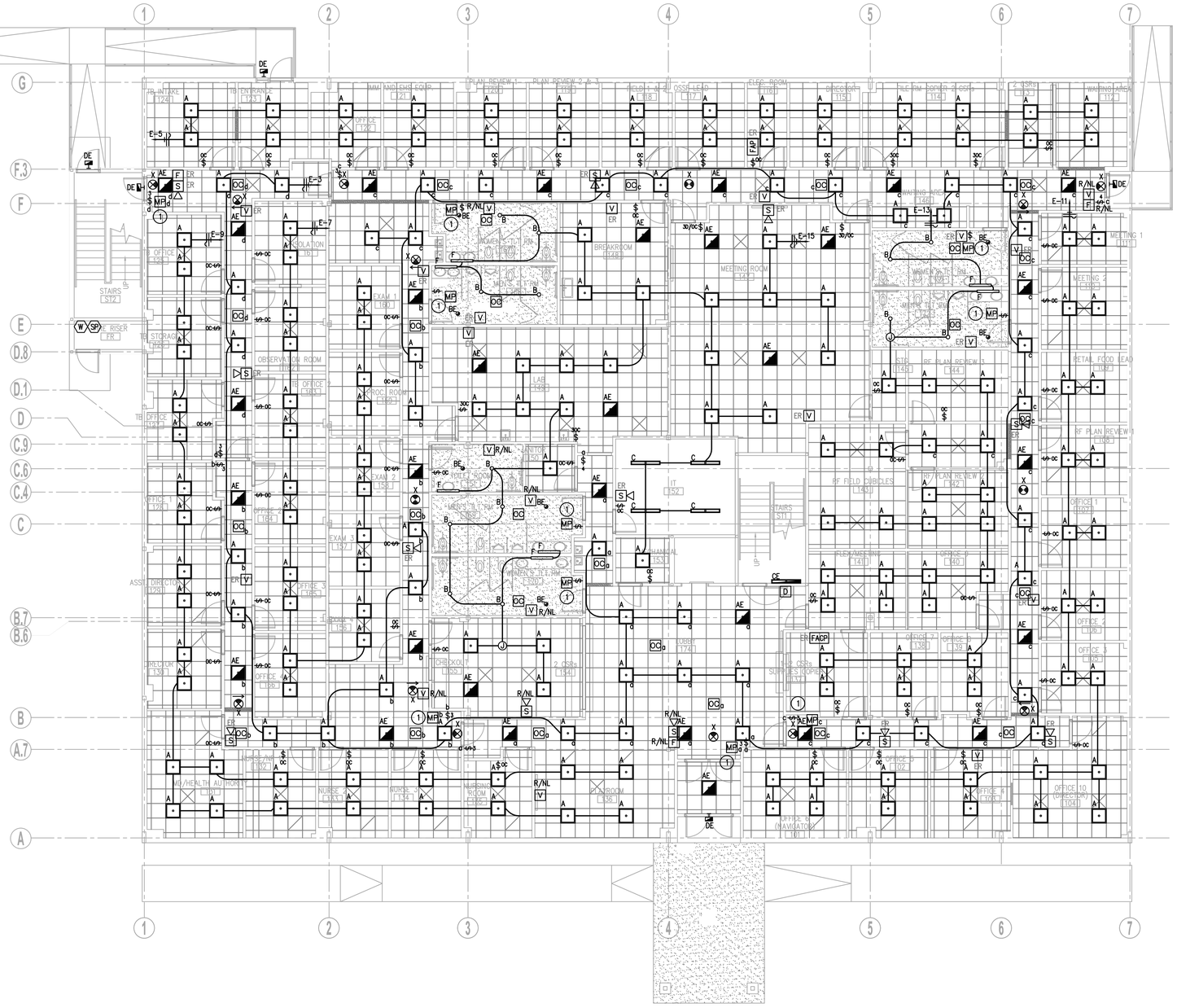
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DBR Project Number 165026.000

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1 EL2.01 1ST LEVEL LIGHTING PLAN

1/8"=1'-0"

GENERAL LIGHTING NOTES:

A. ALL 1ST FLOOR EMERGENCY AND EXIT LIGHTS SHALL BE FED FROM PANEL EM, CIRCUIT #7.

B. ALL 2ND FLOOR EMERGENCY AND EXIT LIGHTS SHALL BE FED FROM PANEL EM, CIRCUIT #5.

C. ALL WALL MOUNTED OCCUPANCY SENSORS SHALL BE DUAL TECHNOLOGY AND MANUFACTURED BY SENSOR SWITCH #WSX-PDT, UNLESS NOTED OTHERWISE. SWITCHES SHALL BE PROGRAMMED FOR MANUAL ON/AUTOMATIC OFF. CEILING MOUNTED OCCUPANCY SENSORS SHALL BE DUAL TECHNOLOGY AND MANUFACTURED BY SENSOR SWITCH #CM-PDT-10. VERIFY COLOR WITH ARCHITECT.

D. ALL EMERGENCY LIGHT FIXTURE GENERATOR TRANSFER DEVICES SHALL BE CONNECTED EMERGENCY EGRESS LIGHTING CIRCUIT INDICATED ON DRAWINGS. ALL EMERGENCY WIRING SHALL BE ROUTED IN A SEPARATE CONDUIT. REFER TO DETAILS ON SHEET E3.02 FOR WIRING INFORMATION.

E. ALL CEILING MOUNTED DEVICES LOCATED IN LAY-IN CEILINGS SHALL BE CENTERED IN THE CEILING TILE.

F. MULTIPLE SWITCHES SHOWN TOGETHER SHALL BE GANGED TOGETHER UNDER A COMMON COVER PLATE.

G. PROVIDE UNSWITCHED CIRCUIT TO ALL EXIT SIGNS ORIGINATING FROM CIRCUIT NEAREST EMERGENCY CIRCUIT.

H. REFER TO SHEET E3.02 FOR OCCUPANCY SENSOR WIRING DETAILS.

I. REFER TO SHEET E3.01 FOR LIGHT FIXTURE SCHEDULE.

J. CONTRACTOR SHALL INDICATE LIGHTING CIRCUIT CONTROLLED BY EACH SWITCH BY PROVIDING TYPE WRITTEN LABELING LOCATED ON INSIDE FACE OF EACH SWITCH COVER PLATE.

K. EMERGENCY CIRCUITS SHALL BE ROUTED IN SEPARATE CONDUIT FOR EMERGENCY LIGHTING.

L. PROVIDE ALL EMERGENCY LIGHT FIXTURES WITH UNSWITCHED HOT LEG AS DEFINED IN NEC 700.12

M. ROUTE AN UNSWITCHED HOT LEG TO ALL LIGHT FIXTURES DESIGNATED AS EMERGENCY FIXTURES. HOT LEG SHALL ORIGINATE FROM CIRCUIT SERVING NORMAL LIGHTING FIXTURES IN THAT SPACE. UNSWITCHED HOT LEG SHALL CONNECT TO THE NORMAL POWER SENSING LUG ON THE GTD DEVICE. REFER TO GTD WIRING DIAGRAM ON SHEET E6.01 FOR ADDITIONAL INFORMATION.

N. CONTRACTOR SHALL PROVIDE AND INSTALL ALL RECEPTACLES, CONDUITS, BOXES, CONDUCTORS, ETC. NECESSARY FOR THE PROPER INSTALLATION OF ANY CITY-REQUIRED OR OWNER-SPECIFIED BUILDING LOW-VOLTAGE SYSTEMS. COORDINATE SCOPE OF WORK AND E.C. RESPONSIBILITY WITH OWNER'S REPRESENTATIVE, AND ALL OTHER RELEVANT PARTIES.

O. MINIMUM CIRCUIT SIZE IS 2#12 AND 1#12 GROUND IN 3/4" CONDUIT. ALL CONDUCTORS SHALL BE 75 DEGREE (MINIMUM) COPPER THHN, COLOR CODED AS PER NEC AND LOCAL AMENDMENTS WITH SIZE, TEMPERATURE, AND VOLTAGE PERMANENTLY PRINTED ON THE JACKET. ALL JOINTS SHALL BE MADE UP USING SELF LOCKING, TWIST-ON, COLOR CODED, SQUARE WIRE SPRING GRAB, LONG SKIRT, WIRE CONNECTORS WITH SWEPT WINGS.

P. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR.

Q. WHEN LOCATING SYSTEMS NEXT TO DOORS, LOCATE 8" OFF DOOR JAMB TO CENTER OF DEVICE. WHEN MULTIPLE DEVICES ARE TOGETHER, STACK, BUT NO MORE THAN 42" AFF.

R. DEVICES LABELED 'ER' ARE EXISTING TO REMAIN.

S. DEVICES LABELED 'R/NL' ARE NEW LOCATION OF EXISTING LIGHT FIXTURES BEING RELOCATED. EXTEND EXISTING WIRING AND CONDUIT TO NEW LOCATION AS REQUIRED.

T. NEW LIGHT FIXTURES SHALL BE CONNECTED TO EXISTING LIGHTING CIRCUITRY IN THE AREA LEFT IN PLACE BY DEMOLITION. EXTEND EXISTING WIRING AND CONDUIT TO NEW LIGHT FIXTURES AS REQUIRED. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE.

U. EXIT SIGNS SHALL BE UNSWITCHED.

V. ALL WALL BOX DIMMERS SHALL BE LUTRON NT SERIES. CONTRACTOR SHALL NOT REMOVE HEAT SINK FINS PRIOR TO INSTALLATION.

GENERAL FIRE ALARM NOTES:

A. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED IN THE CEILING TILE.

B. ALL FIRE ALARM VISUAL AND AUDIO/VISUAL DEVICES SHALL BE CONFIGURED TO PROVIDE CANDELA RATINGS IN ACCORDANCE WITH ADA & NFPA COVERAGES. CONTRACTOR SHALL INCLUDE RATINGS OF ALL DEVICES IN SUBMITTAL.

C. ALL VISUAL FIRE ALARM DEVICES SHALL BE 15 CD UNLESS NOTED OTHERWISE.

D. ALL WIRING FOR DEVICES IN EXPOSED STRUCTURE AREAS SHALL BE ROUTED WITHIN CONDUIT. NO WIRING SHALL BE ROUTED EXPOSED.

E. ELECTRICAL CONTRACTOR SHALL PROVIDE CONTROL WIRING TO SHUT DOWN AIR HANDLING UNIT UPON DETECTION OF SMOKE BY THE DUCT DETECTOR. COORDINATE WITH HVAC CONTRACTOR AND SEE SHEET M2.01 AND M2.02 FOR MORE INFORMATION.

KEYED LIGHTING NOTES:

(1) PROVIDE SENSOR SWITCH POWER PACK, #PP-16, ABOVE CEILING. CONNECT ALL OCCUPANCY SENSORS IN THE AREA TO THE POWER PACK.

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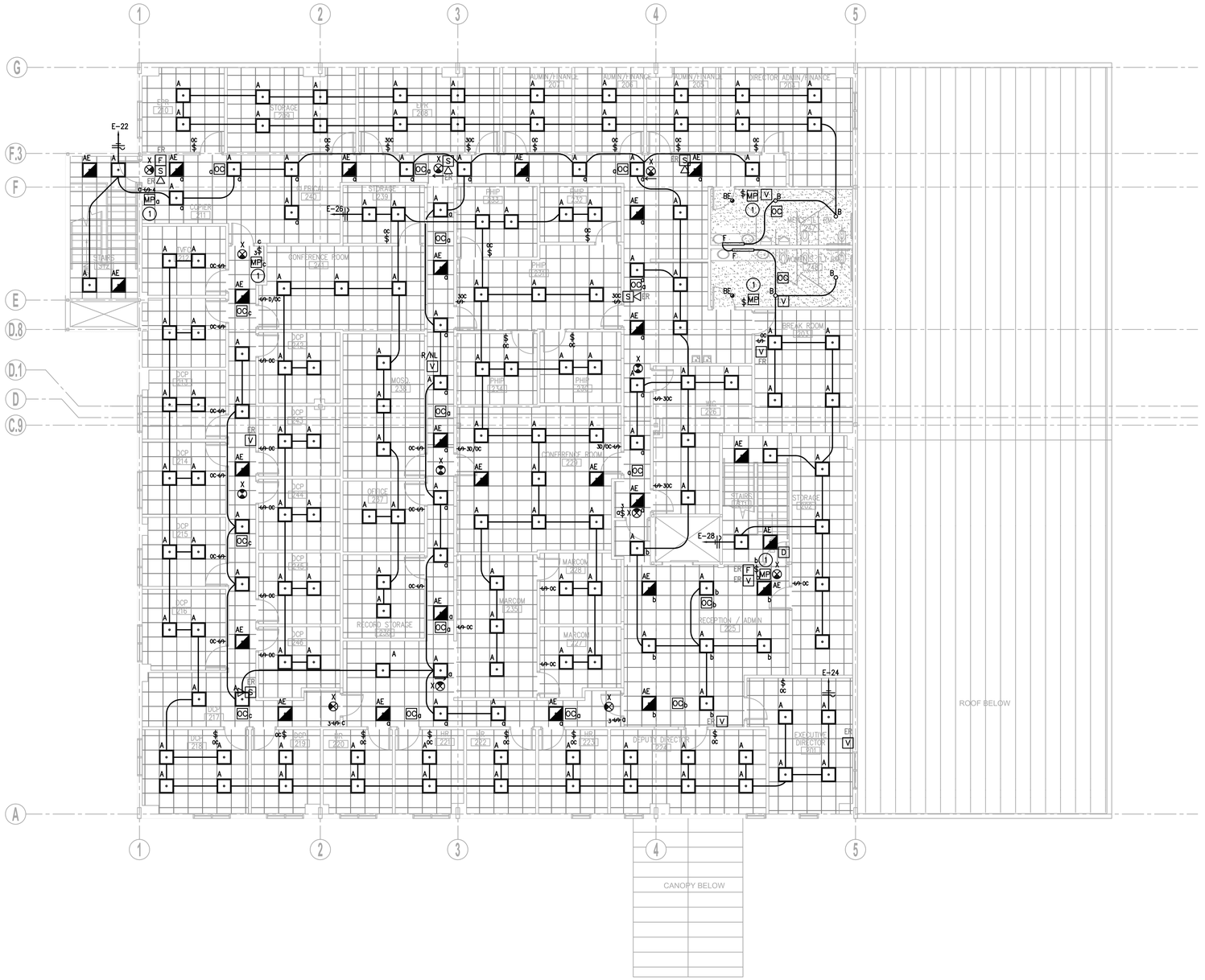
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Approved	

TITLE

1ST LEVEL LIGHTING PLAN

SHEET

EL2.01



1 EL2.02 **2ND LEVEL LIGHTING PLAN**

1/8"=1'-0"

GENERAL LIGHTING NOTES:

A. ALL 1ST FLOOR EMERGENCY AND EXIT LIGHTS SHALL BE FED FROM PANEL EM, CIRCUIT #7.

B. ALL 2ND FLOOR EMERGENCY AND EXIT LIGHTS SHALL BE FED FROM PANEL EM, CIRCUIT #5.

C. ALL WALL MOUNTED OCCUPANCY SENSORS SHALL BE DUAL TECHNOLOGY AND MANUFACTURED BY SENSOR SWITCH #WSX-PDT, UNLESS NOTED OTHERWISE. SWITCHES SHALL BE PROGRAMMED FOR MANUAL ON/AUTOMATIC OFF. CEILING MOUNTED OCCUPANCY SENSORS SHALL BE DUAL TECHNOLOGY AND MANUFACTURED BY SENSOR SWITCH #nCM-PDT-10. VERIFY COLOR WITH ARCHITECT.

D. ALL EMERGENCY LIGHT FIXTURE GENERATOR TRANSFER DEVICES SHALL BE CONNECTED EMERGENCY EGRESS LIGHTING CIRCUIT INDICATED ON DRAWINGS. ALL EMERGENCY WIRING SHALL BE ROUTED IN A SEPARATE CONDUIT. REFER TO DETAILS ON SHEET E3.02 FOR WIRING INFORMATION.

E. ALL CEILING MOUNTED DEVICES LOCATED IN LAY-IN CEILINGS SHALL BE CENTERED IN THE CEILING TILE.

F. MULTIPLE SWITCHES SHOWN TOGETHER SHALL BE GANGED TOGETHER UNDER A COMMON COVER PLATE.

G. PROVIDE UNSWITCHED CIRCUIT TO ALL EXIT SIGNS ORIGINATING FROM CIRCUIT NEAREST EMERGENCY CIRCUIT.

H. REFER TO SHEET E3.02 FOR OCCUPANCY SENSOR WIRING DETAILS.

I. REFER TO SHEET E3.01 FOR LIGHT FIXTURE SCHEDULE.

J. CONTRACTOR SHALL INDICATE LIGHTING CIRCUIT CONTROLLED BY EACH SWITCH BY PROVIDING TYPE WRITTEN LABELING LOCATED ON INSIDE FACE OF EACH SWITCH COVER PLATE.

K. EMERGENCY CIRCUITS SHALL BE ROUTED IN SEPARATE CONDUIT FOR EMERGENCY LIGHTING.

L. PROVIDE ALL EMERGENCY LIGHT FIXTURES WITH UNSWITCHED HOT LEG AS DEFINED IN NEC 700.12

M. ROUTE AN UNSWITCHED HOT LEG TO ALL LIGHT FIXTURES DESIGNATED AS EMERGENCY FIXTURES. HOT LEG SHALL ORIGINATE FROM CIRCUIT SERVING NORMAL LIGHTING FIXTURES IN THAT SPACE. UNSWITCHED HOT LEG SHALL CONNECT TO THE NORMAL POWER SENSING LUG ON THE GTD DEVICE. REFER TO GTD WIRING DIAGRAM ON SHEET E6.01 FOR ADDITIONAL INFORMATION.

N. CONTRACTOR SHALL PROVIDE AND INSTALL ALL RECEPTACLES, CONDUITS, BOXES, CONDUCTORS, ETC. NECESSARY FOR THE PROPER INSTALLATION OF ANY CITY-REQUIRED OR OWNER-SPECIFIED BUILDING LOW-VOLTAGE SYSTEMS. COORDINATE SCOPE OF WORK AND E.C. RESPONSIBILITY WITH OWNER'S REPRESENTATIVE, AND ALL OTHER RELEVANT PARTIES.

O. MINIMUM CIRCUIT SIZE IS 2#12 AND 1#12 GROUND IN 3/4" CONDUIT. ALL CONDUCTORS SHALL BE 75 DEGREE (MINIMUM) COPPER THHN, COLOR CODED AS PER NEC AND LOCAL AMENDMENTS WITH SIZE, TEMPERATURE, AND VOLTAGE PERMANENTLY PRINTED ON THE JACKET. ALL JOINTS SHALL BE MADE UP USING SELF LOCKING, TWIST-ON, COLOR CODED, SQUARE WIRE SPRING GRAB, LONG SKIRT, WIRE CONNECTORS WITH SWEPT WINGS.

P. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR.

Q. WHEN LOCATING SYSTEMS NEXT TO DOORS, LOCATE 8" OFF DOOR JAMB TO CENTER OF DEVICE. WHEN MULTIPLE DEVICES ARE TOGETHER, STACK, BUT NO MORE THAN 42" AFF.

R. DEVICES LABELED 'ER' ARE EXISTING TO REMAIN.

S. DEVICES LABELED 'R/NL' ARE NEW LOCATION OF EXISTING LIGHT FIXTURES BEING RELOCATED. EXTEND EXISTING WIRING AND CONDUIT TO NEW LOCATION AS REQUIRED.

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U. EXIT SIGNS SHALL BE UNSWITCHED.

V. ALL WALL BOX DIMMERS SHALL BE LUTRON NT SERIES. CONTRACTOR SHALL NOT REMOVE HEAT SINK FINS PRIOR TO INSTALLATION.

GENERAL FIRE ALARM NOTES:

A. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED IN THE CEILING TILE.

B. ALL FIRE ALARM VISUAL AND AUDIO/VISUAL DEVICES SHALL BE CONFIGURED TO PROVIDE CANDELA RATINGS IN ACCORDANCE WITH ADA & NFPA COVERAGES. CONTRACTOR SHALL INCLUDE RATINGS OF ALL DEVICES IN SUBMITTAL.

C. ALL VISUAL FIRE ALARM DEVICES SHALL BE 15 CD UNLESS NOTED OTHERWISE.

D. ALL WIRING FOR DEVICES IN EXPOSED STRUCTURE AREAS SHALL BE ROUTED WITHIN CONDUIT. NO WIRING SHALL BE ROUTED EXPOSED.

E. ELECTRICAL CONTRACTOR SHALL PROVIDE CONTROL WIRING TO SHUT DOWN AIR HANDLING UNIT UPON DETECTION OF SMOKE BY THE DUCT DETECTOR. COORDINATE WITH HVAC CONTRACTOR AND SEE SHEET M2.01 AND M2.02 FOR MORE INFORMATION.

KEYED LIGHTING NOTES:

(1) PROVIDE SENSOR SWITCH POWER PACK, #nPP-16, ABOVE CEILING. CONNECT ALL OCCUPANCY SENSORS IN THE AREA TO THE POWER PACK.

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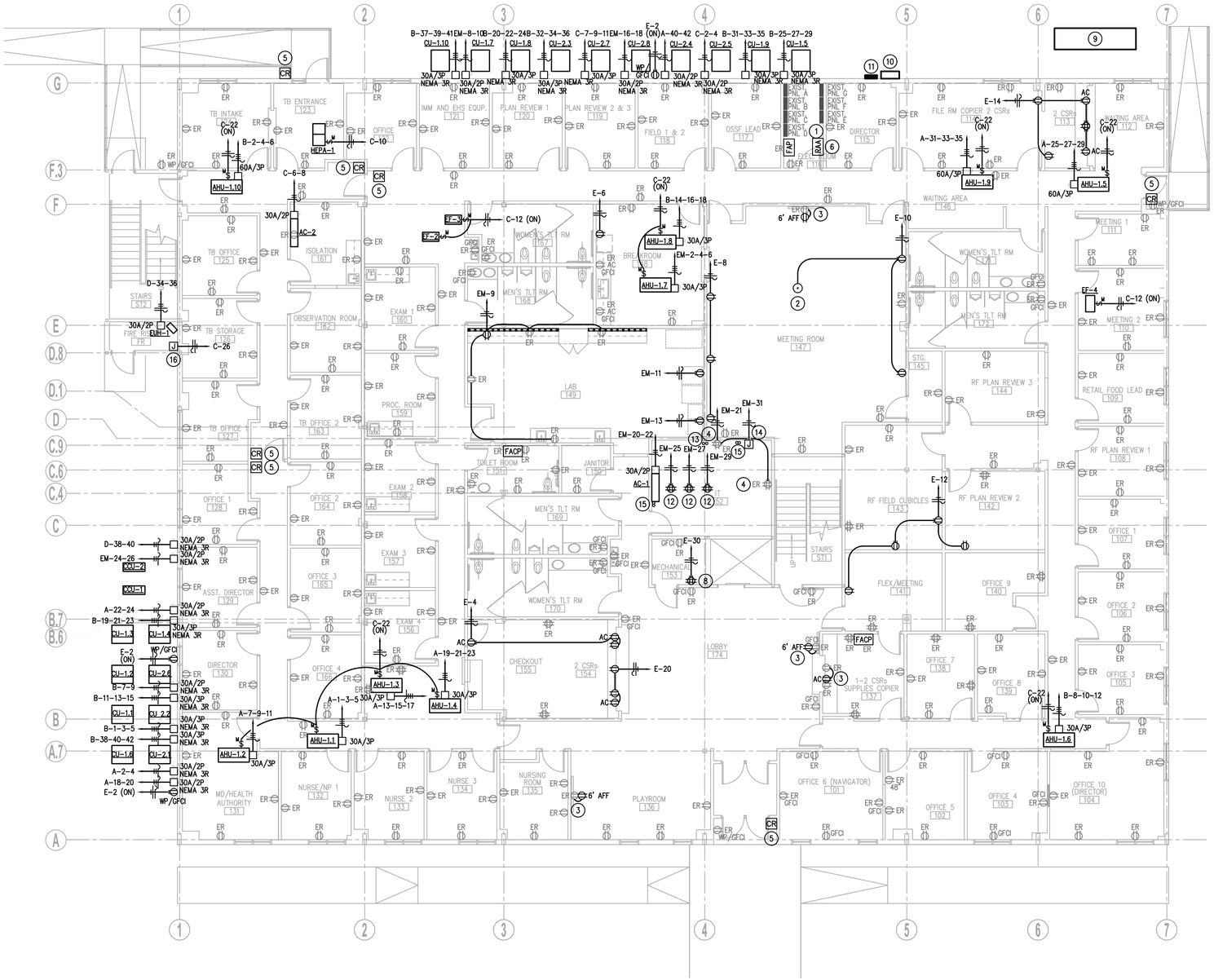
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Approved	

TITLE

2ND LEVEL LIGHTING PLAN

SHEET

EL2.02



1 EP2.01 **1ST LEVEL POWER PLAN**

1/8"=1'-0"

GENERAL POWER NOTES:

A. ELECTRICAL CONTRACTOR SHALL GROUP HOMERUNS WITH THREE HOTS (A,B, AND C PHASE), AND #10 NEUTRAL TO PROVIDE MULTI-WIRE BRANCH CIRCUITS. NO MORE THAN 2 MULTI-WIRE HOMERUNS PER CONDUIT.

B. CONTRACTOR SHALL VERIFY DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN. REVIEW ARCHITECTURAL CASEWORK AND MILLWORK ELEVATIONS PRIOR TO RECEPTACLE ROUGH-INS. DO NOT LOCATE RECEPTACLES BEHIND DRAWERS OR HIDDEN IN MILLWORK UNLESS SPECIFICALLY DIRECTED BY OWNER/ARCHITECT. SEE ARCHITECTURAL ELEVATIONS IN BREAKROOM FOR APPLIANCES AND RECEPTACLE MOUNTING LOCATIONS.

C. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL RECEPTACLES, CONDUIT, BOXES, CONDUCTORS, ETC. NECESSARY FOR THE PROPER INSTALLATION FOR ANY CITY-REQUIRED OR OWNER-SPECIFIED BUILDING LOW VOLTAGE SYSTEMS. COORDINATE SCOPE OF WORK AND E.C. RESPONSIBILITY WITH OWNER'S REPRESENTATIVE AND ALL OTHER RELEVANT PARTIES. REFER TO DIVISION 26 SPECIFICATIONS AND TECHNOLOGY DRAWINGS FOR ALL WORK REQUIRED.

D. ELECTRICAL CONTRACTOR SHALL PROVIDE BOX WITH PULL STRING FOR ALL TELEPHONE/DATA DEVICES. (TYP)

E. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL EXHAUST FAN CONTROLS. PROVIDE A FAN SWITCH IF INDICATED BY MECHANICAL. ALL EXHAUST FANS SHALL BE PROVIDED WITH BUILT-IN DISCONNECT SWITCH.

F. HVAC AND PLUMBING EQUIPMENT MAY DIFFER FROM LOCATIONS AS SHOWN ON ELECTRICAL DRAWINGS. COORDINATE EXACT LOCATIONS WITH MECHANICAL AND PLUMBING CONTRACTOR.

G. ALL RECEPTACLES MOUNTED ABOVE COUNTERS AND WITHIN 6 FEET OF SINKS OR LAVATORIES SHALL BE GFCI TYPE.

H. PROVIDE A DEDICATED HOT, NEUTRAL, AND GROUND FOR ALL COPY MACHINES.

I. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF NEC ARTICLE 210.4(B). AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

J. CONTRACTOR SHALL INDICATE CIRCUIT SERVING EACH RECEPTACLE BY PROVIDING TYPE WRITTEN LABELING LOCATED ON INSIDE FACE OF EACH RECEPTACLE COVER PLATE.

K. COORDINATE WITH MECHANICAL CONTRACTOR TO FURNISH INTEGRAL DISCONNECT SWITCH FOR ALL MECHANICAL EQUIPMENT. ELECTRICAL CONNECTIONS SHALL BE PROVIDED BY DIVISION 26.

L. ALL RECEPTACLES LOCATED IN RESTROOMS, JANITOR CLOSETS, MECHANICAL ROOMS, ELEVATOR PITS OR SHAFTS, ELEVATOR EQUIPMENT ROOMS, SERVING ELECTRIC DRINKING FOUNTAINS OR VENDING MACHINES, LOCATED WITHIN 6' OF A SINK, LOCATED ABOVE A WET COUNTERTOP OR IN A KITCHEN OR COFFEE BAR SHALL BE GFCI. EACH GFCI PROTECTED RECEPTACLE SHARING THE SAME CIRCUIT SHALL HAVE ITS OWN RE-SET AND TEST BUTTON.

M. WHEN LOCATING SYSTEMS NEXT TO DOORS, LOCATE 8" OFF DOOR JAMB TO CENTER OF DEVICE. WHEN MULTIPLE DEVICES ARE TOGETHER, STACK, BUT NO MORE THAN 42" AFF.

N. MOUNT RECEPTACLES 18" AFF, 6" ABOVE BACKSPLASH AT COUNTERS, 48" IN TOILET ROOMS AND AT EQUIPMENT ROUGH-IN LOCATIONS FOR APPLIANCES. PROVIDE GFCI RECEPTACLES AT ALL SINKS, EXTERIOR RECEPTACLES, AND UNDERCOUNTER EQUIPMENT.

O. MINIMUM CIRCUIT SIZE IS 2 #12 AND 1 #12 GROUND IN 3/4" CONDUIT. ALL CONDUCTORS SHALL BE 75 DEGREE (MINIMUM) COPPER THHN, COLOR CODED AS PER NEC AND LOCAL AMENDMENTS WITH SIZE, TEMPERATURE, AND VOLTAGE PERMANENTLY PRINTED ON THE JACKET. ALL JOINTS SHALL BE MADE UP USING SELF LOCKING, TWIST-ON, COLOR CODED, SQUARE WIRE SPRING GRAB, LONG SKIRT, WIRE CONNECTORS WITH SWEPT WINGS.

P. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR.

Q. ALL ELECTRICAL EQUIPMENT AND DEVICES ARE FED FROM EXISTING PANELS, UNLESS NOTED OTHERWISE. RECEPTACLES SHALL BE FED FROM EXISTING CIRCUITS MADE AVAILABLE BY DEMOLITION OF EXISTING RECEPTACLES IN THE AREA. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE ONLY. VERIFY EXACT CIRCUIT NUMBER IN THE FIELD. PROVIDE NEW WIRING AND CONDUIT AS REQUIRED.

KEYED POWER NOTES:

(ALL NOTES MAY NOT APPLY)

1. ALL EQUIPMENT IN THIS ROOM IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
2. PROVIDE RECEPTACLE IN CENTER OF CEILING TILE. COORDINATE WITH ARCHITECT AND A/V CONTRACTOR PRIOR TO ROUGH-IN.
3. CONNECT NEW RECEPTACLE TO EXISTING RECEPTACLE CIRCUIT. MAXIMUM LOAD ON CIRCUIT BREAKER SHALL BE 16A.
4. PROVIDE NEW WIRING AND CONDUIT TO FEED EXISTING RECEPTACLE FROM NEW CIRCUIT.
5. PROVIDE ROUGH IN FOR FUTURE CARD READER AND ALL ASSOCIATED REQUIRED EQUIPMENT AND HARDWARE; INCLUDING, BUT NOT LIMITED TO, REQUEST TO EXIT MOTION DETECTOR, MANUAL PUSHBUTTON DOOR RELEASE, AND ELECTRIC STRIKE. PROVIDE 120V POWER FOR ACCESS CONTROL HEAD END UNIT. PROVIDE RELAY TO INTERFACE WITH FIRE ALARM CONTROL PANEL. DOOR STRIKE SHALL DISENGAGE IN ALARM STATE. REFER TO SECURITY DRAWINGS FOR ROUGH-IN REQUIREMENTS. (TYP)
6. COORDINATE EXACT LOCATION OF NEW GENERATOR REMOTE ALARM ANNUNCIATOR IN THE FIELD.
7. EXTEND EXISTING WIRING AND CONDUIT LEFT IN PLACE BY DEMOLITION OF EXISTING RECEPTACLES TO FEED NEW RECEPTACLES.
8. PROVIDE RECEPTACLE FOR HVAC CONTROL PANEL. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN.
9. PROVIDE NEW 35kW DIESEL GENERATOR IN SOUND ATTENUATION ENCLOSURE. CUMMINS #C35D6. SOUND ATTENUATION ENCLOSURE SHALL MEET 68dBA AT 23'. PROVIDE BELLY FUEL TANK FOR 12 HOURS OF OPERATION. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
10. PROVIDE NEW 100A/4P AUTOMATIC TRANSFER SWITCH IN NEMA 3R ENCLOSURE. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
11. PROVIDE NEW 100A, 120/208V, 3ø, 4W EMERGENCY PANEL EM IN NEMA 3R ENCLOSURE. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
12. RECEPTACLES SHALL BE FLUSH MOUNTED TO LADDER RACK.
13. PROVIDE (2) 4" EMT CONDUIT SLEEVES FROM IDF 8311.00 ABOVE. PROVIDE FIRE STOP AS REQUIRED.
14. PROVIDE 20A/120V POWER FOR ACCESS CONTROL PANEL. VERIFY EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
15. PROVIDE (2) 4" EMT WALL SLEEVES/CONSUITS WITH BUSHING ON EACH END. PROVIDE FIRESTOP AS REQUIRED. SLEEVES ARE FOR HORIZONTAL DATA/VOICE/SECURITY CABLE ONLY.
16. PROVIDE 20A/120V POWER FOR IRRIGATION CONTROLLER. VERIFY EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.

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2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

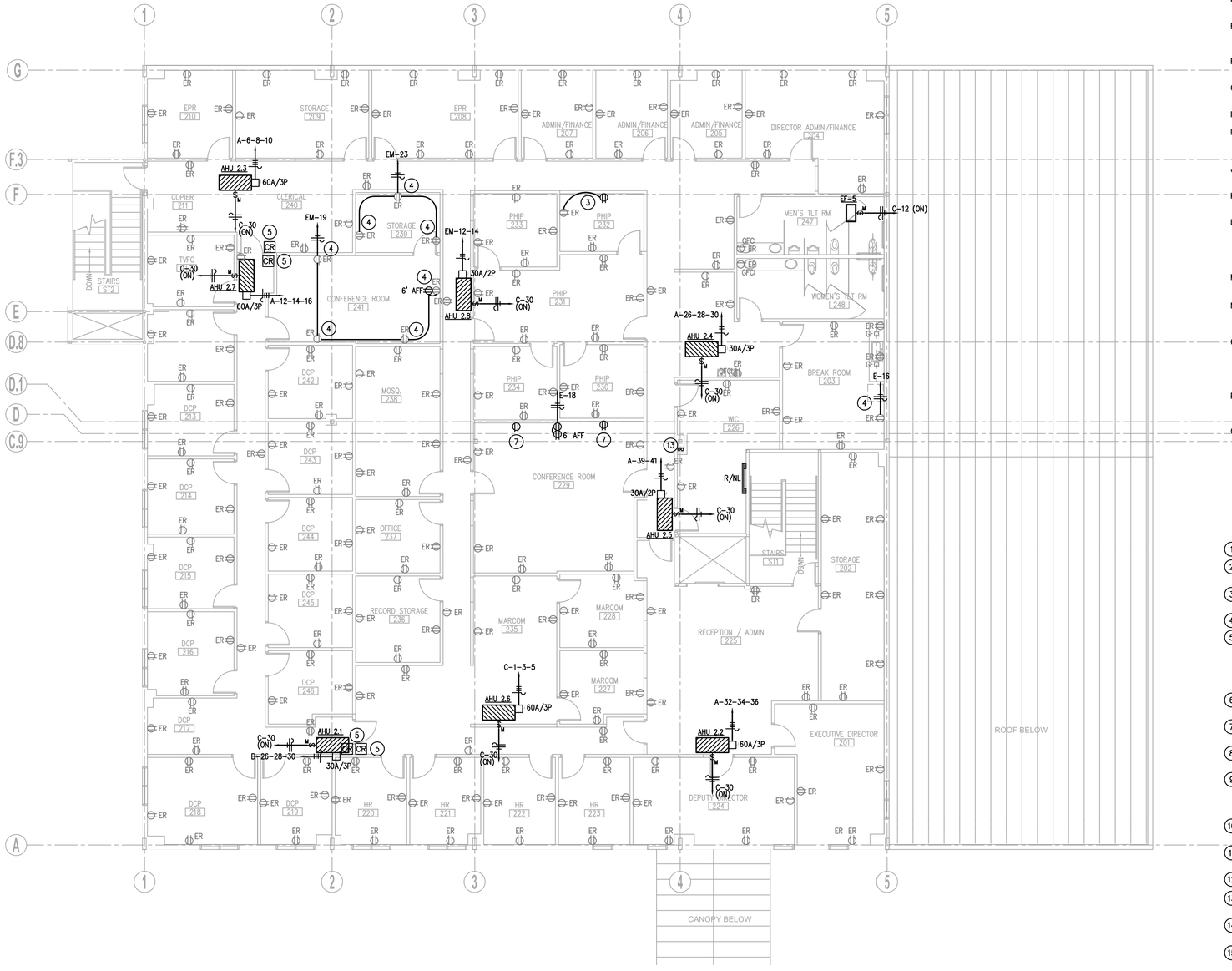
Date	January 16, 2017
Job Number	16-1010
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Approved	

TITLE

1ST LEVEL POWER PLAN

SHEET

EP2.01



1 EP2.02 **2ND LEVEL POWER PLAN**

1/8"=1'-0"

GENERAL POWER NOTES:

A. ELECTRICAL CONTRACTOR SHALL GROUP HOMERUNS WITH THREE HOTS (A,B, AND C PHASE), AND #10 NEUTRAL TO PROVIDE MULTI-WIRE BRANCH CIRCUITS. NO MORE THAN 2 MULTI-WIRE HOMERUNS PER CONDUIT.

B. CONTRACTOR SHALL VERIFY DEVICE LOCATIONS WITH ARCHITECT PRIOR TO ROUGH-IN. REVIEW ARCHITECTURAL CASEWORK AND MILLWORK ELEVATIONS PRIOR TO RECEPTACLE ROUGH-INS. DO NOT LOCATE RECEPTACLES BEHIND DRAWERS OR HIDDEN IN MILLWORK UNLESS SPECIFICALLY DIRECTED BY OWNER/ARCHITECT. SEE ARCHITECTURAL ELEVATIONS IN BREAKROOM FOR APPLIANCES AND RECEPTACLE MOUNTING LOCATIONS.

C. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL RECEPTACLES, CONDUIT, BOXES, CONDUCTORS, ETC. NECESSARY FOR THE PROPER INSTALLATION FOR ANY CITY-REQUIRED OR OWNER-SPECIFIED BUILDING LOW VOLTAGE SYSTEMS. COORDINATE SCOPE OF WORK AND E.C. RESPONSIBILITY WITH OWNER'S REPRESENTATIVE AND ALL OTHER RELEVANT PARTIES. REFER TO DIVISION 26 SPECIFICATIONS AND TECHNOLOGY DRAWINGS FOR ALL WORK REQUIRED.

D. ELECTRICAL CONTRACTOR SHALL PROVIDE BOX WITH PULL STRING FOR ALL TELEPHONE/DATA DEVICES. (TYP)

E. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR FOR ALL EXHAUST FAN CONTROLS. PROVIDE A FAN SWITCH IF INDICATED BY MECHANICAL. ALL EXHAUST FANS SHALL BE PROVIDED WITH BUILT-IN DISCONNECT SWITCH.

F. HVAC AND PLUMBING EQUIPMENT MAY DIFFER FROM LOCATIONS AS SHOWN ON ELECTRICAL DRAWINGS. COORDINATE EXACT LOCATIONS WITH MECHANICAL AND PLUMBING CONTRACTOR.

G. ALL RECEPTACLES MOUNTED ABOVE COUNTERS AND WITHIN 6 FEET OF SINKS OR LAVATORIES SHALL BE GFCI TYPE.

H. PROVIDE A DEDICATED HOT, NEUTRAL, AND GROUND FOR ALL COPY MACHINES.

I. CONTRACTOR SHALL PROVIDE HANDLE TIES MANUFACTURED BY THE SWITCH GEAR SUPPLIER ON ALL MULTI-WIRE CIRCUITS TO MEET THE REQUIREMENTS OF NEC ARTICLE 210.4(B). AT THE CONTRACTOR'S OPTION, TWO AND THREE POLE BREAKERS MAY BE USED.

J. CONTRACTOR SHALL INDICATE CIRCUIT SERVING EACH RECEPTACLE BY PROVIDING TYPE WRITTEN LABELING LOCATED ON INSIDE FACE OF EACH RECEPTACLE COVER PLATE.

K. COORDINATE WITH MECHANICAL CONTRACTOR TO FURNISH INTEGRAL DISCONNECT SWITCH FOR ALL MECHANICAL EQUIPMENT. ELECTRICAL CONNECTIONS SHALL BE PROVIDED BY DIVISION 26.

L. ALL RECEPTACLES LOCATED IN RESTROOMS, JANITOR CLOSETS, MECHANICAL ROOMS, ELEVATOR PITS OR SHAFTS, ELEVATOR EQUIPMENT ROOMS, SERVING ELECTRIC DRINKING FOUNTAINS OR VENDING MACHINES, LOCATED WITHIN 6' OF A SINK, LOCATED ABOVE A WET COUNTERTOP OR IN A KITCHEN OR COFFEE BAR SHALL BE GFCI. EACH GFCI PROTECTED RECEPTACLE SHARING THE SAME CIRCUIT SHALL HAVE ITS OWN RE-SET AND TEST BUTTON.

M. WHEN LOCATING SYSTEMS NEXT TO DOORS, LOCATE 8" OFF DOOR JAMB TO CENTER OF DEVICE. WHEN MULTIPLE DEVICES ARE TOGETHER, STACK, BUT NO MORE THAN 42" AFF.

N. MOUNT RECEPTACLES 18" AFF, 6" ABOVE BACKSPLASH AT COUNTERS, 48" IN TOILET ROOMS AND AT EQUIPMENT ROUGH-IN LOCATIONS FOR APPLIANCES. PROVIDE GFCI RECEPTACLES AT ALL SINKS, EXTERIOR RECEPTACLES, AND UNDERCOUNTER EQUIPMENT.

O. MINIMUM CIRCUIT SIZE IS 2 #12 AND 1 #12 GROUND IN 3/4" CONDUIT. ALL CONDUCTORS SHALL BE 75 DEGREE (MINIMUM) COPPER THHN, COLOR CODED AS PER NEC AND LOCAL AMENDMENTS WITH SIZE, TEMPERATURE, AND VOLTAGE PERMANENTLY PRINTED ON THE JACKET. ALL JOINTS SHALL BE MADE UP USING SELF LOCKING, TWIST-ON, COLOR CODED, SQUARE WIRE SPRING GRAB, LONG SKIRT, WIRE CONNECTORS WITH SWEPT WINGS.

P. FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND REPAIR.

Q. ALL ELECTRICAL EQUIPMENT AND DEVICES ARE FED FROM EXISTING PANELS, UNLESS NOTED OTHERWISE. RECEPTACLES SHALL BE FED FROM EXISTING CIRCUITS MADE AVAILABLE BY DEMOLITION OF EXISTING RECEPTACLES IN THE AREA. CIRCUIT NUMBERS ARE SHOWN FOR REFERENCE ONLY. VERIFY EXACT CIRCUIT NUMBER IN THE FIELD. PROVIDE NEW WIRING AND CONDUIT AS REQUIRED.

KEYED POWER NOTES:

(ALL NOTES MAY NOT APPLY)

1. ALL EQUIPMENT IN THIS ROOM IS EXISTING TO REMAIN UNLESS NOTED OTHERWISE.
2. PROVIDE RECEPTACLE IN CENTER OF CEILING TILE. COORDINATE WITH ARCHITECT AND A/V CONTRACTOR PRIOR TO ROUGH-IN.
3. CONNECT NEW RECEPTACLE TO EXISTING RECEPTACLE CIRCUIT. MAXIMUM LOAD ON CIRCUIT BREAKER SHALL BE 16A.
4. PROVIDE NEW WIRING AND CONDUIT TO FEED EXISTING RECEPTACLE FROM NEW CIRCUIT.
5. PROVIDE ROUGH IN FOR FUTURE CARD READER AND ALL ASSOCIATED REQUIRED EQUIPMENT AND HARDWARE; INCLUDING, BUT NOT LIMITED TO, REQUEST TO EXIT MOTION DETECTOR, MANUAL PUSHBUTTON DOOR RELEASE, AND ELECTRIC STRIKE. PROVIDE 120V POWER FOR ACCESS CONTROL HEAD END UNIT. PROVIDE RELAY TO INTERFACE WITH FIRE ALARM CONTROL PANEL. DOOR STRIKE SHALL DISENGAGE IN ALARM STATE. REFER TO SECURITY DRAWINGS FOR ROUGH-IN REQUIREMENTS. (TYP)
6. COORDINATE EXACT LOCATION OF NEW GENERATOR REMOTE ALARM ANNUNCIATOR IN THE FIELD.
7. EXTEND EXISTING WIRING AND CONDUIT LEFT IN PLACE BY DEMOLITION OF EXISTING RECEPTACLES TO FEED NEW RECEPTACLES.
8. PROVIDE RECEPTACLE FOR HVAC CONTROL PANEL. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR PRIOR TO ROUGH-IN.
9. PROVIDE NEW 35kW DIESEL GENERATOR IN SOUND ATTENUATION ENCLOSURE. CUMMINS #C35D6. SOUND ATTENUATION ENCLOSURE SHALL MEET 68dBA AT 23'. PROVIDE BELLY FUEL TANK FOR 12 HOURS OF OPERATION. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
10. PROVIDE NEW 100A/4P AUTOMATIC TRANSFER SWITCH IN NEMA 3R ENCLOSURE. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
11. PROVIDE NEW 100A, 120/208V, 3ø, 4W EMERGENCY PANEL EM IN NEMA 3R ENCLOSURE. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
12. RECEPTACLES SHALL BE FLUSH MOUNTED TO LADDER RACK.
13. PROVIDE (2) 4" EMT CONDUIT SLEEVES FROM IDF 8311.00 ABOVE. PROVIDE FIRE STOP AS REQUIRED.
14. PROVIDE 20A/120V POWER FOR ACCESS CONTROL PANEL. VERIFY EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
15. PROVIDE (2) 4" EMT WALL SLEEVES/CONSUITS WITH BUSHING ON EACH END. PROVIDE FIRESTOP AS REQUIRED. SLEEVES ARE FOR HORIZONTAL DATA/VOICE/SECURITY CABLE ONLY.
16. PROVIDE 20A/120V POWER FOR IRRIGATION CONTROLLER. VERIFY EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.

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REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

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TITLE

2ND LEVEL POWER PLAN

SHEET

EP2.02

PLUMBING SYMBOLS AND ABBREVIATIONS

(NOT ALL ITEMS INDICATED APPLY TO THIS PROJECT)

ABBREVIATIONS

A

A	AIR (COMPRESSED)
ABV	ABOVE
AC	ABOVE CEILING
AD	ACCESS DOOR, AREA DRAIN
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AL	ALUMINUM
AP	ACCESS PANEL
ARCH	ARCHITECT, ARCHITECTURAL
AS	AIR SEPARATOR
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS
AV	ACID VENT
AVG	AVERAGE
AW	ACID WASTE
AWS	AMERICAN WELDING SOCIETY
AUX	AUXILIARY

B

B	BOILER
BC	BELOW COUNTER
B/C	BACK OF CURB
BF	BELOW FLOOR
BFV	BUTTERFLY VALVE
BH	BOX HYDRANT
BLDG	BUILDING
BM	BENCHMARK
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STRUCTURE
BT	BATH TUB
BTU	BRITISH THERMAL UNIT
BV	BALL VALVE
BWV	BACK WATER VALVE

C

C	CELSIUS
CAB	CABINET
CB	CATCH BASIN
CD	CONDENSATE DRAIN LINE
CFM	CUBIC FEET PER MINUTE
CFS	CUBIC FEET PER SECOND
CH	CHILLER
CP	CIRCULATING PUMP
CI	CAST IRON
CIRC	CIRCULATING
CL	CENTERLINE
CLG	CEILING
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CPI	CAST IRON PIPE INSTITUTE
CPVC	CHLORINATED POLYVINYL CHLORIDE
CO	CLEAN OUT
COL	COLUMN
COMB	COMBINATION
COMP	COMPRESSOR
CONC	CONCRETE, CONCENTRIC
CONN	CONNECTION
CONT	CONTINOUS,CONTINUATION
CONTR	CONTROLLER, CONTRACTOR
CRAC	COMPUTER ROOM A/C UNIT
CTR	CENTER
CU	COPPER
CW	COLD WATER

D

D	DEPTH, DRAIN, DRYER
DESIG	DESIGNATION
DTL	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DS	DOWNSPOUT, DOUBLE SUCTON
DW	DISHWASHER
DWG	DRAWING
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP

E

EA	EACH
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
EDF	ELECTRIC DRINKING FOUNTAIN
EFF	EFFICIENCY
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMERG	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EQ	EQUAL
EQUIP	EQUIPTMENT
ET	EXPANSION TANK
ETR	EXISTING TO REMAIN
EXT	EXTERNAL
EXTG	EXISTING

F

F	FARENHEIT, FIRE
FBO	FURNISHED BY OTHERS
FCO	FLOOR CLEAN OUT
FCS	FLOOR CONTROL STATON
FD	FLOOR DRAIN, FIRE DAMPER
FDSC	FIRE DEPARTMENT SIAMESE CONNECTION
FDV	FIRE DEPARTMENT VALVE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FIXT	FIXTURE
FLEX	FLEXIBLE
FL	FLOW LINES
FLR	FLOOR
FP	FIRE PUMP
FRZR	FREEZER
FS	FLOW SWITCH, FIRE SPRINKLER
FSK	FLOOR SINK
FT	FOOT, FEET
FUT	FUTURE

G

G	GAS
GA	GAUGE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GLV	GLOBE VALVE
GND	GROUND
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GV	GATE VALVE

H

HB	HOSE BIBB
HD	HEAD, HUB DRAIN
HORIZ	HORIZONTAL
HP	HORSEPOWER
HKP	HOUSEKEEPING PAD
HSC	HORIZONTAL SPLIT CASE
HT	HEIGHT
HTG	HEATING
HTR	HEATER
HW	HOT WATER
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
HZ	HERTZ

I

ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INSUL	INSULATION
INT	INTERNAL, INTERIOR
IW	INDIRECT WASTE

J

JP	JOCKEY PUMP

K

KEC	KITCHEN EQUIPTMENT CONTRACTOR
KO	KNOCKOUT
KVA	KILOVOLT– AMPS
KW	KILOWATT

L

L	LENGTH, LAVATORY
LAV	LAVATORY
LF	LINEAR FEET
LP	LOW PRESSURE
LRA	LOCKED ROTOR AMPS
LVL	LEVEL
LWCO	LOW WATER CUT OFF

M

MAX	MAXIMUM
MBTUH	THOUSAND OF BTU'S
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MALLEABLE IRON
MIN	MINIMUM
MP	MEDIUM PRESSURE
MS	MOP SINK
MTD	MOUNTED
MU	MAKE–UP

N

N.C.	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
N.O.	NORMALLY OPEN
NO.	NUMBER
NTS	NOT TO SCALE

O

OC	ON CENTER
OD	OUTSIDE DIAMETER, OVERFLOW DRAIN
OFCU	OUTSIDE AIR FAN COIL UNIT
OPG	OPENING
OS&Y	OPEN STEM AND YOLK
O	MEDICAL OXYGEN

P

P	PUMP, PLUMBING EQUIPTMENT
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP, PLANTER DRAIN
PH	PHASE, POST HYDRANT
PIV	POST INDICATOR VALVE
PLBG	PLUMBING
PNEU	PNEUMATIC
PNL	PANEL
PNTH	PENTHOUSE
PP	POLYPROPYLENE
PPM	PART PER MILLION
PRI	PRIMARY
PRS	PRESSURE REDUCING STATION
PRV	PRESSURE REDUCING VALVE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PT	PLUMBING TRIM
PV	PLUG VALVE
PVC	POLYVINYL CHLORIDE

Q

QTY	QUANTITY

R

RCP	REFLECTED CEILING PLAN, REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RE	REFERENCE,REFER
RECIRC	RECIRCULATE
RED	REDUCER
REFR	REFRIGERATOR
REINF	REINNGFORCING
REQD	REQUIRED
REV	REVISION, REVISE
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
RV	RELIEF VALVE

S

SCHED	SCHEDULED
SD	STORM DRAIN
SE	SEWAGE EJECTOR
SEC	SECONDARY
SECT	SECTION
SF	SQUARE FEET
SFCS	SPRINKLER FLOOR CONTROL STATION
SH	SHOWER
SHT	SHEET
SIM	SIMILAR
SK	SINK
SP	SUMP PUMP, STATIC PRESSURE
SPEC	SPECIFICATION
SPR	SPRINKLER
SQ	SQUARE
SS	SERVICE SINK
SSD	SUBSURFACE DRAIN
SSFU	SANITARY SEWER FIXTURE UNITS
STD	STANDARD
STL	STEEL
STR	STRAINER
SURF	SURFACE
SUSP	SUSPEND
SV	SANITARY VENT
SW	SOFT WATER

T

TD	TRENCH DRAIN
TDH	TOTAL DYNAMIC HEAD
TH BLK	THRUST BLOCK
TP	TRAP PRIMER
TPD	TRAP PRIMER DEVICE
TYP	TYPICAL

U

U	URINAL
UCD	UNDER CUT DOOR
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
U/F	UNDERFLOOR
U/S	UNDERSLAB

V

V	VOLT, VENT
VAC	VACUUM(MEDICAL)
VB	VALVE BOX, VACUUM BREAKER
VCP	VITRIFIED CLAY PIPE
VEL	VELOCITY
VERT	VERTICAL
VIB	VALVE IN BOX
VOV	VALVE ON VERTICAL
VP	VACUUM PUMP
VTR	VENT THRU ROOF

W

W	WATT, WASTE, WIDTH, WASHER
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WM	WATER METER
WP	WEATHERPROOF
WPD	WATER PRESSURE DROP
WWF	WELDED WIRE FABRIC
WT	WATERTIGHT, WEIGHT

Y

Y	YARD HYDRANT

Z

Z	ZONE

SYMBOLS

PLUMBING SYSTEMS

- SANITARY DRAIN BELOW FLOOR
- SANITARY DRAIN ABOVE FLOOR
- SANITARY VENT
- GW — GREASE WASTE(ABOVE CEILING)
- GW — GREASE WASTE(BELOW FLOOR)
- SD — STORM DRAIN(ABOVE CEILING)
- SD — STORM DRAIN(BELOW FLOOR)
- OD — OVERFLOW DRAIN(ABOVE CEILING)
- OD — OVERFLOW DRAIN(BELOW FLOOR)
- AW — ACID WASTE(ABOVE CEILING)
- AW — ACID WASTE(BELOW FLOOR)
- AV — ACID VENT(ABOVE CEILING OR BELOW FLOOR)
- COLD WATER
- 110° — HOT WATER(FINAL DELIVERY TEMPERATURE AS NOTED)
- 110° — HOT WATER RECIRCULATION (TEMPERATURE AS NOTED)
- G — NATURAL GAS
- T 110° — TEMPERED WATER(FINAL DELIVERY TEMPERATURE AS NOTED)
- CA — COMPRESSED AIR
- A — MEDICAL AIR
- O — MEDICAL OXYGEN
- V — MEDICAL VACUUM
- F — FIRE STANDPIPE, FIRE LINE
- FS — WET AUTOMATIC FIRE SPRINKLER
- TP — TRAP PRIMER
- D — DRAIN LINE
- SW — SOFT WATER

SYMBOLS

PIPING FITTINGS

- CAP ON END OF PIPE
- ELBOW UP
- ELBOW DOWN
- VALVE IN DROP
- VALVE IN RISE
- DIRECTION OF FLOW
- DIRECTION OF SLOPE DOWN
- CONCENTRIC REDUCER
- ECCENTRIC REDUCER
- TEE OUTLET UP
- TEE OUTLET DOWN
- UNION
- FLANGE
- PIPE ANCHOR
- EXPANSION JOINT
- STRAINER WITH BLOWDOWN VALVE
- GATE VALVE, HVAC BALANCING/STOP VALVE
- GLOBE VALVE
- BALL VALVE
- BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS
- OS&Y VALVE
- CHECK VALVE
- BUTTERFLY VALVE
- TWO–WAY MODULATING CONTROL VALVE
- THREE–WAY MODULATING CONTROL VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS REGULATOR
- GAS COCK
- SPRINKLER FLOOR CONTROL STATION
- MANUAL AIR VENT
- AUTOMATIC AIR VENT
- T&P RELIEF VALVE
- LINE CLEANOUT/ WALL CLEANOUT
- FLOOR CLEANOUT
- YARD CLEANOUT
- PRESSURE GAUGE WITH GAUGE COCK
- THERMOMETER
- WM — WATER METER
- FLEXIBLE CONNECTION
- PRESSURE AND TEMPERATURE TAP
- FLOW VENTURI
- VACUUM BREAKER
- VACUUM RELIEF VALVE
- BACKFLOW PREVENTOR
- CIRCULATING PUMP
- DRAIN(TYPE AND SIZE AS NOTED ON PLANS)
- ROOF DRAIN OR OVERFLOW DRAIN
- ROOF DRAIN OR OVERFLOW DRAIN(FROM ABOVE)

MISCELLANEOUS

- HOSE BIBB
- WALL HYDRANT
- PLUMBING FIXTURES
- POINT OF NEW CONNECTION TO EXISTING PIPING
- 1 — PLUMBING DRAWING NOTE REFERENCE
- 2 / P2.1 — DETAIL NUMBER OR PLAN SHEET WHERE DETAIL OR PLAN IS SHOWN
- FS — FLOW SWITCH
- TS — TAMPER SWITCH
- FIRE HOSE CABINET
- FIRE DEPARTMENT SIAMESE CONNECTION(WALL MOUNTED)
- FIRE DEPARTMENT SIAMESE CONNECTION(FREE STANDING)
- 2 / P7.1 — PLUMBING RISER DIAGRAM NUMBER SHEET WHERE PLUMBING RISER DIAGRAM IS SHOWN

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REVISIONS

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1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

Date	January 16, 2017
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TITLE

PLUMBING SYMBOLS AND ABBREVIATIONS

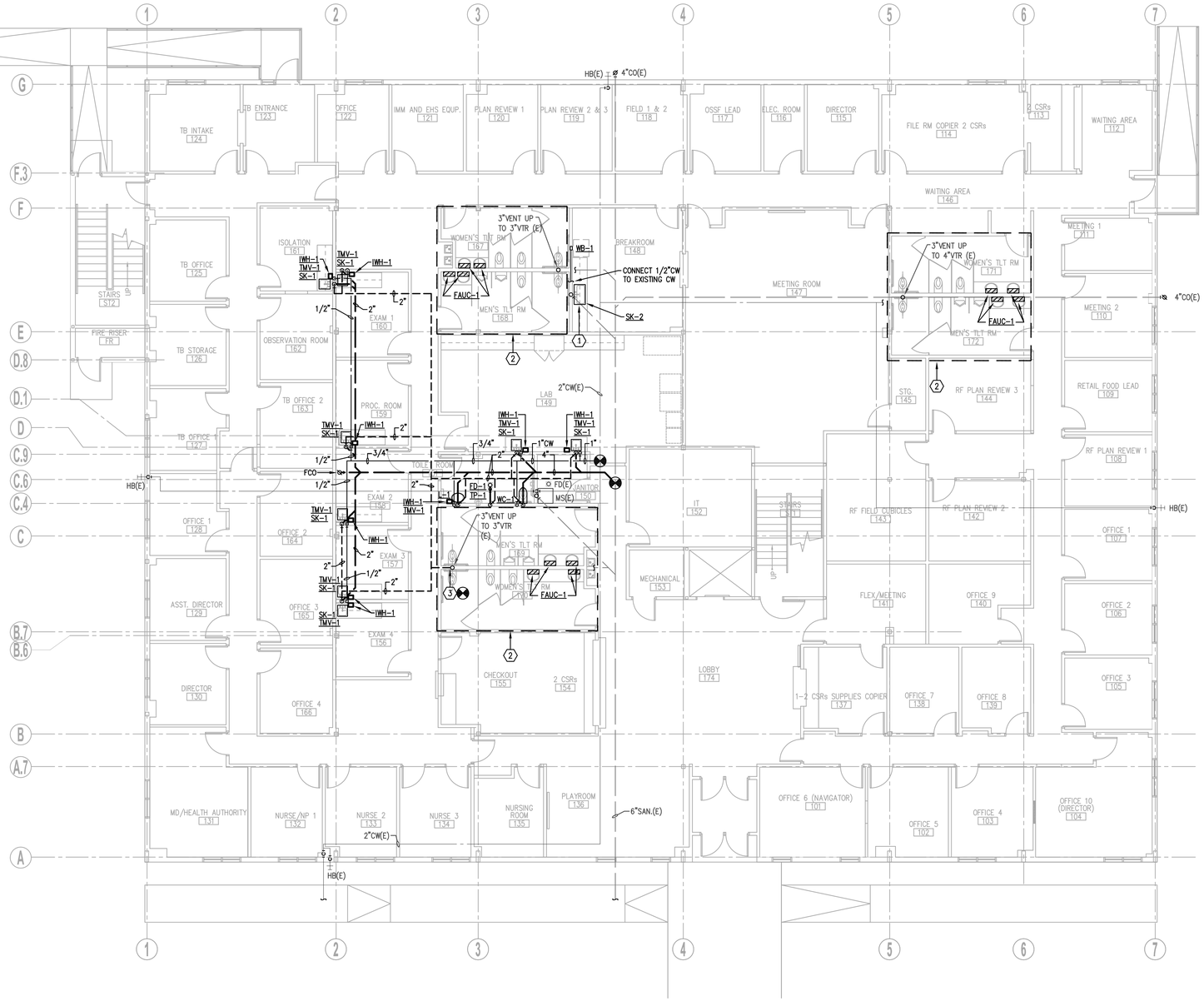
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P0.00

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DBR Project Number 165026.000

MC	SN	NF	AH	––



1 P2.01 **1ST LEVEL PLUMBING PLAN**

1/8"=1'-0"

GENERAL NOTES:

A. SIZES AND LOCATION OF EXISTING PIPINGS SHOWN ARE APPROXIMATE LOCATION. CONTRACTOR NEED TO FIELD VERIFY EXACT SIZES, CONDITIONS AND LOCATIONS OF INDICATED EXISTING UTILITIES.

B. THE CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING ALL WORK UNDER THIS SECTION OF THE PROJECT IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES INCLUDING THOSE PUBLISHED BY OSHA AND EPA.

C. THE EXTENT OF WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE WILL BE REQUIRED PRIOR TO BIDDING. CONTRACTOR SHALL IDENTIFY/VERIFY ALL PLUMBING LINES BEFORE STARTING ANY DEMOLITION WORK.

D. CUTTING OF CONCRETE FLOORS SHALL BE BY MACHINE SAW, HOLES FOR PIPES (WALL OR FLOOR) SHALL BE DONE WITH CORE DRILLING EQUIPMENT WITH PRIOR APPROVAL FROM THE STRUCTURAL ENGINEERS. PATCH AND SEAL OPENINGS AS REQUIRED. COORDINATE ALL CUTTING AND PATCHING WITH OTHER TRADES.

E. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE ARCH'L DOCUMENTS IN ADDITION TO THE MECHANICAL AND ELECTRICAL DOCUMENTS TO DETERMINE THE COMPLETE SCOPE OF WORK.

F. DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES. REFER TO RISER DIAGRAMS FOR MORE SIZING INFORMATION AND OTHER REQUIREMENTS.

PLUMBING KEYED NOTES

1. CONNECT TO EXISTING UTILITY. CONTRACTOR TO BE RESPONSIBLE FOR VERIFICATION OF EXACT LOCATION AND CONNECTION OF ALL UTILITIES TO EXISTING UTILITY IN THE BUILDING. SITE VISIT IS REQUIRED PRIOR TO BIDDING TO DETERMINE FULL SCOPE OF WORK.
2. EXISTING PLUMBING IN THIS AREA TO REMAIN WITH THE EXCEPTION OF NEW SINK FAUCETS TO BE PROVIDED.
3. CONNECT 2"VENT TO EXISTING 3"VENT RISER.

FIRE PROTECTION NOTES:

CONTRACTOR TO ADJUST/REWORKED LOCATIONS OF ALL AFFECTED SPRINKLER HEADS AND FIRELINES. CONTRACTOR IS RESPONSIBLE FOR TESTING AND INSPECTING EXISTING SYSTEM AND INSURE THAT ALL COMPONENTS ARE FULLY FUNCTIONING. A VISIT TO THE SITE WILL BE REQUIRED PRIOR TO BIDDING TO DETERMINE FULL SCOPE OF WORK.

PROVIDE/MODIFY FIRE ALARM SYSTEM AS REQUIRED BY LOCAL, STATE OR FEDERAL CODES TO RECEIVE CERTIFICATE OF OCCUPANCY FOR THE PROJECT.

A STATE LICENSED FIRE SPRINKLER AND FIRE ALARM CONTRACTOR MUST SUBMIT SHOP DRAWINGS DIRECTLY TO THE CITY FIRE DEPARTMENT FIRE MARSHAL'S OFFICE FOR REVIEW AND APPROVAL OF THE PROPOSED FIRE SPRINKLER AND ALARM SYSTEM WORK. THESE SHOP DRAWINGS MUST BE APPROVED BY THE FIRE DEPARTMENT PRIOR TO THE CONTRACTOR BEGINNING THE WORK. ALL WORK MUST BE IN COMPLIANCE WITH THE APPLICABLE NFPA STANDARDS AND THE INTERNATIONAL FIRE CODE.

PRIOR TO SHUT-DOWN OF ANY EXISTING FIRE PROTECTION SYSTEM, CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S APPOINTED REPRESENTATIVE 24 HOURS PRIOR TO SERVICE INTERRUPTION. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING SYSTEM TO FULL OPERATION.

NOTE:

CONTRACTOR SHALL EVALUATE ALL EXISTING PLUMBING FIXTURES (SINKS, TOILETS, FAUCETS, ETC...) TO REMAIN. CONTRACTOR SHALL REPAIR, REFURBISH, RESEAL, RESEAT, TIGHTEN, CLEAN, CAULK, ETC...EXISTING FIXTURES TO THE FULLEST EXTENT POSSIBLE IN LIEU OF REPLACING THEM.

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REGISTERED PROFESSIONAL ENGINEER
1/3/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
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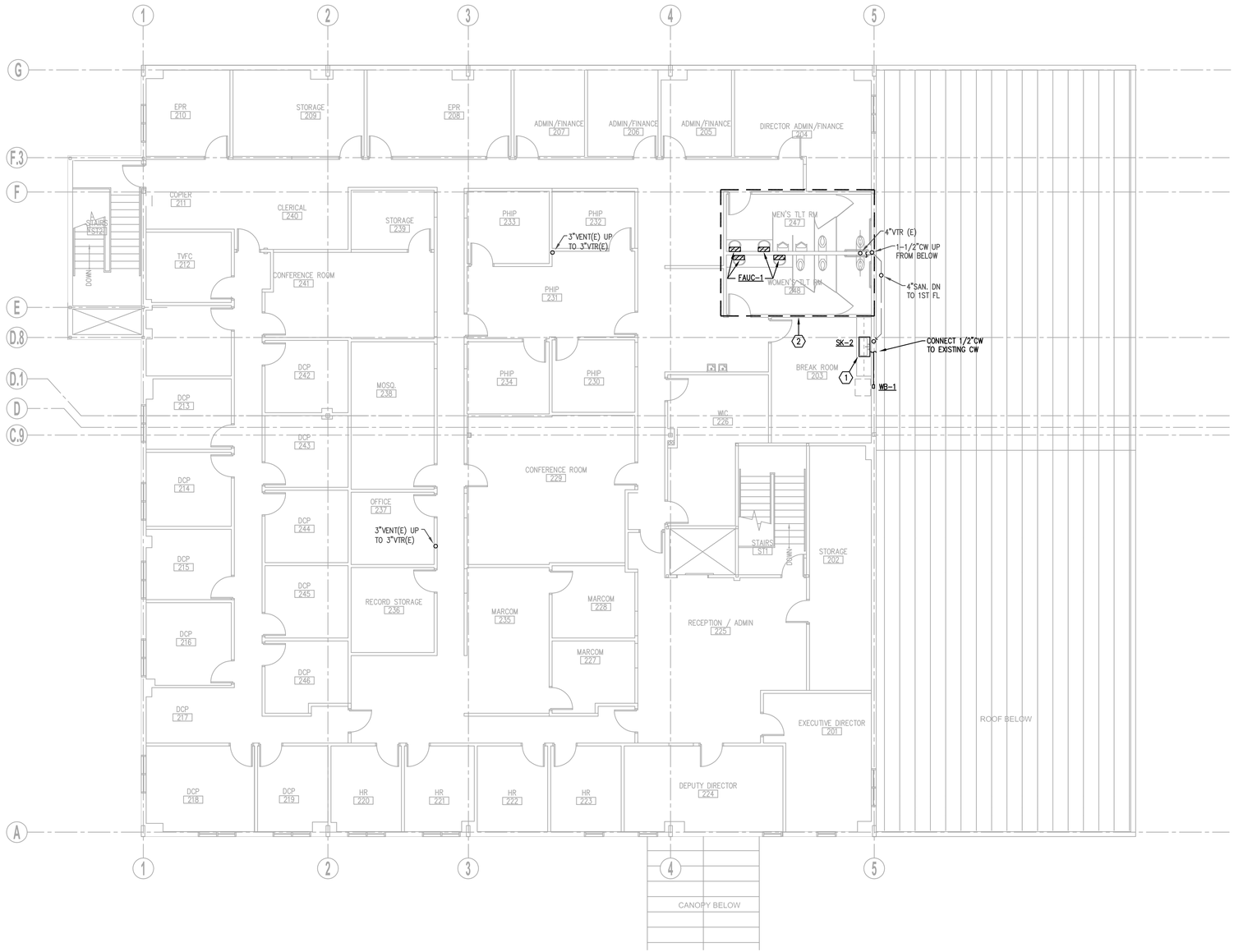
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TITLE

1ST LEVEL PLUMBING PLAN

SHEET

P2.01



1 P2.02 2ND LEVEL PLUMBING PLAN

1/8"=1'-0"

GENERAL NOTES:

(A) SIZES AND LOCATION OF EXISTING PIPINGS SHOWN ARE APPROXIMATE LOCATION. CONTRACTOR NEED TO FIELD VERIFY EXACT SIZES, CONDITIONS AND LOCATIONS OF INDICATED EXISTING UTILITIES.

(B) THE CONTRACTOR IS FULLY RESPONSIBLE FOR PERFORMING ALL WORK UNDER THIS SECTION OF THE PROJECT IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES INCLUDING THOSE PUBLISHED BY OSHA AND EPA.

(C) THE EXTENT OF WORK IS INDICATED ON THE ARCHITECTURAL DRAWINGS AND BY THE REQUIREMENTS OF THIS SECTION. A VISIT TO THE SITE WILL BE REQUIRED PRIOR TO BIDDING. CONTRACTOR SHALL IDENTIFY/VERIFY ALL PLUMBING LINES BEFORE STARTING ANY DEMOLITION WORK.

(D) CUTTING OF CONCRETE FLOORS SHALL BE BY MACHINE SAW, HOLES FOR PIPES (WALL OR FLOOR) SHALL BE DONE WITH CORE DRILLING EQUIPMENT WITH PRIOR APPROVAL FROM THE STRUCTURAL ENGINEERS. PATCH AND SEAL OPENINGS AS REQUIRED. COORDINATE ALL CUTTING AND PATCHING WITH OTHER TRADES.

(E) PLUMBING CONTRACTOR SHALL BE RESPONSIBLE TO REVIEW THE ARCH'L DOCUMENTS IN ADDITION TO THE MECHANICAL AND ELECTRICAL DOCUMENTS TO DETERMINE THE COMPLETE SCOPE OF WORK.

(F) DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES. REFER TO RISER DIAGRAMS FOR MORE SIZING INFORMATION AND OTHER REQUIREMENTS.

PLUMBING KEYED NOTES

(1) CONNECT TO EXISTING UTILITY. CONTRACTOR TO BE RESPONSIBLE FOR VERIFICATION OF EXACT LOCATION AND CONNECTION OF ALL UTILITIES TO EXISTING UTILITY IN THE BUILDING. SITE VISIT IS REQUIRED PRIOR TO BIDDING TO DETERMINE FULL SCOPE OF WORK.

(2) EXISTING PLUMBING IN THIS AREA TO REMAIN WITH THE EXCEPTION OF NEW SINK FAUCETS TO BE PROVIDED.

FIRE PROTECTION NOTES:

CONTRACTOR TO ADJUST/REWORKED LOCATIONS OF ALL AFFECTED SPRINKLER HEADS AND FIRELINES. CONTRACTOR IS RESPONSIBLE FOR TESTING AND INSPECTING EXISTING SYSTEM AND INSURE THAT ALL COMPONENTS ARE FULLY FUNCTIONING. A VISIT TO THE SITE WILL BE REQUIRED PRIOR TO BIDDING TO DETERMINE FULL SCOPE OF WORK.

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PRIOR TO SHUT-DOWN OF ANY EXISTING FIRE PROTECTION SYSTEM, CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S APPOINTED REPRESENTATIVE 24 HOURS PRIOR TO SERVICE INTERRUPTION. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING SYSTEM TO FULL OPERATION.

NOTE:

CONTRACTOR SHALL EVALUATE ALL EXISTING PLUMBING FIXTURES (SINKS, TOILETS, FAUCETS, ETC...) TO REMAIN. CONTRACTOR SHALL REPAIR, REFURBISH, RESEAL, RESEAT, TIGHTEN, CLEAN, CAULK, ETC...EXISTING FIXTURES TO THE FULLEST EXTENT POSSIBLE IN LIEU OF REPLACING THEM.

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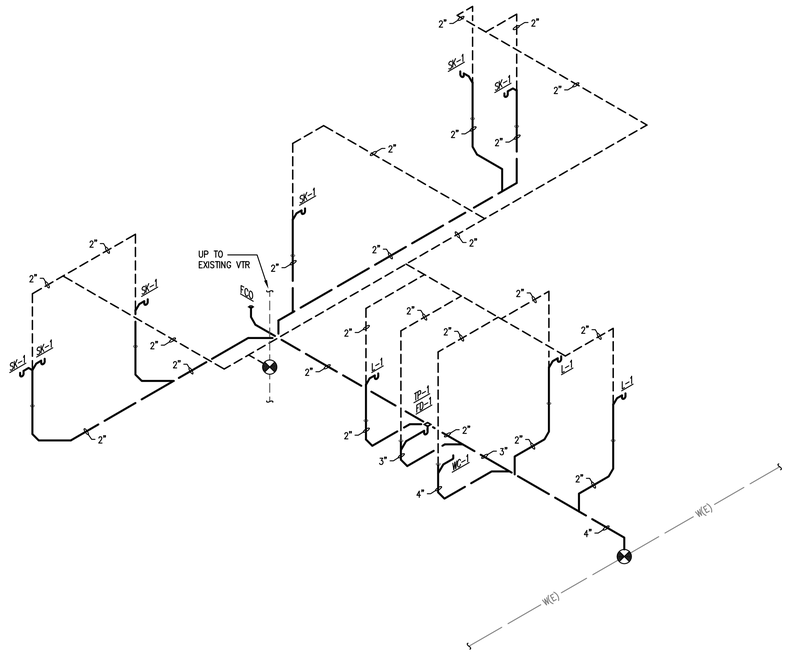
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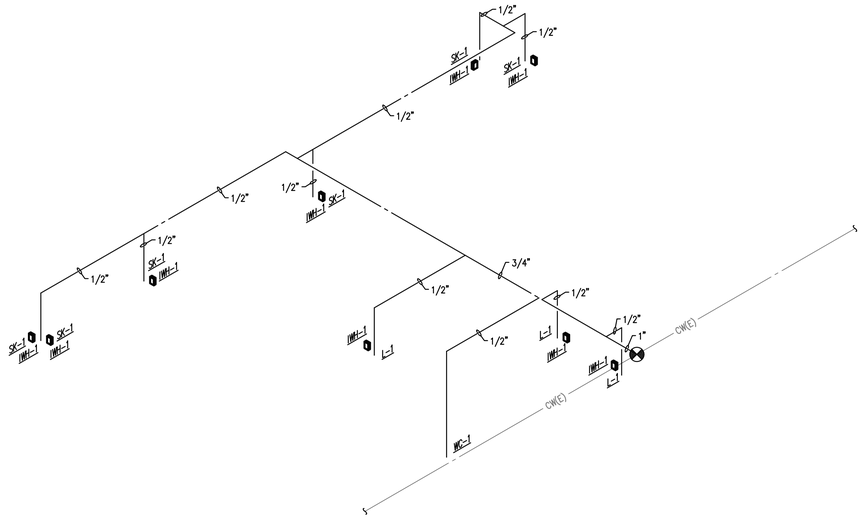
TITLE

2ND LEVEL PLUMBING PLAN

SHEET

P2.02





1 P3.01 PLUMBING RISERS

1/8"=1'-0"

GENERAL NOTES: PLUMBING RISER

WHEN NOT SHOWN ON PLANS, INDIVIDUAL FIXTURE CONNECTIONS SHALL BE SIZE AS SHOWN ON PLUMBING FIXTURE SCHEDULE.

ISOMETRIC DIAGRAMS ARE FOR SIZING PURPOSES ONLY AND SHALL NOT BE USED FOR MATERIAL TAKE-OFFS, OR BE CONSTRUED TO INDICATE ACTUAL SITE INSTALLATION. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH BUILDING ELEMENTS AND THE WORK OF OTHER TRADES.

PROVIDE WATER HAMMER ARRESTORS FOR EACH GROUP OF FIXTURES WHETHER INDICATED OR NOT ON PLAN. PROVIDE ACCESS PANEL WHERE LOCATED IN INACCESSIBLE CEILING OR WALL.

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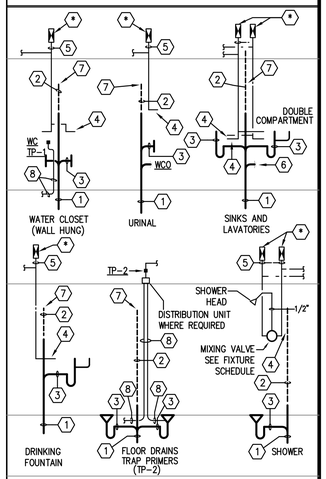
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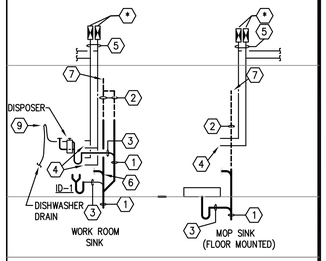
PLUMBING RISERS

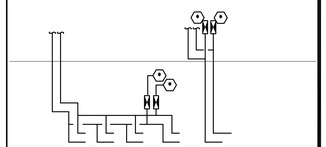
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P3.01

PLUMBING RISER DETAILS







KEYED NOTES – RISER DIAGRAM DETAILS:

(SEE PLUMBING FIXTURE SCHEDULE ON SHEET P3.01)

1. REFER TO PLUMBING FIXTURE SCHEDULE FOR SOIL OR WASTE ROUGH-IN PIPE SIZE. MINIMUM SOIL OR WASTE DRAIN LINE SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
2. REFER TO PLUMBING FIXTURE SCHEDULE FOR SANITARY VENT ROUGH-IN PIPE SIZE. MINIMUM SANITARY VENT BRANCH SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE
3. REFER TO PLUMBING FIXTURE SCHEDULE FOR FIXTURE DRAIN ROUGH-IN PIPE SIZE. MINIMUM FIXTURE DRAIN AND TRAP SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE
4. REFER TO PLUMBING FIXTURE SCHEDULE FOR WATER PIPING ROUGH-IN PIPE SIZE. MINIMUM WATER SUPPLY BRANCH SIZE (EXCEPT AS NOTED) FOR THIS FIXTURE.
5. SHOCK ARRESTOR INLET; REFER TO SHOCK ARRESTOR SCHEDULE FOR SIZE. LOCATION SHOWN HERE FOR INDIVIDUAL FIXTURE WILL VARY WHERE INCLUDED AS PART OF PLUMBING CHASE BATTERY OF PIPING. REFER TO RISER DIAGRAMS FOR BATTERY LOCATIONS. ARRANGE ALL WATER LINES TO GRAVITY DRAIN.
6. WALL CLEANOUTS SHALL BE PROVIDED AT ALL END OF BATTERY OR END OF BRANCH LINE FIXTURES AND WHERE REQUIRED BY PLUMBING CODE OFFICIALS TO ASSURE COMPLETE ACCESS TO ALL PORTIONS OF DRAIN.
7. SANITARY VENT PIPES SHALL CONTINUE TO CEILING OR HEADER TOGETHER AT MINIMUM 42" ABOVE FINISHED FLOOR.
8. TRAP REFULL LINE; SEE PLUMBING DETAILS SHEET. EXTEND AND CONNECT TO FLOOR DRAIN TRAP AS SHOWN.
9. AIR GAP FITTING; PROVIDE WHERE REQUIRED BY CODE.

PLUMBING LEGEND

DISREGARD LEGEND ITEMS NOT INDICATED ON DRAWINGS

SYMBOL	DESCRIPTION	ABBR.
	SOIL OR WASTE PIPING B.G.	WST
	SOIL OR WASTE PIPING A.G.	WST
GW	GREASE WASTE PIPING	GW
	VENT PIPING	V
SD	STORM DRAIN PIPING	SD
OD	OVERFLOW STORM DRAIN PIPING	OD
G	GAS LINE	G
F	FIRE OR SPRINKLER LINE	F
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HOT WATER RETURN	HWR
TW	TEMPERED DOMESTIC HOT WATER	TW
	GATE VALVE	GV
	GLOBE VALVE	GLV
	BALL VALVE	BV
	CHECK VALVE	CKV
	BALANCING VALVE	BAV
	BUTTERFLY VALVE	BTV
	PLUG VALVE	PLV
	PRESSURE REDUCING VALVE	PRV
	PRESSURE RELIEF VALVE	T&P
	STRAINER	STR
	UNION	UN
	THERMOMETER WELL	TW
	PRESSURE GAUGE	PG
	THERMOMETER	THRM
D	CONDENSATE OR INDIRECT DRAIN	D
	BRANCH CONNECTION, TOP	--
	BRANCH CONNECTION, BOTTOM	--
	ELBOW UP	--
	ELBOW DOWN	--
	FLOOR CLEANOUT (INTERIOR)	FCO
	CLEANOUT AT GRADE (EXTERIOR)	COG
	WALL CLEANOUT	WCO
	FLOOR DRAIN	FD
	FLOOR SINK	FS
	HOSE BIBB	HB
	WALL HYDRANT	WH
	NEW TO EXISTING PIPE CONNECTION	--
P/X	PLUMBING RISER IDENTIFICATION	P/X
DS/X	DOWNSPOUT RISER IDENTIFICATION	DS/X
F/X	FIRE RISER IDENTIFICATION	F/X
	ABBREVIATIONS	ABBR.
--	ABOVE FINISHED FLOOR	AFF
--	ACCESS PANEL	AP
--	BELOW FINISHED FLOOR	BFF
--	BOTTOM OF PIPE	BOP
--	INDIRECT DRAIN	D
--	FINISHED	FIN
--	FLOOR	FLR
--	INVERT ELEVATION	INV. EL.
--	NORMALLY CLOSED	NC
--	SOFT WATER	SW
--	TRAP PRIMER	TP
--	TYPICAL	TYP
--	VENT THRU ROOF	VTR

SHOCK ARRESTOR SCHEDULE

(*) P.D.I. SYMBOL	FIXTURE UNITS	SIZE
A	1–11	1/2" NPT
B	12–32	3/4" NPT
C	33–60	1" NPT
D	61–113	1 1/4" NPT
E	114–154	1 1/2" NPT
F	155–330	2" NPT

PIPING RISER DIAGRAMS ILLUSTRATE SHOCK ARRESTORS FOR FIXTURE WATER PIPE OPENINGS. SHOCK ARRESTORS, WHERE USED, SHALL BE SIZED AS NOTED IN PLUMBING RISER DETAILS ON THIS SHEET OR PER PLUMBING CODE REQUIREMENTS, WHICHEVER PLACES THE MOST STRINGENT REQUIREMENT. PROVIDE WATER HAMMER ARRESTORS FOR EACH GROUP OF FIXTURES WHETHER SHOWN OR NOT ON PLANS.

SHOCK ARRESTORS SHALL HAVE LIFETIME WARRANTY AND SHALL BE CERTIFIED BY THE MANUFACTURER TO BE SUITABLE FOR INSTALLATION WITHOUT REQUIREMENT FOR ACCESS PANELS.

PLUMBING GENERAL PLAN NOTES:

A. ALL PIPE PASSING THROUGH FIRE RATED WALLS OR FLOOR SLABS SHALL BE SUPPORTED AT PENETRATION AND OPENINGS SHALL BE SEALED WITH APPROVED, NON-HARDENING, FIRE STOP MATERIALS AS SPECIFIED OR REQUIRED.

B. CONTRACTOR SHALL COORDINATE WITH THE STRUCTURAL CONDITIONS AT THE SITE AND PROVIDE PROPER ROUGH-IN CONNECTIONS REQUIRED WITHOUT DAMAGE TO STRUCTURE. WHERE STRUCTURAL MODIFICATIONS ARE NECESSARY, CONTRACTOR SHALL FIRST RECEIVE WRITTEN APPROVAL OF THE ARCHITECT AND STRUCTURAL ENGINEER.

C. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD COORDINATING LOCATIONS AND ELEVATIONS OF ALL PLUMBING PIPING WITH OTHER TRADES PRIOR TO INSTALLATION. CORRECTIONS OR RELOCATIONS DUE TO MISALIGNED PIPE SHALL BE PERFORMED IN A TIMELY MANNER AT NO ADDITIONAL COST TO OWNER.

D. DO NOT SCALE THE PLUMBING DRAWINGS FOR ROUGH-IN WORK. CONTRACTOR SHALL REFER TO THE DIMENSIONED ARCHITECTURAL AND STRUCTURAL DRAWINGS TO FIELD DETERMINE EXACT LOCATIONS OF PLUMBING ROUGH-IN WORK.

E. SANITARY DRAINAGE PIPING 2" AND SMALLER SHALL HAVE A UNIFORM MINIMUM CONTINUOUS SLOPE OF 1/4 INCH PER FOOT OF RUN. DRAINAGE PIPING OF 3" SIZE AND LARGER SHALL SLOPE MINIMUM 1/8 INCH PER FOOT OF RUN. SLOPE ALL VENT PIPING MINIMUM 6" PER 100 FEET OF RUN BACK TO DRAIN.

F. PROVIDE AND INSTALL CLEANOUTS AT EACH CHANGE OF DIRECTION OF THE BUILDING SANITARY DRAIN, AT MINIMUM 75' INTERVALS ALONG STRAIGHT RUNS OF MAIN DRAIN AND BRANCHES, AT EACH HORIZONTAL CHANGE OF DIRECTION IN SOIL OR WASTE PIPES GREATER THAN 45 DEGREES, AT END OF INDIVIDUAL BRANCH DRAINS LONGER THAN 5'. PROVIDE CLEANOUTS IN ACCORD WITH INTERNATIONAL PLUMBING CODE.

G. INSTALL EACH WATER HEATER AND ALL PLUMBING EQUIPMENT WITH ADEQUATE CLEARANCES FOR ACCESS BY SERVICE PERSONNEL AND WITH PROPER ORIENTATION FOR ELEMENT REMOVALS/REPLACEMENTS.

H. PROVIDE ISOLATION VALVES FOR ALL BRANCHES OFF DOMESTIC WATER MAINS. ALL PLUMBING SYSTEM VALVES SHALL BE INSTALLED IN ACCESSIBLE CEILING SPACES. WHERE CEILING IS NOT ACCESSIBLE, OR SPACE IS CONFLICTING, VALVES SHALL BE INSTALLED IN PARTITIONS OR PIPE CHASES. PROVIDE APPROVED PAINTED STEEL HINGED ACCESS PANELS IN LOCATIONS PRE-APPROVED BY THE ARCHITECT. PROVIDE STAINLESS STEEL ACCESS DOORS FOR SHOWER, LOCKER AND LOCKER TOILET ROOM PANELS. PROVIDE MARKINGS ON CEILING TILES ON LOCATIONS OF ISOLATION VALVES.

I. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD COORDINATING LOCATIONS OF ALL SANITARY VENTS UP THROUGH ROOF TO MAINTAIN MINIMUM 15' CLEARANCE TO ANY BUILDING OUTDOOR AIR INLET.

GENERAL NOTES – PLUMBING FIXTURES

1. MOUNTING HEIGHT ELEVATION OF ALL WALL HUNG OR COUNTER MOUNTED FIXTURES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION OF ROUGH-IN WORK.
2. FOR ALL FIXTURES AND EQUIPMENT WITH ASSOCIATED TRIM OR COMPONENT ACCESSORIES PROVIDED UNDER SEPARATE DIVISIONS AND REQUIRING PLUMBING CONNECTIONS; THIS CONTRACTOR SHALL FIELD COORDINATE EXACT REQUIREMENTS OF, MAKE PROVISIONS FOR, AND SUPPLY ALL MATERIALS AND LABOR FOR MAKING FINAL CONNECTIONS.
4. CONTRACTOR SHALL REFER TO SHOP DRAWINGS OF EQUIPMENT TO BE SUPPLIED FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS BEFORE BEGINNING WORK.
5. ALL FIXTURE AND EQUIPMENT STUB-OUTS SHALL BE PROVIDED WITH A STOP VALVE. ALL FIXTURE STOPS SHALL BE SOLID BRASS, LOOSE KEY OPERATED, CHROME PLATED (WHERE EXPOSED), AND FITTED TIGHT TO CHROME PLATED BRASS WALL ESCUTCHEON PLATES. SUPPLY RISERS SHALL BE STAINLESS STEEL FLEXIBLE CONNECTORS.
6. ALL P-TRAPS WITHIN THE BUILDING, ABOVE GRADE AND EXPOSED TO INSPECTION SHALL BE C.P. ADJUSTABLE, CAST BRASS WITH CLEANOUT PLUG. PROVIDE CAST BRASS SLIP NUTS AND WASHERS, 17 GAGE SEAMLESS TUBULAR BRASS DRAIN TO WALL AND WALL FLANGE. PROVIDE McGUIRE No. 8872C, 1-1/4" P-TRAP FOR ALL LAVATORIES AND SIMILAR FIXTURES PROVIDE McGUIRE No. 8912C, 1-1/2" P-TRAP FOR ALL SINKS AND SIMILAR FIXTURES.
7. PROVIDE DEEP SEAL P-TRAP FOR ALL DRAINS OF INFREQUENT USE OR REQUIRING TRAP PRIMER.
8. ALL ROUGH IN OPENINGS SHALL BE FITTED WITH CHROME PLATED, WROUGHT BRASS DEEP BELL OR BOX ESCUTCHEON PLATES FITTED TIGHT TO THE PIPE AND FLUSH TO THE WALL. STEEL ESCUTCHEON PLATES ARE NOT ACCEPTED.
9. ALL EXPOSED BRASS SHALL BE CHROME PLATED.
10. ALL HANDICAPPED ACCESSIBLE FIXTURES INDICATED WITH ♿ SHALL BE PROVIDED OF APPROVED TYPES AND WITH REQUIRED CONTROLS AND INSTALLED TO HEIGHTS AND CLEARANCES, AS PRESCRIBED BY AMERICANS WITH DISABILITIES ACT (ADA). FIXTURES SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ACCESSIBILITY CODE REQUIREMENTS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONED MOUNTING HEIGHTS AND SPECIFIED CLEARANCE REQUIREMENTS. PROVIDE FIXTURES WITH DEPTHS AT MAXIMUM PERMITTED AND AVAILABLE FOR INTENDED FIXTURE USE.
11. ALL WHEELCHAIR LAVATORY AND SINK PIPING WHERE EXPOSED SHALL BE INSULATED. PROVIDE OFFSET DRAIN FITTINGS WHERE REQUIRED TO PROVIDE MINIMUM CLEARANCES. REFER TO SPECIFICATIONS SECTION 15440.
12. ALL SINKS FOR HANDICAPPED USE SHALL BE STAMPED WITH DRAIN OUTLET AT REAR OF BOWL.
13. PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS FOR WATER SAVING PERFORMANCE. LAVATORY AND SINK FAUCETS SHALL INCLUDE 2.2 GPM FLOW CONTROL.
14. ORIENT ADA WATER CLOSET FLUSH VALVE WITH OPERATOR ON WIDE SIDE OF ENCLOSURE.
15. SEAL ALL SPACES BETWEEN PLUMBING FIXTURES AND MOUNTING SURFACES WITH WHITE LATEX CAULK WIPED SMOOTH AND FLUSH WITH FIXTURE.
16. FLOOR DRAINS SHALL BE INSTALLED AT LOW POINTS OF UNIFORMLY SLOPED FLOOR. CONTRACTOR SHALL FIELD COORDINATE WITH STRUCTURAL TO INSURE FLOORS ARE SLOPED UNIFORMLY ACROSS ENTIRE TOILET ROOMS OR OVER AS WIDE AN AREA AS PRACTICAL FOR OPEN AREA FLOOR DRAINS. CONVEX FLOOR SLOPE IN THE IMMEDIATE VICINITY OF THE FLOOR DRAIN IS NOT ACCEPTABLE.

PLUMBING FIXTURE SCHEDULE

PLAN MARK	MINIMUM ROUGH-IN SIZES WST & VENT	DRAIN	CW	HW	
WATER CLOSET WC-1 ♿	4"	2"	4"	1"	----	AMERICAN STANDARD No.3641.001, 17.125" HEIGHT WHITE V.C. ELONGATED SIPHON JET FLOOR MTD. (1.28 GPF) BOWL WITH TOP SPUD, BOLT CAPS, OLSONITE No.95-SS WHITE OPEN FRONT SEAT, LESS COVER AND SLOAN ROYAL 111-1.28 HET FV. "RIGHT WIDTH FLOWISE ELONGATED, RIGHT HEIGHT"
LAVATORY-WALL HUNG L-1 ♿	2"	1-1/2"	1-1/4"	1/2"	1/2"	AMERICAN STANDARD NO.0355.012 WHITE VC LAVATORY WITH FRONT OVERFLOW AND 4" CENTER FAUCET HOLE FOR CHICAGO 802-VE2805-665ABCP METERING FAUCET W/ 0.5 GPM NON-AERATING SPRAY. MOUNTING HEIGHT FOR ADULT ADA. PROVIDE TMV-1 WHERE INDICATED. PROVIDE WADE OR EQUAL FLOOR MOUNTED CONCEALED ARM CARRIER.
SINK SK-1 ♿	2"	1-1/2"	1-1/2"	1/2"	1/2"	ELKAY No. LRAD-1918-55 "LUSTERTONE" THREE HOLE PUNCH STAINLESS STEEL SINK. PROVIDE CHICAGO 895-317GN2AE35ABCP (1.5 GPM) GOOSE-NECK FAUCET WITH WRISTBLADE HANDLES, AND SWING SPOUT, ELKAY No. LK-18 GRID DRAIN STRAINER, TAILPIECE. CAST BRASS P-TRAP WITH CO. STOPS AND SUPPLIES. PROVIDE OFFSET TAILPIECE AND INSULATION KIT WHERE FIXTURE TRIM IS EXPOSED. WITH REAR CENTER DRAIN.
SINK SK-2 ♿	2"	1-1/2"	1-1/2"	1/2"	1/2"	ELKAY No. ECTSRS33229BG CROSSTOWN STAINLESS STEEL SINK, SINGLE BOWL DUAL MOUNT KIT. PROVIDE CHICAGO 895-317GN2AE35ABCP (1.5 GPM) GOOSE-NECK FAUCET WITH WRISTBLADE HANDLES, AND SWING SPOUT, ELKAY No. LK-18 GRID DRAIN STRAINER, TAILPIECE. CAST BRASS P-TRAP WITH CO. STOPS AND SUPPLIES. PROVIDE OFFSET TAILPIECE AND INSULATION KIT WHERE FIXTURE TRIM IS EXPOSED. WITH REAR CENTER DRAIN.
FLOOR DRAIN FD-1	3"	2"	----	----	----	ZURN No.ZN-415 CAST IRON DRAIN WITH 6" DIAMETER TYPE 'B' STRAINER AND 1/2" IPS TRAP PRIMER CONNECTION. (PLUGGED WHERE NOT REQUIRED)
TRAP PRIMER TP-1	----	----	1/2"	----	----	PROVIDE SLOAN No. VBF-72-A1 FLUSH VALVE VACUUM BREAKER TRAP REFILL SUPPLY. AFFIX TO WATER CLOSET NEAREST TO AND IN SAME ROOM AS DRAIN SUPPLIED. ALL EXPOSED TO BE CHROME PLATED AND RUN SHORT AS POSSIBLE WALL CONCEALED DRAIN TUBING SHALL BE 1/2" TYPE 'K' SOFT COPPER SLOPING UNIFORMLY TO DRAIN.
WALL CLEAN-OUT WCO	----	----	----	----	----	WADE 8550 & 8480S DURO-COATED CAST IRON CLEANOUT TEE WITH COUNTER-SUNK GASKET, WATERTIGHT THREADED PLUG AND SQUARE SMOOTH ACCESS COVER WITH VANDAL PROOF SCREWS.
FLOOR CLEAN-OUT FCO, YCO	----	----	----	----	----	WADE 6000 SERIES CAST IRON CLEANOUT WITH COUNTER-SUNK PLUG AND SUITED FOR THE INSTALLATION REQUIRED. VERIFY TOP FINISHES WITH ARCHITECT.
INSTANTANEOUS WATER HEATER IWH-1	----	----	----	1/2"	1/2	SINGLE POINT INSTANTANEOUS WATER HEATER EQUAL TO EEMAX EX82087, 208V/1PH, 8.3 KW, 40 AMPS, 57°F RISE AT 1 GPM. THERMOSTATIC MIXING VALVE SET AT 105°F.
ICE MAKER WALL BOX WB-1	----	----	----	1/2"	----	GUY GRAY NO. BIM-875 WITH 1/2 X 1/4 O.D. TUBE, CHROME PLATED FIXTURE SUPPLY STOP. INSTALL BOX 54" AFF BEHIND FREE STANDING REFRIGERATOR WITH ICE MAKER AND 18" AFF FOR UNDER COUNTER REFRIGERATOR OR ICE MAKER LEAVE 48" COIL OF 1/4" O.D. TYPE 'K' SOFT COPPER FOR EQUIP. CONNECTION AND PROVIDE CUNO ICEASSURE1 FILTER BRACKETED TO WALL.
THERMOSTATIC MIXING VALVE TMV-1				1/2"	1/2"	LEONARD 170BP, ADJUSTABLE THERMOSTATIC MV ASSE 1070, POINT-OF-USE MIXING VALVE WITH INLET CHECK STOPS TO LIMIT HOT WATER TEMP. TO MAXIMUM 110° F. AT FAUCET OUTLET. INSTALL AS PER MANUFACTURER'S DETAILS AND RECOMMENDATIONS.
SINK FAUCET FAUC-1				1/2"	1/2"	PROVIDE CHICAGO FAUCET (OR APPROVED EQUAL) DECK MOUNTED, 4" FIXED CENTER, SINGLE LEVER HOT AND COLD WATER MIXING SINK FAUCET, MODEL 2200-4E2805ABCP, 0.5 GPM. CHROME PLATED (VERIFY WITH ARCHITECT PRIOR TO ORDERING), ECONO-FLO, NON-AERATING SPRAY, LOW LEAD CONTENT.

NOTE:

CONTRACTOR SHALL EVALUATE ALL EXISTING PLUMBING FIXTURES (SINKS, TOILETS, FAUCETS, ETC...) TO REMAIN. CONTRACTOR SHALL REPAIR, REFURBISH, RESEAL, RESEAT, TIGHTEN, CLEAN, CAULK, ETC...EXISTING FIXTURES TO THE FULLEST EXTENT POSSIBLE IN LIEU OF REPLACING THEM.

PLUMBING PIPE MATERIALS SCHEDULE

PIPING SYSTEM	PIPING MATERIAL
SANITARY DRAINS AND VENTS INSIDE BUILDING AND BELOW GROUND	SCHEDULE 40 PVC DWV
SANITARY DRAINS AND VENTS INSIDE BUILDING AND ABOVE GROUND	SCHEDULE 40 PVC DWV
SANITARY DRAINS AND VENTS INSIDE BUILDING AT PLENUM CEILING	SCHEDULE 40 PVC DWV
DOMESTIC HOT & COLD WATER INSIDE BUILDING AND ABOVE GROUND	COPPER, TYPE "L" HARD DRAWN
DOMESTIC HOT & COLD WATER INSIDE BUILDING AND BELOW GROUND	COPPER, TYPE "K" SOFT ANNEALED
FIRE SPRINKLER ABOVE GROUND – 2" AND SMALLER	BLACK STEEL SCHEDULE 40
FIRE SPRINKLER ABOVE GROUND – 2-1/2" AND LARGER	BLACK STEEL SCHEDULE 10

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Austin, Texas 78757
512.637.4393 p 512.637.4396 f
TBPE Firm Registration No. 2234

DBR Project Number 165026.000

MC	SN	NF	AH	--

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COMBS Consulting Group
10 years technology & security
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San Antonio, Texas 78230
Phone : 210-698-7887
AUSTIN
901 S. Mopac
Bldg. 3, Ste. 400
Austin, Texas 78746
Phone : 512-433-2696

In Association w/

WCCHD Office Renovations

355 Texas Avenue
Round Rock, Texas

STATE OF TEXAS
MELISSA B. COAD
93852
REGISTERED
PROFESSIONAL ENGINEER
7/5/17

REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/05/2016
2	100% CD Issue for Bid	01/16/2017

SHEET INFORMATION

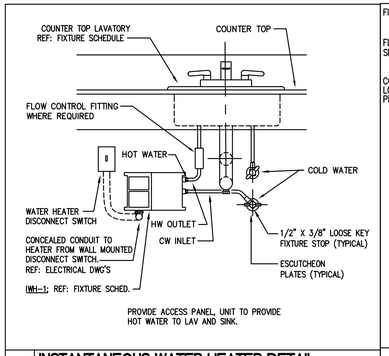
Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

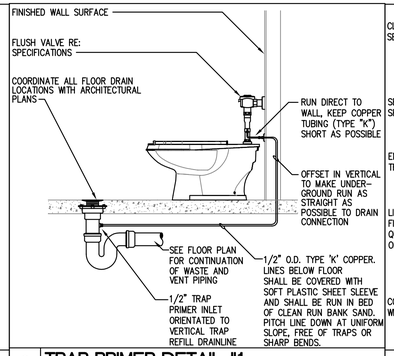
PLUMBING SCHEDULES

SHEET

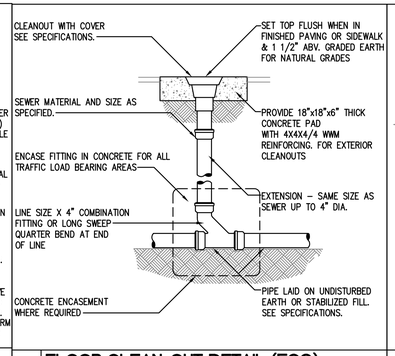
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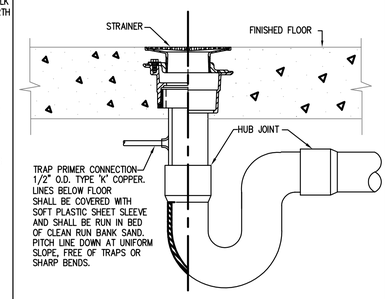
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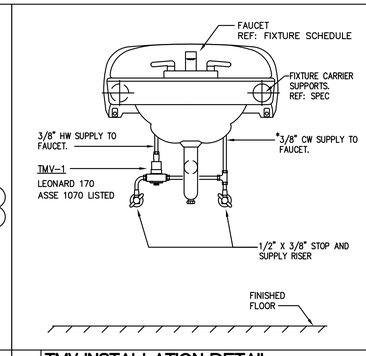
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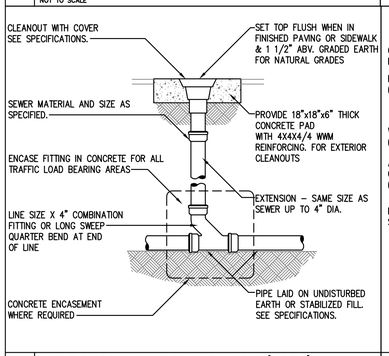
3 FLOOR CLEAN-OUT DETAIL (FCO)
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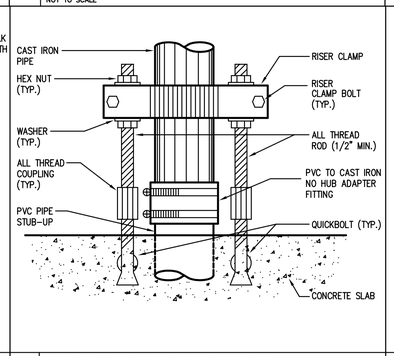
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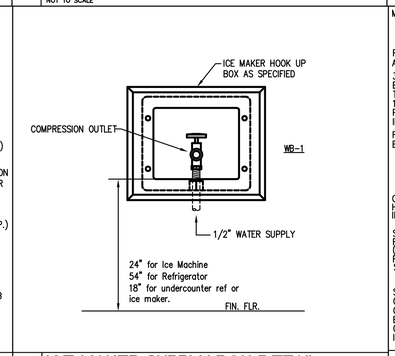
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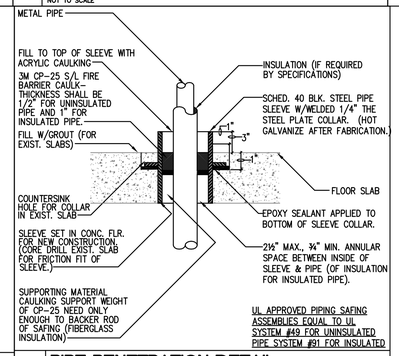
6 FLOOR CLEAN-OUT DETAIL (FCO)
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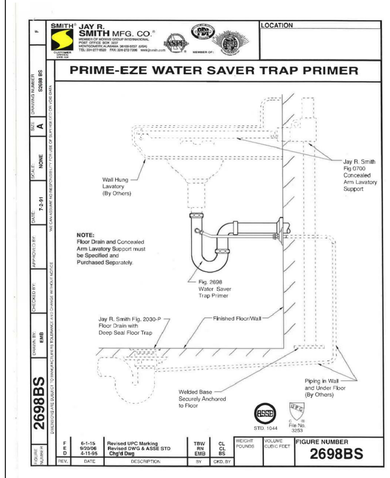
7 PVC TO CAST IRON SUPPORT
NOT TO SCALE



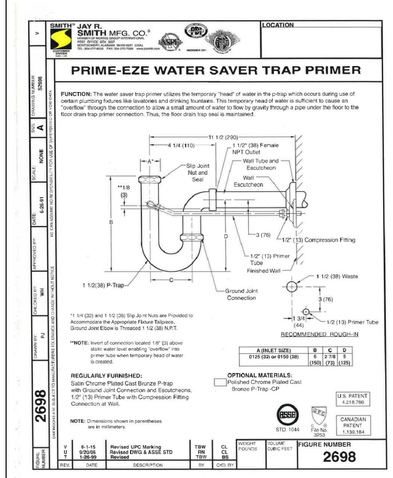
8 ICE MAKER SUPPLY BOX DETAIL
NOT TO SCALE



9 PIPE PENETRATION DETAIL
NOT TO SCALE



10 TRAP PRIMER DETAIL #2
NOT TO SCALE



11 TRAP PRIMER DETAIL #3
NOT TO SCALE

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355 Texas Avenue
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STATE OF TEXAS
MELISSA B. COAD
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1/13/17

REVISIONS

No.	Issue	Date
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SHEET INFORMATION

Date	January 16, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

TITLE

PLUMBING DETAILS

SHEET

P6.01

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TBPE Firm Registration No. 2234

DBR Project Number 165026.000

MC	SN	NF	AH	--

Evaluation of Respondents and Selection Criteria

for

Texas Avenue Facility

Located at 355 Texas Avenue, Round Rock, TX

RFP 1701-139

Evaluation of Respondents

Pursuant to Chapter 2269 of the Texas Government Code, Williamson County shall receive, publicly open and read aloud the names of the Respondents and any monetary proposals made by the Respondents. Not later than the 45th day after the date on which the proposals are opened, Williamson County shall evaluate and rank each proposal submitted in relation to the published selection criteria below.

Williamson County shall thereafter select the Respondent that submits the proposal that offers the best value for Williamson County based on:

(1) the selection criteria set out below and the weighted value for those criteria; and

(2) the selection criteria's ranking evaluation.

Williamson County will first attempt to negotiate a contract with the selected Respondent. Williamson County and its architect or engineer may discuss with the selected Respondent options for a scope or time modification and any price change associated with the modification. If Williamson County is unable to negotiate a satisfactory contract with the selected Respondent, Williamson County shall, formally and in writing, end negotiations with that Respondent and proceed to the next Respondent in the order of the selection ranking until a contract is reached or all proposals are rejected.

All Proposals will be evaluated by a Williamson County appointed Evaluation Committee. The Evaluation Committee may be composed of County Staff that may have expertise, knowledge or experience with the services and/or goods being procured hereunder. As may be noted in this RFP, Respondents may receive further

evaluation via telephone or in-person interviews with members of the Evaluation Committee.

Selection Criteria

1. **The price (40% of score – 40 points max)**

Price project out based on Architectural plans and any addendums.

2. **The Respondent's proposed personnel for the project (20% of score – 15 points max)**

Respondent to provide list of proposed staff to be used on the project. Provide names of Company Owner, Project Manager, Superintendent, etc. and or equivalents.

3. **Respondent's experience and reputation (20% of score – 15 points max)**

Respondent to provide a list of 3 similar (or larger) projects performed in Texas. Please include project name, owner contact name & contact information, brief project description with size/square footage and contracted dollar amount.

4. **Respondent's office location as it relates to distance from the project site (20% of score – 15 point max)**

Provide verifiable physical address of Respondent's closest permanent location to project and length of time at that location.

Each Selection Criteria will be scored as set out in the chart below. Maximum score points on evaluation is 85.

	Evaluation Criteria for Texas Avenue Facility Remodel RFP 1701-139						
	Buyer Teri Jeffries 512-943-1553						
	Criteria	Maximum Points	Please select a Whole Number from the list provided for each question. (Decimal scoringnot permitted)				
1.1	Proposal pricing- based upon all architectural plans, specifications and instructions per the RFP	40	The Respondent with the lowest price proposal will receive the maximum points for proposal pricing. Each particular remaining Respondent's points for pricing will be determined by multiplying the maximum points for pricing by a fraction, the numerator of which is the lowest price proposal amount and the denominator of which is each particular Respondent's price proposal amount. The product of the calculation shall be the particular Respondent's points for proposal pricing. For example, the pricing points for the Respondent with the next to lowest pricing proposal ("Respondent #2") shall be calculated as follows: 40 Maximum Points for Pricing x (Lowest Respondent's Price Proposal Amount ÷ Respondent No. 2's Price Proposal Amount = Respondent No. 2's Pricing Points.				
1.2	Personnel for the project	15	15 = Significantly Exceeds Requirements 12 = Exceed Requirements 9 = Meets ALL Requirements 6 = Marginally Meets Requirements 1 = Does Not Meet Requirements				
1.3	Respondent's experience	15	15 = Significantly Exceeds Requirements 12 = Exceed Requirements 9 = Meets ALL Requirements 6 = Marginally Meets Requirements 1 = Does Not Meet Requirements				
1.4	Respondent's physical address	15	15 = Significantly Exceeds Requirements 12 = Exceed Requirements 9 = Meets ALL Requirements 6 = Marginally Meets Requirements 1 = Does Not Meet Requirements				
	Total Evaluation Points	85	TOTAL	0	0	0	0

Williamson County – Request for Proposal (RFP)

SECTION 1 - DEFINITIONS

Addendum/Addenda – means any written or graphic instruments issued by the County prior to the consideration of Proposals which modify or interpret the Proposal Documents by additions, deletions, clarifications, or corrections.

Agreement/Ensuing Agreement(s) – means the Successful Respondent may be required by the County to sign an additional Agreement containing terms necessary to ensure compliance with the RFP and the Respondent's Proposal. Such Ensuing Agreement(s) shall contain the Proposal specifications, terms and conditions that are derived from the RFP.

Contract – means this RFP and the Proposal of the Successful Respondent shall become a Contract between the Successful Respondent and the County once the Successful Respondent's Proposal is properly accepted by the Williamson County Commissioners Court (sometimes referred to herein as the Commissioner's Court").

Commissioner's Court – means the Williamson County Commissioners Court.

County – means Williamson County, a political subdivision of the State of Texas.

Executive Summary – means the document submitted by Respondent that represents a concise summary of the contents of the Proposal. It does not include any information concerning costs.

Proposal Documents – means the Legal Notice, RFP including attachments, and any Addenda issued by the County prior to the consideration of any Proposals.

Proposal – means the complete, properly signed document, and ALL required forms and documentation listed in the proposal package which have been submitted in accordance with this RFP package. A Proposal submitted in accordance with this RFP is irrevocable during the specified time period for evaluation and acceptance of Proposals, unless a waiver is obtained from the Williamson County Purchasing Agent.

Respondent – means a person or entity who submits a Proposal in response to this RFP.

Request for Proposals (RFP) – means this document, together with the attachments thereto and any future Addenda issued by the County.

Successful Respondent– means the responsible Respondent who, in the County's sole opinion, submits the Proposal which is in the best interest of the County, taking into account factors identified

herein, and to whom the County intends to award the Contract.

SECTION 2 - RESPONSE FORMAT AND SUBMISSION

2.1 INTRODUCTION

Each Proposal submitted in response to this RFP should clearly reference the numbered sections of this RFP that require a response. Failure to arrange the Proposal as requested may result in the disqualification of the Proposal.

Though there is not a page limit for Proposals, to save natural resources including paper, and to allow the County staff to efficiently evaluate all submitted Proposals, the County requests that Proposals be orderly, concise, but comprehensive in providing the requested information. Conciseness and clarity of content are emphasized and encouraged. If mailed or delivered in person, please limit additional, non requested information.

Please provide your Proposal response using:

A. 8 ½" x 11" pages, inclusive of any cover letter or supporting materials.

B. The least amount of plastic/laminate or other non-recyclable binding materials.

C. Single-sided printing.

Vague and general Proposals will be considered non-responsive, and may, at the County's sole discretion, result in disqualification. Proposals must be legible and complete. Failure to provide the required information may result in the disqualification of the Proposal. All pages of the Proposal should be numbered and the Proposal should contain an organized, paginated table of contents corresponding to the sections and pages of the Proposal.

2.2 ORGANIZATION OF PROPOSAL CONTENTS AND TABLE OF CONTENTS

Each Proposal should be submitted with a table of contents that clearly identifies and denotes the location of all enclosures of the Proposal. The table of contents should follow the RFP's structure as much as is practical.

Each Proposal should be organized in the manner described below:

A. Transmittal Letter. Please see Section 2.3, Transmittal Letter, for more information.

B. Table of Contents.

C. Executive Summary. Please see Section 2.4, Executive Summary.

D. Proposal Response to Criteria. (Please see the sections in this RFP package that list the Specifications & Cost Proposal, Experience and Qualifications, References, and Implementation Strategy to respond to our criteria in a clear and concise manner)

E. Price Sheet.

F. References: Identification of three (3) references within the last four (4) years, for which the Respondent is providing, or has provided, the goods and/or services (public sector) of the type requested in this RFP. Include the name, position/title, and telephone number of a contact person at each entity.

G. Conflict of Interest Questionnaire.

H. Proposal Affidavit (Signature Page).

I. Attach your entities sample Contract, if applicable, for the County's review and consideration. This should include any additional terms or conditions. The County is not required to use the sample Contract submitted.

2.3 TRANSMITTAL LETTER

The Respondent should submit a Transmittal Letter that provides the following information:

A. Name and address of individual or business entity submitting the Proposal.

B. Respondent's type of business entity (i.e., Corporation, General Partnership, Limited Partnership, LLC, etc.). See Section 3.5, Signature of Respondent, for more information.

C. Place of incorporation or organization, if applicable.

D. Name and location of major offices and other facilities that relate to the Respondent performance under the terms of this RFP.

E. Name, physical address, email address, business and fax number of the Respondent's principal contact person regarding all contractual matters relating to this RFP.

F. The Respondent's Federal Employer Identification Number.

G. A commitment by the Respondent to provide the services required by the County;

H. A statement that the Proposal is valid for the time specified on page three (3), under the section named *Prices Good for*, of this Proposal packet. Any Proposal containing a term of less than the required amount, may at the County's sole discretion, be rejected as non-responsive.

I. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating the anticipated air quality impact. See Section 4.40, Air Quality for more information.

The Transmittal Letter should be signed by a person legally authorized to bind the Respondent to the representations in the Transmittal Letter and the Proposal. In the case of a joint Proposal, each party must sign the Transmittal Letter.

2.4 EXECUTIVE SUMMARY

The Respondent should provide an Executive Summary of its Proposal that asserts that the Respondent is providing in its response all of the requirements of this RFP. The Executive Summary should not include any information concerning the cost of the Proposal, but instead must represent a full and concise summary of the contents of the Proposal. It is recommended the Executive Summary include the following information:

A. Identify any goods and/or services that are provided beyond those specifically requested. If the Respondent is providing services and/or goods that do not meet the specific requirements of this RFP, but in the opinion of the Respondent are equivalent or superior to those specifically requested, any such differences should be noted in the Executive Summary. However, the Respondent must realize that failure to provide the goods and/or services specifically required, at the County's sole discretion, may result in disqualification of the Proposal.

B. Indicate why the Respondent believes that it is the most qualified Respondent to provide the services described in this RFP. The Successful Respondent must demonstrate extensive experience and understanding of the intent of this project. The Respondent should describe in detail the current and historical experience the Respondent and its subcontractors have that would be relevant to completing the project. References must contain the name of key personnel and telephone numbers for each contact, as described in Section 3.14, References.

C. Briefly state why the Respondent believes its proposed goods and/or services best meet the County's needs and RFP requirements, and the Respondent also should concisely describe any additional features, aspects, or advantages of its goods and/or services in any relevant area not covered elsewhere in its Proposal.

2.5 CONFLICT OF INTEREST

No public official shall have interest in a contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code, Title 5, Subtitle C, Chapter 171, as amended.

As of January 1, 2006, all Respondents are responsible for complying with Local Government Code, Title 5, Subtitle C, Chapter 176. Additional information may be obtained from the County's website at the following link:

http://www.wilco.org/CountyDepartments/Purchasing/ConflictofInterestDisclosure/tabid/689/language/en-US/Default.aspx

Each Respondent must disclose any existing or potential conflict of interest relative to the performance of the requirements of this RFP. **Examples of potential conflicts of interest may include an existing business or personal relationship between the Respondent, its principal, or any affiliate or subcontractor with the County or any other entity or person involved in any way with the project that is subject to this RFP**. Similarly, any personal or business relationship between the Respondent, the principals, or any affiliate or subcontractor with any employee, or official of the County or its suppliers must be disclosed. Any such relationship that might be perceived or represented as a conflict must be disclosed. Failure to disclose any such relationship or reveal personal relationships with the County employees or officials may be cause for termination.

The County will decide if an actual or perceived conflict should result in Proposal disqualification.

By submitting a Proposal in response to this RFP, all Respondents affirm they have not given, nor intend to give, at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a the County public servant or any employee, official or representative of same, in connection with this procurement.

Each Respondent must provide a Conflict of Interest Statement with their Proposal Package. Package may be deemed incomplete without this form.

2.6 CERTIFICATE OF INTERESTED PARTIES – FORM 1295

As of January 1, 2016, all Respondents are responsible for complying with the Texas Government Code, Section 2252.908. The law states that the County may not enter into certain contracts with a Respondent unless the Respondent submits a disclosure of interested parties to the County at the time the Respondent submits the signed contract. The law applies only to a contract of the County on or after January 1, 2016 that either:

A. Requires an action or vote by the Commissioners Court before the contract may be signed (all contracts that fall under the jurisdiction of the Commissioners Court approval, such as contracts resulting from an Initiation for Bid (IFB), RFP, Request for Qualifications (RFQ), etc., excluding,

but not limited to, certain Juvenile Service contracts, contracts funded with Sheriff's seized fun monies, etc.); or

B. Has a value of at least $1,000,000.

By January 1, 2016, the Texas Ethics Commission will make available on its website, a new filing application that must be used to file Form 1295. Information regarding how to use the filing application is available on the Texas Ethics Commission website at the following link:

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

A Respondent must:

A. Use the online application to process the required information on Form 1295.

B. Print a copy of the form which will contain a unique certification number.

C. An authorized agent of the Respondent must sign the printed copy of the form.

D. Have the form notarized.

E. File the completed Form 1295 and certification of filing (scanning and emailing form is sufficient) with Williamson County Purchasing Agent at the time the signed Contract is submitted for approval.

After the Commissioners Court award of the contract, the County shall notify the Texas Ethics Commission, using the Texas Ethics Commission's filing application, of the receipt of the filed Form 1295 and certification of filing not later than the 30th day after the date the contract binds all parties to the contract. The Texas Ethics Commission will post the completed Form 1295 to its website within seven business days after receiving notice from the County.

2.7 PROPOSAL SUBMITTAL DEADLINE

The Proposal is due no later than the submittal date and time set forth in the Public Announcement and General Information listed in this RFP package. Contents of each Proposal shall be submitted in accordance with this RFP.

2.8 ETHICS

The Respondent shall not accept or offer gifts or anything of value, nor enter into any business arrangement with any employee, official or agent of the County.

2.9 DELIVERY OF PROPOSALS

The County uses BidSync to distribute and receive bids and Proposals. It is preferred that Proposals be submitted electronically through BidSync; however, Respondents can submit a hard copy.

Refer to www.bidsync.com for further information on how to submit electronically.

If mailed or delivered in person, Proposal and Proposal Addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed in this RFP package, to:

Williamson County Purchasing Department

Attn: **Proposal Name and Number**
901 South Austin Avenue
Georgetown, Texas 78626

Also, all Respondents should list their Name and Address, and the Date of the Proposal opening on the outside of the box or envelope and note "Sealed Proposal Enclosed." Williamson County will not accept any Proposals after the submittal deadline, and shall return such Proposals unopened to the Respondent. The County will not accept any responsibility for Proposals being delivered by third party carriers.

Proposals will be opened publicly; however, in a manner to avoid public disclosure of contents, only names of Respondents will be read aloud: no pricing will be announced at the opening.

SECTION 3 - INSTRUCTIONS AND GENERAL REQUIREMENTS

3.1 INSTRUCTIONS

Read this document carefully, and follow all instructions and requirements. All Respondents are responsible for fulfilling all requirements and specifications. Be sure to have a clear understanding of this RFP.

General requirements apply to all advertised RFPs; however, these may be superseded, in whole or in part, by the proposal specifications, Addenda and modifications issued as a part of this RFP. Be sure your Proposal package is complete.

3.2 AMBIGUITY, CONFLICT, OR OTHER ERRORS IN THIS RFP

If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in this RFP, the Respondent shall immediately notify the County Purchasing Department of such error in writing and request modification or clarification of the document.

Modifications will be made by issuing Addenda. If the Respondent fails to notify the County prior to the date and time fixed for submission of Proposals of an error or ambiguity in the RFP known to the Respondent, or an error or ambiguity that reasonably should have been known to the Respondent, then the Respondent shall be deemed to have waived the error or ambiguity or its later resolution.

The County may also modify the RFP, no later than forty-eight (48) hours prior to the date and time fixed for submission of Proposals, by issuance of an Addendum. All Addenda will be numbered consecutively, beginning with one (1).

3.3 NOTIFICATION OF MOST CURRENT ADDRESS

All Respondents in receipt of this RFP shall notify the Williamson County Purchasing Department of any address changes, contact person changes, and/or telephone number changes no later than forty-eight (48) hours prior to the date and time fixed for submission of Proposals.

3.4 SIGNATURE OF RESPONDENT

A Transmittal Letter, which shall be considered an integral part of the Proposal as stated in Section 2.3, Transmittal Letter, shall be signed by an individual who is authorized to bind the Respondent contractually.

A. If the Respondent is a Corporation or Limited Liability Company, the legal name of the Corporation or Limited Liability Company shall be provided together with the signature of the officer or officers authorized to sign on behalf of such entity.

B. If the Respondent is a General Partnership, the true name of the firm shall be provided with the signature of each partner authorized to sign.

C. If the Respondent is a Limited Partnership, the name of the Limited Partner's General Partner shall be provided with the signature of the officer authorized to sign on behalf of the General Partner.

D. If the Respondent is a Sole Proprietor(s) (individual), each Sole Proprietor(s) shall sign.

E. If signature is by an agent, other than the Sole Proprietor(s) or an officer of a Corporation, Limited

Liability Company, General Partner or a member of a General Partnership, a power of attorney equivalent document must be submitted to the Williamson County Purchasing Department.

3.5 ASSUMED BUSINESS NAME

If the Respondent operates business under an Assumed Business Name, the Respondent must have file with the Williamson County Clerk a current Assumed Name Certificate and provide a file marked copy of same prior to contract award.

3.6 ECONOMY OF PRESENTATION

Proposals should not contain promotional or display materials, except as they may directly answer in whole or in part questions contained in the RFP. Such exhibits shall be clearly marked with the applicable reference number of the question in the RFP. Proposals must address the technical requirements as specified in the RFP. All questions posed by the RFP must be answered concisely and clearly. Proposals that do not address each criterion may be, at the sole discretion of the County, rejected and not considered.

3.7 PROPOSAL OBLIGATION

The contents of the RFP, Proposal, and any clarification thereof submitted by the Successful Respondent shall become part of the contractual obligation and incorporated by reference into the Contract and any Ensuing Agreement(s).

3.8 COMPLIANCE WITH RFP SPECIFICATIONS

It is intended that this RFP describe the requirements and the Proposal format in sufficient detail to secure comparable Proposal. Failure to comply with all provisions of the RFP may, at the sole discretion of the County, result in disqualification.

3.9 EVALUATION

The County reserves the right to use all pertinent information (also learned from sources other than disclosed in the RFP process) that might affect the County's judgment as to the appropriateness of award to the best evaluated Respondent. This information may be appended to the Proposal evaluation process results. Information on a Respondent from reliable sources, and not within the Respondent Proposal, may also be noted and made part of the evaluation file. The County shall have sole discretion for determining the reliability of the source. The County reserves the right to conduct written and/or oral discussions/interviews after the Proposal opening. The purpose of such discussions/interviews is to provide clarification and/or additional information to make an award that is in the best interest of the County.

3.10 WITHDRAWAL OF PROPOSAL

The Respondent may withdraw its Proposal by submitting a written request with the company letterhead and the signature of an authorized individual, as described in Section 3.4, Signature of Respondent, to the Williamson County Purchasing Department any time prior to the submission deadline.

The Respondent may submit a new Proposal prior to the deadline. Alterations of the Proposal in any manner will not be considered if submitted after the deadline. Withdrawal of a Proposal after the deadline will be subject to written approval of the Williamson County Purchasing Agent.

3.11 RESPONSIBILITY

It is expected that a Respondent will be able to affirmatively demonstrate responsibility. A prospective Respondent should be able to meet the following requirements:

A. Have adequate financial resources, or the ability to obtain such resources as required;
B. Be able to comply with the required or proposed delivery schedule;
C. Have a satisfactory record of performance that can be determined thru references provided; and
D. Be otherwise qualified and eligible to receive an award.

The County may request representation and other information sufficient to determine the Respondent ability to meet these minimum standards listed above.

3.12 PURCHASE ORDERS

If required by the Williamson County Purchasing Department, a purchase order(s) may be generated to the Successful Respondent for goods and/or services. If a purchase order is issued, the purchase order number must appear on all itemized invoices and/or requests for payment.

3.13 SILENCE OF SPECIFICATIONS

The apparent silence of any RFP specifications as to any detail or to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

3.14 REFERENCES

Respondents shall furnish a list of contracts where similar responsibilities and goods and/or services have been required and/or performed for the past five (5) years, to include names, titles, phone numbers and email addresses of reference contacts, contract numbers and dates of performance.

Also, Respondents shall include a list of any contracts that have been cancelled or terminated within the last five (5) years, along with an explanation of the cancellation and the names, email address and phone number of a reference person with that institution.

The County may contact some or all of the references in order to determine the Respondent performance record on work similar to that described in this RFP. The County reserves the right to contact references other than those provided in the response and to use the information gained from them in the evaluation process.

References should be provided in accordance with this RFP. Proposal may not be deemed complete without the inclusion of requested references.

SECTION 4 - TERMS AND CONDITIONS

4.1 VENUE AND GOVERNING LAW

The Respondent hereby agrees and acknowledges that venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this RFP, the Contract and any Ensuing Agreement(s), shall lie exclusively in either Williamson County, Texas or in the Austin Division of the Western Federal District of Texas, and the parties hereto expressly consent and submit to such jurisdiction. Furthermore, except to the extent that this RFP, the Contract and any Ensuing Agreement(s) is governed by the laws of the United States, this RFP, the Contract and any Ensuing Agreement(s) shall be governed by and construed in accordance with the laws of the State of Texas, excluding, however, its choice of law rules.

4.2 INCORPORATION BY REFERENCE AND PRECEDENCE

A. The Contract shall be derived from the RFP and its Addenda (if applicable), and the Respondent Proposal. In the event of a dispute under the Contract, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. The RFP and its Addenda (if applicable); and

   2. The Respondent's Proposal.

B. In the event the County requires that an Ensuing Agreement be executed following award and a dispute arises between the terms and conditions of the Ensuing Agreement, the RFP and its Addenda (if applicable), and the Respondent's Proposal, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. The terms and conditions of the Ensuing Agreement;

   2. The RFP and its Addenda; and

   3. The Respondent's Proposal.

4.3 OWNERSHIP OF PROPOSAL

Each Proposal shall become the property of the County upon submittal and will not be returned to Respondents unless received after the submittal deadline.

4.4 DISQUALIFICATION OF RESPONDENT

Upon signing and submittal of the Proposal, a Respondent offering to sell supplies, materials, services, or equipment to the County, certifies that the Respondent has not violated the antitrust laws of the State of Texas codified in Business & Commerce Code, Section 15.01, or the Federal Antitrust Laws, and has not communicated directly or indirectly the offer made to any competitor or any other person engaged such line of business. Any or all Proposals may be rejected if the County believes that collusion exists among the Respondents.

4.5 FUNDING

The County intends to budget and make sufficient funds available and authorize funds for expenditure to finance the costs of the Contract. All Respondents understand and agree that the County's payment of

amounts under the Contract shall be contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to make payments under this Contract.

4.6 ASSIGNMENT, SUCCESSORS AND ASSIGNS

The Successful Respondent may not assign, sell, or otherwise transfer the Contract or any other rights or interests obtained under the Contract without written permission of the Williamson County the Commissioners Court. The Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the contracting parties hereto and their respective successors and permitted assigns.

4.7 IMPLIED REQUIREMENTS

Products or services not specifically described or required in the RFP, but are necessary to provide the functional capabilities described by the Respondent, shall be implied and deemed to be included in the Proposal.

4.8 TERMINATION

A. Termination for Cause: The County reserves the right to terminate the Contract and/or any Ensuing Agreement(s) for default if the Successful Respondent breaches any of the Proposal specifications, terms and conditions, including warranties of the Respondent, if any, or if the Successful Respondent becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies the County may have at law or equity or as may otherwise be provided hereunder. Default may be construed as, but not limited to, failure to deliver the proper goods and/or services within the proper amount of time, and/or to properly perform any and all other requirements to the County's satisfaction, and/or to meet all other obligations and requirements.

B. Termination for Convenience: The County may terminate the Contract and/or any Ensuing Agreement(s) for convenience and without cause or further liability, upon no less than thirty (30) calendar days written notice to the Successful Respondent. The County reserves the right to extend this period if it is in the best interest of the County. In the event the County exercises its right to terminate without cause, it is understood and agreed that only the amounts due to the Successful Respondent for goods, commodities and/or services provided and expenses incurred to and including the date of termination, will be due and payable. No penalty will be assessed for the County's termination for convenience.

4.9 NON-PERFORMANCE

It is the objective of the County to obtain complete and satisfactory performance of the requirements set forth herein. In addition to any other remedies available at law, in equity or that may be set out herein, failure to perform may result in a deduction of payment equal to the amount of the goods and/or services that were not provided and/or performed to the County's satisfaction.

In the event of such non-performance, the County shall have the right, but shall not be obligated, to complete the services itself or by others and/or purchase the goods from other sources. If the County elects to acquire the goods or perform the services itself or by others, pursuant to the foregoing, the Successful Respondent shall reimburse the County, within ten (10) calendar days of demand, for all costs incurred by the County (including, without limitation, applicable, general, and administrative expenses, and field overhead, and the cost of necessary equipment, materials, and field labor) in correcting the nonperformance which the Successful Respondent fails to meet pursuant to the requirements set out herein. In the event the Successful Respondent refuses to reimburse the County as set out in this provision, the County shall have the right to deduct such reimbursement amounts from any amounts that may be then owing or that may become owing in the future to the Successful Respondent.

4.10 PROPRIETARY INFORMATION AND THE TEXAS PUBLIC INFORMATION ACT

All material submitted to the County shall become public property and subject to the Texas Public Information Act upon receipt. If a Respondent does not desire proprietary information in the Proposal to be disclosed, each page must be clearly identified and marked proprietary at time of submittal or, more preferably, all proprietary information may be placed in a folder or appendix and be clearly identified and marked as being proprietary. Failure to clearly identify and mark information as being proprietary as set forth under this provision will result in all unmarked information being deemed non-proprietary and available to the public. For all information that has not been clearly identified and marked as proprietary by the Respondent, the County may choose to place such information on the County's website and/or a similar public database without obtaining any type of prior consent from the Respondent.

The County will, to the extent allowed by law, endeavor to protect from public disclosure the information that has been identified and marked as proprietary. The final decision as to what information must be disclosed, however, lies with the Texas Attorney General.

To the extent, if any, that any provision in this RFP or in the Respondent's Proposal is in conflict with Texas Government Code, Chapter 552, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood, and agreed, that the County, and its officers and employees, may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to the County as to whether or not the same are available to the public. It is further understood that that the County, and its officers and employees, shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that the County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to the County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

4.11 RIGHT TO AUDIT

The Successful Respondent agrees that the County or its duly authorized representatives shall, until the expiration of three (3) years after termination or expiration of the services to be performed, have access to and the right to examine and photocopy any and all books, documents, papers and records of the Successful Respondent, which are directly pertinent to the services to be performed or goods to delivered for the purposes of making audits, examinations, excerpts and transcriptions. The Successful Respondent agrees that the County shall have access during normal working hours to all necessary facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. The County shall give the Successful Respondent reasonable advance notice of intended audits.

4.12 TESTING AND INSPECTIONS

The County reserves the right to inspect and test equipment, supplies, materials and goods for quality and compliance with this RFP, and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the County can deem the Respondent to be in breach and terminate the Contract and/or any Ensuing Agreement(s).

4.13 PROPOSAL PREPARATION COSTS

The cost of developing Proposals is the sole responsibility of the Respondents and shall not be charged to the County. There is no expressed or implied obligation for the County to reimburse the Respondents for any expense incurred in preparing a Proposal in response to this RFP and the County will not reimburse the Respondents for such expenses.

4.14 INDEMNIFICATION

The Successful Respondent shall indemnify, defend and save harmless, the County, its officials, employees, agents and agent's employees from, and against, all claims, liability, and expenses including reasonable attorneys' fees, arising from activities of the Respondent, its agents, servants or employees, performed hereunder that result from the negligent act, error, or omission of the Respondent or any of the Respondent's agents, servants or employees, as well as all claims of loss or damage to the Respondent's and the County's property, equipment, and/or supplies.

Furthermore, the County, its officials, employees, agents and agents' employees shall not be liable for damages to the Successful Respondent arising from any act of any third party, including, but not limited to, theft. The Successful Respondent further agrees to indemnify, defend and save harmless, the County from its officials, employee, agents and agents' employees against all claims of whatever nature arising from any accident, injury, or damage whatsoever, caused to any person, or the property of any person, occurring in relation to the Successful Respondent's performance of any services requested hereunder during the term of the Contract and/or any Ensuing Agreement(s).

The Successful Respondent shall timely report all claims, demands, suits, actions, proceedings, liens or judgements to the County and shall, upon the receipt of any claim, demand, suit, action, proceeding, lien or judgement, not later than the fifteenth (15^{th}) day of each month; provide the County with a written report on each such matter, setting forth the status of each matter, the schedule or planned proceedings with respect to each matter and the cooperation or assistance, if any, of the County required by the Successful Respondent in the defense of each matter. The Successful Respondent's duty to defend, indemnify and hold the County harmless shall be absolute. It shall not abate or end by reason of the expiration or termination of the Contract and/or any Ensuing Agreement(s), unless otherwise agreed by the County in writing. The provisions of this section shall survive the termination of the Contract and shall remain in full force and effect with respect to all such matters no matter when they arise.

In the event of any dispute between the parties, as to whether a claim, demand, suit, action, proceeding, lien or judgement, that appears to have been caused by or appears to have arisen out of or in connection with acts or omissions of the County, the Respondent shall nevertheless fully defend such claim, demand, suit or action, proceeding, lien or judgement, until and unless there is a determination by a court of competent jurisdiction that the acts and omissions of the Respondent are not an issue in the matter.

The Successful Respondent's indemnification shall cover, and the Successful Respondent agrees to, indemnify the County, in the event the County is found to have been negligent for having selected the Successful Respondent to perform the work described in this request. The provision by the Successful Respondent of insurance shall not limit the liability of the Successful Respondent under the Contract and/or any Ensuing Agreement(s).

4.15 WAIVER OF SUBROGATION

The Successful Respondent and the Successful Respondent's insurance carrier waive any and all rights whatsoever with regard to subrogation against the County as an indirect party to any suit arising out of personal or property damages resulting from the Respondent's performance under this Contract and any Ensuing Agreement(s).

4.16 RELATIONSHIP OF THE PARTIES

The Successful Respondent shall be an independent contractor and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions herein which may appear to give the County the right to direct the Successful Respondent as to details of doing work herein covered, or to exercise a measure of control over the work, shall be deemed to mean that the Successful Respondent shall follow the desires of the County in the results of the work only. The County shall not retain or have the right to control the Successful Respondent's means, methods or

details pertaining to the Successful Respondent's performance of the work. The County and the Successful Respondent hereby agree and declare that the Successful Respondent is an independent contractor and as such meets the qualifications of an "Independent Contractor" under Texas Workers Compensation Act, Texas Labor Code, Section 406.141, that the Successful Respondent is not an employee of the County, and that the Successful Respondent and its employees, agents and subcontractors shall not be entitled to workers compensation coverage or any other type of insurance coverage held by the County.

4.17 SOLE PROVIDER

The Successful Respondent agrees and acknowledges that it shall not be considered a sole provider of the goods and/or services described herein and that the County may contract with other providers of such goods and/or services if the County deems, at its sole discretion, that multiple providers of the same goods and/or services will serve the best interest of the County.

4.18 FORCE MAJEURE

If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

4.19 SEVERABILITY

If any provision of this RFP, the Contract or any Ensuing Agreement(s) shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision thereof, but rather the entire RFP, Contract or any Ensuing Agreement (s) will be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligation of the parties shall be construed and enforced in accordance therewith. The parties acknowledge that if any provision of this RFP, the Contract or any Ensuing Agreement(s) is determined to be invalid or unenforceable, it is the desire and intention of each that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, give effect to the intent of this RFP, the Contract or any Ensuing Agreement(s) and be deemed to be validated and enforceable.

4.20 EQUAL OPPORTUNITY

Neither party shall discriminate against any employee or applicant for employment because of race, color, sex, religion or national origin.

4.21 NOTICE

Any notice to be given shall be in writing and may be distributed by personal delivery, or by registered or certified mail, return receipt requested, addressed to the proper party, at the following address:

The County: Williamson County Purchasing Department
Attn: Purchasing Agent
901 South Austin Avenue
Georgetown, Texas 78626

The Respondent: Address set out in Respondent's Transmittal Letter

Notices given in accordance with this provision shall be effective upon (1) receipt by the party to which notice is given, or (2) on the third (3rd) calendar day following mailing, whichever occurs first.

4.22 SALES AND USE TAX EXEMPTION

The County is a body, corporate and politic, under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code, Section 151.309, as amended, and the services and/or goods subject hereof are being secured for use by the County.

4.23 COMPLIANCE WITH LAWS

The County and the Successful Respondent shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of the Contract and any Ensuing Agreement(s), including, without limitation, Workers' Compensation laws, salary and wage statutes and regulations, licensing laws and regulations. When required, the Successful Respondent shall furnish the County with certification of compliance with said laws, statues, ordinances, rules, regulations, orders, and decrees above specified.

4.24 INCORPORATION OF EXHIBITS, APPENDICES AND ATTACHMENTS

All of the Exhibits, Appendices and Attachments referred to herein are incorporated by reference as if set forth verbatim herein. Any conflicting terms in the Contract documents will be resolved at the sole discretion of the Commissioners Court.

4.25 NO WAIVER OF IMMUNITIES

Nothing herein shall be deemed to waive, modify or amend any legal defense available at law or in equity to the County, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. The County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

4.26 NO WAIVER

The failure or delay of any party to enforce at any time or any period of time any of the provisions of this RFP, the Contract or any Ensuing Agreement(s) shall not constitute a present or future waiver of such provisions nor the right of either party to enforce each and every provision. Furthermore, no term or provision hereof shall be deemed waived and no breach excused unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. Any consent by any party to, or waiver of, a breach by the other, whether expressed or implied, shall not constitute a consent to, waiver of or excuse for any other, different or subsequent breach.

4.27 CURRENT REVENUES

The obligations of the parties under the Contract and any Ensuing Agreement(s) do not constitute a general obligation or indebtedness of the County for which the County is obligated to levy, pledge, or collect any of taxation. It is understood and agreed that the County shall have the right to terminate the Contract and any Ensuing Agreement(s) at the end of any the County fiscal year if the governing body of the County does not appropriate sufficient funds as determined by the County's budget for the fiscal year in question. The County may effect such termination by giving written notice of termination to t Successful Respondent at the end of its then-current fiscal year.

4.28 BINDING EFFECT

This Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

4.29 ASSIGNMENT

The Successful Respondent's interest and duties hereunder may not be assigned or delegated to a third party without the express written consent of the County.

4.30 SAFETY

The Successful Respondent is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with any services to be provided hereunder. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

4.31 GENERAL OBLIGATIONS AND RELIANCE

The Successful Respondent shall perform all services and/or provide all goods, as well as those reasonably inferable and necessary for completion and provision of services and/or goods required hereunder. The Successful Respondent shall keep the County informed of the progress and quality the services. The Successful Respondent agrees and acknowledges that the County is relying on the Successful Respondent's represented expertise and ability to provide the goods and/or services described herein. The Successful Respondent agrees to use its best efforts, skill, judgment, and abilities to perform its obligations in accordance with the highest standards used in the profession and to further the interests of the County in accordance with the County's requirements and procedures. The Successful Respondent's duties, as set forth herein, shall at no time be in any way diminished by reason of any approval by the County, nor shall the Successful Respondent be released from any liability reason of such approval by the County, it being understood that the County at all times is ultimately relying upon the Successful Respondent's skill and knowledge in performing the services and providing any goods required hereunder.

4.32 CONTRACTUAL DEVELOPMENT

The Commissioners Court may award the Contract on the basis of the initial Proposals received, without any further or additional discussions. Therefore, each initial Proposal should contain the Respondent best terms and offer. The contents of the RFP and the selected Proposal will become an integral part of the Contract, but may be modified, at Williamson County's sole discretion, by provisions of an Ensuing Agreement. Therefore, the Respondent must agree to inclusion in an Ensuing Agreement of t Proposal specifications, terms and conditions of this RFP. Williamson County may, at its discretion, opt to conduct further discussions with responsible offerors and request the highest ranked firm's Best and Final Offer (BAFO).

4.33 ENTIRE AGREEMENT

The Contract and any Ensuing Agreement(s) shall supersede all prior Agreements, written or oral between the Successful Respondent and the County and shall constitute the entire Agreement and understanding between the parties with respect to the services and/or goods to be provided. Each of the provisions herein shall be binding upon the parties and may not be waived, modified, amended or altered, except by writing signed by the Successful Respondent and the County.

4.34 SURVIVABILITY

All applicable agreements that were entered into between the Successful Respondent and the County, under the terms and conditions of the Contract and/or any Ensuing Agreement(s), shall survive the expiration or termination thereof for ninety (90) days unless a new contract has been awarded.

The County may exercise, by written notice to the Successful Respondent no later than ten (10) calendar days of the Contract expiration, this clause for emergency cases only.

4.35 PAYMENT

The County's payment for goods and services shall be governed by the Texas Government Code, Chapter 2251. An invoice shall be deemed overdue the thirty-first (31st) day after the later of the following:

A. The date the County receives the goods under the Contract;
B. The date the performance of the service under the Contract is completed; or
C. The date the Williamson County Auditor receives an invoice for the goods or services.

Interest charges for any overdue payments shall be paid by the County in accordance with Texas Government Code, Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of the County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one (1) percent and the prime rate published in the Wall Street Journal on the first (1st) day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice submitted by the Successful Respondent, the County shall notify the Successful Respondent of the error not later than the twenty-first (21st) day after the date the County receives the invoice. If the error is resolved in favor of the Successful Respondent, the Successful Respondent shall be entitled to receive interest on the unpaid balance of the invoice submitted by the Successful Respondent beginning on the date that the payment for the invoice became overdue. If the error is resolved in favor of the County, the Successful Respondent shall submit a corrected invoice that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by the Texas Government Code, Chapter 2251, if the corrected invoice is not paid by the appropriate date.

As a minimum, invoices shall include:

A. Name, address, and telephone number of the Successful Respondent and similar information in the event the payment is to be made to a different address.

B. The County Contract, Purchase Order.

C. Identification of items or service as outlined in the Contract.

D. Quantity or quantities, applicable unit prices, total prices and total amount.

E. Any additional payment information which may be called for by the Contract.

Payment inquiries should be directed to the following address:

Williamson County Auditor's Office, Accounts Payable Department
Email: accountspayable@wilco.org
Phone: 512-943-1500

4.36 CONTRACTUAL FORMATION AND ENSUING AGREEMENT

The RFP and the Respondent's Proposal, when properly accepted by the Commissioners Court, shall constitute a Contract equally binding between the Successful Respondent and the County. The Successful Respondent may be required by Williamson County to sign an additional Agreement containing terms necessary to ensure compliance with the RFP and Respondent's Proposal.

4.37 LEGAL LIABILITY INFORMATION

The Successful Respondent shall disclose all legal liability information by listing any pending litigation anticipated litigation that your firm is involved in including, but not limited to, potential or actual legal matters with private parties and any local, state, federal or international governmental entities. The County reserves the right to consider legal liability information in the recommendation of any proposed contract to the Commissioners Court.

4.38 CONFIDENTIALITY

Respondent expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.

4.39 INCLEMENT WEATHER

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a Proposal submission deadline, the Proposal closing will automatically be postponed until the next business day the County is open. If inclement weather conditions or any other unforeseen event causes delays in carrier service operations, the County may issue an Addendum to all known Respondents interested in the project to extend the deadline. It will be the responsibility of the Respondent to notify the County of their interest in the project if these conditions are impacting their ability to turn in a submission within the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

4.40 AIR QUALITY

In determining the overall best Proposal, the County may, to the extent applicable, exercise the option granted to local governments under the Texas Local Government Code, Section 271.907.

This option allows the County to evaluate Proposals and give preference to goods and/or services of Respondent that demonstrates that the Respondent meets or exceeds any and all state or federal environmental standards, including voluntary standards, relating to air quality. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating the anticipated air quality impact. All Respondents are expected to meet all mandated state and federal air quality standards.

4.41 COOPERATIVE PURCHASING PROGRAM

During the term of the Contract resulting from this RFP, the County would like to afford the same prices, terms and conditions to other political subdivisions or public entities. Another entity's participation in the Contract resulting from this RFP is subject to a properly authorized Purchasing Cooperative Inter-local Agreement (ILA) with the County. Any liability created by purchase orders issued against the Contract shall be the sole responsibility of the governmental agency placing the order.

4.42 PREVAILING WAGE RATES

To the extent this procurement is for the construction of a public work, including a building, highway, road, excavation, and repair work or other project development or improvement, paid for in whole or in part from public funds, without regard to whether the work is done under public supervision or direction, Texas Government Code, Chapter 2258, shall apply and the contractor shall pay not less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the County. Pursuant to Texas Government Code, Section 2258.022(a)(2), the County has determined the general prevailing rate of the "Prevailing Wage Schedule" in the locality in which the public work is to be performed for each craft or type of worker needed to execute the contract and the prevailing rate for legal holiday and overtime work by using the prevailing wage rate as determined by the United States

Department of Labor in accordance with the United States Code, Section 276a (Davis-Bacon Act).

The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the work is available locally at the prevailing wage rates. The County is not bound to pay—and will not consider—any claims for additional compensation made by any contractor because the contractor pays wages in excess of the applicable minimum rate contained in the Contract Documents. The "Prevailing Wage Schedule" is not a representation that quantities of qualified labor adequate to perform the work may be found locally at the specified wage rates.

For classifications not shown, workers shall not be paid less than the wage indicated for laborers. The contractor shall notify each worker commencing work on the project the worker's job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by the County, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by contractor. A copy of each worker wage rate notification shall be submitted to the County with the Application for Payment for the period during which the worker began on-site activities.

Should the contractor at any time become aware that a particular skill or trade not reflected on the County's "Prevailing Wage Schedule" will be or is being employed in the work, whether by the contractor or by a subcontractor, the contractor shall promptly inform the County and shall specify a wage rate for that skill or trade, which shall bind the contractor.

The contractor and any subcontractor shall pay to the County a penalty of sixty dollars ($60.00) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the "Prevailing Wage Schedule" or any supplement thereto. The contractor and each subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the County.

Within thirty-one (31) days of receipt of information concerning a violation of the Texas Government Code Chapter 2258, the County shall make an initial determination as to whether good cause exists to believe a violation occurred. The County's decision on the initial determination shall be reduced to writing and sent to the contractor or subcontractor against whom the violation was alleged, and to the affected worker. When a good cause finding is made, the County shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the "Prevailing Wage Schedule" and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

After the County makes its initial determination, the affected contractor or subcontractor and worker have fourteen (14) calendar days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by the County or paid to the affected worker. If the contractor or subcontractor and affected worker reach an agreement concerning the worker's claim, the contractor shall promptly notify the County in a written document signed by the worker. It the contractor or Subcontractor and affected worker do not agree before the fifteenth (15th) calendar day after the County determination, the contractor or subcontractor and affected worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, (Texas Civil Practice and Remedies Code). The parties to the arbitration have ten (10) calendar days after the expiration of the fifteen (15) calendar days referred to above, to agree on an arbitrator; if by the eleventh (11th) calendar day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the contractor or subcontractor the amount of penalty as provided above and the amount owed the worker. The County may use any amounts retained hereunder to pay the worker the amount as designated in the

arbitration award. If the County has not retained enough from the contractor or subcontractor to pay the worker in accordance with the arbitration award, the worker has a right of action against the contractor and subcontractor as appropriate, and the surety of either to receive the amount owed, attorneys' fees and court costs. The contractor shall promptly furnish a copy of the arbitration award to the County.

Money retained pursuant to the provisions above shall be used to pay the claimant or claimants the difference between the amount the worker received in wages for labor on the project at the rate paid by the contractor or subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the contractor or subcontractor affected, or in the arbitrator's award. The full statutory penalty of sixty dollars ($60.00) per calendar day of violation per worker shall be retained by Williamson County to offset its administrative costs, pursuant to Texas Government Code, Section, 2258.023. Any retained funds in excess of these amounts shall be paid to the contractor on the earlier of the next progress payment or final payment. Provided, however, that the County shall have no duty to release any funds to either the claimant or the contractor until it has received the notices of agreement or the arbitration award as provided under the provision herein-above.

4.43 CONFIDENTALITY

The Respondent expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.

AGREEMENT
BETWEEN OWNER AND CONTRACTOR

The **Owner**: Williamson County
710 Main Street, Ste. 101
Georgetown, Texas 78626

and **Contractor** _____
_____
_____ _____

for the **Project**: _____
_____
_____ _____

Engineer: _____
_____
_____ _____

AGREEMENT, this Agreement Between Owner and Contractor (hereinafter called "Agreement") is entered into effective as of the date indicated herein below and all attachments (the "Effective Date"), by and between Williamson County a political subdivision of the State of Texas (hereinafter called the "Owner") and _____ (hereinafter called "Contractor").

WHEREAS, the Owner desires to retain a Contractor for the _____ (hereinafter called the "Project"),

WHEREAS, the Owner desires a Contractor who will render, diligently and competently in accordance with the highest standards used in the profession, all Contractor services which shall be necessary or advisable for the expeditious, economical and satisfactory completion of the Project, and

NOW, THEREFORE, in consideration of the mutual undertakings herein contained, the parties hereto agree as follows:

ARTICLE 1 SCOPE OF WORK

The Contractor has overall responsibility for and shall provide complete construction services and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the Work, or any phase of the Work, in accordance with the Specifications and Drawings for the Project and the Owner's requirements. The Specifications and Drawings were prepared for Williamson County by the Engineer. The Contractor shall do everything required by the Contract Documents.

ARTICLE 2 CONTRACT DOCUMENTS

2.1 The Contract Documents consist of the following, which are incorporated by reference for all purposes:

a. This Agreement and all exhibits and attachments listed, contained or referenced in this Agreement;
b. The Uniform General Conditions for Williamson County ("General Conditions");
c. The Supplementary Conditions, if any;
d. All Addenda issued prior to the Effective Date of this Agreement;
e. The Bid/Proposal Documents as defined by the Invitation for Bidders/Request for Proposals;
f. All Change Orders issued after the Effective Date of this Agreement; and
g. The Drawings, Specifications, details and other documents developed by Engineer to describe the Project and accepted by Owner, which are attached hereto **EXHIBIT 1**.

2.2 The Contract Documents form the entire and integrated Contract and Agreement between Owner and Contractor and supersede all prior negotiations, representations or agreements, written or oral. Contractor acknowledges receipt of all Contract Documents as of the date of its execution hereof.

2.3 The term "Contractor" shall be interchangeable with the terms "Proposer," "Bidder," Respondent" and "General Contractor" or other similar terms as appropriate in the Contract Documents.

ARTICLE 3 CONTRACT TIME

The Owner shall provide a Notice to Proceed in which a date for commencement of the work shall be started. The Contractor shall achieve Substantial Completion of the Work within _____ (_____) calendar days after such commencement date, as such completion date may be extended by approved Change Orders. Unless otherwise specified in writing, Contractor shall achieve Final Completion

within _____ (_____) calendar days of Substantial Completion. The time set forth for completion of the work is an essential element of the Contract.

ARTICLE 4 CONTRACTOR REPRESENTATIONS

4.1 In order to induce Owner to enter into this Agreement, Contractor makes the following representations:

A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bid/Proposal Documents.

B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Contractor is familiar with and is satisfied as to all federal, state, and local laws and regulations that may affect cost, progress, and performance of the Work.

D. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.

E. Based on the information and observations referred to in Paragraph 4.1.D above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.

F. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 5 THE CONTRACT PRICE

5.1 Contract Price. Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.1.A and 5.1.B, below:

A. For all Work other than Unit Price Work, a lump sum of: $_____

B. For all Unit Price Work, an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the actual quantity of that item.

The Bid/Proposal prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on estimated quantities. As provided in the General and Supplementary Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by Engineer as provided in the Contract Documents.

5.2 Contract Payments. Method and terms of payment of the Contract Price shall be in accordance with the Contract Documents.

ARTICLE 6 TIME

6.1 TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.

6.2 Unless otherwise approved in writing, the Owner and the Contractor shall perform their respective obligations under the Contract Documents as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Work.

6.3 Liquidated Damages. Contractor and Owner recognize that time is of the essence and that Owner will suffer financial loss if the Work is not completed within the times specified in Article 3 above, plus any extensions thereof allowed in accordance with the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual loss suffered by Owner if the Work is

not completed on time. Accordingly, instead of requiring any such proof, for each consecutive calendar day after the date of Substantial Completion that the Work is not substantially completed, the Owner may deduct the amount of:

Five Hundred Dollars per calendar day ($500.00/calendar day)

from any money due or that becomes due the Contractor, not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that the Owner will sustain for late completion. The parties stipulate and agree that calculating Owner's actual damages for late completion of the Project would be impractical, unduly burdensome, and cause unnecessary delay and that the amounts of daily liquidated damages set forth are reasonable. Contractor expressly agrees that the amounts of daily liquidated damages are a reasonable forecast of the actual damages Owner will incur due to any such delay.

ARTICLE 7 NOTICES

Notices of claims, disputes or other legal notices shall be in writing and shall be deemed to have been given when delivered in person to the representative of the Contractor or Owner for whom it is intended, as set out below or sent by U. S. Mail to the representative of the Contractor or Owner for whom it is intended, as set out below. Mail notices are deemed effective upon receipt or on the third business day after the date of mailing, whichever is sooner.

If to Owner:
Williamson County Judge
710 Main Street, Ste. 101
Georgetown, Texas 78626

with copy to:
Hal C. Hawes
General Counsel to the
Williamson County Commissioners Court
710 Main Street, Suite 102
Georgetown, Texas 78626

If to Contractor: _____
_____
_____ _____

The parties may make reasonable changes in the person or place designated for receipt of notices upon advance written notice to the other party.

ARTICLE 8 PARTY REPRESENTATIVES

The Owner's Designated Representative (sometimes referred to as the "ODR") authorized to act in the Owner's behalf with respect to the Project is:

_____
_____
_____ _____
Phone (512) _____
Fax (512) _____

The Contractor's designated representative authorized to act on the Contractor's behalf and bind the Contractor with respect to the Project is:

_____
_____
_____ _____
Phone (512) _____
Fax (512) _____

The parties may make reasonable changes in their designated representatives upon advance written notice to the other party.

ARTICLE 9 ENTIRE AGREEMENT

This Agreement supersedes all prior agreements, written or oral, between Contractor and Owner and shall constitute the entire agreement and understanding between the parties with respect to the Project. This Agreement and the terms of the Contact Documents shall be binding upon the parties and may not be waived, modified, amended or altered except by a writing signed by Contractor and Owner.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement to be effective as of _____ _____, 20____ (the "Effective Date").

WILLIAMSON COUNTY Williamson County, Texas,	_____, a Texas _____,
By: _____	By: _____
Printed Name: _____	Printed Name: _____
Title: _____	Title: _____

EXHIBIT 1 –DRAWINGS AND SPECIFICATIONS

FOR

LIST OF DRAWINGS

DWG	DRAWING TITLE	ISSUE DATE

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For
TECHNICAL SPECIFICATION SECTIONS

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FOR WILLIAMSON COUNTY

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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 BASIC DEFINITIONS

§ 1.1.1 THE CONTRACT DOCUMENTS

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract as revised, Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a minor change in the Work issued by the Owner or the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding requirements.

§ 1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants or (4) between any persons or entities other than the Owner and the Contractor.

§ 1.1.3 THE WORK
The term “Work” means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor’s obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 THE PROJECT
The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by separate contractors.

§ 1.1.5 THE DRAWINGS
The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules and diagrams.

§ 1.1.6 THE SPECIFICATIONS
The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 INSTRUMENTS OF SERVICE
Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect’s consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 KNOWLEDGE: The terms "knowledge," "recognize," and "discover," their respective derivatives, and similar terms in the Contract Documents, as used in reference to the Contractor, shall be interpreted to mean that which the Contractor knows (or should know), recognizes (or should recognize), and discovers (or should discover) in exercising the care, skill, and diligence required by the Contract Documents. Analogously, the expression "reasonably inferable" and similar terms in the Contract Documents shall be interpreted to mean reasonably inferable by a contractor familiar with the Project and exercising the care, skill, and diligence required of the Contractor by the Contract Documents.§1.1.10 PRODUCT: Materials, systems, and equipment incorporated or to be incorporated in the Work.

§1.1.9 PROVIDE: Furnish and install and shall include, without limitation, labor, materials, equipment, transportation, services and other items required to complete the referenced tasks.

§1.1.02 FURNISH: Pay for, deliver (or receive), unload, inspect, and store products, materials, equipment, and accessories as specified while retaining care, custody and control until received for installation based on a signed receipt.

§ 1.1.11 INSTALL: Receive, unload, inspect, and store as specified while retaining care, custody and control; set or place in position, make required connections; and adjust and test as specified in the Contract Documents for satisfactory performance and operation.

§ 1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS
§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. In the event of inconsistencies within or between parts of the Contract Documents, or between the Contract Documents and applicable standards, codes, and ordinances, the Contractor shall (i) provide the better quality or greater quantity of Work or (ii) comply with the more stringent requirement; either or both in accordance with the Owner or the Architect’s

interpretation. The terms and conditions of this Section 1.2.1, however, shall not relieve the Contractor of any of the obligations set forth in the Contract Documents.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.2.3.1 Whenever a product is specified in accordance with a Federal Specification, an ASTM Standard, an American National Standards Institute Specification, or other Association Standard, the Contractor, if required by the Specifications or if requested by the Owner, shall present evidence from the manufacture, certifying the product complies with the particular Standard or Specification. When required by the Contract Documents, supporting data shall be submitted to substantiate compliance.

§ 1.2.3.2 Whenever a product is specified or shown by describing proprietary items, model numbers, catalog numbers, manufacturer, trade names, or similar reference, no substitutions may be made unless accepted in strict accordance with the Substitution requirements stated in the Specifications or, if no Substitution requirements are stated in the Specifications, in accordance with the requirements stated elsewhere in the Contract Documents. Where two or more products are shown or specified, the Contractor has the option to use either of those shown or specified.

§ 1.3 CAPITALIZATION
Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 INTERPRETATION
In the interest of brevity the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an,” but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 USE OF DRAWINGS AND OTHER INSTRUMENTS OF SERVICE
§ 1.5.1 The Architect and the Architect’s consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and will retain all common law, statutory and other reserved rights, including copyrights, except as provided in the Owner-Architect Agreement. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with this Project is not to be construed as publication in derogation of the Architect’s or Architect’s consultants’ reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors and material or equipment suppliers are authorized to use and reproduce the Instruments of Service provided to them solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers may not use the Instruments of Service on other projects or for additions to this Project outside the scope of the Work without the specific written consent of the Owner, Architect and the Architect’s consultants.

§ 1.6 TRANSMISSION OF DATA IN DIGITAL FORM
If the parties intend to transmit Instruments of Service or any other information or documentation in digital form, they shall establish the necessary protocols governing such transmissions in writing, unless otherwise already provided in the Agreement or the Contract Documents.

ARTICLE 2 OWNER

§ 2.1 GENERAL

The Owner means Williamson County acting through any duly authorized representative as provided in the Agreement, and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization ("Owner's Designated Representative"). The term "Owner" means the Owner or the Owner's authorized representative.

§ 2.2 OWNER

§ 2.2.1 Appropriation of Funds by Owner. Owner believes it has sufficient funds currently available and authorized for expenditure to finance the costs of the Agreement between Owner and Contractor. Contractor understands and agrees that the Owner's payment of amounts under the Agreement between Owner and Contractor is contingent on the Owner receiving appropriations or other expenditure authority sufficient to allow the Owner, in the exercise of reasonable administrative discretion, to continue to make payments under the Agreement.

§ 2.2.2 Unless specifically stated otherwise in the Contract Documents, Contractor shall secure and pay for necessary permits, approvals, assessments, and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.2.3 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. Except for surveys or grade information, the Contractor shall compare the information furnished by the Owner, including, but not limited to, soil tests, with visibly observable physical conditions and the Contract Documents and, on the basis of such review, promptly report to the Owner and the Architect any known conflicts, errors or omissions. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.2.4 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.2.5 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions.

§ 2.3 OWNER'S RIGHT TO STOP THE WORK

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity.

§ 2.4 OWNER'S RIGHT TO CARRY OUT THE WORK

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such deficiencies. In such case an appropriate Change Order shall be issued deducting from payments then or thereafter due the Contractor the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect or failure. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect. If payments then or thereafter due the Contractor are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner.

§2.5 EXTENT OF OWNER RIGHTS

§ 2.5.1 The rights stated in this Article 2 and elsewhere in the Contract Documents are cumulative and not in limitation of any rights of the Owner (i) granted in the Contract Documents, (ii) at law, or (iii) in equity.

§ 2.5.2 In no event shall the Owner have control over, charge of, or any responsibility for construction means, methods, techniques, sequences, or procedures or for safety precautions and programs in connection with the Work, notwithstanding any of the rights and authority granted the Owner in the Contract Documents.

§ 2.6 OWNER'S RIGHT TO RECORDS

§ 2.6.1 The Contractor's records, which shall include but not be limited to accounting records, written policies and procedures, subcontractor files (including proposals of successful bidders), original estimates, estimating work sheets, correspondence, schedules, change order files (including documentation covering negotiated settlements), and any other supporting evidence necessary to substantiate charges related to this contract (all foregoing hereinafter referred to as "records") and shall be open to inspection and subject to audit and/or reproduction, during normal working hours, by Owner's agent or its authorized representative to the extent necessary to adequately permit evaluation and verification of any invoices, payments or claims submitted by the Contractor or any of his payees. Such records subject to examination shall also include, but not be limited to, those records necessary to evaluate and verify direct and indirect costs (including overhead allocations) as they may apply to costs associated with this Contract.

§ 2.6.2 For the purpose of such audits, inspections, examinations and evaluations, the Owner's agent, or authorized representatives shall have access to said records from the effective date of this Contract for the duration of Work and until three (3) years (or longer if required by law) after the date of final payment by Owner to Contractor.

§ 2.6.3 Owner's agent or its authorized representative shall have access during normal business hours to the Contractor's facilities, shall have access to all necessary records and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with this Article 2.6. Owner's agent or authorized representative shall give auditees reasonable advance notice of intended audits.

§ 2.6.4 Contractor shall require all subcontractors, insurance agents, and material suppliers (payees) with cost plus contracts, if permitted, and not fixed price contracts to comply with the provisions of this Article by insertion of the requirements hereof in a written contract agreement between Contractor and payee. Failure to obtain such written contracts which include such provisions shall be reason to exclude some or all of the related payee's costs from amounts payable to the Contractor pursuant to this contract.

ARTICLE 3 CONTRACTOR

§ 3.1 GENERAL

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative, and if these General Conditions are used in conjunction with the Agreement between Owner and Construction Manager-At-Risk, the term "Contractor" shall mean the Construction Manager.

§ 3.1.2 The Contractor shall perform the Work in strict accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. Prior to execution of the Agreement, the Contractor and each Subcontractor shall have evaluated and satisfied themselves as to the observable conditions and limitations under which the Work is to be performed, including, without limitation, (i) the location, condition, layout, and nature of the Project site and surrounding areas, (ii) generally prevailing climatic conditions, (iii) anticipated labor supply and costs, (iv) availability and cost of materials, tools, and equipment, and (v) other similar issues. The Owner assumes no responsibility or liability for the physical condition or safety of the Project site or any improvements located on the Project site. Except as set forth in Section 10.3, the Contractor shall be solely responsible for providing a safe place for the performance of the Work. The Owner shall not be required to make any adjustment in either the Contract Sum or the Contract Time in connection with any failure by the Contractor or any Subcontractor to have complied with the requirements of this Section 3.2.1.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.2.3, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Owner and Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner. The Contractor shall verify the accuracy of elevations, dimensions, locations, and field measurements. In all cases of the interconnection of its Work with existing or other Work, the Contractor shall verify at the site all dimensions relating to such existing or other Work.

.1 All of Contractor's work shall conform to the Contract Documents. Contractor shall be responsible for the details of the Work necessary to carry out the intent of the drawings and specifications, or which are customarily performed. When more detailed information is required for performance of the Work or when an interpretation of the Contract Documents is requested, the Contractor shall submit a written request for information to the Architect or Owner (as required), and the Owner or Architect shall furnish such information or interpretation. Where only part of the Work is indicated, similar parts shall be considered repetitive. Where any detail is shown and components thereof are fully described, similar details not fully described shall be considered to incorporate the fully described details and components.

.2 The Contractor has had an opportunity to examine, and has carefully examined, all of the Contract Documents and Project site, and has fully acquainted itself with the scope of work, design, availability of materials, existing facilities, access, general topography, soil structure, subsurface conditions, obstructions, and all other conditions pertaining to the Work, the site of the Work, and its surrounding; that it has made necessary investigations to a full understanding of the difficulties which may be encountered in performing the Work; and that anything in any Contract Documents, or in any representations, statements, or information made or furnished by Owner or its representatives notwithstanding, Contractor will complete the Work for the compensation stated in the Agreement. In addition thereto, Contractor represents that it is fully qualified to do the Work in accordance with the terms of this Agreement in the time specified.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Owner and the Architect any nonconformity discovered by or made known to the Contractor as a request for information.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall make Claims as provided in Article 15.

§ 3.3 SUPERVISION AND CONSTRUCTION PROCEDURES

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract, unless the Contract Documents give other specific instructions concerning these matters. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences or procedures, the Contractor shall evaluate the jobsite safety thereof and, except as stated below, shall be fully and solely responsible for the jobsite safety of such means, methods, techniques, sequences or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely written notice to the Owner and Architect and shall not proceed with that portion of the Work without further written instructions from the Architect. If the Contractor is then instructed to proceed with the required means, methods, techniques, sequences or procedures without acceptance of changes proposed by the Contractor, the Owner shall be solely responsible for any loss or damage arising solely from those Owner-required means, methods, techniques, sequences or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.3.4 Inspection of the progress, quantity, or quality of the Work done by the Owner, any Owner's representative, any governmental agency, or the Architect, or any inspector, shall not relieve the Contractor of any responsibility for the compliance of the Work with the Contract Documents. The Owner or its approved representative (heretofore referred to as Owner's representative) shall have access to the worksite and all Work. No supervision or inspection by the Owner's representative, nor the authority to act nor any other actions taken by the Owner's representative shall relieve the Contractor of any of its obligations under the Contract Documents nor give rise to any duty on the part of the Owner.

§ 3.4 LABOR AND MATERIALS

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.1.1 Duty to Pay Prevailing Wage Rates. The Contractor shall pay not less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the Owner. The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the Work is available locally at the prevailing wage rates. The Owner is not bound to pay—and will not consider—any claims for additional compensation made by any Contractor because the Contractor pays wages in excess of the applicable minimum rate contained in the Contract Documents. The "Prevailing Wage Schedule" is not a representation that quantities of qualified labor adequate to perform the Work may be found locally at the specified wage rates.

.1 For classifications not shown, workers shall not be paid less than the wage indicated for Laborers. The Contractor shall notify each worker commencing work on the Project the worker's job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by Owner, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by Contractor.

.2 A copy of each worker wage rate notification shall be submitted to the Owner with the Application for Payment for the period during which the worker began on-site activities.

§ 3.4.1.2 Prevailing Wage Schedule. The "Prevailing Wage Schedule" shall be determined by the Owner in compliance with Chapter 2258, Texas Government Code. Should the Contractor at any time become aware that a particular skill or trade not reflected on the Owner's Prevailing Wage Schedule will be or is being employed in the Work, whether by the Contractor or by a subcontractor, the Contractor shall promptly inform the Owner and shall specify a wage rate for that skill or trade, which shall bind the Contractor.

§ 3.4.1.3 Penalty for Violation. The Contractor and any Subcontractor shall pay to the Owner a penalty of sixty dollars ($60.00) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the Prevailing Wage Schedule or any supplement thereto pursuant to §3.4.1.2. The Contractor and each Subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the Work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the Owner.

§ 3.4.1.4 Complaints of Violations of Prevailing Wage Rates. Within 31 days of receipt of information concerning a violation of Chapter 2258 of the Texas Government Code, the Owner shall make an initial determination as to whether good cause exists to believe a violation occurred. The Owner's decision on the initial determination shall be reduced to writing and sent to the Contractor or Subcontractor against whom the violation was alleged, and to the affected worker. When a good cause finding is made, the Owner shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the Prevailing Wage Schedule and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

§ 3.4.1.5 Arbitration Required if Violation not Resolved. After the Owner makes its initial determination, the affected Contractor or Subcontractor and worker have 14 days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by Owner or paid to the affected worker. If the Contractor or Subcontractor and affected worker reach an agreement concerning the worker's claim, the Contractor shall promptly notify the Owner in a written document signed by the worker. It the Contractor or Subcontractor and affected worker do not agree before the 15th day after the Owner's determination, the Contractor or Subcontractor and affected worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, Tex. Civ. Prac. & Rem. Code. The parties to the arbitration have 10 days after the expiration of the 15 days referred to above, to agree on an arbitrator; if by the 11th day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

§ 3.4.1.6 Arbitration Award. If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the Contractor or Subcontractor the amount of penalty as provided in this Article 3.4 and the amount owed the worker. The Owner may use any amounts retained hereunder to pay the worker the amount as designated in the arbitration award. If the Owner has not retained enough from the Contractor or Subcontractor to pay the worker in accordance with the arbitration award, the worker has a right of action against the Contractor and Subcontractor as appropriate, and the surety of

either to receive the amount owed, attorneys' fees and court costs. The Contractor shall promptly furnish a copy of the arbitration award to the Owner.

§ 3.4.1.7 Prevailing Wage Retainage. Money retained pursuant to this Article 3.4 shall be used to pay the claimant or claimants the difference between the amount the worker received in wages for labor on the Project at the rate paid by the Contractor or Subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the Contractor or Subcontractor affected, or in the arbitrator's award. The full statutory penalty of $60.00 per day of violation per worker shall be retained by the Owner to offset its administrative costs, pursuant to Texas Government Code §2258.023. Any retained funds in excess of these amounts shall be paid to the Contractor on the earlier of the next progress payment or final payment. Provided, however, that the Owner shall have no duty to release any funds to either the claimant or the Contractor until it has received the notices of agreement or the arbitration award as provided under §§3.4.2 and 3.4.3.

§ 3.4.1.8 No Extension of Time. If the Owner determines that good cause exists to believe a violation has occurred, the Contractor shall not be entitled to an extension of time for any delay arising directly or indirectly from of the procedures set forth in this Article 3.4.

§ 3.4.2 Except in the case of minor changes in the Work authorized by the Owner or Architect in accordance with Sections 3.12.8 or 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive. If the Contractor desires to submit an alternate product or method in lieu of what has been specified or shown in the Contract Documents, the Contractor shall comply with the Substitution requirements listed in the Specifications, or if there are no Substitution requirements listed in the Specifications, then the following provisions apply:

§ 3.4.2.1 The Contractor must submit to the Architect and the Owner (i) a full explanation of the proposed substitution and submittal of all supporting data, including technical information, catalog cuts, warranties, test results, installation instructions, operating procedures, and other like information necessary for a complete evaluation of the substitution; (ii) the adjustment, if any, in the Contract Sum, in the event the substitution is acceptable; (iii) the adjustment, if any, in the time of completion of the Contract and the construction schedule in the event the substitution is acceptable; and (v) a statement indicating Contractor accepts the warranty and correction obligations in connection with the proposed substitution as if originally specified by the Architect. Proposals for substitutions shall be to the Architect in sufficient time to allow the Architect no less than ten (10) working days for review. No substitutions will be considered or allowed without the Contractor's submittal of complete substantiating data and information as stated hereinbefore.

§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.4.4 The Contractor shall only employ or use labor in connection with the Work capable of working harmoniously with all trades, crafts, and any other individuals associated with the Project.

§ 3.4.5. In case the progress of the Work is affected by any undue delay in furnishing or installing any items or materials or equipment required under the Contract Documents because of such conflict involving any such labor agreement or regulation, the Owner may require that other material or equipment of equal kind and quality be provided pursuant to a Change Order or Construction Change Directive.

§ 3.5 WARRANTY

§ 3.5.1 The Contractor warrants to the Owner: (1) that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise; (2) that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit; (3) that the Work will be done strictly in accordance with the Contract Documents; (4) that all products are installed

per the manufacturer's instructions, and in such a way that the manufacturer's warranties are preserved, including the use of a manufacturer-certified installer, if required by the manufacturer; (5) and that the Work, when finally completed, will provide a complete Project that meets the intent of the Contract Documents. The Contractor represents and warrants to the Owner that its materials and workmanship, including without limitation, construction means, methods, procedures and techniques necessary to perform the Work, use of materials, selection of equipment and requirements of product manufacturers are and shall be consistent with: (1) good and sound practices within the construction industry; (2) generally prevailing and accepted industry standards applicable to the Work; (3) requirements of any warranties applicable to the Work subject to Paragraph 3.2.3. Work, materials, or equipment not conforming to these requirements shall be considered defective, and promptly after written notification of non-conformance shall be repaired or replaced by Contractor with Work conforming to this warranty. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Owner or Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.1.1 Contractor further warrants that all materials or equipment of a category or classification will be a product of the same manufacturer and such materials or equipment shall be of the same lot, batch or type and that such materials and equipment will be as specified.

§ 3.5.2 The Contractor agrees to assign to the Owner at the time of final completion of the Work any and all manufacturer's warranties relating to materials and labor used in the Work and further agrees to perform the Work in such manner so as to preserve any and all such manufacturer's warranties.

§ 3.6 TAXES

State Sales and Use Taxes. Sales, use or similar taxes imposed by a governmental authority that are related to the Work and for which the Contractor is liable; provided, however, Owner is a body corporate and politic under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code Ann. § 151.309, as amended, and the services and materials subject of the Agreement are being secured for use by Owner. Exemption certificates will be provided to Contractor upon request. As a precondition to the Owner reimbursing Contractor for allowable sales and use taxes, Contractor must, on its own, first attempt to use such tax exemption certificates in order to assert the exemption. In the event Contractor's efforts to use the tax exemption certificate is unsuccessful and provided that under the laws of the State of Texas an exemption from sales and use taxes is allowed, Owner will reimburse Contractor for such sales and use taxes upon Contractor providing sufficient and satisfactory documentation to the Williamson County Auditor.

§ 3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS

§ 3.7.1 Unless otherwise provided, the Contractor shall secure, pay for, and, as soon as practicable, furnish the Owner with copies or certificates of all permits and fees, licenses, and inspections necessary for the proper execution and completion of the Work, including, without limitation, all building permits. All connection charges, assessments, or inspection fees as may be imposed by any municipal agency or utility company are included in the Contract Sum and shall be the Contractor's responsibility.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction and damages resulting therefrom.

§ 3.7.4 Concealed or Unknown Conditions. If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature, that differ materially from

those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 21 days after first observance of the conditions. The Owner will promptly investigate such conditions and, if the Owner determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will authorize an equitable adjustment in the Contract Sum or Contract Time, or both. If the Owner determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Owner shall promptly notify the Contractor in writing, stating the reasons. If the Contractor disputes the Owner's determination, the Contractor party may assert a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

§ 3.8 ALLOWANCES

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

.1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;

.2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and

.3 whenever costs are more than or less than allowances, the Contractor shall, prior to purchasing any such materials, notify the Owner in writing of the cost and whether such cost will exceed the amount of the allowance. If Owner authorizes Contractor to proceed, after receiving the Contractor's estimate of the total cost, then the Contract Sum shall be adjusted accordingly by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.9 SUPERINTENDENT

§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent or Contractor's project manager shall be as binding as if given to the Contractor. Important oral communications shall be immediately confirmed in writing.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall furnish in writing to the Owner through the Architect the name and qualifications of a proposed superintendent. The Owner or Architect may reply within 14 days to the Contractor in writing stating (1) whether the Owner or the Architect has reasonable objection to the proposed superintendent or (2) that the Owner and Architect require additional time to review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 CONTRACTOR'S CONSTRUCTION SCHEDULES

§ 3.10.1 The Contractor, as provided in the Agreement, shall prepare and submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall not exceed time limits current under the Contract Documents, shall be revised at appropriate intervals as required by the conditions of the Work and Project, shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

§ 3.10.2 The Contractor shall prepare a submittal schedule, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, and shall submit the schedule(s) for the Architect's approval. The Architect's approval shall not unreasonably be delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.10.4 The construction schedule shall be a detailed precedence-style critical path management ("CPM") schedule in a format satisfactory to the Owner that shall (i) provide a graphic representation of all activities and events that will occur during performance of the Work; (ii) identify each phase of construction and occupancy; and (iii) set forth dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents (hereinafter referred to as the "Milestone Date"). Upon review and acceptance by the Owner of the Milestone Dates, the construction schedule shall be deemed part of the Contract Documents. If not accepted, the construction schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and resubmitted for acceptance. The Contractor shall monitor the progress of the Work for conformance with the requirements of the construction schedule and shall promptly advise the Owner of any delays or potential delays. The accepted construction schedule shall be updated to reflect actual conditions as set forth in section 3.10.1 or if requested by the Owner. In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary. In no event shall any progress report constitute an adjustment in the Contract Time, any Milestone date, or the Contract Sum unless any such adjustment is agreed to by the Owner and authorize pursuant to a Change Order.

§ 3.10.5 In the event the Owner determines that the performance of the Work, as of a Milestone Date, has not progressed or reach the level of completion required by the Contract Documents, the Owner shall have the right to order the Contractor to take corrective measures necessary to expedite the progress of construction, including without limitation, (i) working additional shifts or overtime, (ii) supplying additional manpower, equipment, and facilities, and (iii) other similar measures. Such measures so continue until the progress of the Work complies with the stage of completion required by the Contract Documents. The Owner's right to require such measures is solely for the purpose of ensuring the Contractors compliance with the construction schedule.

§ 3.11 DOCUMENTS AT THE SITE

The Contractor shall maintain at the site for the Owner one copy of the Drawings, Specifications, Addenda, Change Orders and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and one copy of approved Shop Drawings, Product Data, Samples and similar required submittals. These shall be available to the Architect and shall be delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. Their purpose is to demonstrate the way by which the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve and submit to the Architect Shop Drawings, Product Data, Samples and similar submittals required by the Contract Documents in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of separate contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples or similar submittals until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples or similar submittals unless the Contractor has specifically informed the Architect in writing of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples or similar submittals by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such written notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. The Contractor shall not be required to provide professional services in violation of applicable law. If professional design services or certifications by a design professional related to systems, materials or

equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall cause such services or certifications to be provided by a properly licensed design professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor all performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review, approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

§ 3.13 USE OF SITE

The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 CUTTING AND PATCHING

§ 3.14.1 The Contractor shall be responsible for cutting, fitting or patching required to complete the Work or to make its parts fit together properly as required by the Contract Documents. All areas requiring cutting, fitting and patching shall be restored to the condition existing prior to the cutting, fitting and patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or separate contractors by cutting, patching or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter such construction by the Owner or a separate contractor except with written consent of the Owner and of such separate contractor; such consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold from the Owner or a separate contractor the Contractor's consent to cutting or otherwise altering the Work.

§ 3.15 CLEANING UP

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials or rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 ACCESS TO WORK

The Owner and Architect shall, at all times, have access to the Work in preparation and progress wherever located.

§ 3.17 ROYALTIES, PATENTS AND COPYRIGHTS

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for such defense or loss when a particular design, process or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications or other documents prepared by the Owner or Architect. However, if the Contractor has reason to believe that the required design, process or product is an infringement of a copyright or a patent, the Contractor shall be responsible for such loss unless such information is promptly furnished to the Architect.

§ 3.18 INDEMNIFICATION

§ 3.18.1 INDEMNITY – OTHER THAN EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND, AND HOLD HARMLESS OWNER, ITS EMPLOYEES, AND ASSIGNS (THE "INDEMNIFIED PARTIES" OR "INDEMNITEES") FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF OR ALLEGED TO BE RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT, TO THE EXTENT CAUSED BY THE NEGLIGENT OR WILLFUL ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, SUB-SUBCONTRACTORS, OR ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE. CONTRACTOR SHALL NOT BE REQUIRED TO INDEMNIFY, HOLD HARMLESS OR DEFEND THE INDEMNIFIED PARTIES AGAINST A CLAIM CAUSED BY THE NEGLIGENCE OR FAULT, OR THE BREACH OR VIOLATION OF A STATUTE, ORDINANCE, GOVERNMENTAL REGULATION, STANDARD, OR RULE OF THE INDEMNITEE, OR OTHER PARTY OTHER THAN CONTRACTOR OR ITS AGENT, EMPLOYEE, OR SUBCONTRACTOR OF ANY TIER, EXCEPT THAT CONTRACTOR SHALL INDEMNIFY, HOLD HARMLESS AND DEFEND THE INDEMNIFIED PARTIES AGAINST ANY CLAIMS FOR THE BODILY INJURY OR DEATH OF AN EMPLOYEE OF CONTRACTOR, ITS AGENTS, OR IT SUBCONTRACTORS OF ANY TIER.

§3.18.2 INDEMNITY – EMPLOYEE <u>PERSONAL INJURY CLAIMS</u>. TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND, AND HOLD HARMLESS THE INDEMNIFIED PARTIES AND SHALL ASSUME ENTIRE RESPONSIBILITY AND LIABILITY (OTHER THAN AS A RESULT OF AN INDEMNIFIED PARTY'S GROSS NEGLIGENCE) FOR ANY CLAIM OR ACTION BASED ON OR ARISING OUT OF THE PERSONAL INJURY, INCLUDING THE DEATH, OF ANY EMPLOYEE OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY SUB-SUBCONTRACTOR, OR OF ANY OTHER ENTITY FOR WHOSE ACTS THEY MAY BE LIABLE, WHICH OCCURRED OR WAS ALLEGED TO HAVE OCCURRED ON THE PROJECT SITE OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK OF THIS AGREEMENT. CONTRACTOR HEREBY INDEMNIFIES THE INDEMNIFIED PARTIES EVEN TO THE EXTENT THAT SUCH PERSONAL INJURY WAS CAUSED OR ALLEGED TO HAVE BEEN CAUSED BY THE COMPARATIVE OR CONCURRENT NEGLIGENCE OF THE STRICT LIABILITY OF ANY INDEMNIFIED PARTY. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION, OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKERS COMPENSATION ACTS, DISABILITY BENEFITS ACTS, OR OTHER EMPLOYEES BENEFIT ACTS.

§3.18.3 THE CONTRACTOR'S INDEMNITY OBLIGATIONS UNDER THIS SECTION 3.18 SHALL ALSO SPECIFICALLY INCLUDE, WITHOUT LIMITATION, ALL FINES, PENALTIES, DAMAGES, LIABILITY, COSTS, EXPENSES (INCLUDING, WITHOUT LIMITATION, REASONABLE ATTORNEYS' FEES) ARISING OUT OF, OR IN CONNECTION WITH, ANY (I) VIOLATION OF OR FAILURE TO COMPLY WITH ANY LAW, STATUTE, ORDINANCE, RULE, REGULATION, CODE OR REQUIREMENT OF A PUBLIC AUTHORITY THAT BEARS UPON THE PERFORMANCE OF THE WORK BY THE CONTRACTOR, A SUBCONTRACTOR, OR ANY PERSON OR ENTITY FOR WHOM EITHER IS RESPONSIBLE, (II) MEANS, METHODS, PROCEDURES, TECHNIQUES, OR SEQUENCES OF EXECUTION OR PERFORMANCE OF THE WORK, AND (III) FAILURE TO SECURE AND PAY FOR PERMITS, FEES, APPROVALS, LICENSES, AND INSPECTIONS AS REQUIRED UNDER THE CONTRACT DOCUMENTS, OR ANY VIOLATION OF ANY PERMIT OR OTHER APPROVAL OF A PUBLIC AUTHORITY APPLICABLE TO THE WORK, BY THE CONTRACTOR, A SUBCONTRACTOR, OR ANY PERSON OR ENTITY FOR WHOM EITHER IS RESPONSIBLE.

ARTICLE 4 ARCHITECT

§ 4.1 GENERAL

§ 4.1.1 The Owner shall retain an architect lawfully licensed to practice architecture or an entity lawfully practicing architecture in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

§ 4.1.2 Duties, responsibilities and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified or extended without written consent of the Owner, Contractor and Architect. Consent shall not be unreasonably withheld.

§ 4.2 ADMINISTRATION OF THE CONTRACT
§ 4.2.1 The Architect will provide administration of the Contract as described in the Owner-Architect Agreement. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for, the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents, except as provided in Section 3.3.1.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of and will not be responsible for acts or omissions of the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 COMMUNICATIONS AND CONTRACT ADMINISTRATION
Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the Owner and Contractor shall endeavor to relate relevant communications between Owner and Architect to the Architect. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and material suppliers shall be through the Contractor. Communications by and with separate contractors shall be through the Owner.

§ 4.2.5 If included in Architect's scope of work, the agreement between Owner and Architect, or if requested by the Owner, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts based on the Architect's evaluations of the Contractor's Applications for Payment.

§ 4.2.6 To the extent permitted by the agreement between Owner and Architect, the Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect, in consultation with the Owner, will have authority to require inspection or testing of the Work in accordance with Sections 13.5.2 and 13.5.3, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect or the Owner to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees, or other persons or entities performing portions of the Work.

§ 4.2.7 To the extent provided in the agreement between Owner and Architect, the Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Owner and Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the

purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5 and 3.12. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 If requested by Owner, the Architect will prepare Change Orders and Construction Change Directives with the Owner's prior written consent, but the Architect may authorize minor changes in the Work as provided in the agreement between Owner and Architect, or in Section 7.4 of these General Conditions. If requested by Owner, the Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 If requested by Owner, the Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more project representatives to assist in carrying out the Architect's responsibilities at the site. The duties, responsibilities and limitations of authority of such project representatives shall be as set forth in an exhibit to be incorporated in the Contract Documents.

§ 4.2.11 If requested by Owner, the Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings.

§ 4.2.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents, and if approved by Owner.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

ARTICLE 5 SUBCONTRACTORS

§ 5.1 DEFINITIONS

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a separate contractor or subcontractors of a separate contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 AWARD OF SUBCONTRACTS

§ 5.2.1 For Construction Manager-At-Risk Agreements. The Construction Manager shall publicly advertise for bids or proposals and receive bids or proposals from trade contractors or Subcontractors for the performance of all major elements of the work other than the minor work that may be included in the general conditions. The Construction Manager may seek to perform portions of the work itself if:

(A) the Construction Manager submits its bid or proposal for those portions of the Work in the same manner as all other trade contractors or Subcontractors; and

(B) the Owner determines that the Construction Manager's bid or proposal provides the best value for the Owner.

§ 5.2.1.1 REVIEW OF BIDS OR PROPOSALS. Construction Manager shall review all trade contractor or Subcontractor bids or proposals in a manner that does not disclose the contents of the bid or proposal during the selection process to a person not employed by the Construction Manger, Architect, Engineer, or Owner. All bids or proposals shall be made available to the Owner on request and to the public after the later of the award of the contract or the seventh day after the date of final selection of bids or proposals. If the Construction Manager reviews, evaluates, and recommends to the Owner a bid or proposal from a trade contractor or subcontractor but the Owner requires another bid or proposal to be accepted, the Owner shall compensate the Construction Manager by a change in the Contract Sum, Contract Time, or Cost of the Work for any additional cost and risk that the Construction manager incurs because of the Owner's requirement that another bid or proposal be accepted.

§ 5.2.2 The Contractor shall not contract with a proposed Subcontractor, person, or entity to whom the Owner has made reasonable objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made a reasonable objection.

§ 5.2.3 If the Owner has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time may be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity previously selected if the Owner makes reasonable objection to such substitution.

§ 5.3 SUBCONTRACTUAL RELATIONS

§ 5.3.1 By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work, which the Contractor, by these Documents, assumes toward the Owner. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 All subcontracts shall be in writing and, if requested, Contractor shall provide Owner with copies of executed subcontracts.

§ 5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS
§ 5.4.1 This Contract is for Owner's benefit, its successors and assigns who, as well as Contractor, may directly enforce all rights and warranties, express or implied herein, but Subcontractors shall have recourse only against Contractor and not against Owner. Owner may rely solely upon Contractor for enforcement of all Subcontracts. To effect such purpose, Contractor assigns to Owner all right to bring any actions against subcontractors and material vendors without waiver by Owner of his right against Contractor because of defaults, delays and effects for which a subcontractor or material vendor may also be liable, said assignment being effective only if:

.1 Contractor is in default under the Contract Documents; or

.2 Owner has terminated the Contract in accordance with the Contract Documents; and

.3 Only for those subcontract agreements which the Owner accepts by notifying the Subcontractor and Contractor in writing; and

.4 The assignment is subject to the prior rights of the surety, if any, obligated under any bond relating to the Contract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation may be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon such assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

§5.4.4 The Architect and the Owner shall have the right to request from any Subcontractor at any time during the course of construction, a notarized affidavit stating the amount of monies which have been paid to the Subcontractor as of any certain stipulated date.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS
§ 6.1 OWNER'S RIGHT TO PERFORM CONSTRUCTION AND TO AWARD SEPARATE CONTRACTS
§ 6.1.1 The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and to award separate contracts in connection with other portions of the Project or other construction or operations on the site under Conditions of the Contract identical or substantially similar to these including those portions related to insurance and waiver of subrogation. If the Contractor claims that delay or additional cost is involved because of such action by the Owner, the Contractor shall make such Claim as provided in Article 15.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Contractor shall participate with other separate contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the Owner until subsequently revised.

§ 6.2 MUTUAL RESPONSIBILITY
§ 6.2.1 The Contractor shall afford the Owner and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall

connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a separate contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly report to the Architect and the Owner apparent discrepancies or defects in such other construction that would render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acknowledgment that the Owner's or separate contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work, except as to defects not then reasonably discoverable.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a separate contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a separate contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner, separate contractors as provided in Section 10.2.5.

§ 6.2.5 The Owner and each separate contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 OWNER'S RIGHT TO CLEAN UP
If a dispute arises among the Contractor, separate contractors and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK
§ 7.1 GENERAL
§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor and Architect; a Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor; an order for a minor change in the Work may be issued by the Owner or Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents, and the Contractor shall proceed promptly, unless otherwise provided in the Change Order, Construction Change Directive or order for a minor change in the Work. Except as permitted in Section 7.3 and Section 9.7.2, a change in the Contract Sum or the Contract Time shall be accomplished only by Change Order. Accordingly, no course of conduct or dealings between the parties, nor express or implied acceptance of alterations or additions to the Work, and no claim that Owner has been unjustly enriched by any alteration of or addition to the Work, whether or not there is, in fact, any unjust enrichment to the Work, shall be the basis of any Claim to an increase in any amounts due under the Contract Documents or a change in any time period provided for in the Contract Documents.

§ 7.2 CHANGE ORDERS
§ 7.2.1 A Change Order is a written instrument signed by the Owner, Contractor and Architect stating their agreement upon all of the following:

.1 The change in the Work;
.2 The amount of the adjustment, if any, in the Contract Sum; and
.3 The extent of the adjustment, if any, in the Contract Time.

§ 7.2.2 Contractor's Change Order shall set forth in clear and precise detail breakdowns of labor and materials for all trades involved and the estimated impact on the dates of Substantial Completion. Contractor shall furnish supporting data as reasonably requested by Owner.

§ 7.2.3 Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, all direct and indirect costs associated with such change and any and all adjustments to the Contract Sum and the construction schedule.

§ 7.3 CONSTRUCTION CHANGE DIRECTIVES

§ 7.3.1 A Construction Change Directive is a written order signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

.1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;

.2 Unit prices stated in the Contract Documents or subsequently agreed upon;

.3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or

.4 As provided in Section 7.3.7.

§ 7.3.4 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed in a proposed Change Order or Construction Change Directive so that application of such unit prices to quantities of Work proposed will cause substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 7.3.5 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.6 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.7 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Owner shall determine the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Owner or Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.7 shall be limited to the following:

.1 Costs of labor, including social security, old age and unemployment insurance, fringe benefits required by agreement or custom, and workers' compensation insurance;

.2 Costs of materials, supplies and equipment, including cost of transportation, whether incorporated or consumed;

.3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others;

.4 Costs of premiums for all bonds and insurance, permit fees, and sales, use or similar taxes related to the Work; and

.5 Additional costs of supervision and field office personnel directly attributable to the change.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Owner or the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Owner will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Owner determines to be reasonably justified. The Owner's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of Contractor to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 MINOR CHANGES IN THE WORK

If permitted in the agreement between Owner and Architect, the Architect has authority to order minor changes in the Work not involving adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents.

ARTICLE 8 TIME

§ 8.1 DEFINITIONS

§ 8.1.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 PROGRESS AND COMPLETION

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract and are a material element of the Contract. By executing the Agreement the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, prematurely commence operations on the site or elsewhere prior to the effective date of insurance required by Article 11 to be furnished by the Contractor and Owner. The date of commencement of the Work shall not be changed by the effective date of such insurance.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 DELAYS AND EXTENSIONS OF TIME

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by an act or neglect of the Owner or Architect, or of an employee of either, or of a separate contractor employed by the Owner; or by changes ordered in the Work; or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties or other causes beyond the Contractor's control; or by delay authorized by the Owner pending mediation and arbitration; or by other causes that the Architect and Owner determines may justify delay, then the Contract Time shall be extended by Change Order to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time and if the performance of the Work is not, was not, or would not have been delayed by any other cause for which the Contractor is not entitled to an extension in the Contract Time under the Contract Documents. The Contractor further acknowledges and agrees that adjustments in the Contract Time will be permitted for a delay only to the extent such delay (i) is not caused, or could not have been anticipated, by the Contractor, and (ii) could not be limited or avoided by the Contractor's timely notice to the Owner of the delay or reasonable likelihood that a delay will occur.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 Notwithstanding anything contained in the Contract Documents to the contrary, the Contractor's sole remedy for any (1) delay in the commencement, prosecution or completion of the Work, (2) hindrance or obstruction in the performance of the Work, (3) loss of productivity, or (4) other similar claims (collectively referred in this Subparagraph 8.3.3 as "Delay or Delays"), whether or not such Delays are foreseeable, shall be an extension of time in which to complete the Work. In no event shall the Contractor be entitled to any other compensation or recovery of any damages, costs, or attorneys' fees, caused by any Delays, unknown site conditions, errors, inconsistencies, or omissions in the Drawings and Specifications, or concealed or unknown conditions, including, without limitation, consequential damages, lost opportunity costs, impact damages or other similar damages; provided however that Contractor may be entitled to additional time as provided under Section 8.3.1.

§ 8.3.4 If the Contractor submits a progress report indicating, or otherwise expresses an intention to achieve, completion of the Work prior to any completion date required by the Contract Documents or expiration of the Contract Time, no liability of the Owner to the Contractor for any failure of the Contractor to so complete the Work shall be created or implied.

§ 8.3.5 Owner shall have the right to occupy, without prejudice to rights of either party, any completed or substantially completed portions of the Work, notwithstanding the fact that time for completion of entire Work, or portions thereof, may not be expired. Occupancy and use by Owner shall not constitute, in itself, acceptance of the Work.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 CONTRACT SUM

The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.2 SCHEDULE OF VALUES

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit to the Owner and Architect, before the first Application for Payment, a schedule of values allocating the entire Contract Sum to the various portions of the Work and prepared in such form and supported by such data to substantiate its accuracy as the Owner may require. This schedule, unless objected to by the Owner, shall be used as a basis for reviewing the Contractor's Applications for Payment.

§ 9.3 APPLICATIONS FOR PAYMENT

§ 9.3.1 As provided in the Agreement and in the Contract Documents, the Contractor shall submit to the Owner and Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2., for completed portions of the Work. Such application shall be notarized, if required, and supported by such data substantiating the Contractor's right to payment as the

Owner or Architect may require, such as copies of requisitions from Subcontractors and material suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Owner or the Architect, but not yet included in Change Orders.

§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or material supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 9.3.1.3 If requested by Owner or required elsewhere in the Contract Documents, Each Application for Payment shall be accompanied by the following, all in a form and substance satisfactory to the Owner:

(i) With each Application for Payment: a current Sworn Statement from the Contractor setting forth all Subcontractors and all material suppliers with whom the Contractor has subcontracted, the amount of each such subcontract, the amount requested for any Subcontractor or material supplier in the Application for Payment, and the amount to be paid to the Contractor from such progress payment;

(ii) With each Application for Payment: a duly executed Conditional Waiver and Release on Progress Payment from the Contractor and Subcontractors establishing receipt of payment or satisfaction of the payment requested by the Contractor in the current Application for Payment;

(iii) Commencing with the second Application for Payment submitted by the Contractor, a duly executed Unconditional Waiver and Release on Progress Payment from Contractor and all Subcontractors, material suppliers and, where appropriate, lower tier subcontractors that have billed more than $5,000 on a single application of payment, establishing receipt of payment or satisfaction of payment of all amounts requested on behalf of such entities and disbursed prior to submittal by the Contractor of the current Application for Payment;

(iv) With the Final Application for Payment: Contractor shall submit a Conditional Waiver and Release on Final Payment as required by Texas Property Code 53.284. Upon receipt of final payment, Contractor shall submit an Unconditional Waiver and Release on Final Payment as required by Texas Property Code 53.284; and

(v) Such other information, documentation, and materials as the Owner, or the title insurer may require in order to ensure that Owner's property is free of lien claims. Such other documents may include, without limitation, original copies of lien or bond claim releases suitable for filing with the County Clerk in Williamson County, Texas.

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage and transportation to the site for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information and belief, be free and clear of liens, bond claims, claims, security interests or encumbrances in favor of the Contractor, Subcontractors, material suppliers, or other persons or entities making a claim by reason of having provided labor, materials and equipment relating to the Work.

§ 9.3.3.1 The Contractor further expressly undertakes to defend Owner, at the Contractor's sole expense, against any actions, lawsuits, or proceedings brought against Owner as a result of liens filed against the Work, the site of any of the Work, the Project site and any improvements thereon, or any portion of the property of any of Owner (referred to collectively as "liens" in this Section 9.3.3), provide the Owner has paid Contractor pursuant to the requirements of the Contract Documents. The Contractor hereby agrees to indemnify and hold Owner harmless against any such liens or claims of lien and agrees to pay any judgment or lien resulting from any such actions, lawsuits, or proceedings.

§ 9.3.3.2 The Owner shall release any payments withheld due to a lien or bond claims if the Contractor obtains security acceptable to the Owner, however, the Contractor shall not be relieved of any responsibilities or obligations under this Section 9.3.3, including, without limitation, the duty to defend and indemnify Owner.

§ 9.3.3.3 Retainage. The Owner shall withhold from each progress payment, as retainage, five percent (5%) of the total earned amount. Retainage so withheld shall be managed in conformance with Subchapter B, Chapter 2252 of the Texas Government Code. Any request for reduction or release of retainage shall be accompanied by written consent of the Contractor's Surety. No such request shall be made until the Contractor has earned at least sixty-five percent (65%) of the total Contract Price.

§ 9.3.3.4 For purposes of Texas Government Code § 2251.021 (a)(2), the date the performance of service is completed is the date when the Owner's representative approves the Application for Payment.

§ 9.4 CERTIFICATES FOR PAYMENT

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either issue to the Owner a Certificate for Payment, with a copy to the Contractor, for such amount as the Architect determines is properly due, or notify the Contractor and Owner in writing of the Architect's reasons for withholding certification in whole or in part as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data comprising the Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion and to specific qualifications expressed by the Architect. The issuance of a Certificate for Payment will further constitute a representation that the Contractor is entitled to payment in the amount certified. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 DECISIONS TO WITHHOLD CERTIFICATION

§ 9.5.1 The Owner or Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Owner or Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Owner or Architect is unable to certify payment in the amount of the Application, the Owner or Architect will notify the Contractor. If the Contractor and Architect, or Contractor and Owner, as the case may be, cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount that can be certified. The Owner or Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Owner or Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

.1 defective Work not remedied;
.2 third party claims filed or reasonable evidence indicating probable filing of such claims;
.3 failure of the Contractor to make payments properly to Subcontractors or for labor, materials or equipment;
.4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
.5 damage to the Owner or a separate contractor;
.6 failure to maintain the scheduled progress, or reasonable evidence that the Work will not be completed within the Contract Time;
.7 failure to comply with the requirements of Texas Government Code Chapter 2258 (Prevailing Wage Law);
.8 failure to include sufficient documentation to support the amount of payment requested for the Project;
.9 failure to obtain, maintain, or renew insurance coverage for payment/performance bonds required by the Contract Documents; or
.10 repeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.6 PROGRESS PAYMENTS
§ 9.6.1 The Owner shall make payment in the manner and within the time provided in the Contract Documents and in accordance with Chapter 2251 of the Texas Government Code.

§ 9.6.2 The Contractor shall pay each Subcontractor no later than 10 days after receipt of payment from the Owner the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and material and equipment suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay or to see to the payment of money to a Subcontractor, except as may otherwise be required by law.

§ 9.6.4 Contractor payments to material and equipment suppliers shall be treated in a manner similar to that provided in Sections 9.6.2.

§ 9.6.5 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents.

§ 9.7 FAILURE OF PAYMENT
§ 9.7.1 If the Architect is required to issue Certificates for Payment and, through no fault of the Contractor, the Architect fails to timely issue Certificates for Payment in the time permitted in the Contract Documents, or if the Owner does not pay the Contractor by the date established in the Contract Documents, then the Contractor may, upon twenty-one days' written notice to the Owner and Architect, stop the Work until payment of the amount owing has been received.

§ 9.7.2 If the Owner is entitled to reimbursement or payment from the Contractor under or pursuant to the Contract Documents, such payment shall be made promptly upon demand by the Owner. Notwithstanding anything contained in the Contract Documents to the contrary, if the Contractor fails to promptly make any payment due the Owner, or if the Owner incurs any costs and expenses to cure any default of the Contractor or to correct defective work, the Owner shall have an absolute right to offset such amount against the Contract Sum and may, in the Owner's sole discretion, elect either to (i) deduct

an amount equal to that which the Owner is entitled from any payment then or thereafter due the Contractor from the Owner, or (ii) issue a written notice to the Contractor reducing the Contract Sum by an amount equal to that which the Owner is entitled.

§ 9.8 SUBSTANTIAL COMPLETION

§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use; provided, however, that as a condition precedent to Substantial Completion, the Owner has received all certificates of occupancy and any other permits, approvals, licenses, and other documents from any governmental authority having jurisdiction thereof necessary for the beneficial occupancy of the Project.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall prepare and submit to the Owner and Architect a comprehensive list of items to be completed or corrected prior to final payment (punch list). Failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

§ 9.8.3 Upon receipt of the Contractor's punch list, the Owner and Architect will examine the Work to determine whether the Work or designated portion thereof is substantially complete. If the Owner and/or Architect's examination discloses any item, whether or not included on the Contractor's punch list, that is not sufficiently complete in accordance with the Contract Documents, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Owner or Architect. In such case, the Contractor shall then submit a request for another examination by the Owner or Architect to determine Substantial Completion.

§ 9.8.4 When the Work or designated portion thereof is substantially complete, the Architect, if required by the Contract Documents, or Owner will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion, shall establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance, and shall fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Unless otherwise provided, Contractor shall complete all items on the punch list within 30 days of Substantial Completion. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in such Certificate. Upon such acceptance and consent of surety, if any, the Owner shall make payment of retainage.

§ 9.9 PARTIAL OCCUPANCY OR USE

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer as required under Section 11.3.1.5, the surety, and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers a portion substantially complete, the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

§ 9.9.2 Immediately prior to partial occupancy or use, the Owner, Contractor and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

§ 9.9.3 Partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 FINAL COMPLETION AND FINAL PAYMENT

§ 9.10.1 Upon receipt of the Contractor's written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Owner and Architect will make such inspection and, when the Owner and Architect find the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled. All warranties and guarantees required under or pursuant to the Contract Documents shall be assembled and delivered by the Contractor to the Architect as part of the final Application for Payment. The final Certificate for Payment will not be issued by the Architect until all warranties and guarantees have been received and accepted by the Owner.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Owner and Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work have been paid or otherwise satisfied, within the period of time required by Chapter 2251 of the Texas Government Code, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be canceled or allowed to expire until at least 30 days' prior written notice has been given to the Owner, (3) a written statement that the Contractor knows of no substantial reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety to final payment and (5) other data establishing payment or satisfaction of obligations, such as receipts, unconditional full and final releases and waivers of liens, claims, security interests or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner.

§ 9.10.3 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

.1 Claims, security interests or encumbrances arising out of the Contract and unsettled;
.2 failure of the Work to comply with the requirements of the Contract Documents; or
.3 terms of warranties required by the Contract Documents.

§ 9.10.4 Acceptance of final payment by the Contractor, a Subcontractor or material supplier shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 SAFETY PRECAUTIONS AND PROGRAMS

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 SAFETY OF PERSONS AND PROPERTY

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to

.1 employees on the Work and other persons who may be affected thereby;
.2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody or control of the Contractor or the Contractor's Subcontractors or Sub-subcontractors; and

.3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities bearing on safety of persons or property or their protection from damage, injury or loss. Notwithstanding any language to the contrary, the Owner shall not have any responsibility for job site inspections or safety recommendations. Any inspections or observations by the Owner or the Architect are solely for the benefit of the Owner and shall not create any duties or obligations to anyone else.

§ 10.2.3 The Contractor shall erect and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent sites and utilities.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3, except damage or loss attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 INJURY OR DAMAGE TO PERSON OR PROPERTY
If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, written notice of such injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.2.9 When all or a portion of the Work is suspended for any reason, the Contractor shall securely fasten down all covering and fully protect the Work, as necessary, from injury or damage by any cause.

§ 10.2.10 The Contractor shall promptly report in writing to the Owner and Architect all accidents arising out of or in connection with the Work that cause death, personal injury, or property damage.

§ 10.3 HAZARDOUS MATERIALS
§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the

Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and report the condition to the Owner and Architect in writing.

§ 10.3.2 Upon receipt of the Contractor's written notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written notice from the Owner.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for materials or substances the Contractor brings to the site unless such materials or substances are expressly required by the Contract Documents. The Owner shall be responsible for materials or substances expressly required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall indemnify the Owner for the cost and expense the Owner incurs (1) for remediation of a material or substance the Contractor brings to the site or negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.4 EMERGENCIES
In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. Additional compensation or extension of time, if any, claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS
§ 11.1 CONTRACTOR'S LIABILITY INSURANCE
§ 11.1.1 The Contractor shall purchase from and maintain in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located such insurance as will protect the Contractor from claims set forth below which may arise out of or result from the Contractor's operations and completed operations under the Contract and for which the Contractor may be legally liable, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed;
.2 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
.3 Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
.4 Claims for damages insured by usual personal injury liability coverage;
.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom;
.6 Claims for damages because of bodily injury, death of a person or property damage arising out of ownership, maintenance or use of a motor vehicle;
.7 Claims for bodily injury or property damage arising out of completed operations, which coverage shall be maintained for no less than four (4) years following final payment; and
.8 Claims involving contractual liability insurance applicable to the Contractor's obligations under Section 3.18.

§ 11.1.2 The insurance required by Section 11.1.1 shall be written for not less than limits of liability specified in the Agreement or the Contract Documents. Coverages, whether written on an occurrence or claims-made basis, shall be maintained without interruption from the date of commencement of the Work until the date of final payment and termination of any coverage required to be maintained after final payment, and, with respect to the Contractor's completed operations coverage, until the expiration of the

period for correction of Work or for such other period for maintenance of completed operations coverage as specified in the Contract Documents.

§ 11.1.3 Unless otherwise provided, copies of the insurance policies, in form acceptable to the Owner, shall provided to Owner within 30 days of Owner's request. Except as otherwise provided, all of the policies provided shall name Owner as an additional insured, and such policies shall immediately deliver to Owner copies of all such insurance policies, together with certificates by the insurer evidencing Owner's coverage there under. Each policy of insurance obtained by Contractor pursuant to the Contract Documents shall provide, by endorsement or otherwise (i) that such policy shall not be canceled, endorsed, altered or reissued to effect a change in coverage for any reason or to any extent whatsoever unless the insurer shall have first given Owner and Lender at least thirty (30) days prior written notice thereof, and (ii) that Owner may, but shall not be obligated to, make premium payments to prevent the cancellation, endorsement, alteration or reissuance of such policy and such payments shall be accepted by the insurer to prevent the same. Such policies shall provide, by endorsement or otherwise, that Contractor shall be solely responsible for the payment of all premiums under the policies, and that Owner shall have no obligation for the payment thereof, notwithstanding that Owner is named as additional insured under the policy. Any insured loss or claim of loss shall be adjusted to the Owner, and any settlement payments shall be made payable to the Owner as a trustee for the insureds, as their interests may appear. Upon the occurrence of an insured loss or claim of loss, monies received will be held by Owner who shall make distribution in accordance with an agreement to be reached in such event between Owner and Contractor. If the parties are unable to agree between themselves on the settlement of the loss, such dispute shall be resolved in accordance with section 15, below, but the Work of the Project shall nevertheless progress during any such period of dispute without prejudice to the rights of any party to the dispute. The Contractor shall be responsible for any loss within the deductible area of the policy. If Owner is damaged by the failure of Contractor to purchase or maintain such insurance, then Contractor shall bear all costs properly attributable thereto. The Contractor shall affect and maintain similar property insurance on portions of the Work stored off the site or in transit when such portions of the Work are to be included. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until Final Completion of the Project.

§ 11.1.4 The Contractor shall cause the commercial liability coverage required by the Contract Documents to include (1) the Owner as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions during the Contractor's completed operations.

§ 11.2 OWNER'S LIABILITY INSURANCE
The Owner shall be responsible for purchasing and maintaining the Owner's usual liability insurance.

§ 11.3 PROPERTY INSURANCE
§ 11.3.1 Unless otherwise provided in the Contract Documents, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located, property insurance written on a builder's risk "all-risk" or equivalent policy form in the amount of the initial Contract Sum, plus value of subsequent Contract Modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis without optional deductibles. Such property insurance shall be maintained, unless otherwise provided in the Contract Documents or otherwise agreed in writing by all persons and entities who are beneficiaries of such insurance, until final payment has been made as provided in Section 9.10 or until no person or entity other than the Owner has an insurable interest in the property required by this Section 11.3 to be covered, whichever is later. This insurance shall include interests of the Owner, the Contractor, Subcontractors and Sub-subcontractors in the Project.

§ 11.3.1.1 Property insurance shall be on an "all-risk" or equivalent policy form and shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, theft, vandalism, malicious mischief, collapse, earthquake,

flood, windstorm, falsework, testing and startup, temporary buildings and debris removal including demolition occasioned by enforcement of any applicable legal requirements, and shall cover reasonable compensation for Architect's and Contractor's services and expenses required as a result of such insured loss as well as coverage for building materials while in transit or building materials suitably stored at a temporary location. Property insurance provided by the Contractor shall not cover any tools, apparatus, machinery, scaffolding, hoists, forms, staging, shoring, and other similar items commonly referred to as construction equipment that may be on the site and the capital value of which is not included in the Work. The Contractor shall make its own arrangements for any insurance it may require on such construction equipment. Any such policy obtained by the Contractor under this Section 11.3.1 shall include a waiver of subrogation in accordance with the requirements of Section 11.3.4.

§ 11.3.1.2 If the Contractor does not intend to purchase such property insurance required by the Contract and with all of the coverages in the amount described above, the Contractor shall so inform the Owner in writing prior to commencement of the Work. If the Owner is damaged by the failure or neglect of the Contractor to purchase or maintain insurance as described above, without so notifying the Owner in writing, then the Contractor shall bear all reasonable costs properly attributable thereto.

§ 11.3.1.3 Contractor shall be responsible for any deductibles to the extent that the loss arose out of or was cause by Contractor's negligence or breach of the Agreement.

§ 11.3.1.4 This property insurance shall cover portions of the Work stored off the site, and also portions of the Work in transit.

§ 11.3.1.5 Partial occupancy or use in accordance with Section 9.9 shall not commence until the insurance company or companies providing property insurance have consented to such partial occupancy or use by endorsement or otherwise. The Owner and the Contractor shall take reasonable steps to obtain consent of the insurance company or companies and shall, without mutual written consent, take no action with respect to partial occupancy or use that would cause cancellation, lapse or reduction of insurance.

§ 11.3.4 WAIVERS OF SUBROGATION
The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors described in Article 6, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to the extent of actual recovery of any insurance proceeds under any property insurance obtained pursuant to this Section 11.3 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance. However, this waiver shall not apply to property insurance purchased by Owner after completion of the Work or Final Payment, whichever comes first. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

§ 11.3.5 A loss insured under the property insurance shall be adjusted in good faith and made payable to the Owner in good faith for the insureds, as their interests may appear. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner.

§ 11.4 PERFORMANCE BOND AND PAYMENT BOND
§ 11.4.1 The Contractor is required to tender to Owner, prior to commencing the Work, performance and payment bonds, as required by law. In the event Contractor fails to provide such bonds within the time

provided by the Agreement, Owner may immediately, upon notice of such failure, or within a reasonable time thereafter, at its sole option and discretion: (1) void this Agreement in its entirety; or (2) procure such bonds on behalf of the Contractor, deducting such amounts from the Contract Price. In the event Owner voids the Agreement under this section, Contractor may forfeit its bid bond.

§ 11.4.2 A Performance Bond is required if the Contract Price is in excess of $50,000. The performance bond is solely for the protection of the Owner, in the full amount of the Contract Price and conditioned on the faithful performance of the Work in accordance with the Contract Documents. The form of the bond shall be approved by the Owner.

§ 11.4.3 A Payment Bond is required if the Contract Price is in excess of $25,000. A payment bond is payable to the Owner, in the full amount of the Contract Price and solely for the protection and use of payment bond beneficiaries who have a direct contractual relationship with the Contractor or a supplier of required materials or labor. The form of bond shall be approved by the Owner.

§ 11.4.5 Corporate sureties authorized to issue bonds shall be qualified and comply with relevant provisions of the Texas Insurance Code.

§ 11.4.6 Each bond shall be executed by a corporate surety or sureties authorized to do business in the State of Texas and acceptable to the Owner. If any bond is for more than 10 percent of the surety's capital and surplus, the Owner may require certification that the company has reinsured the excess portion with one or more reinsurers authorized, accredited, or trusteed to do business in the State. A reinsurer may not reinsure for more than 10 percent of its capital and surplus. If a surety upon a bond loses its authority to do business in the State, the Contractor shall within thirty (30) days after such loss furnish a replacement bond at no added cost to the Owner.

§ 11.4.7 Each bond shall be accompanied by a valid Power-of-Attorney (issued by the surety company and attached, signed and sealed with the corporate embosses seal, to the bond) authorizing the attorney in fact who signs the bond to commit the company to the terms of the bond, and stating any limit in the amount for which the attorney can issue a single bond.

§ 11.4.8 The process of requiring and accepting bonds and making claims thereunder shall be conducted in compliance with Chapter 2253, Texas Government Code. If for any reason a statutory payment or performance bond is not honored by the surety, the Contractor shall fully indemnify and hold the Owner harmless of and from any costs, losses, obligations or liabilities it incurs as a result.

§ 11.4.9 Owner shall furnish certified copies of a payment bond and the related Agreement between Owner and Contractor to any qualified person seeking copies who complies with §2253.026, Texas Government Code.

§ 11.4.10 Claims on Payment Bonds. Claims on payment bonds must be sent directly to the Contractor and its surety in accordance with § 2253.041, Texas Government Code. All Payment Bond claimants are cautioned that no lien exists on the funds unpaid to the Contractor on such contract, and that reliance on notices sent to the Owner may result in loss of their rights against the Contractor and/or its surety. The Owner is not responsible in any manner to a claimant for collection of unpaid bills, and accepts no such responsibility because of any representation by any agent or employee.

§ 11.4.11 Payment Claims when Payment Bond not Required. When the value of the Agreement between Owner and the Contractor is less than $25,000.00, claimants and their rights are governed by Texas Property Code, §§ 53.231 – 53.239. These provisions set out the requirements for filing a valid lien on funds unpaid to the Contractor as of the time of filing the claim, actions necessary to release the lien and satisfaction of such claims.

§11.4.12 Sureties shall be listed on the Department of the Treasury's Listing of Approved Sureties stating companies holding Certificates of Authority as acceptable sureties on Federal Bonds and acceptable reinsuring companies (Department Circular 570).

§ 11.5 GENERAL REQUIREMENTS

§ 11.5.1 Unless otherwise provided in the Contract Documents, all insurance coverage procured by the Contractor shall be provided by insurance companies having policy holder ratings no lower than "A" and financial ratings not lower than "XII" in the Best's Insurance Guide, the latest edition in effect as of the date of the Contract, and subsequently in effect at the time of renewal of any policies required by the Contract Documents.

§ 11.5.2 If the Owner is damaged by failure of the Contractor to purchase or maintain insurance required under Article 11, then the Contractor shall bear all reasonable costs (including attorneys' fees and court and settlement expenses) properly attributable thereto.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK

§ 12.1 UNCOVERING OF WORK

§ 12.1.1 If a portion of the Work is covered contrary to the Owner or Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Owner or Architect, be uncovered for examination and be replaced at the Contractor's expense without change in the Contract Time. If prior to the date of Substantial Completion the Contractor, a Subcontractor, or anyone for whom either is responsible uses or damages any portion of the Work (other than start-up), including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

§ 12.1.2 If a portion of the Work has been covered that the Owner or Architect has not specifically requested to examine prior to its being covered, the Owner or Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, costs of uncovering and replacement shall, by appropriate Change Order, be at the Owner's expense. If such Work is not in accordance with the Contract Documents, such costs and the cost of correction shall be at the Contractor's expense unless the condition was caused by the Owner or a separate contractor in which event the Owner shall be responsible for payment of such costs.

§ 12.2 CORRECTION OF WORK

§ 12.2.1 The Contractor shall promptly correct Work rejected by the Owner or Architect or failing to conform to the requirements of the Contract Documents, whether discovered before or after Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 AFTER SUBSTANTIAL COMPLETION

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of written notice from the Owner to do so. The Owner shall give such notice promptly after discovery of the condition. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.4.

§ 12.2.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the Owner or separate contractors caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 ACCEPTANCE OF NONCONFORMING WORK
If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS
§ 13.1 GOVERNING LAW
The Contract shall be governed by the law of Williamson County, Texas.

§ 13.2 SUCCESSORS AND ASSIGNS
§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns and legal representatives to covenants, agreements and obligations contained in the Contract Documents. Except as provided in the Contract Documents or by law, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make such an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.3 WRITTEN NOTICE
Written notice shall be deemed to have been duly served if delivered in person to the individual, to a member of the firm or entity, or to an officer of the corporation for which it was intended; or if delivered at, or sent by registered or certified mail or by courier service providing proof of delivery to, the last business address known to the party giving notice.

§ 13.4 RIGHTS AND REMEDIES
§ 13.4.1 Except as expressly provided in the Contract Documents, duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights and remedies otherwise imposed or available by law.

§ 13.4.2 No action or failure to act by the Owner, Architect or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach there under, except as may be specifically agreed in writing.

§ 13.5 TESTS AND INSPECTIONS
§ 13.5.1 Tests, inspections and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority. The Contractor shall give the Owner and Architect timely notice of when and where tests and inspections are to be made so that the Owner and Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals where building codes or applicable laws or regulations prohibit the Owner from delegating their cost to the Contractor.

§ 13.5.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection or approval not included under Section 13.5.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection or approval by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Owner and Architect of when and where tests and inspections are to be made so that the Owner and Architect may be present for such procedures.

§ 13.5.3 If such procedures for testing, inspection or approval under Sections 13.5.1 and 13.5.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure including those of repeated procedures and compensation for the Architect's services and expenses shall be at the Contractor's expense. The Contractor also agrees the cost of testing services related to remedial operations performed to correct deficiencies in the Work, shall be borne by the Contractor.

§ 13.5.4 Required certificates of testing, inspection or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Owner and Architect.

§ 13.5.5 If the Architect is to observe tests, inspections or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.5.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.6 INTEREST
The rate of interest that accrues on an overdue payment is the rate in effect on September 1 of the fiscal year in which the payment becomes overdue. The rate in effect on September 1 is equal to the sum of:
(1) one percent; and
(2) the prime rate as published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday pursuant to §2251.025 of the Texas Government Code.

§ 13.7 TIME LIMITS ON CLAIMS
The Owner and Contractor shall commence all claims and causes of action, whether in contract, tort, breach of warranty or otherwise, against the other arising out of or related to the Contract in accordance with the time limits provided by law. Nothing herein shall be construed as shortening the period of time Owner has for commencing claims to less than what is required by law.

§ 13.8 Application To Subcontracts
Any specific requirement in this Contract that the responsibilities or obligations of Contractor also apply to a Subcontractor is added for emphasis and are also hereby deemed to include a Subcontractor of any tier. The omission of a reference to a Subcontractor in connection with any of Contractor's responsibilities or obligations shall not be construed to diminish, abrogate or limit any responsibilities or obligations of a Subcontractor of any tier under the Contract Documents or the applicable subcontract.

§ 13.10 GENERAL PROVISIONS
§ 13.10.1 All personal pronouns used in this Contract, whether used in the masculine, feminine, or neuter gender, shall include all other genders; and the singular shall included the plural and vice versa. Titles of articles, sections, and subsections are for convenience only and neither limit nor amplify the provisions of this Contract. The use herein of the word "including," when following any general statement, term, or matter, shall not be construed to limit such statement, term, or matter to the specific items or matters set forth immediately following such word or to similar items or matters, whether or not non-limiting language (such words as "without limitation," or "but not limited to," or words of similar import) is used with reference thereto, but rather shall be deemed to refer to all other items or matters that could reasonably fall within the broadest possible scope of such general statement, term, or matter.

§ 13.10.2 Wherever possible, each provision of this Agreement shall be interpreted in a manner as to be effective and valid under applicable law. If, however, any provision of this Agreement, or portion thereof,

is prohibited by law or found invalid under any law, only such provision or portion thereof shall be ineffective, without in any manner invalidating or affecting the remaining provisions of this Agreement or valid portions of such provision, which are hereby deemed servable.

§ 13.11 NO ORAL WAIVER
The Provisions of the Contract Documents shall not be changed, amended, waived, or otherwise modified in any respect except by a writing signed by Owner. No person is authorized on behalf of Owner to orally change, amend, waive, or otherwise modify the terms of the Contract Documents or any of the Contractor's duties or obligations under or arising out of the Contract Documents. Any change, waiver, approval, or consent granted to the Contractor shall be limited to the specific matters stated in the writing signed by Owner, and shall not relieve Contractor of any other of the duties and obligations under the Contract Documents. No "constructive" changes shall be allowed.

§ 13.12 Texas Public Information Act. To the extent, if any, that any provision in the Contract Documents is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that Owner, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any information or data furnished to Owner whether or not the same are available to the public. It is further understood that Owner, its officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that Owner, its officers and employees shall have no liability or obligation to Contractor for the disclosure to the public, or to any person or persons, of any software or a part thereof, or other items or data furnished to Owner by Contractor in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

§ 13.13 Equal Opportunity in Employment. The Contractor agrees that during the performance of the Agreement it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Parties will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT
§ 14.1 TERMINATION BY THE CONTRACTOR
§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 90 consecutive days through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, for any of the following reasons:

.1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;

.2 An act of government, such as a declaration of national emergency that requires all Work to be stopped; or

.3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on an undisputed Certificate for Payment within the time stated in the Contract Documents.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor or a Subcontractor, Sub-subcontractor or their agents or employees or any other persons or entities performing portions of the Work under direct or indirect contract with the Contractor, repeated suspensions, delays or interruptions of the entire Work by the Owner as described in Section 14.3 constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon 30 days' written notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, including reasonable overhead and profit, costs incurred by reason of such termination, and damages.

§ 14.2 TERMINATION BY THE OWNER FOR CAUSE

§ 14.2.1 The Owner may terminate the Contract if the Contractor

.1 fails to commence the Work in accordance with the provisions of this Contract,

.2 fails to prosecute the Work to completion thereof in a diligent, efficient, timely, workmanlike, skillful and careful manner and in strict accordance with the provisions of the Contract,

.3 fails to use an adequate amount or quality of personnel or equipment to complete the Work without undue delay,

.4 fails to perform any of its obligations under the Contract,

.5 fails to make prompt payments when due to its Subcontractors and Suppliers, or as required by Texas Government Code 2251,

.6 files any petition or other pleading seeking any relief under any provisions of the Federal Bankruptcy Act, as amended, or any other federal or state statute or law providing for reorganization of debts or other relief from creditors, permits a receiver or other person to be appointed on account of its insolvency or financial condition, or becomes insolvent,

.7 creates any situation or state of facts which would authorize or permit an involuntary petition in bankruptcy to be filed against Contractor, or

.8 has not met or in Owner's opinion will not meet the dates of Substantial Completion set forth in the Contract Documents.

§ 14.2.2 When any of the above reasons exist, the Owner, in its sole and absolute discretion, may without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, 30 days' written notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

.1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;

.2 Accept assignment of subcontracts pursuant to Section 5.4; and

.3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished. In the event that a final decision under section 15, below, is rendered that sufficient cause did not exist for termination under this section 14.2, then the termination shall be considered a termination for convenience, under section 14.4, below.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages and costs incurred by the Owner in finishing the Work and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner.

§ 14.3 SUSPENSION BY THE OWNER FOR CONVENIENCE

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay or interruption as described in Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

.1 that performance is, was or would have been so suspended, delayed or interrupted by another cause for which the Contractor is responsible; or
.2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 TERMINATION BY THE OWNER FOR CONVENIENCE
§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

§ 14.4.2 Upon receipt of written notice from the Owner of such termination for the Owner's convenience, the Contractor shall
.1 cease operations as directed by the Owner in the notice;
.2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
.3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

§ 14.4.3 Upon such termination, the Contractor shall recover the amounts provided in Section 10.1.3 of the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES
§ 15.1 CLAIMS
§ 15.1.1 DEFINITION
A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim.

§ 15.1.2 NOTICE OF CLAIMS
Claims for events arising during the performance of the Work by Contractor must be initiated by written notice to the other party with a copy sent to the Architect; provided, however, that the claimant shall use its best efforts to furnish the other party, as expeditiously as possible, with notice of any Claim including, without limitation, those in connection with concealed or unknown conditions, once such claim is recognized, and shall take steps to mitigate the alleged or potential damages, delay, or other adverse consequences arising out of the condition that is the cause of such a Claim. Claims by Contractor must be initiated within 10 business days after occurrence of the event giving rise to such Claim or within 10 business days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Claims may also be reserved in writing within the time limits set forth in this Section 15.1.2. Any notice of Claim or reservation of Claim must clearly identify the alleged cause and the nature of the Claim and include data and information available to the claimant that will facilitate prompt verification and evaluation of the Claim.

§ 15.1.3 CONTINUING CONTRACT PERFORMANCE
Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents. The Architect will prepare Change Orders and issue Certificates for Payment in accordance with the Contract Documents.

§ 15.1.4 CLAIMS FOR ADDITIONAL COST
If the Contractor wishes to make a Claim for an increase in the Contract Sum, written notice as provided herein shall be given before proceeding to execute the Work. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.5 CLAIMS FOR ADDITIONAL TIME

§ 15.1.5.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.5.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated and had an adverse effect on the scheduled construction.

§ 15.3 MEDIATION
§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract except those waived shall be subject to mediation as a condition precedent to seeking redress in a court of competent jurisdiction.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation, which shall consist of a single mediator who is knowledgeable about the subject matter of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract.

§ 15.3.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Williamson County, Texas. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§15.3.4 All disputes not resolved through mediation shall be decided in litigation in Williamson County, Texas.

§ 15.3.5 No waiver of Immunity. Nothing in the Contract Documents shall be deemed to waive, modify or amend any legal defense available at law or in equity to Owner, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. Owner does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

Proposal References

List the last three (3) companies or governmental agencies, where the same or similar goods and/or services as contained in this RFP package, were recently provided by Respondent.

Reference 1

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 2

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 3

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

DEBARMENT AND LICENSING CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Firm named herein below and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:
(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
(c) Are not presently indicted for or otherwise criminally or civilly charged by a federal, state or local governmental entity with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;
(d) Have not within a three-year period preceding this application/proposal had one or more public (federal, state or local) transactions terminated for cause or default;
(e) Are registered and licensed in the State of Texas to perform the professional services which are necessary for the project; and
(f) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

Name of Firm

Signature of Certifying Official | Title of Certifying Official

Printed Name of Certifying Official | Date

Where the Firm is unable to certify to any of the statements in this certification, such Firm shall attach an explanation to this certification.

SUBSCRIBED and sworn to before me the undersigned authority by

on this the day of , 20 , on behalf of said Firm.

Notary Public in and for the State of Texas

My commission expires:

SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYNC ELECTRONICALLY.

PROPOSAL AFFIDAVIT

This form must be completed, signed, notarized and returned with Proposal package

The undersigned certifies that the RFP and the Respondent's Proposal have been carefully reviewed and are submitted as correct and final. Respondent further certifies and agrees to furnish any and/or all goods and/or services upon which prices are extended at the price Proposal, and upon the conditions contained in the RFP.

I hereby certify that the foregoing Proposal has not been prepared in collusion with any other Respondent or other person or persons engaged in the same line of business prior to the official opening of this Proposal. Further, I certify that the Respondent is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities Proposal on, or to influence any person or persons to submit a Proposal or not to submit a Proposal thereon."

Name of Respondent:	
Address of Respondent:	
Email:	
Telephone:	
Printed Name of Person Submitting Affidavit:	
Signature of Person Submitting Affidavit:	

Cooperative Purchasing Program

Check one of the following options below. A non-affirmative Proposal will in no way have a negative impact on the County's evaluation of the Proposal.

☐	I will offer the quoted prices to all authorized entities during the term of the County's Contract.
☐	I will not offer the quoted prices to all authorized entities.

If no box is checked, the Respondent agrees to make best efforts in good faith to offer the quoted prices to all authorized entities.

BEFORE ME, the undersigned authority, a Notary Public, personally appeared _____ (*Name of Signer*), who after being by me duly sworn, did depose and say: "I, _____, (*Name of Signer*) am a duly authorized officer of/agent for _____ (*Name of Respondent*) and have been duly authorized to execute the foregoing on behalf of the said _____ (*Name of Respondent*).

SUBSCRIBED AND SWORN to before me by the above-named _____

on this the _____ day of _____, 20_____.

_____

Notary Public in and for

The State of _____

The County of _____

SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYNC ELECTRONICALLY.

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of person doing business with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.**

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 **Describe each affiliation or business relationship with an employee or contractor of the local governmental entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.**

4 **Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.**

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ
Page 2

5

Name of local government officer with whom filer has affiliation or business relationship.
(Complete this section only if the answer to A, B, or C is YES.)

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

☐ Yes ☐ No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?

☐ Yes ☐ No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐ Yes ☐ No

D. Describe each affiliation or business relationship.

6. Describe any other affiliation or business relationship that might cause conflict of interest:

7

Signature of person doing business with the governmental entity	Date

Signature not required if completing in BIDSYNC electronically.

Question and Answers for Bid #1701-139 - Renovations to 355 Texas Avenue Facility in Round Rock, TX

Overall Bid Questions
There are no questions associated with this bid.

Commissioners Court - Regular Session **45.**

Meeting Date: 03/07/2017

Request to advertise for Cul-De-Sac Fog Seal FY17 IFB1702-147

Submitted For: Randy Barker **Submitted By:** Dianne West, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive bids for FY17 Cul-De-Sac Fog Seal under IFB1702-147 for Road and Bridge Department.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Bid Packet 1702-147

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/01/2017 03:21 PM
Form Started By: Dianne West		Started On: 02/27/2017 02:59 PM
Final Approval Date: 03/01/2017		

Solicitation 1702-147

Cul-De-Sacs Fog Seal FY17

Bid Designation: Public

Williamson County, Texas

Bid 1702-147
Cul-De-Sacs Fog Seal FY17

Bid Number	1702-147
Bid Title	Cul-**De**-Sacs Fog Seal FY17
Expected Expenditure	**$348,000.00** (This price is expected - not guaranteed)
Bid Start Date	In Held
Bid End Date	Apr 5, 2017 10:00:00 AM CDT
Question & Answer End Date	Mar 30, 2017 10:00:00 AM CDT
Bid Contact	Dianne West Purchasing Specialist III 512-**943**-1692 dianne.west@wilco.org
Contract Duration	**20 days**
Contract Renewal	Not Applicable
Prices Good for	**180 days**
Pre-Bid Conference	**Mar 23, 2017 10:00:00 AM CDT** **Attendance is mandatory** **Location: Road and Bridge facility located at 3151 S.E. Inner Loop, Georgetown, TX 78262** **Note: This is a mandatory meeting. Attendance is required in order to submit a bid.**
Bid Comments	**Williamson County is seeking qualified companies to provide materials, experienced fog seal crews and equipment to resurface subdivision cul-de-sacs for FY17.** **The pre-bid meeting is mandatory. Therefore, attendance is required in order to submit a bid.** **NOTE: Please ensure that additional stipulations are reviewed and be fully complied with. Additional Stipulations are attached.** **Insurance is required. Please refer to additional stipulations included as part of the bid documents.** **Performance, Payment, and Warranty Bonds are required.** **Please ensure that you have read and can comply with the General Notes and Technical Specifications Cul-De-Sac Fog Seal.** **Please review the attached ensuing agreement. All Terms and Conditions will be required upon award.**

Item Response Form

Item	**1702-147--01-01 -** Please add all bid documents to this line item.
Quantity	**1 each**
Unit Price	
Delivery Location	**Williamson County, Texas** Purchasing Department 901 S. Austin Avenue Georgetown TX 78626 **Qty** 1

Description
Please add all bid documents to the line item.

PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

WILLIAMSON COUNTY PURCHASING DEPARTMENT
SOLICIATION 1702-147
Cul-De-Sacs Fog Seal FY17

PROPOSALS MUST BE RECEIVED ON OR BEFORE:
Apr 5, 2017 10:00:00 AM CDT

PROPOSAL WILL BE PUBLICLY OPENED:
Apr 5, 2017 10:00:00 AM CDT

Notice is hereby given that sealed Proposals for the above-mentioned goods and/or services will be accepted by the Williamson County Purchasing Department. Williamson County uses BidSync to distribute and receive proposals. Specifications for this RFP may be obtained by registering at www.bidsync.com.

Williamson County prefers and requests electronic submittal of this Proposal.

All electronic proposal must be submitted via: www.bidsync.com

Electronic proposals are requested, however paper proposals will currently still be received, until further notice and may be mailed or delivered to the address listed below.

Respondents are strongly encouraged to carefully read this entire RFP.

All interested Respondents are invited to submit a Proposal in accordance with the Instructions and General Requirements, Proposal Format, Proposal Specifications, and Definitions, Terms and Conditions stated in this RFP.

Please note that a complete package must be submitted choosing one of the above two methods. Split packages submitted will be considered "unresponsive" and will not be accepted or evaluated.

Williamson County will not accept any Proposals received after the submittal deadline, and shall return such Proposals unopened to the Respondent.

General Information:

- If mailed or delivered in person, Proposal and Proposal addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed above for this RFP, to:

  Williamson County Purchasing Department
  Attn: **PROPOSAL NAME AND NUMBER**
  901 South Austin Avenue
  Georgetown, Texas 78626

  - Respondents should list the Proposal Number, Proposal Name, Name and Address of Respondent, and the Date of the Proposal opening on the outside of the box or envelope and note "Sealed Proposal Enclosed."
  - Respondent should submit one (1) original.
  - Williamson County will NOT be responsible for unmarked or improperly marked envelopes.
  - Williamson County will not accept any responsibility for Proposals being delivered by third party carriers.
  - Facsimile transmittals will NOT be accepted.

- Proposals will be opened publicly in a manner; however, to avoid public disclosure of contents, only the names of Respondents and pricing will be read aloud.

- All submitted questions with their answers will be posted and updated on www.bidsync.com.

- It is the Respondent's responsibility to review all documents in BidSync, including any Addenda that may have been added after the document packet was originally released and posted.

  - Any Addenda and/or other information relevant to the RFP will be posted on www.bidsync.com.

  - The Williamson County Purchasing Department takes no responsibility to ensure any interested Respondent has obtained any outstanding addenda or additional information.

General Notes and Technical Specifications

Cul-De-Sac Fog Seal

Definition of Terms

Fog Seal Season: October 1 through June 30.

County: Williamson County acting through the Road and Bridge Division.

Contractor: Successful bidder of the attached invitation to bid.

Engineer: Williamson County Director of Road and Bridge, or designee.

Inspector: Engineer's designee assigned, full or part time, to the contractor's crew for the oversight of the work.

Specifications: Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges 2014.

TxDOT: Texas Department of Transportation.

Working Day: Monday through Friday (excluding County approved holidays), if weather permits the performance of the contract (as determined by the inspector) for a continuous period of at least 6 hrs. (excluding lunch) between 8:00 A.M. and 5:00 P.M.

General Notes

All work performed and all products furnished under the provision of the Contract shall comply with requirements which pertain to the various items of work included as *Standard Specifications for Construction of Highways, Streets and Bridges* of the Texas Department of Transportation, adopted November 1, 2014, and as amended and/or updated, which is incorporated herein by reference for all purposes. In the event that any specification set out herein conflicts with the said TxDOT specifications, the specification set out herein shall control and govern.

The Contractor will be given written Notice to Proceed on this project. This fog seal project shall begin within five (5) working days after such notification and shall continue for twenty (20) working days.

Contractor shall not work after the ending of fog seal season (June 30), except with the approval of the Engineer.

The Contractor shall arrange the fog seal operation in such a manner as to avoid excessive inconvenience to the public.

Prior to commencing fog seal applications, all cul-de-sac residents shall be informed by the contractor that the application is about to occur and to relocate their vehicles if they anticipate needing to leave their home within the next 2 hours. Contractor shall provide

the County with a background check on all persons the Contractor proposes to utilize in informing residents. No person with convictions, other than traffic violations, on their back ground check will be allowed to inform residents that the fog seal application is about to occur.

If there is a manufacturer/authorized dealer certification requirement for applying a proposed product, the Contractor must be approved by the manufacturer/authorized dealer as a certified applicator.

The Contractor shall not apply a fog seal the day before or on the actual day that a street is to receive garbage, recycling or waste collection. Contractor shall research the applicable garbage, recycling or waste collection schedule for each street prior to bidding.

Contractor shall provide a cul-de-sac by cul-de-sac schedule before any work shall begin.

Contractor shall not apply fog seal to more than 8 cul-de-sacs per crew in one working day.

Contractor shall not fog seal or apply asphaltic material to roadway surface before 9:00 am or after 2:00 pm, unless directed by the Engineer.

The County shall notify abutting property owners twice of upcoming fog seal operations by means of door hangers. The first door hanger will be distributed ten (10) to fourteen (14) days prior to fog seal application, while the second door hanger will be distributed two (2) days prior to fog seal application.

Contractor will coordinate daily with the County for a listing of cul-de-sacs that have received advanced notice of fog seal operations (door hangers). Contractor shall not begin fog seal operations on streets in which no advance notice has been provided to the residents.

All construction equipment involved in roadway work shall be equipped with a permanently mounted 360 degree revolving or strobe warning light with amber lens. This light shall have a minimum lens height of 5 inches and a diameter of 5 inches.

This light shall have a mounting height of not less than 6 feet above the roadway surface and shall be visible from all sides. This equipment shall also have attached at each side of the rear end of the vehicle an approved orange warning flag mounted not less than 6 feet above the roadway surface.

Contractor shall cover up an entire vehicle where vehicles are parked within 30 feet of the fog seal operation.

Contractor is responsible for cleaning up any overspray fog seal material to curb/gutter or driveway.

Care shall be exercised to prevent damage to all property in and around the construction zone. The Contractor shall be liable for the repair and restoration of any property damaged as a result of the contractor's prosecution of the work.

This shall include, but is not limited to, re-vegetation of all areas damaged or destroyed by construction. Contractor will be held liable and responsible for such areas until growth is reestablished to the satisfaction of the County.

Ornamental landscape plantings of trees, shrubs and grasses that are damaged or destroyed during construction shall be replaced with plant material of comparable size and quality approved by the County.

Contractor's equipment and vehicles shall not be maintained on-site during construction, except at designated maintenance sites as approved by the Inspector.

The Contractor may be required to trim and remove brush and trees in order to construct the project or to provide a vertical clearance of at least 12 feet. For this operation, the method shall be approved by the Inspector.

An English-speaking Superintendent shall be available on the project at all times when work is being performed. The Contractor shall provide the Inspector with contact information for the Superintendent.

Contractor shall provide at least one portable restroom near the work site(s) at all times in order to provide a bathroom to individuals providing work hereunder. Contractor shall monitor and prevent its employees and any of its subcontractors that are providing work on the project from urinating or defecating on property in, on or adjacent to the areas in which work is being performed.

ITEM 300 – Asphalts, Oils, and Emulsions

Contractor shall use a Hard Residue Surface Sealant specialty emulsion for fog seal operations that meet requirements in Special Provision 300-003 (MOD).

SPECIAL PROVISION 300-03 (MOD)

Article 300.2.5., " Specialty Emulsions." Specialty emulsions shall be asphalt-based, must contain a minimum of 10% tire rubber and must meet the requirements of Table 11 or Table 11A.

ITEM 315 – Fog Seal

315.1. Description. Apply an emulsified asphalt and water mixture as an aggregate loss preventative or surface seal.

315.2. Materials. Use emulsified asphalt of the type and grade shown on the plans that meet the requirements of Item 300, "Asphalts, Oils, and Emulsions." Provide water free of industrial wastes and other objectionable matter.

Use a quantity of emulsified asphalt in the mixture, expressed as a percentage of total volume, which meets the percentage shown on the plans or as directed. While application rates will be determined in the field, an assumed rate of 0.18 gallons per square yard has been used for estimating purposes.

315.3. Equipment. Provide applicable equipment in accordance with Article 316.3, "Equipment." Furnish the necessary facilities and equipment for determining the temperature of the mixture, regulating the application rate, and securing uniformity at the junction of 2 distributor loads.

315.4. Construction. Remove or protect existing raised pavement markers. Repair any damage incurred by removal as directed. Remove dirt, dust, or other harmful material; blow dry damped area; mask off manhole cover and water valve cover before sealing. This will be considered subsidiary to Item 315.

Fog seal shall only be applied in the following conditions: Pavement temperature is 60 degrees and rising not to exceed 130 degrees, air temperature is 60 degrees and rising not to exceed 90 degrees, and dew point separation is 15 degrees or more below the air temperature. Measure the air temperature in the shade away from artificial heat. The Engineer will determine when weather conditions are suitable for application.

Application of the fog seal should be conducted using the distributor spray bars and nozzles to the extent possible. Except where absolutely necessary, hand or wand work shall not be utilized.

The Engineer will select the application temperature within the limits recommended in Item 300, "Asphalts, Oils, and Emulsions." Apply the material within 15°F of the selected temperature.

Use paper or other approved material at beginning and end of each shot to construct a straight transverse joint and prevent overlapping applied material.

Use sufficient pressure to flare the nozzles fully.

Distribute material at the rate shown on the plans or as directed. While application rates will be determined in the field, an assumed rate of 0.18 gallons per square yard has been used for estimating purposes.

Do not apply asphalt to the roadway until traffic control methods and devices are in place as shown on the plans or as directed. Do not open the treated surface to traffic until directed by the Engineer. When an excessive quantity of asphalt is applied, furnish and uniformly distribute clean, fine sand on the surface to blot the excess. Maintain ingress and egress as directed by applying sand to freshly sealed areas.

315.5. Measurement. This Item will be measured by the gallon of specialty emulsified asphalt used in the specialty emulsified asphalt and water mixture.

315.6. Payment. The work performed and the materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Fog Seal" of the type and grade specified. This price is full compensation for materials, equipment, labor, tools, and incidentals. Blotter sand will not be paid for directly but will be subsidiary to this Item.

ITEM 316 – Surface Treatments

316.3. Equipment.

A. Distributor. Furnish a distributor that will apply the asphalt material uniformly at the specified rate or as directed. Stop application if asphalt application is not uniform due to streaking, ridging, formation of excess asphalt, or inability of asphalt to remain at applied location. Verify equipment condition, operating procedures, application temperature, and material properties. Determine and correct the cause for non-uniform application. If the cause is high or low viscosity of the emulsion, no further asphalt application will occur until material meeting the contract specifications is provided.

The Engineer may stop asphalt application and require test strips at the Contractor's expense if any of the following occurs: 1) non-uniformity continues after corrective action, 2) on three consecutive shots, application rate differs by more than 0.02 gallons per square yard from the desired rate, or 3) any shot differs by more than 0.04 gallons per square yard from the desired rate.

1. **Transverse Variance Rate.** When a transverse variance rate is shown on the plans, ensure that the nozzles outside the wheel paths will output a predetermined percentage more of asphalt material by volume than the nozzles over the wheel paths.

2. **Calibration.**

   a. **Transverse Distribution.** Furnish a distributor test report, no more than 1 yr. old, documenting that the variation in output for individual nozzles of the same size does not exceed 10% when tested at the greatest shot width in accordance with Tex-922-K, Part III.

   Include the following documentation on the test report:

   - the serial number of the distributor,
   - a method that identifies the actual nozzle set used in the test, and
   - the fan width of the nozzle set at a 12-in. bar height.

   When a transverse variance rate is required, perform the test using the type and grade of asphalt material to be used on the project. The Engineer may verify the transverse rate and distribution at any time. If verification does not meet the requirements, correct deficiencies and furnish a new

test report.

b. Tank Volume. Furnish a volumetric calibration and strap stick for the distributor tank in accordance with Tex-922-K, Part I.

Calibrate the distributor within the previous 5 years of the date first used on the project. The Engineer may verify calibration accuracy in accordance with Tex-922-K, Part II.

ITEM 502 Barricades, Signs, and Traffic Handling

This item will not be paid for directly but shall be considered subsidiary to various bid items.

Contractor shall provide all traffic control measures to prosecute the work.

The driveway(s) for each residence in the cul-de-sac shall have cones or TY III barricades placed to remind residents of the fog seal work.

Contractor shall assign at least one competent employee to each cul-de-sac that has received a fog seal application but has not yet been opened to traffic. This employee will ensure that traffic does not drive on the non-cured fog seal.

Traffic control suitable methods shall be used by the Contractor to protect the fog seal from all types of vehicular traffic without damage. Opening to traffic does not constitute acceptance of the Work. The Engineer shall be notified of the methods to be used.

In areas which are subject to an increased rate of sharp turning vehicles, additional time may be required for a more complete cure of the fog seal mat to prevent damage. Slight tire marks may be evident in these areas after opening but will diminish over time with rolling traffic. If these areas are not severely rutted, they should be considered as normal characteristics of a fog seal and should be accepted.

The Contractor will be required to maintain a minimum of one through lane in each direction during daylight hours, on all roadways, except with written approval by the Inspector. Two lane roadways shall use single lane traffic control, which will require the use of flagmen. This shall not be paid for directly, but shall be considered subsidiary to Bid Item emulsified fog seal.

Flaggers must comply with all requirements outlined in TxDOT Specification Item 502.2B.

Limiting access to all side streets and driveways shall be minimized to the extent possible.

The Contractor's crew leader shall be a competent person who will be responsible and available on the project site or in the immediate area to ensure compliance with the TCP.

WILLIAMSON COUNTY

GOVERNING SPECIFICATIONS

(STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, AND SPECIAL SPECIFICATIONS)

WHERE DISCREPANCIES OCCUR BETWEEN THE VARIOUS GOVERNING SPECIFICATIONS, THE SPECIAL PROVISIONS SHALL GOVERN OVER BOTH STANDARD SPECIFICATIONS AND SPECIAL SPECIFICATIONS.

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION, NOVEMBER 1, 2014. STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE CONTRACT BY REFERENCE.

( ) REFERENCE ITEMS USED ON THIS CONTRACT

ITEMS 1 - 9 ARE SUPERSEDED BY THE CONTRACT GENERAL AND SPECIAL CONDITIONS, WHERE APPLICABLE. WHEREVER, IN THE TXDOT STANDARD SPECIFICATIONS, REFERENCE IS MADE TO THE STATE OF TEXAS, THE DEPARTMENT AND ITS REPRESENTATIVES, SUCH REFERENCE SHALL BE TAKEN TO MEAN WILLIAMSON COUNTY AND ITS REPRESENTATIVES.

ITEM 315 FOG SEAL (300)(316)
ITEM 500 MOBILIZATION
ITEM 502 BARRICADES, SIGNS AND TRAFFIC HANDLING
ITEM 662 WORK ZONE PAVEMENT MARKINGS
ITEM 666 REFLECTORIZED PAVEMENT MARKINGS (678)

SPECIAL PROVISIONS: THE CONTENT OF THE SPECIAL PROVISIONS ARE INCLUDED ON THE FOLLOWING PAGES:

SPECIAL PROVISION TO ITEM 300 (300---003) (MOD)
SPECIAL PROVISION TO ITEM 300 (300---009)

Special Provision to Item 300
Asphalts, Oils, and Emulsions

For this project, Item 300, "Asphalts, Oils, and Emulsions," of the Standard Specifications, is hereby amended with respect to the clauses cited below, and no other clauses or requirements of this Item are waived or changed hereby.

Section 300.2.5., "Specialty Emulsions." The first sentence is voided and replaced with the following:

Specialty emulsions shall be either asphalt-based, and must contain a minimum of 10% tire rubber and must meet the requirements of Table 11 or Table 11A.

Section 300.2.5., "Specialty Emulsions," is supplemented by the following:

Table 11A
Hard Residue Surface Sealant

Property	Test Procedure	Min	Max
Viscosity, Krebs unit, 77ºF, Krebs units	D 562	45	75
Softening point, ºF	T 53[1]	250	--
Uniformity	D 2939	Pass[2]	
Resistance to heat	D 2939	Pass[3]	
Resistance to water	D 2939	Pass[4]	
Wet flow, mm	D 2939	--	0
Resistance to Kerosene (optional)[5]	D 2939	Pass[6]	
Ultraviolet exposure, UVA-340, 0.77 W/m^2, 50°C chamber, 8 hours UV lamp, 5 min spray, 3 hours 55 minutes condensation, 1000 hr total exposure[7]	G 154	Pass[8]	
Abrasion loss, 1.6 mm thickness, liquid only, %	ISSA TB-100	--	1.0
Residue by evaporation, % by weight	D 2939	33	--
Tests on residue from evaporation: Penetration, 77ºF, 100 g, 5 sec. Flash point, Cleveland open cup, °F	 T 49 T 48	 15 500	 30
Tests on base asphalt before emulsification Solubility in trichloroethylene, %	 T 44	 98	 --

1. Cure the emulsion in the softening point ring in a 200°F ± 5°F oven for 2 hr.
2. Product shall be homogenous and show no separation or coagulation that cannot be overcome by moderate stirring.
3. No sagging or slippage of film beyond the initial reference line.
4. No blistering or re-emulsification.
5. Recommended for airport applications or where fuel resistance is desired.
6. No absorption of Kerosene into the clay tile past the sealer film. Note sealer surface condition and loss of adhesion.
7. Other exposure cycles with similar levels of irradiation and conditions may be used with Department approval.
8. No cracking, chipping, surface distortion, or loss of adhesion. No color fading or lightening.

Special Provision to Item 300
Asphalts, Oils, and Emulsions

Item 300, "Asphalts, Oils, and Emulsions," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 300.2., "Materials." The first paragraph is voided and replaced by the following.

Provide asphalt materials that meet the stated requirements when tested in accordance with the referenced Department, AASHTO, and ASTM test methods. Use asphalt containing recycled materials only if the recycled components meet the requirements of Article 6.9, "Recycled Materials." Provide asphalt materials that the Department has preapproved for use in accordance with Tex-545-C, "Asphalt Binder Quality Program."

Inform the Department of all additives or modifiers included in the asphalt binder as part of the facility quality plan, as required by Tex-545-C, "Asphalt Binder Quality Program," and provide that information to Department personnel. The Department reserves the right to prohibit the use of any asphalt additive or modifier.

Section 300.2.10. "Performance-Graded Binders," is supplemented by the following:

Limit the use of polyphosphoric acid to no more than 0.5% by weight of the asphalt binder.

Limit the use of re-refined engine oil bottoms to no more than 5.0% by weight of the asphalt binder.

Additional Stipulations

Cul-De-Sac Fog Seal IFB 1702-147

1 Additional Stipulations

1.1 Introduction

The Bid evaluation and selection process is detailed in this section, as are other factors, and the format in which the Price Bid of each Bid should be submitted.

1.2 Contract Administrator

Kon Q. Kwan, P.E. (or designee), of Road and Bridge, Williamson County 3151 South East Inner Loop, Suite B, Georgetown, Texas shall serve as the County's Technical Contact with designated responsibility to ensure compliance with the requirements of the Contract and any Ensuing Agreement, such as, but not limited to, acceptance, inspection and delivery. The Technical Contact together with the Purchasing Department will serve as a liaison between the Williamson County Commissioners Court and the Successful Bidder.

1.3 Time for Performance

Time is of the essence. The timeframe for performance is 15 days for substantial completion and 20 days for final completion. This may begin at the time specified by the County within the three hundred sixty-five (365) days of the pricing quoted on this bid, starting on the day of award. The Contractor will be given written notice to begin work on this project. Work on this project shall begin within five (5) working days after such notification.

1.4 Performance and Payment Bonds

To the extent, this IFB is for the procurement of a public work contract, and the following shall apply:

Texas Local Government Code, Chapter 262.032, governs the requirements for performance bonds for government entities making public work contracts. A performance bond is required if the contract is in excess of $50,000 and is to be made for the full amount of the contract.

Texas Government Code, Chapter 2253.021, governs the requirements for payment bonds for government entities making public work contracts. A payment bond is required if the contract is in excess of $25,000 and is to be made for the full amount of the contract.

The bonds are to be executed and delivered to the County **prior to issuing Notice to Proceed**. The bonds must be executed by a corporate surety or sureties in accordance with the Texas Insurance Code. For unit price contracts, the total contract price shall be estimated and calculated by multiplying the estimated quantities to the Bidder's unit bid price.

1.5 Warranty Bonds

When a Warranty Bond is required it shall be submitted by the Successful Bidder prior to issuing Notice to Proceed, and shall be in the amount of **twenty (20) percent of the total project construction cost.** This Warranty Bond shall be security for the true and faithful performance of all warranties for one (1) year from the date of final payment. For unit price contracts, the total project construction cost shall be estimated and calculated by multiplying the estimated quantities to the bidder's unit bid price.

1.6 Insurance Requirements

By signing its Bid, the Bidder agrees to maintain at all times during any term of the Contract and any ensuing Agreement at Bidder's cost, insurance in accordance with this provision.

Bidder will be required to submit Certificates of Insurance **prior to contract award and any renewals.**

All certificates of insurance coverage as specified below must be provided to the following location:

Williamson County Purchasing Department
901 S Austin Ave
Georgetown, Texas 78626

Failure to comply with these Insurance Requirements may result in the termination of the Contract and any ensuing Agreement(s) between the Successful Bidder and County.

The following coverage limits shall be required at a minimum:

A.	Worker's Compensation	Statutory – Texas Law
B.	Employer's Liability:	
	Bodily Injury by Accident	$500,000 Ea. Accident
	Bodily Injury by Disease	$500,000 Ea. Employee

Bodily Injury by Disease	$500,000 Policy Limit

C. Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE	PER PERSON	PER OCCURRENCE
Comprehensive General Liability	$1,000,000	$1,000,000
Aggregate policy limits:	$1,000,000	

Successful Bidder's property will not be covered by any insurance that may be carried by the County. Successful Bidder assumes the risk of loss on its contents and property that are situated on/in/around the County property. The Successful Bidder is strongly encouraged to obtain insurance on its property to the extent deemed necessary by the Successful Bidder.

The deductible for an insurance policy required hereunder shall not exceed $100,000. **The County shall be named as an additional insured under any policy of insurance required hereunder.**

Successful Bidder shall not commence any work until it has obtained all required insurance and such insurance has been approved by County. Successful Bidder shall not allow any subcontractor(s) to commence work to be performed until all required insurance has been obtained by such subcontractor(s) and approved by County. Approval of the insurance by County shall not relieve or decrease the liability of Successful Bidder or its subcontractor(s) hereunder.

The required insurance must be written by a company approved to do business in the State of Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued. Successful Bidder shall furnish County with a certificate of coverage issued by the insurer. Successful Bidder shall not cause any insurance to be canceled nor permit any insurance to lapse. ALL INSURANCE CERTIFICATES SHALL INCLUDE A CLAUSE TO THE EFFECT THAT THE POLICY SHALL NOT BE CANCELED OR REDUCED, RESTRICTED OR LIMITED UNTIL TEN (10) CALENDAR DAYS AFTER COUNTY HAS RECEIVED WRITTEN NOTICE AS EVIDENCED BY RETURN RECEIPT OF REGISTERED OR CERTIFIED LETTER.

It is the intention of the County, and agreed to and hereby acknowledged by the Successful Bidder, that no provision of this Contract or any ensuing Agreement shall be construed to require the County to submit to mandatory arbitration or mediation in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder which absolutely requires arbitration or mediation of such claim, or as otherwise required by law or a court of law with jurisdiction over the provisions of this Contract or any ensuing Agreement.

Workers' Compensation Coverage Requirements

The Texas Labor Code, Section 406.096, requires workers' compensation insurance coverage for all persons providing services on a building or construction project for a

governmental entity such as the County. The rule requires the County to timely obtain certificates of coverage and retain them for the duration of the project. The rule also sets out the language to be included in the Bid specifications and in contracts awarded by a governmental entity and the information required to be in the posted notice to employees. The rule is adopted under the Texas Labor Code, Section 402.061.

The information provided below is a result of this rule. By submitting your Bid to the County, you are acknowledging that this rule is a part of these Bid specifications, and that you will observe and abide by all of the requirements outlined in the rule. You are further agreeing that should your Bid be accepted by the Williamson County Commissioners Court, the necessary certificates of coverage showing workers' compensation coverage, will be provided to the following name and address prior to beginning work:

Williamson County Purchasing Department
901 S. Austin Ave.
Georgetown, TX 78626

Failure to comply with this request may result in termination of the Contract and any ensuing Agreement. If you have any questions related to this ruling and/or requirement, you are encouraged to contact either the Williamson County Purchasing Department at (512) 943-1546, or you may call the Texas Workers' Compensation Commission at (800) 372-7713.

A. The following words and terms, when used in this provision, shall have the following meanings. Terms not defined in this rule shall have the meaning defined in the Texas Labor Code, if so defined.

1. Certificate of coverage (certificate) – A copy of a certificate of insurance, a certificate of authority to self-insure issued by the commission, or a workers' compensation coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees (including those subject to a coverage agreement) providing services on a project, for the duration of the project.

2. Building or Construction – Has the meaning defined in the Texas Labor Code, Section 406.096(e)(1).

3. Contractor – A person bidding for or awarded a building or construction project by Williamson County.

4. Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, Section 401.011(44).

5. Coverage agreement – A written agreement on form TWCC-81, form TWCC-82, form TWCC-83, or form TWCC-84, filed with the Texas Workers' Compensation Commission which establishes a relationship between the parties for purposes of the Texas Workers' Compensation Act, pursuant to the Texas Labor Code, Chapter 406, Subchapters F and G, as one of employer/employee and establishes who will be responsible for providing workers' compensation coverage for persons providing services on the project.

6. Duration of the project--Includes the time from the beginning of work on the project

until the work on the project has been completed and accepted by the County.

7. Persons providing services on the project ("subcontractor" in the Texas Labor Code, Section 406.096) – includes all persons or entities performing all or part of the services the contractor has undertaken to perform on the project, regardless of whether that person contracted directly with the contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services on the project. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the project, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

8. Project – Includes the provision of all services related to a building or construction contract for the County.

B. The contractor shall provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of the Texas Labor Code, Section 401.011(44), for all employees of the contractor providing services on the project, for the duration of the project.

C. The Contractor must provide a certificate of workers compensation coverage to Williamson County prior to being awarded the Contract.

D. If the coverage period shown on the contractor's current certificate of coverage ends during the duration of the project, the contractor must, prior to the end of the coverage period, file a new certificate of coverage with Williamson County showing that coverage has been extended.

E. The contractor shall obtain from each person providing services on a project, and provide to the County:

1. A certificate of coverage, prior to that person beginning work on the project, so Williamson County will have on file certificates of coverage showing coverage for all persons providing services on the project; and

2. No later than seven days after receipt by the contractor, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project.

F. The contractor shall retain all required certificates of coverage for the duration of the project and for one year thereafter.

G. The contractor shall notify the County in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

1. Provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44), for all of its employees providing services on the project, for the duration of the project;

2. Provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

3. Provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

4. Obtain from each other person with whom it contracts, and provide to the contractor:

    i. (a) a certificate of coverage, prior to the other person beginning work on the project; and
    ii. (b) a new certificate of coverage showing extension of coverage, prior to the end of the coverage period, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

5. Retain all required certificates of coverage on file for the duration of the project and for one year thereafter;

6. Notify the County in writing by certified mail or personal delivery, within ten (10) days after the person knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project; and

7. Contractually require each person with whom it contracts, to perform as required by paragraphs 1 – 7, with the certificates of coverage to be provided to the person for whom they are providing services

J. By signing this Contract or providing or causing to be provided a certificate of coverage, the contractor is representing to Williamson County that all employees of the contractor who will provide services on the project will be covered by workers' compensation coverage for the duration of the project, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or misleading information may subject the contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

K. The contractor's failure to comply with any of these provisions is a breach of Contract by the contractor which entitles the County to declare the contract void if the contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the County.

INDEX OF SHEETS	
SHEET	DESCRIPTION
1	COVER
2	ROADWAY LISTING
3	ROADWAY LISTING 2
4	KEY MAP
5	CAT HOLLOW, BRUSHY CREEK, STONE CANYON, TONKAWA VILLAGE, TONKAWA SPRINGS, GREAT OAKS
6	SHADY OAKS ESTATES
7	DENCHAR, NORT LAKEWOOD, ASHLEY MORE, TWIN SPRINGS, NORTH LAKE EST., RIDGEWOOD EST., GILES EST., FOUR-T RANCH
8	SERENADA WEST, SERENADA COUNTRY ESTATES, SERENADA EAST, AIR COUNTRY, HISTORIC ACRES
9	WOOD RANCH, OAK CREST ESTATES, OAK CREST RANCHETTES, CANDLE OAKS, COUNTRY WEST
10	FOUNTAINWOOD, CHAPARRO EST.
11	MISC. DETAIL
12	BC(10)-07

REFERENCED STANDARD SPECIFICATIONS:
SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON NOVEMBER 1, 2014 SHALL GOVERN THIS PROJECT.

Williamson County, Texas

WILLIAMSON COUNTY
DEPARTMENT OF INFRASTRUCTURE

3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
943-3330
www.wilco.org

PLANS FOR PROPOSED
COUNTY ROAD
IMPROVEMENTS

FY17 SUBDIVISION
CUL-DE-SAC FOG SEAL
PHASE I

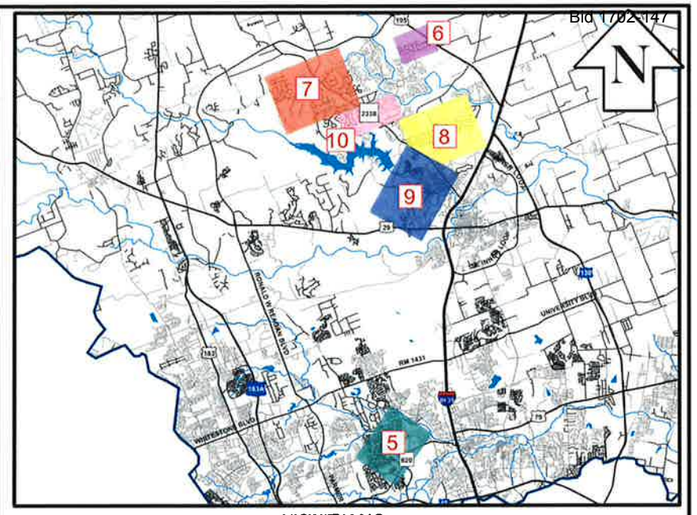
WILLIAMSON COUNTY
1848

GENERAL PROJECT INFO:
SUBDIVISION FOG SEAL PROJECT TO CONSIST OF APPROXIMATELY 102,045 SQ.YDS.

LIMITS: SEE PLAN SHEETS

#	SHEETS AFFECTED	BY	DATE
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Bid 1702-147



VICINITY MAP
NTS

WILLIAMSON COUNTY

DESIGNED BY:

KON Q. KWAN, P.E. PROJECT ENGINEER

STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 02/21/2017

APPROVED AND RECOMMENDED FOR LETTING:

FRED D. WOODALL, P.E., ACTING DIRECTOR OF ROAD & BRIDGE — DATE 2-21-17

SHEET TAB: COVER
PLOTTED BY: lponimeyer
PLOT TIME: Feb 21, 2017 - 9:31am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal COVER SHEET.dwg

Subdivision	Road Name	Square Yards
Ashley Moore	Shirley Ln	1233.75
Brushy Creek	Cutaway	894.52
Brushy Creek	Freemont Cir	560.93
Brushy Creek	Freemont Cv	586.92
Brushy Creek	Freemont St	586.40
Brushy Creek	Hill Cv	591.96
Brushy Creek	Hillrock Cv	838.21
Brushy Creek	Overland	580.12
Brushy Creek	Side Cv	748.36
Brushy Creek	Valona Loop	1285.47
Candleoaks	Candlelite Cir	811.00
Cat Hollow	Almelo Dr	1517.54
Cat Hollow	Ansonia Trl	561.51
Cat Hollow	Aquila Ct	639.31
Cat Hollow	Avaranche Way	277.78
Cat Hollow	Bailey Jean Dr	1199.07
Cat Hollow	Barlow Dr	319.35
Cat Hollow	Brienne Dr	601.78
Cat Hollow	Campeche Bay Pl	847.05
Cat Hollow	Campeche Bay Pl	514.94
Cat Hollow	Conchos Valley Dr	323.45
Cat Hollow	Fasher Cv	547.29
Cat Hollow	Flowerpot Cv	683.31
Cat Hollow	Hawick Dr	581.04
Cat Hollow	Judy Scholl Way	913.59
Cat Hollow	Karst View Cv	658.71
Cat Hollow	Leghorn Cv	698.76
Cat Hollow	Lenz Dr	741.19
Cat Hollow	Luckenwald Cv	564.61
Cat Hollow	Luckenwald Dr	303.71
Cat Hollow	Marsala Springs Dr	1057.66
Cat Hollow	Menlo Park Pl	602.25
Cat Hollow	Mouse Trap Dr	915.44
Cat Hollow	Ocelot Cv	753.88
Cat Hollow	Rambollet Ter	597.45
Cat Hollow	Ronchamps Dr	306.10
Cat Hollow	Sabertooth Dr	541.82
Cat Hollow	Stray Cv	933.85
Cat Hollow	Tin Roof Cv	890.23
Cat Hollow	Tomcat Cv	664.81
Cat Hollow	Tomcat Dr	581.93
Chaparro Estates	Sedro Trl	386.89
Country West	Rustle Cv	432.60
Country West	Windflower Ln	573.50
Country West	Country Road	422.59

Subdivision	Road Name	Square Yards
Denchar	Austin Elaine Dr	609.44
Fern Bluff	Columbia Falls Cv	699.42
Fern Bluff	Miller Falls Cv	671.72
Fern Bluff	Mount Shasta Cv	618.99
Fern Bluff	Priest River Cv	650.89
Fern Bluff	Priest River Dr	741.07
Fern Bluff	Tad Park Cv	759.17
Fountainwood Estates	Bos Bnd	454.86
Fountainwood Estates	Lakeview Ln	551.27
Fountainwood Estates	Lauren Ln	368.51
Fountainwood Estates	Liz Ln	395.67
Fountainwood Estates	Melanie Cv	406.28
Fountainwood Estates	Neil Knoll	360.93
Fountainwood Estates	Olive Branch	361.05
Fountainwood Estates	Rebecca Rd	372.04
Four T Ranch	Michelle Ct	693.02
Giles Estates	Sheryl Ann Cv	439.22
Great Oaks	Oak Ridge Dr	294.93
Greenridge	Greenridge Rd	688.65
Greenridge	Shepherd Rd	813.00
Hillside at Brushy Creek	Rollingway Cv	712.05
Hillside at Brushy Creek	Runningway Dr	941.70
Historic Acres	Deer Trl	379.72
Historic Acres	Indian Mound Rd	241.03
North Lake	Graystone Ln	764.78
North Lake	Shoal Dr	606.33
North Lake	Spray Ln	593.83
North Lake	Timber Line Rd	348.48
North Lakewood	Comanche Trl	663.37
Oak Crest Ranchettes	Ashwood Ln	300.97
Oak Crest Ranchettes	Fawn Ln	410.75
Oak Crest Ranchettes	Grassland Ln	481.48
Oak Crest Ranchettes	Harmony Ln	1089.62
Oak Crest Ranchettes	Oak Grove Ln	303.75
Oakcrest Estates Highcrest	Starview Dr	167.76
Ridgewood Estates	Ridgewood Cv	777.01
Robles Grandes	Roble Grande Cir	274.39
Sanaloma Estates	Barcelona Ct	499.35
Sanaloma Estates	Cadiz Ct	487.70
Sanaloma Estates	Palo Duro Ct	532.00
Sanaloma Estates	Taos Ct	489.25
Sanaloma Estates	Valencia Ct	501.61

NO	DESCRIPTION	BY	DATE

WILLIAMSON COUNTY
DEPT. OF
INFRASTRUCTURE
3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
943-3330
www.wilco.org

FY 17 Subdivision
Cul-de-sac Fog Seal

ROADWAY LISTING

WILLIAMSON COUNTY 1848

STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 02/21/2017

PROJECT: FY 17 FOG SEAL
DATE: 02-21-2017
DESIGNED: LEP
CAD DWG: LEP
REVIEWED: KQK

SHEET
2
OF 12

SHEET TAB: ROADWAY LISTING
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:31am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal COVER SHEET.dwg

Subdivision	Road Name	Square Yards
Serenada Country Estates	Azul Ct	457.68
Serenada Country Estates	Bello Cir	473.02
Serenada Country Estates	Bello Cir	419.72
Serenada Country Estates	Mesa Spur	450.52
Serenada Country Estates	Oro Ct	444.21
Serenada Country Estates	Ramada Trl	465.62
Serenada Country Estates	Roble Cir	481.58
Serenada Country Estates	Solona Cir	151.58
Serenada Country Estates	Verde Ct	443.25
Serenada East	Aragon Ct	496.43
Serenada East	Del Rio Ct	534.83
Serenada East	Mariposa Ct	534.54
Serenada East	Sabinas Ct	546.59
Serenada East	Tejano Ct	553.14
Serenada West	Las Plumas Ct	526.88
Serenada West	Val Verde Dr	474.03
Shady Oaks Estates	Arroyo Dr	585.24
Shady Oaks Estates	Buena Vista Ct	585.69
Shady Oaks Estates	Cascada Cv	523.12
Shady Oaks Estates	Cherry Wood Ct	670.61
Shady Oaks Estates	Copper Leaf Ct	516.71
Shady Oaks Estates	Escondido Dr	676.18
Shady Oaks Estates	Mariposa Bonita Cv	508.86
Shady Oaks Estates	Oak Breeze Cv	592.24
Shady Oaks Estates	Silverado Dr	620.52
Shady Oaks Estates	Wood Cv	623.69
Stone Canyon	Ancona Tr	612.21
Stone Canyon	Bar Harbor Cv	794.31
Stone Canyon	Box Canyon Ter	875.17
Stone Canyon	Cloud Peak Cv	779.23
Stone Canyon	Cloud Peak Ln	1600.63
Stone Canyon	Columbia Falls Dr	1194.09
Stone Canyon	Cool Canyon Cv	986.38
Stone Canyon	Fern Bluff Ave	491.02
Stone Canyon	Full Moon Cv	727.73
Stone Canyon	Herbs Cave Cv	790.94
Stone Canyon	Ironweed Run	625.67
Stone Canyon	Magic Mountain Cv	870.36
Stone Canyon	Mountain Mist Ln	1528.13
Stone Canyon	Niagara Falls Ter	587.34
Stone Canyon	Priest River Dr	608.73
Stone Canyon	Rosebud Pl	876.91
Stone Canyon	Spindletop Ter	905.55
Stone Canyon	W Magic Mountain Ln	1565.48
Stone Canyon	Whitewater Cv	983.23
Stone Canyon	Whitworth Ln	330.61
Stone Canyon	Wildwater Way	642.56

Subdivision	Road Name	Square Yards
Stone Canyon	Black Rock Bend	676.09
Stone Canyon	Frazell Cv	831.98
Stone Canyon	Full Moon Trl	588.28
Stone Canyon	High Bluff Trl	571.91
Stone Canyon	Sunburst Ter	723.36
Stone Canyon	Two Jacks Trl	974.48
Tonkawa Springs	Stonewreath Dr	537.24
Tonkawa Village	Blue Heron Cv	505.87
Tonkawa Village	Deer Chase Cv	539.63
Tonkawa Village	Fawn Cv	507.69
Tonkawa Village	Fox Hollow	591.27
Tonkawa Village	Lost Spring	552.01
Tonkawa Village	Oak Meadow Drive	449.38
Tonkawa Village	Possum Trot	1093.94
Tonkawa Village	Quarry Creek	649.65
Tonkawa Village	Still Meadow Cv	492.09
Tonkawa Village	Sun Lake	496.90
Tonkawa Village	Whip O Will St	246.39
Tonkawa Village	Wind Spirit	478.15
Twin Springs	Landons Way	422.89
Twin Springs	Twin Springs Rd	745.83
Wood Ranch	Cassidy Ct	1183.12
Wood Ranch	La Mesa Ln	810.80
Wood Ranch	Oak Bend Ct	802.95
Wood Ranch	Rio Bravo Rd	745.51
Wood Ranch	Sage Brush Ct	705.25
TOTAL PROJECT AREA SY		**102,045.13**

NO	DESCRIPTION	BY	DATE

WILLIAMSON COUNTY
DEPT. OF
INFRASTRUCTURE
3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
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FY 17 Subdivision
Cul-de-sac Fog Seal

ROADWAY LISTING 2

WILLIAMSON COUNTY 1848

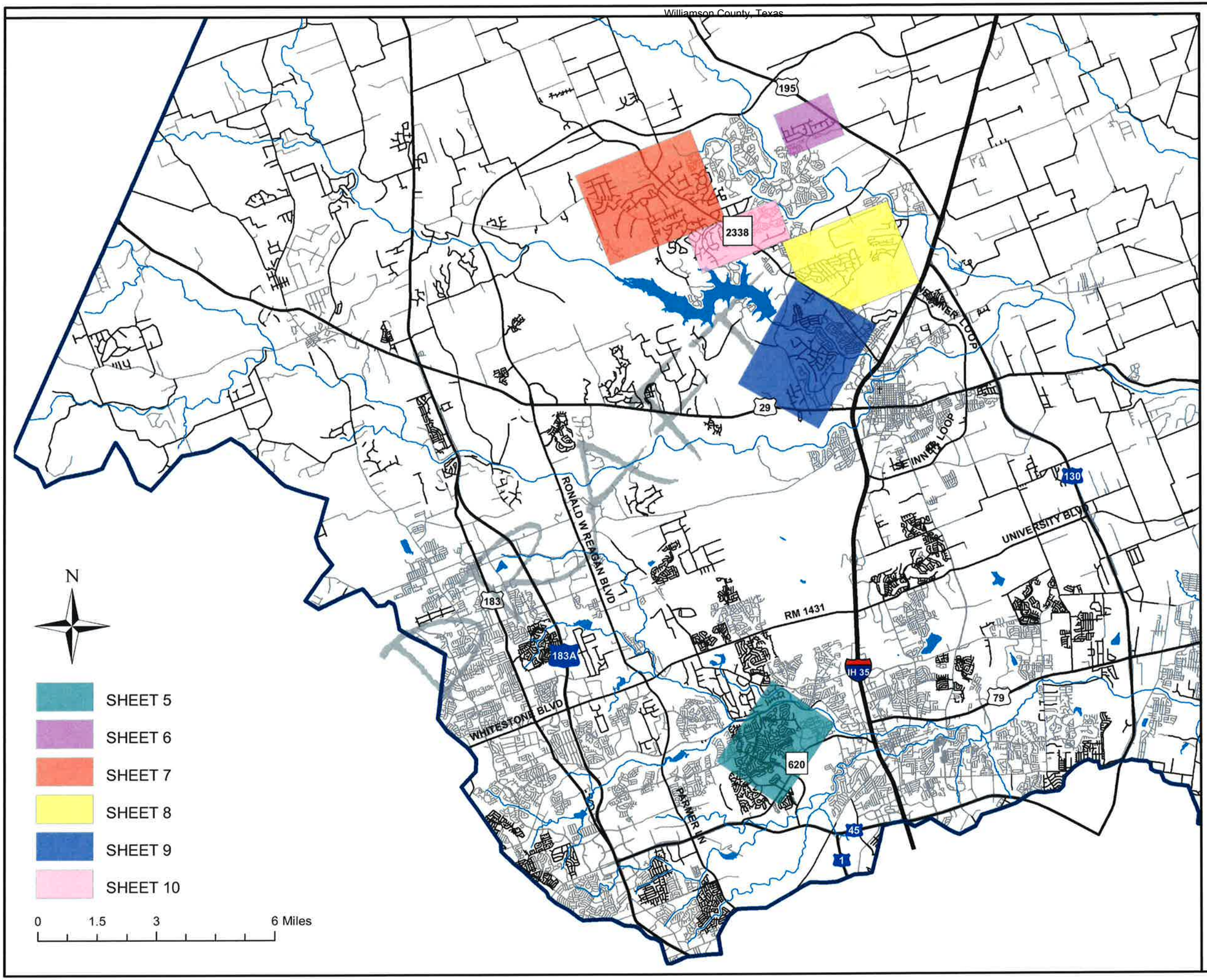
STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 02/21/2017

PROJECT: FY 17 FOG SEAL	DATE: 02-21-2017	DESIGNED: LEP	CAD DWG: LEP	REVIEWED: KQK

SHEET 3 OF 12

SHEET TAB: ROADWAY LISTING 2
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:31am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal COVER SHEET.dwg



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3151 S.E. INNER LOOP, SUITE B
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FY 17 Subdivision Cul-de-sac Fog Seal

KEY MAP

WILLIAMSON COUNTY 1848

STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

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PROJECT:	FY 17 FOG SEAL
DATE:	02-21-2017
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CAD DWG:	LEP
REVIEWED:	KQK

SHEET
4
OF 12

SHEET TAB: KEY MAP
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:32am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal PLAN SHEETS.dwg

GREAT OAKS
TONKAWA SPRINGS
TONKAWA VILLAGE
STONE CANYON
BRUSHY CREEK
CAT HOLLOW

Oak Ridge Dr
Oak Meadow Dr
Brushy Creek Rd
Great Oaks Dr
Hairy Man Rd
Sam Bass Rd
Stonewreath Dr
Arrowhead Cir
Tonkawa Trl
Possum Trot
Wind Spirit
Sun Lake
Lost Spring
Spring Creek Dr
Quarry Creek
Blue Heron Cv
Still Meadow Cv
Deer Chase Cv
Fawn Cv
Whip O Will St
Fox Hollow
Sunburst
Lofty Ln
Black Rock Bnd
High Bluff Trl
Frazel Cv
Two Jacks Trl
Ancona
Herbs Cave
Magic Mountain
W Magic Mountain Ln
Brightwater Blvd
Cool Canyon
Full Moon Trl
Full Moon Cv
Wildwater
Magic Mountain
Whitworth Ln
Runningway Dr
Mountain Mist
Priest River
Tiny Trl
Columbia Falls Dr
Columbia Falls Cv
Tad Park
Box Canyon Ter
Fern Bluff Ave
Spindletop Ter
Willow Oak Ln
Bar Harbor Cv
Rosebud Pl
Sea Ash Cir
Whitewater Cv
Ironweed Run
Niagara Falls Ter
Park Valley Dr
Mount Shasta Cv
Montana Falls Dr
Priest River Dr
Klamath Falls Dr
Lake Pines Dr
Alwin Dr
Miller Falls Cv
Broken Branch Dr
Valona Loop
Freemont St
Overland
Valona Dr
Cutaway
Freemont Cir
Freemont Cv
Buckskin
Liberty Walk
Whetstone St
Karst View Cv
Aquila Ct
Menlo Park
Campeche Bay Pl
Ansonia Trl
Cloud Peak Ln
Cloud Peak
Spring Creek
Spring Tree
Stillhouse Spring
Powder Horn Dr
Powder Horn Cv
Hillside Cv
Stoney Hill
Rolling Hill
Hillbrook Dr
Stoney Brook
Warm Mist Cv
Sutterville Cv
N Kettleman Ln
Crescent Height
Poncho Spring
Temecula Pass
Morgan Hill Trl
Bladen Springs Cv
State Creek Trl
Avery Ranch Blvd
Cessna Ln
Cottage Grove Pass
Oconnor Dr
Village Oak Loop
Pocono Dr
Pocono Cv
Whitebrush Loop
Stonebridge
Splitrock
Hill Cv
Side Cv
Arrow Head
Monument Dr
Cornerstone
Hillrock Dr
Hillrock Cv
Ocelot Cv
Jackal Dr
Lenz Dr
Hickok Dr
Hickok St
Bobcat Dr
Tomcat Dr
Tomcat Cv
Tin Roof Cv
Judy Scholl Way
Stray Cv
Mouse Trap Dr
Lounsbury Pl
Paralee Cv
Paralee Ct
Great Oaks Dr
Brimstone Ln
Rockgate Dr
Sharpstone Trl
Marthas Dr
Brushygate Cv
Pocono Dr
Denise Dr
Splitarrow Dr
White Creek Dr
Barletta Rd
Malaga Hills Dr
Almelo Dr
Evans Dr
Cordillera Dr
Sandpoint Cv
Pepper Rock Dr
Neenah Ave
Avignon Dr
Avaranche Way
Albacete Ln
Chamonix Ter
Rambollet Ter
Marsala Springs Dr
Fasher Cv
Ronchamps Dr
Dark Ln
Aaron Ct
Racine Trl
Hawick Dr
Carrick Ln
Bailey Jean Dr
Luckenwald Dr
Luckenwald Cv
Brienne Dr
Manx Dr
Korat Ln
Tonkinese Dr
E Dorman Dr
Sabertooth Dr
Margay Dr
Barlow Dr
Leghorn Cv
Cargill Dr
Flowerpot Cv
Conchos Valley Dr
Cat Hollow Dr
Oconnor Dr
620

AREA LIMITS:
NORTH OF RR 620
EAST OF GREAT OAKS DR.
SOUTH OF SAM BASS

N
Cul-de-Sacs to be Fog Sealed
0 0.125 0.25 0.5 Miles

STATE OF TEXAS
KON Q. KWAN
90584
LICENSED PROFESSIONAL ENGINEER
THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 02/21/2017

NO	DESCRIPTION	BY	DATE
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WILLIAMSON COUNTY
DEPT. OF
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3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
943-3330
www.wilco.org

FY 17 Subdivision Cul-de-sac Fog Seal

CAT HOLLOW, BRUSHY CREEK, STONE CANYON, TONKAWA VILLAGE, TONKAWA SPRINGS, GREAT OAKS

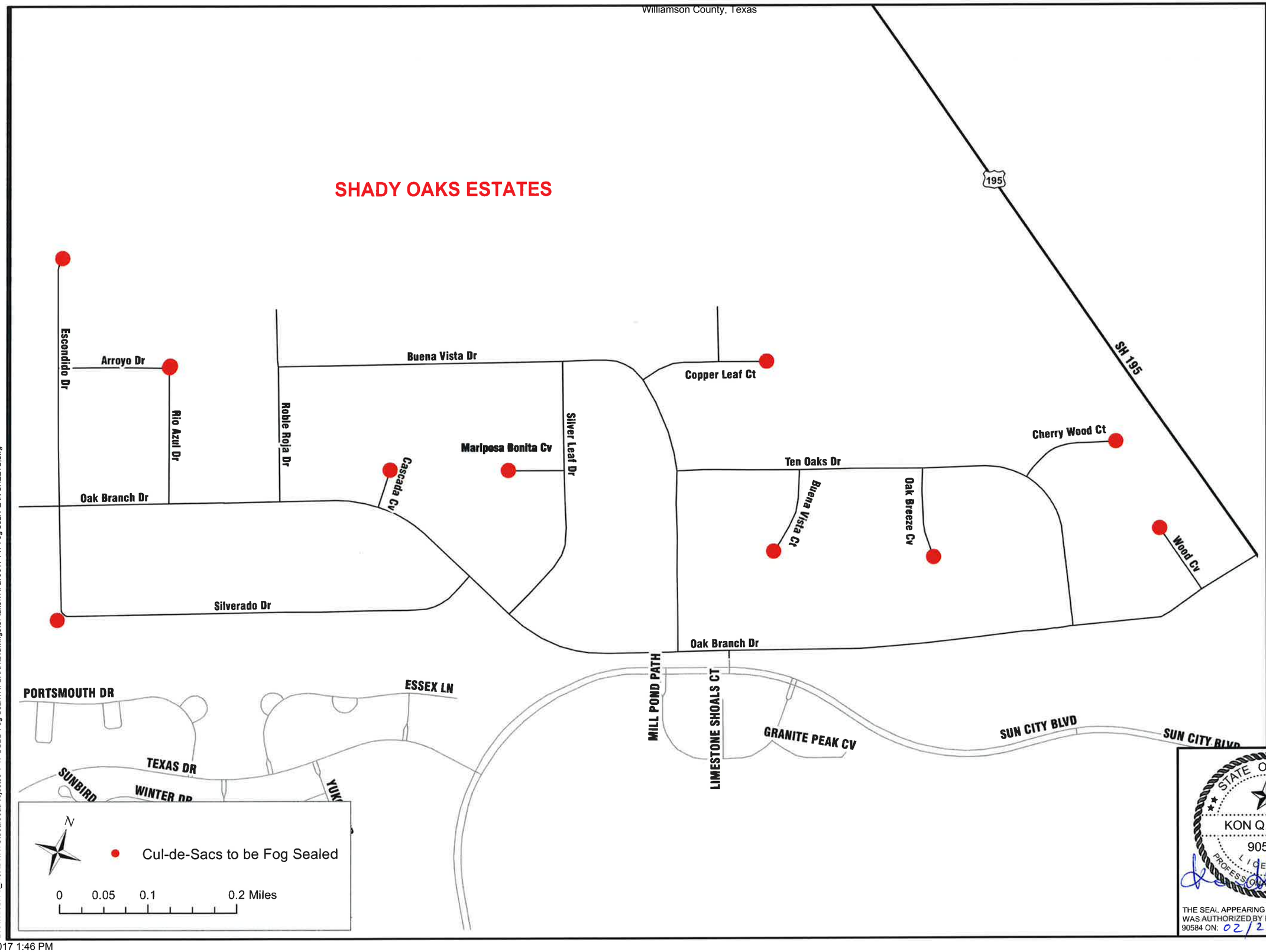
WILLIAMSON COUNTY
1848

PROJECT: FY 17 FOG SEAL
DATE: 02-21-2017
DESIGNED: LEP
CAD DWG: LEP
REVIEWED: KQK

SHEET 5 OF 12

SHEET TAB: BRUSHY CK
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:35am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal PLAN SHEETS.dwg

SHADY OAKS ESTATES



NO	DESCRIPTION	BY	DATE

WILLIAMSON COUNTY
DEPT. OF
INFRASTRUCTURE

3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
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FY 17 Subdivision Cul-de-sac Fog Seal

SHADY OAKS ESTATES

WILLIAMSON COUNTY 1848

STATE OF TEXAS
KON Q. KWAN
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PROFESSIONAL ENGINEER

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PROJECT:	FY 17 FOG SEAL
DATE:	02-21-2017
DESIGNED:	LEP
CAD DWG:	LEP
REVIEWED:	KQK

SHEET
6
OF 12

SHEET TAB: SHADY OAKS
PLOTTED BY: kkwan
PLOT TIME: Feb 21, 2017 - 2:01pm
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17\FBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal PLAN SHEETS.dwg

Navajo Trl
Cherokee Trail
Tejas Trl
Neches Trl
Nasoni Trl
Wichita Trl
Council Rd
Apache Trl
FM 3405
AUSTIN ELAINE DR
DENCHAR
NORTH LAKEWOOD
Layton Way
Arapahoe Trl
Comanche Trl
Valley View Rd
Sebastian Ln
Joshua Dr
Cody Dr
Sunset Rd
Frontier Trl
Shirley Ln
ASHLEY MOORE SUBD.
W Ridgewood Rd
Mockingbird Ln
Evergreen Rd
Trailridge Rd
Woodcrest Rd
Red Bird Trl
CR 261
Landons Way
CAMP SPRINGS LN
TWIN SPRINGS
Twin Springs Rd
W GABRIEL VISTA
VISTA LN
GABRIEL WOODS DR
CR 245
RIDGEWOOD EST.
GILES EST.
Ridgewood Cv
SHERYL ANN CV
RM 2338
E Ridgewood Rd
NORTH LAKE EST.
Oakland Rd
GRAYSTONE
Arrowhead
Timber Line Rd
Meadow Dr
2338
KICKAPOO CREEK LN
MARTIN CREEK LN
SALADO CREEK LN
LOST PEAK PATH
Oak Valley Ct
Willow Run
Sunset Rdg
Cactus Bend Cv
FOUR-T RANCH
Four T Ranch Rd
Michelle Ct
Standing Oak Dr
W Red Bud Meadow
Williams Dr
W Majestic Oak Ln
Reef Ln
Deck Dr
Tiller Dr
Buoy Dr
Shoal Dr
Harbor Cir
Spray Ln
CR 262
NORTH LAKE EST.

N

Cul-de-Sacs to be Fog Sealed

0 0.15 0.3 0.6 Miles

NO	DESCRIPTION	BY	DATE
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WILLIAMSON COUNTY
DEPT. OF
INFRASTRUCTURE
3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
943-3330
www.wilco.org

FY 17 Subdivision Cul-de-sac Fog Seal

DENCHAR, NORTH LAKEWOOD, ASHLEY MORE,
TWIN SPRINGS, NORTH LAKE EST., RIDGEWOOD
EST., GILES EST., FOUR-T RANCH

WILLIAMSON COUNTY
1848

STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT
WAS AUTHORIZED BY KON Q. KWAN, P.E.
90584 ON: 02/21/2017

PROJECT:	FY 17 FOG SEAL
DATE:	02-21-2017
DESIGNED:	LEP
CAD DWG:	LEP
REVIEWED:	KQK

SHEET 7 OF 12

SHEET TAB: NORTH LAKE
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:35am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal PLAN SHEETS.dwg

SONORA TRCE
GREENSIDE LN
HICKORY LN
BELLAIRE DR
BLUEHAW DR
SHELL RD
ELMWOOD DR
MADRID DR
MORAL PASS
TASCATE ST
FAIRMONT DR
BIRCH DR
ROSEDALE BLVD

LOVIE LN
JAYDEE TER
LAVERNE TER
SAND HILLS CV
SHINNECOCK HILLS DR
VERRENA WAY
S SARAZEN LOOP
N SARAZEN LOOP
LISCIO LOOP
PRAIRIE DUNES DR
LOGAN RANCH RD
TURNBERRY CT
MEADOWS END
LA QUINTA DR
HAZELTINE DR
CHAMPIONS DR
INDIAN MOUND RD
DEER TRL

SERENADA WEST

W SEQUOIA SPUR
E SEQUOIA SPUR
LAS PLUMAS
LAS PLUMAS DR
MIRAMAR DR
LA PALOMA DR
MADRID DR
VAL VERDE DR
MESA SPUR
SEVILLA DR
W SEQUOIA TRL
AZUL CT
ORO CT
MESA DR
RAMADA TR
E SEQUOIA TRL
VERDE CT
SINUSO DR
BELLO CIR
GRANADA DR
E ESPARADA DR
VENADA TRL
ROBLE
SOLONA CIR
SERENADA DR
MANZANITA DR
MALAGA DR
LUCINDA TER
ESTRELLA XING
ROBLE GRANDE CIR
SUTTON PL
NTRY RD
2338

W CORDOBA CIR
LUNA TRL
CASA BLANCA DR
E CORDOBA CIR

HISTORIC ACRES

SEGUNDO DR
BRANGUS RD
SERENADA DR
TEJANO
DEL RIO
TAOS CT
VALENCIA
CADIZ
BARCELONA
PALO DURO CT
SANALOMA DR
ARAGON
MARIPOSA
CAVU RD
BOSQUE TRL
SABINAS
PILOT PL
CAVU RD
VORTAC LN
AERO DR

SERENADA EAST
AIR COUNTRY

SERVICE DR
AIRPORT RD
HALMAR CV
AVIATION DR
TERMINAL DR
S HANGAR DR

SERENADA COUNTRY
ESTATES

ALGERITA DR
HEDGEWOOD DR
BUFFALO SPRINGS
WAGON WHEEL TRL
STAGECOACH DR
NORTHWEST BLVD

N
Cul-de-Sacs to be Fog Sealed
0 0.125 0.25 0.5 Miles

NO	DESCRIPTION	BY	DATE
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WILLIAMSON COUNTY
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943-3330
www.wilco.org

FY 17 Subdivision Cul-de-sac Fog Seal

SERENADA WEST, SERENADA COUNTRY ESTATES, SERENADA EAST, AIR COUNTRY, HISTORIC ACRES

WILLIAMSON COUNTY 1848

STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

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PROJECT:	FY 17 FOG SEAL
DATE:	02-21-2017
DESIGNED:	LEP
CAD DWG:	LEP
REVIEWED:	KQK

SHEET
8
OF 12

SHEET TAB: SERENADA
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:35am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal PLAN SHEETS.dwg

Williamson County, Texas

CANDLE OAKS

OAK CREST ESTATES
OAK CREST RANCHETTES

COUNTRY WEST

WOOD RANCH

BOOTYS CROSSING RD
CANDLELITE CIR
RUSTLE CV
WINDFLOWER
COUNTRY RD
SUTTON PL
CLEAR SPRING RD
PECAN LN
SPANISH OAK DR
OAK CREST LN
SKINNER LN
SPRINGWOOD LN
GREENRIDGE RD
SHEPHERD RD
EVANS RD
OAKRIDGE RD
SKYLINE RD
NORTHCROSS RD
OAK GROVE LN
WOODWAY DR
SHEPHERD RD
SPRING VALLEY RD
WOODLAND RD
RIVER RD
JOHN THOMAS DR
ADDIE LN
BOOTYS CROSSING RD
KATHI LN
VILLAGE DR
2338
BROKEN SPOKE TRL
ROCKY HOLLOW TRL
LAKEWAY DR
WILLIAMS DR
LIMESTONE LN
CASSIDY DR
RIO BRAVO RD
CEDAR RIDGE DR
CASSIDY CT
SAGE BRUSH CT
TANKSLEY CIR
MASON CT
RIVER CHASE BLVD
OAK BEND CT
D B WOOD RD
LA MESA LN
WOOD CT
29
SKYLINE SPUR
STARVIEW LN
SUNSET DR
GRASSLAND
CROSSLAND DR
STARVIEW DR
FAWN
ASHWOOD
HARMONY LN
SPRING VALLEY RD
HIGHVIEW RD
RIDGECREST RD
GABRIEL VIEW DR
BRANDY LN
PATTI DR
KIMBERLY ST
PARK MEADOW BLVD
BOB WHITE LN
PARKER DR
PARKER CIR
RIVER BEND DR
POWER RD
JUDY DR
RANCH RD
PARKWAY ST
DAWN DR
COUNTRY CLUB
WOLF RD
WOLF RD
WOLF RD
MORIAL DR

N

Cul-de-Sacs to be Fog Sealed

0 0.125 0.25 0.5 Miles

NO.	DESCRIPTION	BY	DATE
-----	-----	-----	-----

WILLIAMSON COUNTY
DEPT. OF
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943-3330
www.wilco.org

FY 17 Subdivision Cul-de-sac Fog Seal

WOOD RANCH, OAK CREST ESTATES,
OAK CREST RANCHETTES, CANDLE
OAKS, COUNTRY WEST

WILLIAMSON COUNTY
1848

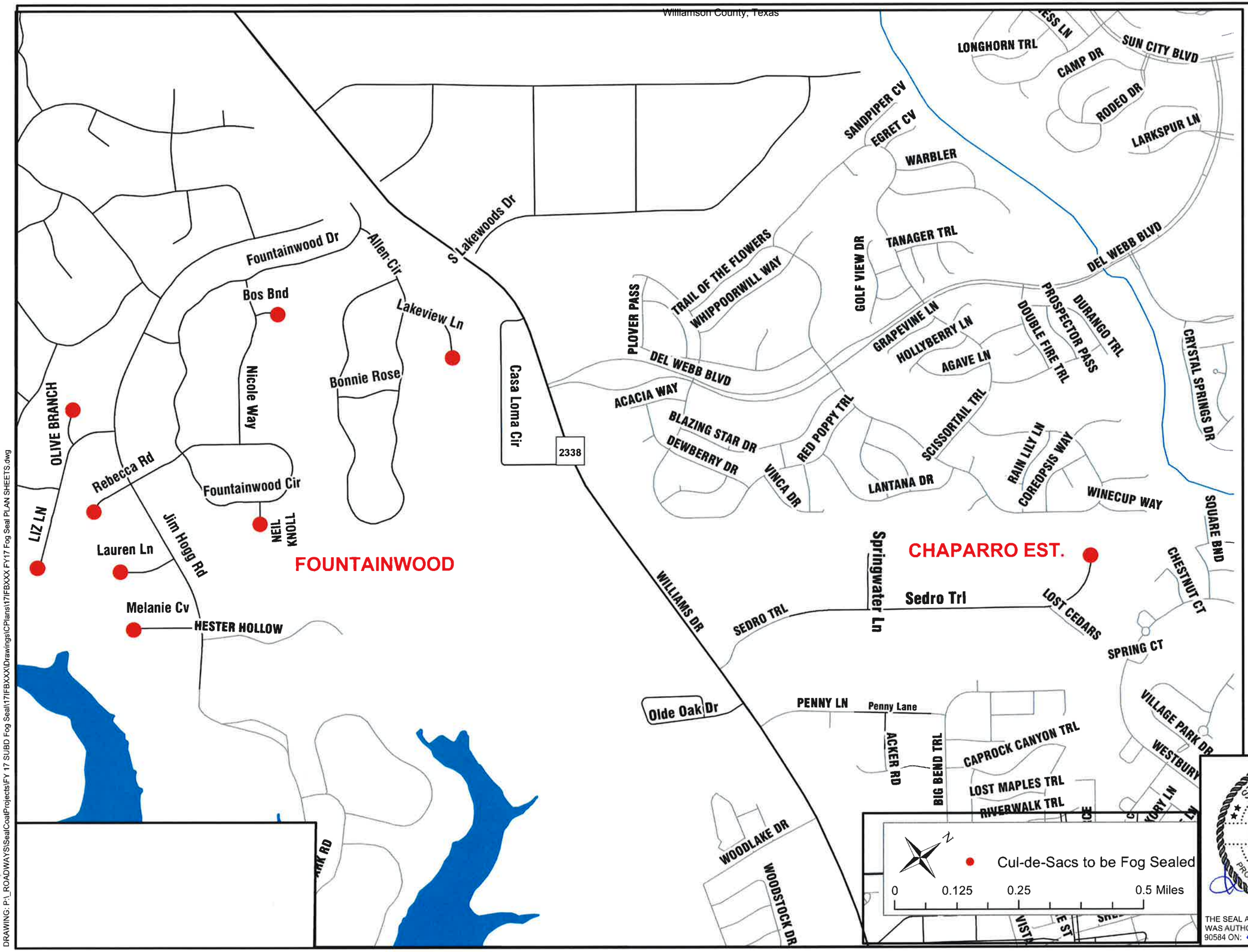
STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 02/21/2017

PROJECT:	FY 17 FOG SEAL
DATE:	02-21-2017
DESIGNED:	LEP
CAD DWG:	LEP
REVIEWED:	KQK

SHEET
9
OF 12

SHEET TAB: OAK CREST EST
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:35am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal PLAN SHEETS.dwg



NO	DESCRIPTION	BY	DATE

WILLIAMSON COUNTY
DEPT. OF
INFRASTRUCTURE

3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
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FY 17 Subdivision Cul-de-sac Fog Seal

FOUNTAINWOOD, CHAPARRO EST.

WILLIAMSON COUNTY
1848

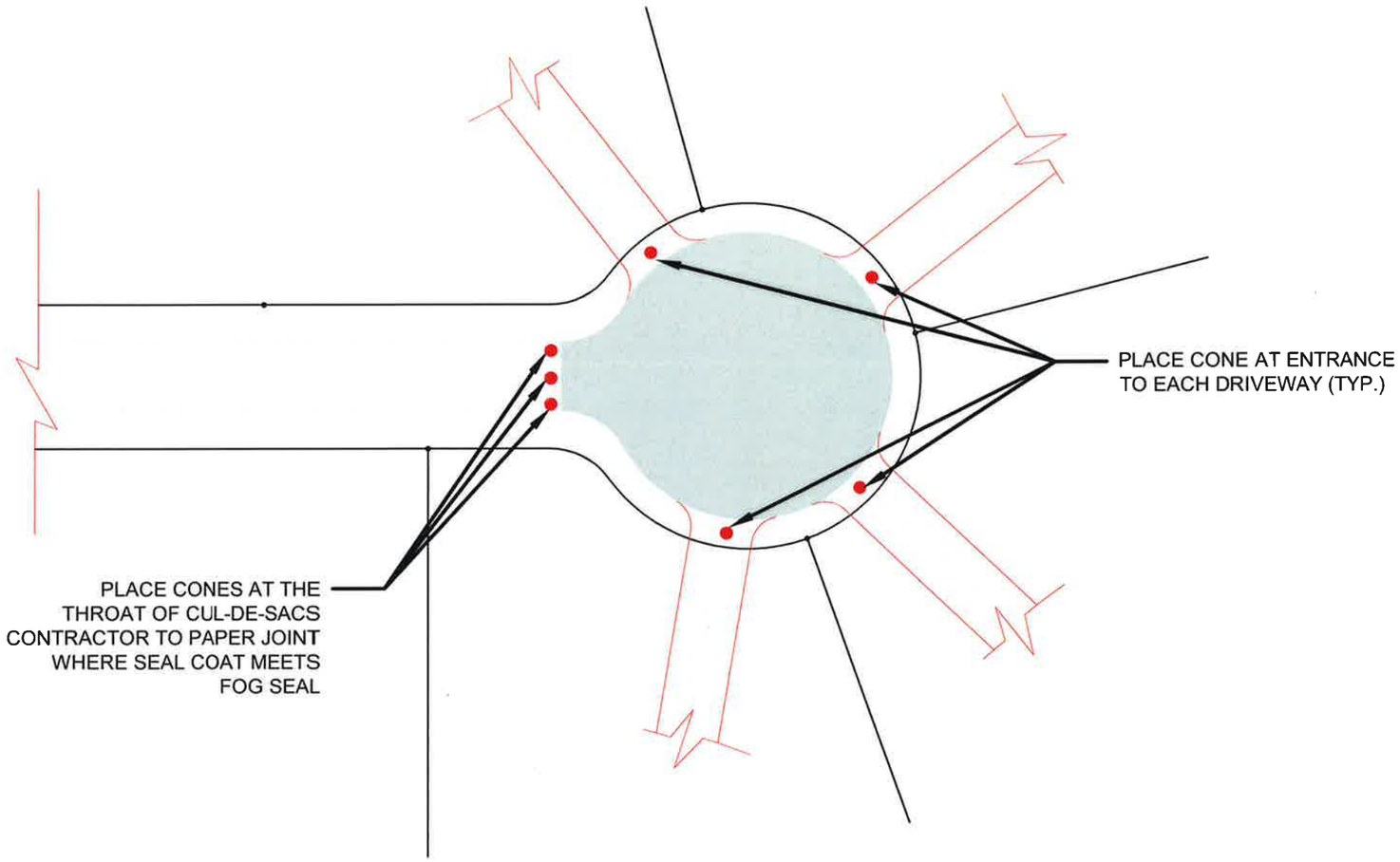
STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 02/21/2017

PROJECT:	FY 17 FOG SEAL
DATE:	02-21-2017
DESIGNED:	LEP
CAD DWG:	LEP
REVIEWED:	KQK

SHEET
10
OF 12

SHEET TAB: FOUNTAIN WOOD
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:35am
DRAWING: P:_ROADWAYS\SealCoat\Projects\FY 17 SUBD Fog Seal\17IFBXXX\Drawings\CPlans\17IFBXXX FY17 Fog Seal PLAN SHEETS.dwg



Fog Seal Limits in
Cul-de-sac Areas

NTS

NO	DESCRIPTION	BY	DATE

WILLIAMSON COUNTY
DEPT. OF
INFRASTRUCTURE
3151 S.E. INNER LOOP, SUITE B
GEORGETOWN, TEXAS 78626
943-3330
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FY 17 Subdivision Cul-de-sac Fog Seal

MISC DETAIL

WILLIAMSON COUNTY
1848

STATE OF TEXAS
KON Q. KWAN
90584
LICENSED
PROFESSIONAL ENGINEER

THE SEAL APPEARING ON THIS DOCUMENT
WAS AUTHORIZED BY KON Q. KWAN, P.E.
90584 ON: 02/21/2017

PROJECT:	FY 17 FOG SEAL
DATE:	02-21-2017
DESIGNED:	LEP
CAD DWG:	LEP
REVIEWED:	KQK

SHEET
11
OF 12

SHEET TAB: MISC DETAIL
PLOTTED BY: lpohlmeyer
PLOT TIME: Feb 21, 2017 - 9:32am
DRAWING: P:_ROADWAYS\SealCoatProjects\FY 17 SUBD Fog Seal\17\FBXXX\Drawings\CPlans\17\FBXXX FY17 Fog Seal DETAIL SHEETS.dwg

DISCLAIMER
The use of this standard is governed by the "Texas Engineering Practice Act". No warranty of any kind is made by TxDOT for any purpose whatsoever. TxDOT assumes no responsibility for the conversion of this standard to other formats or for incorrect results or damages resulting from its use.

TYPE III BARRICADES

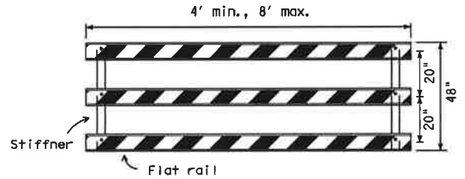
1. Refer to the Compliant Work Zone Traffic Control Devices List (CWZTCD) for details of the Type III Barricades and a list of all materials used in the construction of Type III Barricades.
2. Type III Barricades shall be used at each end of construction projects closed to all traffic.
3. Barricades extending across a roadway should have stripes that slope downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed road striping should slope downward in both directions toward the center of roadway.
4. Striping of rails, for the right side of the roadway, should slope downward to the left. For the left side of the roadway, striping should slope downward to the right.
5. Identification markings may be shown only on the back of the barricade rails. The maximum height of letters and/or company logos used for identification shall be 1".
6. Barricades shall not be placed parallel to traffic unless an adequate clear zone is provided.
7. Warning lights shall NOT be installed on barricades.
8. Where barricades require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand is recommended. The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight. Sand bags shall not be stacked in a manner that covers any portion of a barricade rails reflective sheeting. Rock, concrete, iron, steel or other solid objects will NOT be permitted. Sandbags should weigh a minimum of 35 lbs and a maximum of 50 lbs. Sandbags shall be made of a durable material that tears upon vehicular impact. Rubber (such as tire inner tubes) shall not be used for sandbags. Sandbags shall only be placed along or upon the base supports of the device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners.
9. Sheeting for barricades shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300 unless otherwise noted.

Barricades shall NOT be used as a sign support.

TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



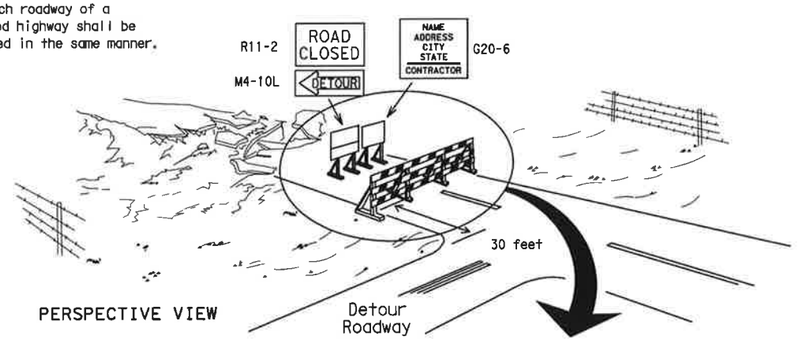
TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



Stiffner may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

TYPE III BARRICADE (POST AND SKID) TYPICAL APPLICATION

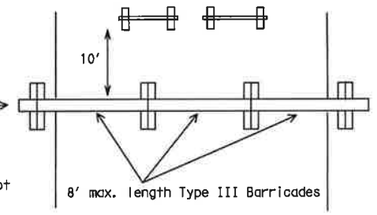
Each roadway of a divided highway shall be barricaded in the same manner.



PERSPECTIVE VIEW

The three rails on Type III barricades shall be reflectorized orange and reflective white stripes on one side facing one-way traffic and both sides for two-way traffic.

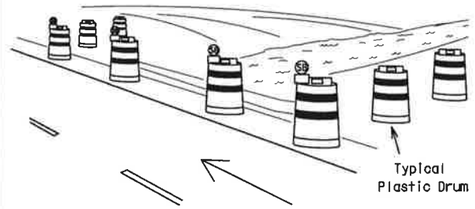
Barricade striping should slant downward in the direction of detour.



PLAN VIEW

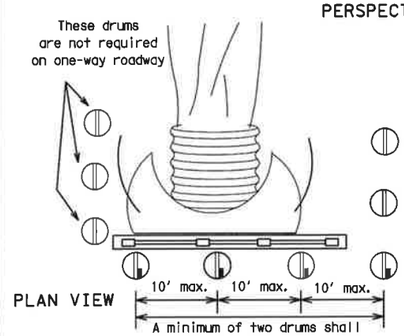
1. Signs should be mounted on independent supports at a 7 foot mounting height in center of roadway. The signs should be a minimum of 10 feet behind Type III Barricades.
2. Advance signing shall be as specified elsewhere in the plans.

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



PERSPECTIVE VIEW

1. Where positive redirectional capability is provided, drums may be omitted.
2. Plastic construction fencing may be used with drums for safety as required in the plans.
3. Vertical Panels on flexible support may be substituted for drums when the shoulder width is less than 4 feet.
4. When the shoulder width is greater than 12 feet, steady-burn lights may be omitted if drums are used.
5. Drums must extend the length of the culvert widening.



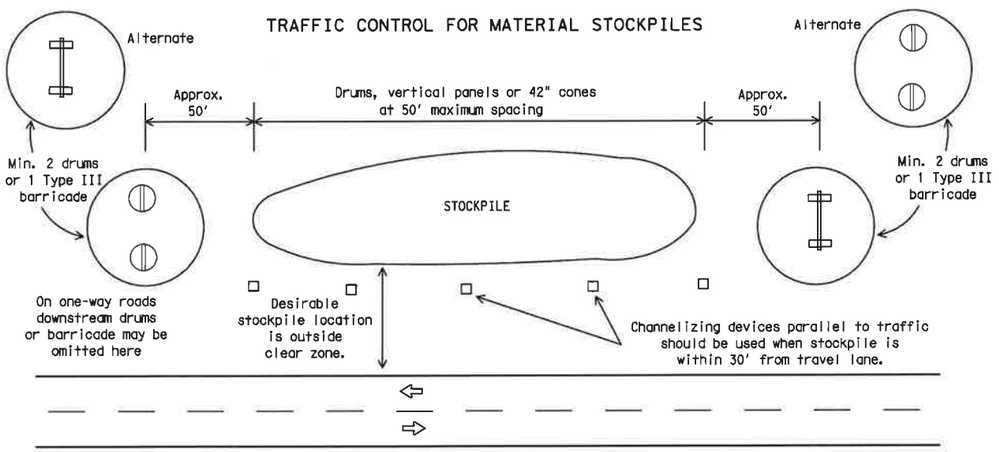
PLAN VIEW

Increase number of plastic drums on the side of approaching traffic if the crown width makes it necessary. (minimum of 2 and maximum of 4 drums)

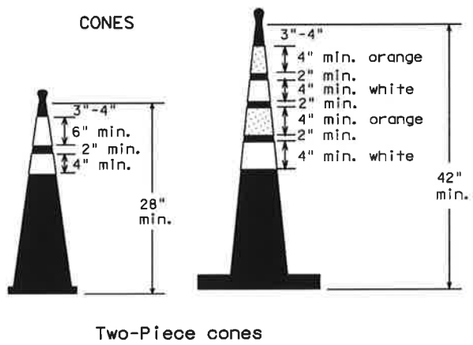
Legend

- Plastic drum
- Plastic drum with steady burn light or yellow warning reflector
- (SB) Steady burn warning light or yellow warning reflector

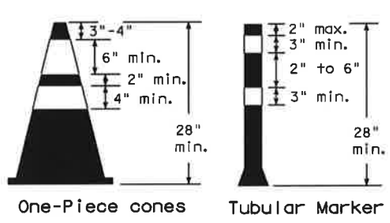
TRAFFIC CONTROL FOR MATERIAL STOCKPILES



CONES



Two-Piece cones

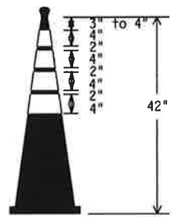


One-Piece cones Tubular Marker

28" Cones shall have a minimum weight of 9 1/2 lbs.

42" 2-piece cones shall have a minimum weight of 30 lbs. including base.

1. Traffic cones and tubular markers shall be a minimum of 28 inches in height when used either on freeways or at nighttime.
2. Cones or tubular markers shall be predominantly orange, fluorescent red-orange, or fluorescent yellow-orange. They should be kept clean and bright for maximum visibility.
3. Cones used only for daytime operations do not require the reflectorized bands.
4. Cones and tubular markers used for nighttime operations shall be reflectorized. Reflectorized material shall have a smooth, sealed outer surface that displays the same approximate color during the day and night. The reflectorized bands shall be retroreflective Type C (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
5. When used at night, appropriate personnel shall ensure that cones and tubular markers remain in their proper location and in an upright position.
6. Reflectorization of 28"cones shall consist of a minimum 6 inch band placed at least 3 inches but not more than 4 inches from the top, supplemented by a minimum 4 inch band spaced a minimum of 2 inches below the 6 inch band.
7. Reflectorization of 42" cones shall be provided by alternating 4 to 6" orange and white stripes with orange on top.
8. Reflectorization of tubular markers shall be a minimum of two 3 inch bands placed a maximum of 2 inches from the top with a maximum of 6 inches between bands.
9. One-piece cones or tubular markers are generally suitable for temporary usage (up to 8 hours) with other channelization devices such as vertical panels, drums or two-piece cones for long term usage. Care should be taken to ensure they remain in their proper location and in an upright position.
10. Cones or tubular markers used on each project shall be of the same size and shape.
11. The handle may be designed as a hook or other shape, fabricated from non-rigid materials similar to the cone material, and may extend up to a maximum of 8 inches above the top of cone. Length of the handle shall not be considered with regard to the overall height of the cone.



EDGELINE CHANNELIZER

1. This device is intended only for use in place of a vertical panel to channelize traffic by indicating the edge of the travel lane. It is not intended to be used in transitions or tapers.
2. This device shall not be used to separate lanes of traffic (opposing or otherwise) or warn of objects.
3. This device is based on a 42 inch, two-piece cone with an alternate striping pattern: four 4 inch retroreflective bands, with an approximate 2 inch gap between bands. The color of the band should correspond to the color of the edgeline (yellow for left edgeline, white for right edgeline) for which the device is substituted or for which it supplements. The reflectorized bands shall be retroreflective Type C encapsulated bead (High Specific Intensity) conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
4. The base must weigh a minimum of 30 lbs.

STANDARD PLANS
Texas Department of Transportation
Traffic Operations Division

BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES STANDARD

10 of 12 BC(10)-07

© TxDOT 11-4-02	DN: TxDOT	CK: TxDOT	DW: TxDOT	CK: TxDOT
REVISIONS 9-07	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
		6		12 of 12
	COUNTY	CONTROL	SECTION	JOB	HIGHWAY

ACC:

LEVELS DISPLAYED

| | | | | |

Special Provision to Item 300
Asphalts, Oils, and Emulsions

For this project, Item 300, "Asphalts, Oils, and Emulsions," of the Standard Specifications, is hereby amended with respect to the clauses cited below, and no other clauses or requirements of this Item are waived or changed hereby.

Section 300.2.5., "Specialty Emulsions." The first sentence is voided and replaced with the following:

Specialty emulsions shall be either asphalt-based, and must contain a minimum of 10% tire rubber and must meet the requirements of Table 11 or Table 11A.

Section 300.2.5., "Specialty Emulsions," is supplemented by the following:

Table 11A
Hard Residue Surface Sealant

Property	Test Procedure	Min	Max
Viscosity, Krebs unit, 77ºF, Krebs units	D 562	45	75
Softening point, ºF	T 53[1]	250	--
Uniformity	D 2939	Pass[2]	
Resistance to heat	D 2939	Pass[3]	
Resistance to water	D 2939	Pass[4]	
Wet flow, mm	D 2939	--	0
Resistance to Kerosene (optional)[5]	D 2939	Pass[6]	
Ultraviolet exposure, UVA-340, 0.77 W/m^2, 50°C chamber, 8 hours UV lamp, 5 min spray, 3 hours 55 minutes condensation, 1000 hr total exposure[7]	G 154	Pass[8]	
Abrasion loss, 1.6 mm thickness, liquid only, %	ISSA TB-100	--	1.0
Residue by evaporation, % by weight	D 2939	33	--
Tests on residue from evaporation: Penetration, 77ºF, 100 g, 5 sec. Flash point, Cleveland open cup, °F	 T 49 T 48	 15 500	 30
Tests on base asphalt before emulsification Solubility in trichloroethylene, %	 T 44	 98	 --

1. Cure the emulsion in the softening point ring in a 200°F ± 5°F oven for 2 hr.
2. Product shall be homogenous and show no separation or coagulation that cannot be overcome by moderate stirring.
3. No sagging or slippage of film beyond the initial reference line.
4. No blistering or re-emulsification.
5. Recommended for airport applications or where fuel resistance is desired.
6. No absorption of Kerosene into the clay tile past the sealer film. Note sealer surface condition and loss of adhesion.
7. Other exposure cycles with similar levels of irradiation and conditions may be used with Department approval.
8. No cracking, chipping, surface distortion, or loss of adhesion. No color fading or lightening.

Special Provision to Item 300
Asphalts, Oils, and Emulsions

Item 300, "Asphalts, Oils, and Emulsions," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

Article 300.2., "Materials." The first paragraph is voided and replaced by the following.

Provide asphalt materials that meet the stated requirements when tested in accordance with the referenced Department, AASHTO, and ASTM test methods. Use asphalt containing recycled materials only if the recycled components meet the requirements of Article 6.9, "Recycled Materials." Provide asphalt materials that the Department has preapproved for use in accordance with Tex-545-C, "Asphalt Binder Quality Program."

Inform the Department of all additives or modifiers included in the asphalt binder as part of the facility quality plan, as required by Tex-545-C, "Asphalt Binder Quality Program," and provide that information to Department personnel. The Department reserves the right to prohibit the use of any asphalt additive or modifier.

Section 300.2.10. "Performance-Graded Binders," is supplemented by the following:

Limit the use of polyphosphoric acid to no more than 0.5% by weight of the asphalt binder.

Limit the use of re-refined engine oil bottoms to no more than 5.0% by weight of the asphalt binder.

Bid Items

Cul-de-Sacs Fog Seal FY 17

Williamson County - Texas

ITEM	NO.	DESCRIPTION	UNIT	Estimated Quantity	Unit Price	Cost
315	2010	Fog Seal	GAL	18,369		
500	2001	Mobilization	LS	1		
		PROJECT TOTAL				

Williamson County – Invitation for Bid (IFB)

SECTION 1 - DEFINITIONS

Addendum/Addenda – means any written or graphic instruments issued by the County prior to the consideration of Bids which modify or interpret the Bid Documents by additions, deletions, clarifications, or corrections.

Agreement/Ensuing Agreement(s) – means the Successful Bidder may be required by the County to sign an additional Agreement containing terms necessary to ensure compliance with the IFB and the Bidder's Bid. Such Ensuing Agreement(s) shall contain the Bid specifications, terms and conditions that are derived from the IFB.

Bid Documents – means the Legal Notice, IFB including attachments, and any Addenda issued by the County prior to the consideration of any Bids.

Bid – means the completed and signed bid form, (sometimes referred to as the Price Sheet), and ALL required forms and documentation listed in the IFB package which have been submitted in accordance with the terms and conditions described in the IFB package. A Bid submitted in accordance with this IFB is irrevocable during the specified period for evaluation and acceptance of Bids unless a waiver is obtained from the Williamson County Purchasing Agent.

Bidder – means a person or entity who submits a Bid in response to this IFB.

Contract – means this IFB and the Bid of the Successful Bidder shall become a Contract between the Successful Bidder and the County once the Successful Bidder's Bid is properly accepted by the Williamson County Commissioners Court.

Commissioner's Court – means the Williamson County Commissioners Court.

County – means Williamson County, a political subdivision of the State of Texas.

Invitation for Bid (IFB) – means this document, together with the attachments thereto and any future Addenda issued by the County.

Successful Bidder – means the liable Bidder to whom the County intends to award the Contract.

SECTION 2 - BID FORMAT AND SUBMISSION

2.1 ORGANIZATION OF BID CONTENTS FOR SUBMITTAL

Each Bid should be organized and items submitted in the order described below:

A. Transmittal Letter. Please see Section 2.3, Transmittal Letter, for more information.

B. Price Sheet.

C. Conflict of Interest Questionnaire. Please see Section 2.2, Conflict of Interest, for more information in regards to this. Please note that even if you deem there to be no Conflict of Interest, this signed questionnaire must be included in your package.

D. References. Please see Section 3.15, References, for more information.

E. Bid Affidavit.

F. Form 1295. Please see Section 2.4, Certificate of Interested Parties – Form 1295.

2.2 CONFLICT OF INTEREST

No public official shall have interest in a Contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code, Title 5, Subtitle C, Chapter 171, as amended.

As of January 1, 2006, all Bidders are responsible for complying with Local Government Code, Title 5, Subtitle C, Chapter 176. Additional information may be obtained from the County's website at the following link:

http://www.wilco.org/CountyDepartments/Purchasing/ConflictofInterestDisclosure/tabid/689/language/en US/Default.aspx

Each Bidder must disclose any existing or potential conflict of interest relative to the performance of the requirements of this IFB. **Examples of potential conflicts of interest may include an existing business or personal relationship between the Bidder, its principal, or any affiliate or subcontractor with the County or any other entity or person involved in any way with the project that is subject to this IFB**. Similarly, any personal or business relationship between the Bidder, the principals, or any affiliate or subcontractor with any employee, or official of the County or its suppliers must be disclosed. Any such relationship that might be perceived or represented as a conflict must be disclosed. Failure to disclose any such relationship or reveal personal relationships with the County employees or officials may be cause for termination.

The County will decide if an actual or perceived conflict should result in Bid disqualification.

By submitting a Bid in response to this IFB, all Bidders affirm they have not given, nor intend to give, at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a the County public servant or any employee, official or representative of same, in connection with this procurement.

Each Bidder must provide a Conflict of Interest Statement with their Bid Package. Package may be deemed incomplete without this form.

2.3 TRANSMITTAL LETTER

The Bidder should submit a Transmittal Letter that provides the following information:

A. Name and address of individual or business entity submitting the Bid.

B. Name, physical address, email address, business and fax number of the Bidder's principal contact person regarding all contractual matters relating to this IFB.

C. The Bid's Federal Employer Identification Number.

D. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating the anticipated air quality impact. See Section 4.36, Air Quality for more information.

2.4 CERTIFICATE OF INTERESTED PARTIES – FORM 1295

As of January 1, 2016, all Successful Bidders are responsible for complying with the Texas Government Code, Section 2252.908. The law states that the County may not enter into certain contracts with a Bidder unless the Bidder submits a disclosure of interested parties to the County at the time the Bidder submits the signed Contract. The law applies only to a Contract of the County on or after January 1, 2016 that either:

A. Requires an action or vote by the Commissioners Court before the Contract may be signed (all contracts that fall under the jurisdiction of the Commissioners Court approval, such as contracts resulting from an Initiation for Bid (IFB), RFP, Request for Qualifications (RFQ), etc., excluding, but not limited to, certain Juvenile Service contracts, contracts funded with Sheriff's seized fun monies, etc.); or
B. Has a value of at least $1,000,000.

By January 1, 2016, the Texas Ethics Commission will make available on its website, a new filing application that must be used to file Form 1295. Information regarding how to use the filing application is available on the Texas Ethics Commission website at the following link:

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

A Respondent must:

A. Use the online application to process the required information on Form 1295.

B. Print a copy of the form which will contain a unique certification number.

C. An authorized agent of the Bidder must sign the printed copy of the form.

D. Have the form notarized.

E. File the completed Form 1295 and certification of filing (scanning and emailing form is sufficient) with Williamson County Purchasing Agent at the time the signed Contract is submitted for approval.

After the Commissioners Court award of the Contract, the County shall notify the Texas Ethics Commission, using the Texas Ethics Commission's filing application, of the receipt of the filed Form 1295 and certification of filing not later than the 30th day after the date the Contract binds all parties to the Contract. The Texas Ethics Commission will post the completed Form 1295 to its website within seven business days after receiving notice from the County.

2.5 ETHICS

The Bidder shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official or agent of the County.

2.6 BID SUBMITTAL DEADLINE

The Bid is due no later than the submittal date and time set forth in the Public Announcement and General Information listed in this IFB package. Contents of each Bid shall be submitted in accordance with this IFB.

2.7 DELIVERY OF BIDS

The County uses BidSync to distribute and receive Bids and proposals. It is preferred that Bids submitted electronically through BidSync; however, Bidders can submit a hard copy.

Refer to www.bidsync.com for further information on how to submit electronically.

If mailed or delivered in person, Bids and Bid Addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed in this IFB package, to:

Williamson County Purchasing Department
Attn: **Bid Name and Number**
901 South Austin Avenue
Georgetown, Texas 78626

Also, all Bidders should list their Name and Address, and the Date of the Bid opening on the outside the box or envelope and note "Sealed Bid Enclosed." The County will not accept any Bids received after the submittal deadline, and shall return such Bids unopened to the Bidder. The County will not accept any responsibility for Bids being delivered by third party carriers.

Bids will be opened publically and the names of Bidders and pricing will be read aloud.

SECTION 3 - INSTRUCTIONS AND GENERAL REQUIREMENTS

3.1 INSTRUCTIONS

Read this document carefully, and follow all instructions and requirements. All Bidders are responsible for fulfilling all requirements and specifications. Be sure to have a clear understanding of this IFB.

General requirements apply to all advertised IFBs; however, these may be superseded, in whole or in part, by the bid specifications, Addenda and modifications issued as a part of this IFB. Be sure your Bid package is complete.

3.2 AMBIGUITY, CONFLICT, OR OTHER ERRORS IN THIS IFB

If a Bidder discovers any ambiguity, conflict, discrepancy, omission or other error in this IFB, the Bidder shall immediately notify the County Purchasing Department of such error in writing and request modification or clarification of the document.

Modifications will be made by issuing Addenda. If the Bidder fails to notify the County prior to the date and time fixed for submission of Bids of an error or ambiguity in the IFB known to the Bidder, or an error or ambiguity that reasonably should have been known to the Bidder, then the Bidder shall be deemed to have waived the error or ambiguity or its later resolution.

The County may also modify the IFB, no later than forty-eight (48) hours prior to the date and time fixed for submission of Bids, by issuance of an Addendum. All Addenda will be numbered consecutively, beginning with one (1).

3.3 NOTIFICATION OF MOST CURRENT ADDRESS

All Bidders in receipt of this IFB shall notify the Williamson County Purchasing Department of any address changes, contact person changes, and/or telephone number changes no later than forty-eight (48) hours prior to the date and time fixed for submission of Bids.

3.4 SIGNATURE OF BIDDER

A. If the Bidder is a Corporation or Limited Liability Company, the legal name of the Corporation Limited Liability Company shall be provided together with the signature of the officer or officers authorized to sign on behalf of such entity.

B. If the Bidder is a General Partnership, the true name of the firm shall be provided with the signature of each partner authorized to sign.

C. If the Bidder is a Limited Partnership, the name of the Limited Partner's General Partner shall provided with the signature of the officer authorized to sign on behalf of the General Partner.

D. If the Bidder is a Sole Proprietor(s) (individual), each Sole Proprietor(s) shall sign.

E. If signature is by an agent, other than the Sole Proprietor(s) or an officer of a Corporation, Limited Liability Company, General Partner or a member of a General Partnership, a power of attorney equivalent document must be submitted to the Williamson County Purchasing Department.

3.5 ASSUMED BUSINESS NAME

If the Bidder operates business under an Assumed Business Name, the Bidder must have on file with the

Williamson County Clerk a current Assumed Name Certificate and provide a file marked copy of same.

3.6 BID OBLIGATION

The contents of the IFB, Bid, and any clarification thereof submitted by the Successful Bidder shall become part of the contractual obligation and incorporated by reference into the Contract and any Ensuing Agreement(s).

3.7 COMPLIANCE WITH IFB SPECIFICATIONS

It is intended that this IFB describe the requirements and the Bid format in sufficient detail to secure comparable Bids. Failure to comply with all provisions of the IFB may, at the sole discretion of the County, result in disqualification.

3.8 WITHDRAWAL OF BID

The Bidder may withdraw its Bid by submitting a written request with the company letterhead and the signature of an authorized individual, as described in Section 3.4, Signature of Bidder, to the Williamson County Purchasing Department any time prior to the submission deadline.

The Bidder may submit a new Bid prior to the deadline. Alterations of the Bid in any manner will not be considered if submitted after the deadline. Withdrawal of a Bid after the deadline will be subject to written approval of the Williamson County Purchasing Agent.

3.9 EVALUATION AND AWARD

The County reserves the right to use all pertinent information (also learned from sources other than disclosed in the Bid process) that might affect the County's judgment as to the appropriateness of award to the lowest and best evaluated Bid. This information may be appended to the Bid evaluation process results. Information on a Bidder from reliable sources, and not within the Bidder's Bid, may also be noted and made part of the evaluation file. The County shall have sole discretion for determining the reliability of the source.

To ensure the proper and fair evaluation of a solicitation, the County prohibits unsolicited communication initiated by the Bidder to the County Official or Employee evaluating or considering the Bids prior to the time an award has been made. Unsolicited communication may be ground for disqualifying the offending Bidder from consideration or award of the solicitation, or any future solicitation.

Communication between the Bidder and the County will be initiated by the appropriate County Official Employee in order to obtain information or clarification needed to develop a proper and accurate evaluation of the solicitation.

The County intends to award a Contract to the most responsible and responsive Bidder whose Bid will be most advantageous to the County. In accordance with Texas Government Code and Local Government Code, the County may consider, to the extent allowed by law, the following:

A. Price;
B. The Bidder's experience and reputation;
C. Quality of the Bidder's goods and/or services;
D. The Bidder's safety record;
E. The Bidder's proposed personnel;
F. The Bidder's financial capabilities; and
G. Any other relevant factors specifically listed in this IFB or authorized by law.

3.10 CONDISERATION OF LOCATION OF PRINCIPAL OFFICE

Pursuant to Texas Local Government Code, Section 271.905, in purchasing any real property or personal property that is not affixed to real property, if the County receives one or more Bids from a Bidder whose principal place of business is in Williamson County and whose Bid is within three (3) percent of the lowest Bid price received by the County from a Bidder who is not a resident of Williamson County, the County may enter into a contract with:

A. The lowest Bidder; or the Bidder whose principal place of business is in Williamson County if the Commissioners Court determines, in writing, that the local Bidder offers the County the best combination of contract price and additional economic development opportunities Williamson County created by the contract award, including the employment of residents Williamson County and increased tax revenues to Williamson County.

It is understood that the Commissioners Court of Williamson County, Texas, reserves the right to accept or reject any and/or all Bids for any or all goods and/or services covered in this IFB, and to waive informalities or defects in the Bid or to accept such Bid, if it shall deem to be in the best interest of the County.

Awards should be made approximately sixty (60) business days after the Bid opening date. Results may be obtained by viewing the Williamson County vendor portal at the following link:

http://www.wilco.org/CountyDepartments/Purchasing/SearchforaPastBid/tabid/5213/language/en-US/Default.aspx

3.11 RESPONSIBILITY

It is expected that a prospective Bidder will be able to affirmatively demonstrate responsibility. A prospective Bidder should be able to meet the following requirements:

A. Have adequate financial resources, or the ability to obtain such resources as required;
B. Be able to comply with the required or proposed delivery schedule;
C. Have a satisfactory record of performance that can be determined thru references provided; and
D. Be otherwise qualified and eligible to receive an award.

The County may request representation and other information sufficient to determine the Bidder's ability to meet these minimum standards listed above.

3.12 FIRM PRICING

For unit price items, all of the items listed are to be on a "per unit" basis, stating a firm price per unit or unit quantity of each item. The Bidder must submit a firm price that must be good from the date of Bid opening for the fixed period of time set out in this IFB. Unless the IFB expressly states otherwise, this period shall be until the end of the Initial Contract Period.

Bids which do not state a fixed price, or which are subject to change without notice, will not be considered. The Court may award a Contract for the period implied or expressly stated in the lowest and best Bid.

3.13 PURCHASE ORDERS

If required by the Williamson County Purchasing Department, a purchase order(s) may be generated to the Successful Bidder for goods and/or services. If a purchase order is issued, the purchase order number must appear on all itemized invoices and/or requests for payment.

3.14 SILENCE OF SPECIFICATIONS

The apparent silence of these specifications as to any detail or to the apparent omission from it of a

detailed description concerning any point, shall be regarded as meaning that only the best practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

3.15 REFERENCES

The County may require the Bidder to supply a list of at least three (3) references where like services and/or goods have been supplied by their firm within the past five (5) years, to include names, titles, phone numbers and email addresses of key personnel, and dates of performance.

The County may contact some or all of the references in order to determine the Respondent performance record on work similar to that described in this RFP. The County reserves the right to contact references other than those provided in the response and to use the information gained from them in the evaluation process.

References, if requested, should be provided in accordance with this IFB. Bid may not be deemed complete without the inclusion of requested references.

SECTION 4 - TERMS AND CONDITIONS

4.1 VENUE AND GOVERNING LAW

The Bidder hereby agrees and acknowledges that venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this IFB, the Contract and any Ensuing Agreement(s), shall lie exclusively in either Williamson County, Texas or in the Austin Division of the Western Federal District of Texas, and the parties hereto expressly consent and submit to such jurisdiction. Furthermore, except to the extent that this IFB, the Contract and any Ensuing Agreement(s) is governed by the laws of the United States, this IFB, the Contract and any Ensuing Agreement(s) shall be governed by and construed in accordance with the laws of the State of Texas, excluding, however, its choice of law rules.

4.2 INCORPORATION BY REFERENCE AND PRECEDENCE

A. The Contract shall be derived from the IFB and its Addenda (if applicable), and the Bidder's Bid. In the event of a dispute under the Contract, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. The IFB and its Addenda (if applicable); and

   2. The Bidder's Bid.

B. In the event the County requires that an Ensuing Agreement be executed following award and a dispute arises between the terms and conditions of the Ensuing Agreement, the IFB and its Addenda (if applicable), and the Bidder's Bid, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. Terms and conditions of the Ensuing Agreement;

   2. The IFB its Addenda; and

   3. The Bidder's Bid.

4.3 OWNERSHIP OF BID

Each Bid shall become the property of the County upon submittal and will not be returned to Bidders unless received after the submittal deadline.

4.4 DISQUALIFICATION OF BIDDER

Upon signing and submittal of the Bid, a Bidder offering to sell supplies, materials, services, or equipment to the County, certifies that the Bidder has not violated the antitrust laws of the State of Texas codified in Business & Commerce Code, Section 15.01, or the Federal Antitrust Laws, and has not communicated directly or indirectly the offer made to any competitor or any other person engaged in such line of business. Any or all Bids may be rejected if the County believes that collusion exists among the Bidders.

4.5 FUNDING

The County intends to budget and make sufficient funds available and authorize funds for expenditure to finance the costs of the Contract. All Bidders understand and agree that the County's payment of amounts under the Contract shall be contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to make payments under this Contract.

4.6 ASSIGNMENT, SUCCESSORS AND ASSIGNS

The Successful Bidder may not assign, sell, or otherwise transfer the Contract or any other rights or interests obtained under the Contract without written permission of the Commissioners Court. The Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the contracting parties hereto and their respective successors and permitted assigns.

4.7 IMPLIED REQUIREMENTS

Products or services not specifically described or required in the IFB, but are necessary to provide the functional capabilities described by the Bidder, shall be implied and deemed to be included in the Bid.

4.8 TERMINATION

A. **Termination for Cause:** The County reserves the right to terminate the Contract and/or any Ensuing Agreement(s) for default if the Successful Bidder breaches any of the Bid specifications, terms and conditions, including warranties of the Bidder, if any, or if the Successful Bidder becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies the County may have at law or in equity or as may otherwise provided hereunder. Default may be construed as, but not limited to, failure to deliver the proper goods and/or services within the proper amount of time, and/or to properly perform any and all other requirements to the County's satisfaction, and/or to meet all other obligations and requirements.

B. **Termination for Convenience:** The County may terminate the Contract and/or any Ensuing Agreement(s) for convenience and without cause or further liability, upon no less than thirty (30) calendar days written notice to the Successful Bidder. The County reserves the right to extend this period if it is in the best interest of the County. In the event the County exercises its right to terminate without cause, it is understood and agreed that only the amounts due to the Successful Bidder for goods, commodities and/or services provided and expenses incurred to and including the date of termination, will be due and payable. No penalty will be assessed for the County termination for convenience.

4.9 NON-PERFORMANCE

It is the objective of the County to obtain complete and satisfactory performance of the requirements set forth herein. In addition to any other remedies available at law, in equity or that may be set out herein, failure to perform may result in a deduction of payment equal to the amount of the goods and/or services that were not provided and/or performed to the County's satisfaction.

In the event of such non-performance, the County shall have the right, but shall not be obligated, to complete the services itself or by others and/or purchase the goods from other sources. If the County elects to acquire the goods or perform the services itself or by others, pursuant to the foregoing, the Successful Bidder shall reimburse the County, within ten (10) calendar days of demand, for all costs incurred by the County (including, without limitation, applicable, general, and administrative expenses, and field overhead, and the cost of necessary equipment, materials, and field labor) in correcting the nonperformance which the Successful Bidder fails to meet pursuant to the requirements set out herein. In the event the Successful Bidder refuses to reimburse the County as set out in this provision, the County shall have the right to deduct such reimbursement amounts from any amounts that may be then owing or that may become owing in the future to the Successful Bidder.

4.10 PROPRIETARY INFORMATION AND THE TEXAS PUBLIC INFORMATION ACT

All material submitted to the County shall become public property and subject to the Texas Public Information Act upon receipt. If a Bidder does not desire proprietary information in the Bid to be

disclosed, each page must be clearly identified and marked proprietary at time of submittal or, more preferably, all proprietary information may be placed in a folder or appendix and be clearly identified and marked as being proprietary. Failure to clearly identify and mark information as being proprietary as set forth under this provision will result in all unmarked information being deemed non-proprietary and available to the public. For all information that has not been clearly identified and marked as proprietary by the Bidder, the County may choose to place such information on the County's website and/or a similar public database without obtaining any type of prior consent from the Bidder.

The County will, to the extent allowed by law, endeavor to protect from public disclosure the information that has been identified and marked as proprietary. The final decision as to what information must be disclosed, however, lies with the Texas Attorney General.

To the extent, if any, that any provision in this IFB or in the Bidder's Bid is in conflict with Texas Government Code, Chapter 552, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood, and agreed, that the County, and its officers and employees, may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to the County as to whether or not the same are available to the public. It is further understood that the County, and its officers and employees, shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that the County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to the County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

4.11 RIGHT TO AUDIT

The Successful Bidder agrees that the County or its duly authorized representatives shall, until the expiration of three (3) years after termination or expiration of the services to be performed, have access to and the right to examine and photocopy any and all books, documents, papers and records of the Successful Bidder, which are directly pertinent to the services to be performed or goods to be delivered for the purposes of making audits, examinations, excerpts and transcriptions. The Successful Bidder agrees that the County shall have access during normal working hours to all necessary facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. The County shall give the Successful Bidder reasonable advance notice of intended audits.

4.12 TESTING AND INSPECTIONS

The County reserves the right to inspect and test equipment, supplies, materials and goods for quality and compliance with this IFB, and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the County can deem the Bidder to be in breach and terminate the Contract and/or any Ensuing Agreement(s).

4.13 BID PREPARATION COSTS

The cost of developing Bids is the sole responsibility of the Bidders and shall not be charged to the County. There is no expressed or implied obligation for the County to reimburse the Bidders for any expense incurred in preparing a Bid in response to this IFB and the County will not reimburse the Bidders for such expenses.

4.14 INDEMNIFICATION

The Successful Bidder shall indemnify, defend and save harmless, the County, its officials, employees, agents and agent's employees from, and against, all claims, liability, and expenses including reasonable attorneys' fees, arising from activities of the Bidder, its agents, servants or employees, performed

hereunder that result from the negligent act, error, or omission of the Bidder or any of the Bidder agents, servants or employees, as well as all claims of loss or damage to the Bidder's and the County property, equipment, and/or supplies.

Furthermore, the County, its officials, employees, agents and agents' employees shall not be liable for damages to the Successful Bidder arising from any act of any third party, including, but not limited to, theft. The Successful Bidder further agrees to indemnify, defend and save harmless, the County from its officials, employee, agents and agents' employees against all claims of whatever nature arising from any accident, injury, or damage whatsoever, caused to any person, or the property of any person, occurring in relation to the Successful Bidder's performance of any services requested hereunder during the term of the Contract and/or any Ensuing Agreement(s).

The Successful Bidder shall timely report all claims, demands, suits, actions, proceedings, liens or judgements to the County and shall, upon the receipt of any claim, demand, suit, action, proceeding, lien or judgement, not later than the fifteenth (15^{th}) day of each month; provide the County with a written report on each such matter, setting forth the status of each matter, the schedule or planned proceedings with respect to each matter and the cooperation or assistance, if any, of the County required by the Successful Bidder in the defense of each matter. The Successful Bidder's duty to defend, indemnify and hold the County harmless shall be absolute. It shall not abate or end by reason of the expiration or termination of the Contract and/or any Ensuing Agreement(s), unless otherwise agreed by the County in writing. The provisions of this section shall survive the termination of the Contract and shall remain in full force and effect with respect to all such matters no matter when they arise.

In the event of any dispute between the parties, as to whether a claim, demand, suit, action, proceeding, lien or judgement, that appears to have been caused by or appears to have arisen out of or in connection with acts or omissions of the County, the Bidder shall nevertheless fully defend such claim, demand, suit or action, proceeding, lien or judgement, until and unless there is a determination by a court of competent jurisdiction that the acts and omissions of the Bidder are not an issue in the matter.

The Successful Bidder's indemnification shall cover, and the Successful Bidder agrees to, indemnify the County, in the event the County is found to have been negligent for having selected the Successful Bidder to perform the work described in this request. The provision by the Successful Bidder of insurance shall not limit the liability of the Successful Bidder under the Contract and/or any Ensuing Agreement(s).

4.15 WAIVER OF SUBROGATION

The Successful Bidder and the Successful Bidder's insurance carrier waive any and all rights whatsoever with regard to subrogation against the County as an indirect party to any suit arising out of personal or property damages resulting from the Bidder's performance under this Contract and any Ensuing Agreement(s).

4.16 RELATIONSHIP OF THE PARTIES

The Successful Bidder shall be an independent contractor and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions herein which may appear to give the County the right to direct the Successful Bidder as to details of doing work herein covered, or to exercise a measure of control over the work, shall be deemed to mean that the Successful Bidder shall follow the desires of the County in the results of the work only. The County shall not retain or have the right to control the Successful Bidder's means, methods or details pertaining to the Successful Bidder's performance of the work. The County and the Successful Bidder hereby agree and declare that the Successful Bidder is an independent contractor and as such meets the qualifications of an "Independent Contractor" under Texas Workers Compensation Act, Texas Labor Code, Section 406.141, that the Successful Bidder is not an employee of the County, and that the Successful Bidder and its employees, agents and subcontractors shall not be entitled to workers compensation coverage or any other type of insurance coverage held by the County.

4.17 SOLE PROVIDER

The Successful Bidder agrees and acknowledges that it shall not be considered a sole provider of the goods and/or services described herein and that the County may contract with other providers of such goods and/or services if the County deems, at its sole discretion, that multiple providers of the same goods and/or services will serve the best interest of the County.

4.18 FORCE MAJEURE

If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

4.19 SEVERABILITY

If any provision of this IFB, the Contract or any Ensuing Agreement(s) shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision thereof, but rather the entire IFB, Contract or any Ensuing Agreement (s) will be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligation of the parties shall be construed and enforced in accordance therewith. The parties acknowledge that if any provision of this IFB, the Contract or any Ensuing Agreement(s) is determined to be invalid or unenforceable, it is the desire and intention of each that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, give effect to the intent of this IFB, the Contract or any Ensuing Agreement(s) and be deemed to be validated and enforceable.

4.20 EQUAL OPPORTUNITY

Neither party shall discriminate against any employee or applicant for employment because of race, color, sex, religion or national origin.

4.21 NOTICE

Any notice to be given shall be in writing and may be distributed by personal delivery, or by registered or certified mail, return receipt requested, addressed to the proper party, at the following address:

The County: Williamson County Purchasing Department
Attn: Purchasing Agent
901 South Austin Avenue
Georgetown, Texas 78626

The Bidder: Address set out in Bidder's Transmittal Letter.

Notices given in accordance with this provision shall be effective upon (1) receipt by the party to which notice is given, or (2) on the third (3rd) calendar day following mailing, whichever occurs first.

4.22 SALES AND USE TAX EXEMPTION

The County is a body, corporate and politic, under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code, Section 151.309, as amended, and the services and/or goods subject hereof are being secured for use by the County.

4.23 COMPLIANCE WITH LAWS

The County and the Successful Bidder shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of the Contract and any Ensuing Agreement(s), including, without limitation, Workers' Compensation laws, salary and wage statutes and regulations, licensing laws and regulations. When required, the Successful Bidder shall furnish the County with certification of compliance with said laws, statues, ordinances, rules, regulations, orders, and decrees above specified.

4.24 INCORPORATION OF EXHIBITS, APPENDICES AND ATTACHMENTS

All of the Exhibits, Appendices and Attachments referred to herein are incorporated by reference as if set forth verbatim herein. Any conflicting terms in the Contract documents will be resolved at the sole discretion of the Commissioners Court.

4.25 NO WAIVER OF IMMUNITIES

Nothing herein shall be deemed to waive, modify or amend any legal defense available at law or in equity to the County, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. The County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

4.26 NO WAIVER

The failure or delay of any party to enforce at any time or any period of time any of the provisions of this IFB, the Contract or any Ensuing Agreement(s) shall not constitute a present or future waiver of such provisions nor the right of either party to enforce each and every provision. Furthermore, no term or provision hereof shall be deemed waived and no breach excused unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. Any consent by any party to, or waiver of, a breach by the other, whether expressed or implied, shall not constitute a consent to, waiver of or excuse for any other, different or subsequent breach.

4.27 CURRENT REVENUES

The obligations of the parties under the Contract and any Ensuing Agreement(s) do not constitute a general obligation or indebtedness of the County for which the County is obligated to levy, pledge, or collect any of taxation. It is understood and agreed that the County shall have the right to terminate the Contract and any Ensuing Agreement(s) at the end of any the County fiscal year if the governing body of the County does not appropriate sufficient funds as determined by the County's budget for the fiscal year in question. The County may effect such termination by giving written notice of termination to the Successful Bidder at the end of its then-current fiscal year.

4.28 FOB DESTINATION

To the extent applicable to this IFB, all of the items listed are to be Free On Board to final destination (FOB Destination) with all transportation charges if applicable to be included in the Bid, unless otherwise specified in the Invitation for Bids. The title and risk of loss of the goods shall not pass to the County until receipt and acceptance takes place at the FOB Destination point.

4.29 BINDING EFFECT

This Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the parties

and their respective permitted assigns and successors.

4.30 ASSIGNMENT

The Successful Bidder's interest and duties hereunder may not be assigned or delegated to a third party without the express written consent of the County.

4.31 SAFETY

The Successful Bidder is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with any services to be provided hereunder. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

4.32 GENERAL OBLIGATIONS AND RELIANCE

The Successful Bidder shall perform all services and/or provide all goods, as well as those reasonably inferable and necessary for completion and provision of services and/or goods required hereunder. The Successful Bidder shall keep the County informed of the progress and quality of the services. The Successful Bidder agrees and acknowledges that the County is relying on the Successful Bidder's represented expertise and ability to provide the goods and/or services described herein. The Successful Bidder agrees to use its best efforts, skill, judgment, and abilities to perform its obligations in accordance with the highest standards used in the profession and to further the interests of the County accordance with the County's requirements and procedures. The Successful Bidder's duties, set forth herein, shall at no time be in any way diminished by reason of any approval by the County, n shall the Successful Bidder be released from any liability by reason of such approval by the County, it being understood that the County at all times is ultimately relying upon the Successful Bidder's skill and knowledge in performing the services and providing any goods required hereunder.

4.33 ESTIMATED QUANTITIES

To the extent applicable to this IFB, the estimated quantity of each item listed in this IFB is only estimate; the actual quantity to be purchased may be more or less. The County is not obligated purchase any minimum amount, and the County may purchase any reasonable amount greater than t estimate for the same unit price. Any limit on quantities available must be stated expressly in the Bid.

4.34 CONTRACTUAL DEVELOPMENT

The contents of the IFB and the Successful Bidder's Bid will become an integral part of the Contract, but may be modified, at the County's sole discretion, by provisions of an Ensuing Agreement. Therefore, the Bidder must agree to an inclusion of an Ensuing Agreement of the Bid specifications, terms and conditions of this IFB. If an Ensuing Agreement is required under this IFB, information relative to t Agreement will be located in the Special Provisions Section of this IFB.

4.35 SURVIVABILITY

All applicable agreements that were entered into between the Successful Bidder and the County, under the terms and conditions of the Contract and/or any Ensuing Agreement(s), shall survive the expiration or termination thereof for ninety (90) days unless a new contract has been awarded.

The County may exercise, by written notice to the Successful Bidder no later than ten (10) calendar days of the Contract expiration, this clause for emergencies only.

4.36 AIR QUALITY

In determining the overall best Bid, the County may, to the extent applicable, exercise the option granted to local governments under the Texas Local Government Code, Section 271.907.

This option allows the County to evaluate Bids and give preference to goods and/or services of a Bidder that demonstrates that the Bidder meets or exceeds any and all state or federal environmental standards, including voluntary standards, relating to air quality. If the Bid being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Bidder is encouraged to provide information in narrative indicating the anticipated air quality impact. All Bidders are expected to meet all mandated state and federal air quality standards.

4.37 ENTIRE AGREEMENT

The Contract and any Ensuing Agreement(s) shall supersede all prior Agreements, written or oral between the Successful Bidder and the County and shall constitute the entire Agreement and understanding between the parties with respect to the services and/or goods to be provided. Each of the provisions herein shall be binding upon the parties and may not be waived, modified, amended or altered, except by writing signed by the Successful Bidder and the County.

4.38 PAYMENT

The County's payment for goods and services shall be governed by the Texas Government Code, Chapter 2251. An invoice shall be deemed overdue the thirty-first (31st) day after the later of the following:

A. The date the County receives the goods under the Contract;
B. The date the performance of the service under the Contract is completed; or
C. The date the Williamson County Auditor receives an invoice for the goods or services.

Interest charges for any overdue payments shall be paid by the County in accordance with Texas Government Code, Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of the County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one (1) percent, and the prime rate published in the Wall Street Journal on the first (1st) day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice submitted by the Successful Bidder, the County shall notify the Successful Bidder of the error not later than the twenty-first (21st) day after the date the County receives the invoice. If the error is resolved in favor of the Successful Bidder, the Successful Bidder shall be entitled to receive interest on the unpaid balance of the invoice submitted by the Successful Bidder beginning on the date that the payment for the invoice became overdue. If the error is resolved in favor of the County, the Successful Bidder shall submit a corrected invoice that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by the Texas Government Code, Chapter 2251, if the corrected invoice is not paid by the appropriate date.

As a minimum, invoices shall include:

A. Name, address, and telephone number of the Successful Bidder and similar information in the event the payment is to be made to a different address.

B. The County Contract, Purchase Order.

C. Identification of items or service as outlined in the Contract.

D. Quantity or quantities, applicable unit prices, total prices and total amount.

E. Any additional payment information which may be called for by the Contract.

Payment inquiries should be directed to the following address:

Williamson County Auditor's Office, Accounts Payable Department
Email: accountspayable@wilco.org
Phone: 512-943-1500

4.39 CONTRACTUAL FORMATION AND ENSUING AGREEMENT

The IFB and the Bidder's Bid, when properly accepted by the Commissioners Court, shall constitute a Contract equally binding between the Successful Bidder and the County.

If an Ensuing Agreement is required by this IFB, that information will be provided in Special Provisions section of this IFB. The Successful Bidder shall be required to execute the Agreement at the Williamson County Purchasing Department approximately ten (10) calendar days after the Successful Bidder is notified of award. The Ensuing Agreement shall be in the same form as the Agreement which is attached to the end of this IFB. The only anticipated changes in the Ensuing Agreement will be to include additional exhibits, to fill in blanks to identify the Successful Bidder, and terms relating to the compensation, or to revise the Agreement to accommodate corrections, changes in the scope of services, or changes pursuant to Addenda issued. **Bidders should raise any questions regarding the terms of the Agreement in the form of written questions or submittals as described in the Public Announcement and General Information portion of this IFB.** Because the signed Ensuing Agreement will be substantively and substantially derived from the attached Agreement, each Bidder is urged to seek independent legal counsel as to any questions about the terms, conditions or provisions contained in the Agreement *before* submitting a Bid. Again, the attached Agreement, if applicable, contains important legal provisions and is considered part and parcel of this IFB. Failure or refusal to sign aforesaid Agreement shall be grounds for the County to revoke any award which has been issued, forfeit Bid security, if applicable, and select another Bidder.

4.40 COOPERATIVE PURCHASING PROGRAM

During the term of the Contract resulting from this IFB, the County would like to afford the same prices, terms and conditions to other political subdivisions or public entities. Another entity's participation in the Contract resulting from this IFB is subject to a properly authorized Purchasing Cooperative Inter-local Agreement with the County. Any liability created by purchase orders issued against the Contract shall be the sole responsibility of the governmental agency placing the order.

4.41 INSURANCE REQUIREMENTS

To the extent applicable Insurance information will appear in the Additional Stipulations section that is in this IFB Package.

4.42 BIDDERS BOND, WARRANTY BOND, PERFORMANCE AND PAYMENT BONDS

To the extent applicable Bond information will appear in the Additional Stipulations section that is in this IFB Package.

4.43 LEGAL LIABILITY INFORMATION

The Successful Bidder shall disclose all legal liability information by listing any pending litigation anticipated litigation that your firm is involved in including, but not limited to, potential or actual legal matters with private parties and any local, state, federal or international governmental entities. The County reserves the right to consider legal liability information in the recommendation of any proposed contract to the Commissioners Court.

4.44 INCLEMENT WEATHER

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a Bid submission deadline, the Bid closing will automatically be postponed until the next business day the County is open. If inclement weather conditions or any other unforeseen event causes delays in carrier service operations, the County may issue an Addendum to all known Bidders interested in the project to extend the deadline. It will be the responsibility of the Bidder to notify the County of their interest in the project if these conditions are impacting their ability to turn in a submission within the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

4.45 PREVAILING WAGE RATES

To the extent this procurement is for the construction of a public work, including a building, highway, road, excavation, and repair work or other project development or improvement, paid for in whole or in part from public funds, without regard to whether the work is done under public supervision or direction, Texas Government Code, Chapter 2258, shall apply and the contractor shall pay not less than the wage scale of the various classes of labor as shown on the "Prevailing Wage Schedule" provided by the County. Pursuant to Texas Government Code, Section 2258.022(a)(2), the County has determined the general prevailing rate of the "Prevailing Wage Schedule" in the locality in which the public work is to be performed for each craft or type of worker needed to execute the contract and the prevailing rate for legal holiday and overtime work by using the prevailing wage rate as determined by the United States Department of Labor in accordance with the United States Code, Section 276a (Davis-Bacon Act).

The specified wage rates are minimum rates only, and are not representations that qualified labor adequate to perform the work is available locally at the prevailing wage rates. The County is not bound to pay—and will not consider—any claims for additional compensation made by any contractor because the contractor pays wages in excess of the applicable minimum rate contained in the Contract Documents. The "Prevailing Wage Schedule" is not a representation that quantities of qualified labor adequate to perform the work may be found locally at the specified wage rates.

For classifications not shown, workers shall not be paid less than the wage indicated for laborers. The contractor shall notify each worker commencing work on the project the worker's job classification and the established minimum wage rate required to be paid, as well as the actual amount being paid. The notice must be delivered to and signed in acknowledgement of receipt by the employee and must list both the monetary wages and fringe benefits to be paid or furnished for each classification in which the worker is assigned duties. When requested by the County, competent evidence of compliance with the Texas Prevailing Wage Law shall be furnished by contractor. A copy of each worker wage rate notification shall be submitted to the County with the Application for Payment for the period during which the worker began on-site activities.

Should the contractor at any time become aware that a particular skill or trade not reflected on the County's "Prevailing Wage Schedule" will be or is being employed in the work, whether by the contractor or by a subcontractor, the contractor shall promptly inform the County and shall specify a wage rate for that skill or trade, which shall bind the contractor.

The contractor and any subcontractor shall pay to the County a penalty of sixty dollars ($60.00) for each worker employed for each calendar day, or portion thereof, that the worker is paid less than the wage rates stipulated in the "Prevailing Wage Schedule" or any supplement thereto. The contractor and each subcontractor shall keep, or cause to be kept, an accurate record showing the names and occupations of all workers employed in connection with the work, and showing the actual per diem wages paid to each worker, which records shall be open at all reasonable hours for the inspection by the County.

Within thirty-one (31) days of receipt of information concerning a violation of the Texas Government Code Chapter 2258, the County shall make an initial determination as to whether good cause exists to believe a violation occurred. The County's decision on the initial determination shall be reduced to writing and sent to the contractor or subcontractor against whom the violation was alleged, and to the affected

worker. When a good cause finding is made, the County shall retain the full amounts claimed by the claimant or claimants as the difference between wages paid and wages due under the "Prevailing Wage Schedule" and any supplements thereto, together with the applicable penalties, such amounts being subtracted from successive progress payments pending a final decision on the violation.

After the County makes its initial determination, the affected contractor or subcontractor and worker have fourteen (14) calendar days in which to resolve the issue of whether a violation occurred, including the amount that should be retained by the County or paid to the affected worker. If the contractor or subcontractor and affected worker reach an agreement concerning the worker's claim, the contractor shall promptly notify the County in a written document signed by the worker. It the contractor or Subcontractor and affected worker do not agree before the fifteenth (15^{th}) calendar day after the County determination, the contractor or subcontractor and affected worker must participate in binding arbitration in accordance with the Texas General Arbitration Act, Chapter 171, (Texas Civil Practice and Remedies Code). The parties to the arbitration have ten (10) calendar days after the expiration of the fifteen (15) calendar days referred to above, to agree on an arbitrator; if by the eleventh (11^{th}) calendar day there is no agreement to an arbitrator, a district court shall appoint an arbitrator on the petition of any of the parties to the arbitration.

If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the contractor or subcontractor the amount of penalty as provided above and the amount owed the worker. The County may use any amounts retained hereunder to pay the worker the amount as designated in the arbitration award. If the County has not retained enough from the contractor or subcontractor to pay the worker in accordance with the arbitration award, the worker has a right of action against the contractor and subcontractor as appropriate, and the surety of either to receive the amount owed, attorneys' fees and court costs. The contractor shall promptly furnish a copy of the arbitration award to the County.

Money retained pursuant to the provisions above shall be used to pay the claimant or claimants the difference between the amount the worker received in wages for labor on the project at the rate paid by the contractor or subcontractor and the amount the worker would have received at the general prevailing wage rate as provided by the agreement of the claimant and the contractor or subcontractor affected, or in the arbitrator's award. The full statutory penalty of sixty dollars ($60.00) per calendar day of violation per worker shall be retained by Williamson County to offset its administrative costs, pursuant to Texas Government Code, Section, 2258.023. Any retained funds in excess of these amounts shall be paid to the contractor on the earlier of the next progress payment or final payment. Provided, however, that the County shall have no duty to release any funds to either the claimant or the contractor until it has received the notices of agreement or the arbitration award as provided under the provision herein-above.

4.46 CONFIDENTIALITY

The Bidder expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.

Agreement for Construction Services
(Fog Seal)

This Agreement ("Agreement") between Williamson County, Texas, a political subdivision of the State of Texas ("Owner") and _____ ("Contractor") is entered into in accordance with the following terms and conditions:

ARTICLE 1 SCOPE OF WORK: The Owner desires to retain Contractor to provide the construction services described herein. The Contractor shall have the overall responsibility for and shall provide complete construction services and furnish all materials, equipment, tools and labor as necessary or reasonably inferable to complete the following described construction services, or any phase of such services, in accordance with the Owner's requirements and the terms of this Agreement (hereinafter collectively referred to as the "Work"):

As described in the Invitation for Bid IFB#1702-147 - Fog Seal Cul-De-Sac Williamson County Road and Bridge, including the specifications set forth and any attachments to same, which are incorporated herein as if copied in full.

ARTICLE 2 CONTRACT PRICE: Owner agrees to pay to the Contractor, for the satisfactory performance of the Work, the sum of _____ ($_____) in accordance with the terms and conditions of this Agreement.

ARTICLE 3 PLANS AND SPECIFICATIONS: The Work shall be performed pursuant to and in accordance with the following described plans and specifications, as well as any revisions made thereto:

As described in the Invitation for Bid IFB#1702-147 - Fog Seal Cul-De-Sac Williamson County Road and Bridge, including the specifications set forth and any attachments to same, which are incorporated herein as if copied in full .

_____
_____

Additional Work: Should Owner choose to add additional work, such additional work shall be described in a separate written amendment to this Agreement wherein the additional work shall be described and the parties shall set forth the amount of compensation to be paid by Owner for the additional work. Contractor shall not begin any additional work and Owner shall not be obligated to pay for any additional work unless a written amendment to this Agreement has been signed by both parties.

ARTICLE 4 SUBSTANTIAL AND FINAL COMPLETION:

4.1 Commencement of Work. Contractor shall commence the Work upon instruction to do so from the Owner and Construction shall be deemed to have commenced on the date of such instruction.

4.2 Substantial Completion. "Substantial Completion" means the stage in the progress of the Work when the Work, or designated portions thereof, may still require minor modifications or adjustments but, in the Owner's opinion, the Work has progressed to the point such that all parts of the Work under consideration are fully operational and usable for intended purposes, as evidenced by a Certificate of Substantial Completion approved by the Owner. If a Certificate of Occupancy is required by public authorities having jurisdiction over the Work, said certificate shall be issued before the Work or any portion thereof is considered substantially complete. When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, is substantially complete, the Contractor shall notify Owner's Designated Representative (sometimes referred to as the "ODR") and request a determination as to whether the Work or designated portion thereof is substantially complete. If the ODR does not consider the Work substantially complete, the ODR will notify the Contractor giving reasons therefore. Failure on the Owner's part to list a reason does not alter the responsibility of the Contractor to complete all Work in accordance with the terms of this Agreement. After satisfactorily completing items identified by Owner's Designated Representative, the Contractor shall then submit another request for the ODR to determine Substantial Completion. If The ODR considers the Work substantially complete, The ODR will prepare and deliver a certificate of Substantial Completion which shall establish the date of Substantial Completion, shall include a punch list of items to be completed or corrected before final completion and final payment, shall establish the time within which the Contractor shall finish the punch list, and shall establish responsibilities of the Owner and the Contractor for security, maintenance, heat, utilities, damage to the Work, warranty and insurance. Failure to include an item on the punch list does not alter the responsibility of the Contractor to complete all Work in accordance with the terms and conditions of this Agreement. The certificate of Substantial Completion shall be signed by the Owner and the Contractor to evidence acceptance of the responsibilities assigned to them in such certificate.

Substantial Completion (as defined in this agreement) for all stages of the Work shall be achieved on or before the following Substantial Completion date:

DATE FOR SUBSTANTIAL COMPLETION: Twenty (20) calendar days after the date of County's Notice to Proceed.

4.3 Final Completion. The Work shall be fully and finally completed within Thirty 30 calendar days the date of County's Notice to Proceed; provided, however, Owner may extend said time period in the event bad weather affects the progress of the Work. Owner shall, at its sole discretion, determine when the Work has been fully and finally completed to its satisfaction.

4.4 Liquidated Damages. For each consecutive calendar day after the date of Substantial Completion that the Work is not Substantially Complete, the Owner may deduct the amount of Two Hundred Fifty Dollars per day ($250.00/day) from any money due or that becomes due the Contractor, not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that the Owner will sustain for late completion. The parties stipulate and agree that calculating Owner's actual damages for late completion of the Work would be impractical, unduly burdensome, and cause unnecessary delay and that the amount of daily liquidated damages set forth is reasonable.

ARTICLE 5 PAYMENT:

On or before the first Wednesday of each month, the Contractor shall submit to the ODR a statement showing the total value of the work performed up to and including the last day of the preceding month. The statement shall also include the value of all sound materials delivered on the Work site and to be included in the Work and all partially completed Work, whether bid as a lump sum or a unit item, which in the opinion of the ODR is acceptable. The ODR shall examine and approve or modify and approve such statement. The Owner shall then pay the Contractor on or before the 25th day of the following month the total amount of the approved statement less all previous payments and all further sums that may by retained by the Owner under the terms of this Agreement or under the law.

At any time following the completion of all Work, including all punch list items, cleanup, and the delivery of record documents, the Contractor shall submit a certified application for final payment, including all sums held as retainage if any, to the ODR for its review and approval. Contractor shall submit, prior to or with the application for final payment, final copies of all close out documents, including maintenance and operating instructions, guarantees and warranties, certificates, and all other items required by this Agreement. Contractor shall also submit consent of surety to final payment, an affidavit that all payrolls, bills for materials and equipment, subcontracted work and other indebtedness connected with the Work, except as specifically noted, have been paid or will be paid or otherwise satisfied within the period of time required by Chapter 2251, Texas Government Code. Contractor shall furnish documentation establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of claims arising out of the Agreement. Owner is entitled to rely upon this affidavit and the Contractor may not submit a claim on behalf of a subcontractor or vendor if that claim has not been noted as an exception in the affidavit.

Owner may deduct from the final payment all sums due from Contractor for any reason, Liquidated Damages and all other deductions authorized by this Agreement. If the certificate of final completion notes any Work remaining incomplete or defects not remedied, the Owner may deduct the reasonable cost of remedying such deficiencies from the final payment. If such deductions are made, Owner shall identify each deduction made and the reason for each deduction, and furnish Contractor with an explanation of the deduction and the amount deducted on or by the 21st day after Owner's receipt of an approved or deemed approved application for final payment.

Final Payment shall become due and payable by Owner, subject to all allowable offsets and deductions, on the 31st day next following Owner’s approval of the application for payment. If Contractor disputes any amount deducted by the Owner, Contractor shall give notice of the dispute on or before the 30th day next following receipt of final payment; failure to do so will bar any subsequent claim for payment of amounts deducted.

Final payment shall constitute a waiver of all claims by the Contractor except those specifically identified in writing and submitted to the ODR prior to the application for final payment. Provided, however, that the Work shall not be deemed fully performed by the Contractor and closed until the expiration of all warranty periods.

ARTICLE 6 CONTRACTOR'S GENERAL RESPONSIBILITIES AND COVENANTS:

6.1 Contractor shall perform all services specifically allocated to it hereunder, as well as those services reasonably inferable and necessary for completion of the Work. The Contractor shall keep the Owner informed of the progress and quality of the Work. Contractor agrees and acknowledges that Owner is entering into this Agreement in reliance on Contractor's represented expertise and ability to provide the Work described in this Agreement. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations in accordance with the highest standards used in the profession and to further the interests of Owner in accordance with Owner's requirements and procedures. Contractor's duties as set forth herein shall at no time be in any way diminished by reason of any approval by the Owner nor shall the Contractor be released from any liability by reason of such approval by the Owner, it being understood that the Owner at all times is ultimately relying upon the Contractor's skill and knowledge in performing the services required hereunder.

6.2 Contractor is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

6.3 Contractor shall be an independent contractor under this Agreement and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions in this agreement which may appear to give Owner the right to direct Contractor as to details of doing the Work herein covered or to exercise a measure of control over the Work shall be deemed to mean that Contractor shall follow the desires of Owner in the results of the Work only. Owner shall not retain or have the right to control the Contractor's means, methods or details pertaining to the Contractor's performance of the Work described herein, nor shall Owner have the power to direct the order in which Contractor's Work is performed under this agreement. Owner and Contractor hereby agree and declare that Contractor is an Independent Contractor and as such meets the qualifications of an Independent Contractor under Texas Worker's Compensation Act, Texas Labor Code, Section 406.141, that the Contractor is not an employee of Owner for purposes of this Agreement, and that the Contractor and its employees, agents and sub-subcontractors shall not be entitled to worker's compensation coverage or any other type of insurance coverage held by Owner.

6.4 As part of Contractor obligation to coordinate the Work, Contract shall:

a. cooperate with the ODR and endeavor to further the interests of the Owner and the Work;
b. provide an on-site, full-time superintendent for the duration of the Work;
c. visit the Work site and inspect the existing facilities, systems and conditions to insure an accurate understanding of the existing conditions as required;
d. at Owner's request, attend public meetings and hearings concerning the development of the Work;
e. review all drawings, specifications, and other plans as they are developed by the Owner and/or its architect and advise Owner of any error, inconsistency or omission discovered in the drawings, specifications, and other plans;
f. review the drawings, specifications, and other plans for compliance with all applicable laws and code requirements;
g. advise Owner of any tests that should be performed;
h. organize and maintain a competent, full-time staff at the Work site with clearly defined lines of authority and communication as necessary to coordinate construction activities, monitor and direct progress of the Work;
i. attend Owner's regularly scheduled Work progress meetings and fully advise the ODR of the Work status including schedule, costs, quality and changes;

j. assist Owner in obtaining building permits and obtain special permits for permanent improvements as required by law; and
k. shall coordinate, monitor and inspect the Work of subcontractors to ensure conformance with the drawings, specifications, other plans and with the terms of this Agreement.

6.5 Contractor shall identify every subcontractor it intends to use for the Work to the Owner in writing at least ten (10) days before entering into any subcontract. Contractor shall not use any subcontractor to which Owner has a reasonable objection. If Owner does not object to a particular subcontractor with said ten (10) days, such subcontract may be considered acceptable to Owner. Following Owner's acceptance of a subcontractor, that subcontractor shall not be changed without Owner's written consent, which shall not be unreasonably withheld.

6.6 Contractor's designated representative, which is set forth below Contractor's signature herein below, shall be responsible for the day-to-day management of the Work on behalf of Contractor. The designated representative shall be the Owner's primary contact during the Work and shall be available as required for the benefit of the Work and the Owner. The contractor's designated representative shall be authorized to act on behalf of and bind the Contractor in all matters related to the Work including, but not limited to, execution of Change Orders.

6.7 NO ALTERATIONS OR CHANGES SHALL BE MADE, HOWEVER, EXCEPT UPON THE WRITTEN ORDER OF THE OWNER, OR THE ODR.

6.8 Contractor shall promptly correct any defective Work at Contractor's sole expense, unless the Owner specifically agrees, in writing, to accept the Work.

6.9 Contractor shall maintain and deliver the close out documents that describe changes or deviations from the original drawings, specifications and plans that occurred during construction and that reflect the actual "As Built" conditions of the completed Work.

COMMISSIONING AND WARRANTY RESPONSIBILITIES

6.10 Contractor shall provide commissioning, starting and check-out services for the systems installed as a part of the Work prior to completion and acceptance. Operation manuals and instructions will be provided to the Owner, the systems will be demonstrated and training provided to Williamson County's operators upon completion and prior to acceptance.

6.11 Contractor hereby warrants that the materials and equipment provided for the Work will be of good quality and new unless otherwise required or permitted by the Owner; that the construction will be free from faults and defects; and that the construction will conform with the requirements of the plans, specifications, drawings and the terms of this Agreement.

6.12 Contractor shall provide warranty services for the Work for a full **18 months** (30 months for Work involving mechanical services, if any) following Final Completion and final payment. Just before the warranty period expires, Contractor shall attend an on-site meeting with the Owner to ensure that all warranty issues have been identified and properly remedied.

ARTICLE 7 OWNER'S RESPONSIBILITIES

7.1 The Owner shall:

a. provide the general schedule for the Work provided Owner is of the opinion such schedule is necessary. The general schedule will set forth the Owner's plan for milestone dates and completion of the Work;
b. identify a person as its ODR who is authorized to act in the Owner's behalf with respect to the Work. The ODR shall examine the documents submitted by the Contractor and shall render decisions on behalf of the Owner to the extent allowed by Texas law;
c. at Owner's cost, will secure the services of surveyors, soils engineers, existing facility surveys, testing and balancing, environmental surveys or other special consultants to develop such additional information as may be necessary for the design or construction of the Work;
d. furnish required information and services and shall render approvals and decisions as expeditiously as is consistent with reasonable skill and care and the orderly progress of the Contractor's services and of the Work;
e. shall have the right to reject any defective Work. Should Contractor refuse or neglect to correct any such Work within a reasonable time after notice, Owner may have the Work corrected and recover all expenses incurred from Contractor on demand; and
f. Owner shall furnish to the Contractor a sufficient number of plans, drawings and specifications sets.

ARTICLE 8 INSURANCE AND INDEMNITY

8.1 Insurance. The Contractor shall carry insurance in the types and amounts indicated below for the duration of the Agreement, which shall include items owned by Owner in the care, custody and control of Contractor prior to and during construction. Contractor must also complete and file the declaration pages from the insurance policies with Owner whenever a previously identified policy period expires during the term of the Agreement, as proof of continuing coverage. Contractor shall update all expired policies prior to submission of any payment requests hereunder. Failure to update policies shall be reason for payment to be withheld until evidence for renewal is provided to the Owner.

8.1.1 The Contractor shall provide and maintain, until the Work covered in this Agreement is completed and accepted by the Owner, the minimum insurance coverage in the minimum amounts as described below. Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company or otherwise acceptable to Owner.

Type of Coverage	Limits of Liability
a. Worker's Compensation	Statutory
b. Employer's Liability	
Bodily Injury by Accident	$500,000 Ea. Accident
Bodily Injury by Disease	$500,000 Ea. Employee
Bodily Injury by Disease	$500,000 Policy Limit

c. Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE	PER PERSON	PER OCCURRENCE

Comprehensive General Liability (*including premises, completed operations and contractual*)	$1,000,000	$1,000,000
Aggregate policy limits:	$1,000,000	

d. Comprehensive automobile and auto liability insurance (covering owned, hired, leased and non-owned vehicles):

COVERAGE	PER PERSON	PER OCCURRENCE
Bodily injury (including death)	$1,000,000	$1,000,000
Property damage	$1,000,000	$1,000,000
Aggregate policy limits	No aggregate limit	

e. Umbrella coverage in the amount of not less than $1,000,000.

8.1.2 The above insurance requirements are not intended to be compounded with the Contractor's standing insurance policies. If the Contractor already has in force insurance policies which provide the required coverage, there is no need to purchase duplicate coverage for this Work.

8.1.3 Policies must include the following clauses, as applicable.

a. "This insurance shall not be canceled, limited in scope or coverage, or non-renewed until after thirty (30) days prior written notice, or ten (10) days for non-payment of premium, has been given to Williamson County."
b. "It is agreed that the Contractor's insurance shall be deemed primary with respect to any insurance or self insurance carried by Williamson County for liability arising out of operations under the Agreement with Williamson County."
c. "Williamson County, it officials, directors, employees, representatives, and volunteers are added as additional insured as respects operations and activities of, or on behalf of the named insured performed under Agreement with the Owner." This is not applicable to the workers' compensation policy.
d. "The workers' compensation and employers' liability policy will provide a waiver of subrogation in favor of Williamson County."

8.1.4 Workers' Compensation Insurance Coverage:

In the event that Contractor employs any individual to perform any portion of the Work, Contractor shall comply with Texas Labor Code, §406.096, which requires workers' compensation insurance coverage for all employees providing services on a building or construction project for a governmental entity.

a. Definitions:
(1) Certificate of Coverage ("certificate") - A copy of a certificate of insurance, a certificate of authority to self-insure issued by the Texas Workers' Compensation

Commission, or a coverage agreement (TWCC-81, TWCC-82, TWCC-83, or TWCC-84), showing statutory workers' compensation insurance coverage for the person's or entity's employees providing services on a project, for the Duration of the Work.

(2) Duration of the Work - includes the time from the beginning of the Work until the Work has been completed and accepted by the Owner.

(3) Coverage – Workers' compensation insurance meeting the statutory requirements of the Texas Labor Code, §401.011(44).

(4) Persons providing services relating to the Work ("subcontractor") - includes all persons or entities performing all or part of the services the Contractor has undertaken to perform the Work, regardless of whether that person contracted directly with the Contractor and regardless of whether that person has employees. This includes, without limitation, independent contractors, subcontractors, leasing companies, motor carriers, owner-operators, employees of any such entity, or employees of any entity which furnishes persons to provide services in relation to the Work. "Services" include, without limitation, providing, hauling, or delivering equipment or materials, or providing labor, transportation, or other service related to a project. "Services" does not include activities unrelated to the Work, such as food/beverage vendors, office supply deliveries, and delivery of portable toilets.

b. The Contractor shall provide Coverage, based on proper reporting of classification codes and payroll amounts and filing of any Coverage agreements, which meets the statutory requirements of Texas labor Code, §401.011(44) for all employees of the Contractor providing services in relation to the Work, for the Duration of the Work.

c. The Contractor must provide a Certificate of Coverage to the Owner prior to or contemporaneously with the execution of this Agreement.

d. If the Coverage period shown on the Contractor's current Certificate of Coverage ends during the Duration of the Work, the Contractor must, prior to the end of the Coverage period, file a new Certificate of Coverage with the Owner showing that Coverage has been extended.

e. The Contractor shall obtain from each person providing services in relation to the Work, and provide to the Owner:

(1) a Certificate of Coverage, prior to that person beginning any of the Work, so the Owner will have on file Certificates of Coverage showing Coverage for all persons providing services in relation to the Work; and

(2) no later than seven days after receipt by the Contractor, a new Certificate of Coverage showing extension of Coverage, if the Coverage period shown on the current Certificate of Coverage ends during the Duration of the Work.

f. The Contractor shall retain all required Certificates of Coverage for the Duration of the Work and for one year thereafter.

g. The Contractor shall notify the Owner in writing by certified mail or personal delivery, within 10 days after the Contractor knew or should have known, of any change that materially affects the provision of Coverage of any person providing services in relation to the Work.

h. The Contractor shall post on the Work site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services in relation to the Work that they are required to be covered, and stating how a person may verify Coverage and report lack of Coverage.

i. By signing this Agreement or providing or causing to be provided a Certificate of Coverage, the Contractor is representing to the Owner that all employees of the Contractor who will provide services in relation to the Work and all persons providing services in relation to the Work will be covered by workers' compensation coverage for the Duration of the Work, that the coverage will be based on proper reporting of classification codes and payroll amounts, and that all coverage agreements will be filed with the appropriate insurance carrier or, in the case of a self-insured, with the commission's Division of Self-Insurance Regulation. Providing false or

misleading information may subject the Contractor to administrative penalties, criminal penalties, civil penalties, or other civil actions.

j. The Contractor's failure to comply with any of these provisions is a breach of Agreement by the Contractor which entitles the Owner to declare the Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

8.1.5 The furnishing of the above listed insurance coverage must be tendered prior to execution of the Agreement, and in no event later than ten (10) calendar days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.

8.1.6 The Contractor shall not cause or allow any of its required insurance to be canceled, nor permit any insurance to lapse during the term of the Agreement or as required in the Agreement. If the Contractor fails to obtain, maintain or renew any insurance required by this Agreement, the Owner may, among other remedies available hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

8.1.7 The Owner reserves the right to review the insurance requirements set forth in this Article during the effective period of the Agreement and to make reasonable adjustments to the insurance coverage and their limits when deemed necessary and prudent by the Owner based upon changes in statutory law, court decisions, or the claims history of the industry as well as the Contractor.

8.1.8 The Owner shall be entitled, upon request, and without expense, to receive complete copies of the policies with all endorsements and may make any reasonable requests for deletion, or revision or modification of particular policy terms, conditions, limitations, or exclusions, except where policy provisions are established by law or regulation binding upon the Parties or the underwriter of any of such polices. Damages caused by the Contractor and not covered by insurance shall be paid by the Contractor.

8.1.9 Contractor shall be responsible for payment of premiums for all of the insurance coverages required under this Agreement. Contractor further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the Contractor is responsible hereunder, Contractor shall be solely responsible for all deductibles and self-insured retentions. **Any deductibles or self-insured retentions over $50,000 in the Contractor's insurance must be declared and approved in writing by Owner in advance.**

8.1.10 The Contractor shall contractually require each person or entity with whom it contracts to provide services in relation to the Work, to comply with each and every insurance requirement that Contractor must comply with hereunder. More specifically, each person or entity with whom Contractor contracts to provide services on the in relation to the Work must comply with each insurance requirement under this Article 8 just as if such person or entity was the Contractor. Thus, every reference to Contractor under each insurance requirement of this Article 8 shall mean and include each person or entity with whom Contractor contracts to provide services in relation to the Work. If any such person or entity with whom Contractor contracts to provide services in relation to the Work fails to obtain, maintain or renew any insurance required by this Agreement, the Owner may, among other remedies available

hereunder or at law, obtain insurance coverage directly and recover the cost of that insurance from the Contractor or declare this Agreement void if the Contractor does not remedy the breach within ten (10) days after receipt of notice of breach from the Owner.

8.2 INDEMNITY.

8.2.1 INDEMNIFICATION - EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, THE CONTRACTOR SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") AND SHALL ASSUME ENTIRE RESPONSIBILITY AND LIABILITY (OTHER THAN AS A RESULT OF INDEMNITEES' GROSS NEGLIGENCE) FOR ANY CLAIM OR ACTION BASED ON OR ARISING OUT OF THE PERSONAL INJURY, OR DEATH, OF ANY EMPLOYEE OF THE CONTRACTOR, OR OF ANY SUBCONTRACTOR, OR OF ANY OTHER ENTITY FOR WHOSE ACTS THEY MAY BE LIABLE, WHICH OCCURRED OR WAS ALLEGED TO HAVE OCCURRED ON THE WORK SITE OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK. CONTRACTOR HEREBY INDEMNIFIES THE INDEMNITEES EVEN TO THE EXTENT THAT SUCH PERSONAL INJURY WAS CAUSED OR ALLEGED TO HAVE BEEN CAUSED BY THE SOLE, COMPARATIVE OR CONCURRENT NEGLIGENCE OF THE STRICT LIABILITY OF ANY INDEMNIFIED PARTY. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION, OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKERS COMPENSATION ACTS, DISABILITY BENEFITS ACTS, OR OTHER EMPLOYEES BENEFIT ACTS.

8.2.2 INDEMNIFICATION - OTHER THAN EMPLOYEE PERSONAL INJURY CLAIMS. TO THE FULLEST EXTENT PERMITTED BY LAW, CONTRACTOR SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF OWNER'S CHOOSING), AND HOLD HARMLESS OWNER, AND OWNER'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF OR ALLEGED TO BE RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT OR THE WORK DESCRIBED HEREIN, TO THE EXTENT CAUSED BY THE NEGLIGENCE, ACTS, ERRORS, OR OMISSIONS OF CONTRACTOR OR ITS SUBCONTRACTORS, ANYONE EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED IN WHOLE OR IN PART BY A PARTY INDEMNIFIED HEREUNDER.

8.3 Except for the obligation of Owner to pay Contractor the Contract Price pursuant to the terms of this Agreement, and to perform certain other obligations pursuant to the terms and conditions explicitly set forth herein, Owner shall have no liability to Contractor or to anyone claiming through or under Contractor by reason of the execution or performance of this Agreement. Notwithstanding any obligation or liability of Owner to Contractor, no present or future partner or affiliate of Owner or any agent, officer, director, or employee of Owner, Williamson County, or of the various departments comprising Williamson County, or anyone claiming under Owner has or shall have any personal liability to Contractor or to anyone claming through or under Contractor by reason of the execution or performance of this Agreement.

ARTICLE 9 BONDS

9.1 Performance Bond. Upon execution of this Agreement, Contractor shall provide a Performance Bond in the amount of 100% of the Contract Price. The surety for a Performance Bond shall meet the requirements of Texas law.

9.2 Payment Bond. Upon execution of this Agreement, Contractor shall provide a Payment Bond in the amount of 100% of the Contract Price, as security for the true and faithful payment in full of all subcontractors and persons performing labor, services, materials, machinery, and fixtures in connection with the Work. The surety for a Payment Bond shall meet the requirements of Texas law.

9.3 Warranty Bond. Upon execution of this Agreement, Contractor shall provide a Warranty Bond in the amount of 100% of the Contract Price, as security for the true and faithful performance of all warranties set forth in Bid Documents and this Agreement.

ARTICLE 10 TERMINATION

10.1 Termination for Cause. If either party commits an Event of Breach (a breach of any of the covenants, terms and/or conditions of this Agreement), the non-breaching party shall deliver written notice of such Event of Breach to the breaching party. Such notice must specify the nature of the Event of Breach and inform the breaching party that unless the Event of Breach is cured within three (3) business days of receipt of the notice, additional steps may be taken to terminate this Agreement. If the breaching party begins a good faith attempt to cure the Event of Breach within three (3) business days, then and in that instance, the three (3) business day period may be extended by the non-breaching party, so long as the breaching party continues to prosecute a cure diligently to completion and continues to make a good faith attempt to cure the Event of Breach. If, in the opinion of the non-breaching party, the breaching party does not cure the breach within three (3) business days or otherwise fails to make any diligent attempt to correct the Event of Breach, the breaching party shall be deemed to be in breach and the non-breaching party may, in addition to seeking the remedies available hereunder and under the law, terminate this Agreement.

10.2 Termination for Convenience. The Owner may terminate this Agreement for convenience and without cause or further liability upon thirty (30) days written notice to Contractor. In the event of such termination, it is understood and agreed that only the amounts due to Contractor for goods, commodities and/or services provided and expenses incurred to and including the date of termination, will be due and payable. No penalty will be assessed for Owner's termination of this Agreement for convenience.

ARTICLE 11 MISCELLANEOUS PROVISIONS

11.1 Interest and Late Payments. Except as otherwise specifically set forth herein, Owner's payment for goods and services shall be governed by Chapter 2251 of the Texas Government Code. Interest charges for any overdue payments shall be paid by Owner in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of Owner's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice/application for payment submitted by Contractor, Owner shall notify Contractor of the error not later than the twenty first (21st) day after the date Owner receives the invoice/application for payment. If the error is resolved in favor of Contractor, Contractor shall be

entitled to receive interest on the unpaid balance of the invoice/application for payment submitted by Contractor beginning on the date that the payment for the invoice/application for payment became overdue. If the error is resolved in favor of the Owner, Contractor shall submit a corrected invoice/application for payment that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by Chapter 2251 of the Texas Government Code if the corrected invoice/application for payment is not paid by the appropriate date.

11.2 Assignment; Successors and Assigns. This Agreement is a personal service contract for the services of Contractor, and Contractor's interest in this Agreement, duties hereunder and/or fees due hereunder may not be assigned or delegated to a third party. This Agreement shall be binding upon and inure to the benefit of parties hereto and their respective successors and assigns.

11.3 Captions. The captions of paragraphs in this Agreement are for convenience only and shall not be considered or referred to in resolving questions of interpretation or construction.

11.4 Governing Law and Venue. This Agreement and all of the rights and obligations of the parties and all of the terms and conditions shall be construed, interpreted and applied in accordance with and governed by and enforced under the laws of the State of Texas without reference to its conflicts of law provisions. Williamson County where the Work site is located shall be the sole place of venue for any legal action arising from or related to this Agreement or the project in which the Owner is a party.

11.5 Waivers. No delay or omission by either party in exercising any right or power arising from non-compliance or failure of performance by the other party with any of the provisions of this Agreement shall impair or constitute a waiver of any such right or power. A waiver by either party of any covenant or condition of this Agreement shall not be construed as a waiver of any subsequent breach of that or of any other covenant or condition of the Agreement.

11.6 Interpretation. In the event of any dispute over the meaning or application of any provision of the Contract Documents, the Contract Documents shall be interpreted fairly and reasonably, and neither more strongly for or against any party, regardless of the actual drafter of the Contract Documents.

11.7 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

11.8 Appointment. Owner hereby expressly reserves the right from time to time to designate by notice to Contractor a representative(s) to act partially or wholly for Owner in connection with the performance of Owner's obligations. Contractor shall act only upon instructions from the designated representative(s) unless otherwise specifically notified to the contrary.

11.9 Audits. Contractor agrees that Owner or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Agreement, have access to and the right to examine and photocopy any and all books, documents, papers and records of Contractor which are directly pertinent to the services to be performed under this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. Contractor agrees that Owner shall have access during normal working hours to all necessary Contractor facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. Owner shall give Contractor reasonable advance notice of intended audits.

11.10 Severability. Should any term or provision of this Agreement be held invalid or unenforceable in any respect, the remaining terms and provisions shall not be affected and this Agreement shall be construed as if the invalid or unenforceable term or provision had never been included.

11.11 No Waiver of Immunities. Nothing in this Agreement shall be deemed to waive, modify or amend any legal defense available at law or in equity to Owner, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. Owner does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

11.12 Current Revenues. Under Texas law, a contract with a governmental entity that contains a claim against future revenues is void; therefore, each party paying for the performance of governmental functions or services must make those payments from current revenues available to the paying party.

11.13 Compliance with Laws. Contractor shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required, Contractor shall furnish the County with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

11.14 Sales and Use Tax Exemption. Owner is a body corporate and politic under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code Ann. § 151.309, as amended.

11.15 Texas Public Information Act. To the extent, if any, that any provision in this Agreement is in conflict with Tex. Gov't Code 552.001 *et seq.*, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that Owner, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any information or data furnished to Owner whether or not the same are available to the public. It is further understood that Owner, its officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that Owner, its officers and employees shall have no liability or obligation to Contractor for the disclosure to the public, or to any person or persons, of any software or a part thereof, or other items or data furnished to Owner by Contractor in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

11.16 Force Majeure. If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance of this Agreement. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

11.17 Equal Opportunity in Employment. The parties to this Agreement agree that during the performance of the services under this Agreement they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The parties to this Agreement will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship.

11.18 Reports of Accidents. Within 24 hours after Contractor becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the Contractor), whether or not it results from or involves any action or failure to act by the Contractor or any employee or agent of the Contractor and which arises in any manner from the performance of this Agreement, the Contractor shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Contractor shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Contractor, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Contractor's performance of work under this Agreement.

11.19 Relationship of the Parties. Each party to this Agreement, in the performance of this Agreement, shall act in an individual capacity and not as agents, employees, partners, joint ventures or associates of one another. The employees or agents of one party shall not be deemed or construed to be the employees or agents of the other party for any purposes whatsoever.

11.20 Appropriation of Funds by Owner. Owner believes it has sufficient funds currently available and authorized for expenditure to finance the costs of this Agreement. Contractor understands and agrees that the Owner's payment of amounts under this Agreement is contingent on the Owner receiving appropriations or other expenditure authority sufficient to allow the Owner, in the exercise of reasonable administrative discretion, to continue to make payments under this Agreement.

11.21 Execution in Counterparts. This Agreement may be executed in counterparts, each of which, when executed and delivered, shall be deemed to be an original and all of which together shall constitute one and the same document.

11.22 Entire Agreement. This Agreement, which expressly includes Invitation for Bid IFB#1702-147, Standard Terms & Conditions, and Contractor's Bid as if copied here in full, represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by each party to this Agreement. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE OWNER HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND THIS AGREEMENT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE WILLIAMSON COUNTY COMMISSIONERS COURT.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement to be effective as of the date of the last party's execution hereof (Effective Date).

OWNER:	**CONTRACTOR:**
WILLIAMSON COUNTY, TEXAS, a political subdivision of the state of Texas	_____
By: _____	By: _____
Printed Name: _____	Printed Name: _____
Title: _____	Title: _____

Date: _____

Date: _____

Party Representatives

Owner's Designated Representative ("ODR"):

_____
_____
_____
_____
Phone _____
Fax _____

Contractor's Designated Representative:

_____
_____
_____
_____
Phone _____
Fax _____

Bidder References

List the last (3) companies or governmental agencies, where the same or similar goods and/or services as contained in this IFB package, were recently provided by Bidder.

Reference 1

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 2

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 3

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

DEBARMENT AND LICENSING CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Firm named herein below and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:
(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
(c) Are not presently indicted for or otherwise criminally or civilly charged by a federal, state or local governmental entity with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;
(d) Have not within a three-year period preceding this application/proposal had one or more public (federal, state or local) transactions terminated for cause or default;
(e) Are registered and licensed in the State of Texas to perform the professional services which are necessary for the project; and
(f) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

Name of Firm

Signature of Certifying Official | Title of Certifying Official

Printed Name of Certifying Official | Date

Where the Firm is unable to certify to any of the statements in this certification, such Firm shall attach an explanation to this certification.

SUBSCRIBED and sworn to before me the undersigned authority by

on this the day of , 20 , on behalf of said Firm.

Notary Public in and for the State of Texas

My commission expires:

SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYNC ELECTRONICALLY.

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of person doing business with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.**

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 **Describe each affiliation or business relationship with an employee or contractor of the local governmental entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.**

4 **Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.**

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ
Page 2

5 **Name of local government officer with whom filer has affiliation or business relationship.**
(Complete this section only if the answer to A, B, or C is YES.)

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

☐ Yes ☐ No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?

☐ Yes ☐ No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐ Yes ☐ No

D. Describe each affiliation or business relationship.

6. Describe any other affiliation or business relationship that might cause conflict of interest:

7

Signature of person doing business with the governmental entity	Date

Signature not required if completing in BIDSYNC electronically.

BID AFFIDAVIT

This form must be completed, signed, notarized and returned with Bid package

The undersigned certifies that the IFB and the Bidder's Bid have been carefully reviewed and are submitted as correct and final. Bidder further certifies and agrees to furnish any and/or all goods and/or services upon which prices are extended at the price Bid, and upon the conditions contained in the IFB.

I hereby certify that the foregoing Bid has not been prepared in collusion with any other Bidder or other person or persons engaged in the same line of business prior to the official opening of this Bid. Further, I certify that the Bidder is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities Bid on, or to influence any person or persons to submit a Bid or not to submit a Bid thereon."

Name of Bidder:	
Address of Bidder:	
Email:	
Telephone:	
Printed Name of Person Submitting Affidavit:	
Signature of Person Submitting Affidavit:	

Cooperative Purchasing Program

Check one of the following options below. A non-affirmative Bid will in no way have a negative impact on the County's evaluation of the Bid.

☐	I will offer the quoted prices to all authorized entities during the term of the County's Contract.
☐	I will not offer the quoted prices to all authorized entities.

If no box is checked, the Bidder agrees to make best efforts in good faith to offer the quoted prices to all authorized entities.

BEFORE ME, the undersigned authority, a Notary Public, personally appeared _____ (*Name of Signer*), who after being by me duly sworn, did depose and say: "I, _____, (*Name of Signer*) am a duly authorized officer of/agent for _____ (*Name of Bidder*) and have been duly authorized to execute the foregoing on behalf of the said _____ (*Name of Bidder*).

SUBSCRIBED AND SWORN to before me by the above-named _____

on this the _____ day of _____, 20_____.

_____

Notary Public in and for

The State of _____

The County of _____

SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYNC ELECTRONICALLY.

Question and Answers for Bid #1702-147 - Cul-De-Sacs Fog Seal FY17

Overall Bid Questions
There are no questions associated with this bid.

Commissioners Court - Regular Session **46.**

Meeting Date: 03/07/2017

Request to Award contract with Halff Associates for RV Park Expansion at Expo Center

Submitted For: Randy Barker **Submitted By:** Teri Jeffries, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on awarding the contract with Halff Associates for professional services for the design and development of Phase II, RV Park at the Expo Center in Taylor, Texas. RFQ 1611-128

Background

The RV Park is Phase II of the Expo Center development. Contract, award recommendation letter, and evaluation are attached for your review.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

PSA Halff - RV Park Expo Center

Recommendation letter

Evaluation RV Park RFQ1611-128

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/01/2017 11:24 AM
Form Started By: Teri Jeffries		Started On: 02/28/2017 10:53 AM
Final Approval Date: 03/01/2017		



AGREEMENT FOR ARCHITECTURAL
AND/OR
ENGINEERING SERVICES

THIS AGREEMENT FOR ARCHITECTURAL AND ENGINEERING SERVICES ("Agreement") is made and entered into by and between **Williamson County,** a body corporate and politic under the laws of the State of Texas, hereinafter "Owner," Williamson County," or "County," and Halff Associates, Inc. – Austin, Texas, hereinafter "A/E."

R E C I T A L S

The County intends to construct a RV Park at the Williamson County Expo Center, hereinafter called the "Project;" and

The County desires that the A/E perform certain professional Architectural and Engineering services in connection with the Project; and

The A/E represents that it is qualified and desires to perform such services;

NOW, THEREFORE, the County and the A/E, in consideration of the mutual covenants and agreements herein contained, do mutually agree as follows:

TABLE OF ARTICLES

1 INITIAL INFORMATION
2 A/E's RESPONSIBILITIES
3 SCOPE OF A/E's BASIC SERVICES
4 ADDITIONAL SERVICES
5 OWNER'S RESPONSIBILITIES
6 COST OF THE WORK
7 COPYRIGHTS AND LICENSES
8 CLAIMS AND DISPUTES
9 TERMINATION OR SUSPENSION
10 MISCELLANEOUS PROVISIONS
11 COMPENSATION
12 SPECIAL TERMS AND CONDITIONS
13 SCOPE OF THE AGREEMENT

ARTICLE 1 INITIAL PROJECT INFORMATION

§ 1.1 This Agreement is based on the Initial Project Information set forth in this Article 1 or in Exhibit A, if any.

§ 1.2 The Owner's anticipated dates for commencement of construction and Substantial Completion of the Work are set forth below:

.1 Commencement of construction date: TBD

.2 Substantial Completion date: TBD

§ 1.3 The Owner and A/E may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the A/E shall appropriately adjust the schedule, the A/E's services and the A/E's compensation.

§ 1.4 The Services covered by this Agreement are subject to an Owner-approved budget. In the absence of an express provision to the contrary in this Agreement, the A/E shall perform the required services in a manner that will render a Cost of the Work (as defined herein) that does not exceed the most current Owner-approved budget.

§ 1.5 A/E represents that it is financially solvent, able to pay its debts as they become due, and possesses sufficient working capital to complete the Services and perform its obligation under this Agreement and under the Contract Documents. A/E further represents and acknowledges that: (a) it is a sophisticated business entity that possesses the required level of experience and expertise in business administration, construction, and contract administration of projects of similar or like size, complexity, and nature as the above-described Project; (b) the Owner is relying on A/E's representation herein that it possesses sufficient skill, knowledge, experience, and ability to fully perform the Services and its obligations under this Agreement; (c) the A/E will assign to this Project qualified individual architects or engineers, as required, and experienced personnel to manage those professionals, as needed, to ensure the quality of performance required herein; and (d) the Basic Services Fee stated in this Agreement is adequate compensation for the timely completion of the Basic Services.

§ 1.6 Limit of Appropriation. Prior to the execution of this Agreement, A/E has been advised by Owner—and A/E clearly understands and agrees, such understanding and agreement being of the absolute essence to this Agreement—that Owner shall have available the total maximum sum of $1,000,000.00 (One Million Dollars and Zero Cents) specifically allocated to fully discharge any and all liabilities, including construction costs, which may be incurred by Owner in bringing the Project to an absolute conclusion, resulting in a complete, fully furnished, fully equipped and fully usable facility, and that the total of any and all basic construction costs, costs of providing the required furnishing and equipment, all fees and compensation of any sort to the A/E and consultants, and any and all costs for any and all things or purposes inuring under or out of this Agreement, irrespective of the nature thereof, shall not exceed said specifically allocated sum, notwithstanding any word, statement or thing contained in or inferred from the preceding provision of this Agreement which might in any light by any person be interpreted to the contrary. A/E does further understand and agree—said understanding and agreement also being of the absolute

essence of this Agreement—that the total maximum compensation that A/E may become entitled to hereunder and the total maximum sum, including any amounts for reimbursable expenses, that County shall become liable to pay to A/E hereunder shall not under any conditions, circumstances or interpretations thereof exceed the sum of $107,000.00 (One-Hundred Seven Thousand Dollars and Zero Cents).

ARTICLE 2 A/E's RESPONSIBILITIES

§ 2.1 The A/E shall provide the professional services as set forth in this Agreement. The A/E will provide all professional services necessary for the complete design and construction documentation for the Project. The A/E agrees that the Basic Services Fee, stated in Article 11, represents adequate and sufficient compensation for the timely provision of all professional Basic Services (including those of its consulting electrical, and civil or other consulting engineers, if any) necessary to completely design the Project and prepare Construction Documents that fully indicate the requirements for construction of the Work, whether or not those Services are individually listed or referred to in this Agreement, the only exceptions being: (1) the cost of those services that are provided by third parties and that are expressly designated herein as being the "Owner's responsibility" or "Owner-provided;" and (2) the cost of those engineering or consulting services that become necessary as a result of an Owner-directed change in Project scope affecting the A/E (and that are subject of a written agreement for Additional Services).

§ 2.2 The A/E shall perform its services consistent with the professional skill and care ordinarily provided by architects, or engineers (as the case may be) practicing in the same or similar locality under the same or similar circumstances. The A/E shall perform its services expeditiously in accordance with the schedule developed hereunder.

§ 2.2.1 The A/E agrees that its design, Construction Documents, and Services shall conform to all federal, state, and local statutes and regulations governing its Services, the Project and the Work. The A/E agrees that this duty is non-delegable—and the A/E, by signing drawings or preparing Construction Documents to submit to governmental entities for purposes of obtaining building and other governmental permits or approvals, shall be deemed to certify that it has taken reasonable measures to ascertain what codes apply to the Project and has applied them accordingly. Nothing in this Agreement shall be construed to eliminate or diminish the A/E's responsibility for compliance of its design, its Construction Documents, and its Services provided with local, state, and federal statutes and regulations including but not limited to those that relate to the ADA or accessibility for the physically-challenged.

§ 2.3 The A/E shall identify a representative authorized to act on behalf of the A/E with respect to the Project. Once approved by Owner, the A/E's designated representative shall not be changed without the Owner's written approval.

§ 2.4 Except with the Owner's knowledge and consent, the A/E shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the A/E's professional judgment with respect to this Project.

§ 2.5 Insurance. The A/E shall maintain all forms of insurance required below, or by the laws in the State of Texas. In addition to professional liability insurance, the A/E shall also maintain

insurance coverage for comprehensive general liability, automobile liability, and workers' compensation by a carrier satisfactory to the Owner, which carrier shall be licensed to provide such coverage in the State of Texas, on forms and in amounts that are satisfactory to the Owner. The A/E shall ensure that all of A/E's subconsultants engaged or employed by the A/E carry and maintain similar insurance covering their respective portions of the Services. The A/E and its subconsultants shall submit proof of such insurance to the Owner before the submittal of the first invoice to the Owner, at the anniversary date(s) of the submittal, and at any time when a material change in coverage, carriers, or underwriters occurs. The Owner may require that the proof of coverage be in the form of a true and accurate copy of the policies of insurance, themselves. The maintenance of such coverage shall be a condition precedent to Owner's obligation to pay under this Agreement. The insurance policies shall incorporate a provision requiring written notice to the Owner at least 30 days prior to any cancellation, or non-renewal.

.1 General Liability

Each Occurrence	$1,000,000
General Aggregate (other than Prod/Comp Ops Liability)	$2,000,000
Products/Completed Operations Aggregate	$2,000,000
Person & Advertising Injury Liability	$1,000,000
Medical	$1,000

- Williamson County shall be named as Additional Insured(s)
- Waiver of Subrogation shall apply in favor of Williamson County
- 30-day notice of cancellation

.2 Automobile Liability

Any one accident or Loss	$1,000,000

- Such coverage shall apply to Owned, Hired, and Non-Owned Automobiles
- Williamson County shall be named as Additional Insured(s)
- Waiver of Subrogation shall apply in favor of Williamson County
- 30 days' notice of cancellation

.3 Workers' Compensation

Workers' Compensation	State Statutory Limits
Employer's Liability	
Bodily Injury by Accident	$1,000,000 each accident
Bodily Injury by Disease	$1,000,000 policy limit
Bodily Injury by Disease	$1,000,000 each employee

- A Waiver of Subrogation shall apply in favor of Williamson County
- 30 Days' Notice of Cancellation

.4 Professional Liability

Each Claim	$2,000,000
General Aggregate	$2,000,000

- Any deductibles or self-insured retentions over $250,000.00 must be declared and approved in writing by Williamson County in advance.

ARTICLE 3 SCOPE OF A/E'S BASIC SERVICES

§ 3.1 The A/E shall provide those Basic Services described in Article 3, 2.1 and Exhibit E - Scope of Basic Services.

§ 3.1.1 The A/E shall manage the A/E's services, consult with the Owner, research applicable design criteria, attend Project meetings, communicate with members of the Project team and report progress to the Owner. A/E shall also participate in any public hearings requested by Owner and/or the Williamson County Commissioners Court, in accordance with the requirements, policies, and general practices of Williamson County, as defined in the Scope of Basic Services.

§ 3.1.2 The A/E shall coordinate its services with those services provided by the Owner and the Owner's consultants. The A/E shall be entitled to rely on the accuracy and completeness of services and information furnished by the Owner and the Owner's consultants when that information is transmitted by the Owner to the A/E and is designated by Owner to be reliable. The A/E shall provide prompt written notice to the Owner if the A/E becomes aware of any error, omission or inconsistency in such services or information.

§ 3.1.3 As soon as practicable after the date of this Agreement, the A/E shall submit for the Owner's approval a schedule for the performance of the A/E's services. The schedule initially shall include anticipated dates for the commencement of construction and for Substantial Completion of the Work as set forth in the Initial Information. The schedule shall include allowances for periods of time required for the Owner's review, for the performance of the Owner's consultants, and for approval of submissions by authorities having jurisdiction over the Project. Once approved by the Owner, time limits established by the schedule shall not, except for reasonable cause, be exceeded by the A/E. With the Owner's approval, the A/E shall adjust the schedule, if necessary as the Project proceeds until the commencement of construction.

§ 3.1.4 The A/E shall, at appropriate times, contact the governmental authorities required to approve the Construction Documents and the entities providing utility services to the Project. In designing the Project, the A/E shall prepare designs and documents in accordance with applicable design requirements imposed by such governmental authorities and by such entities providing utility services.

§ 3.1.5 The A/E shall assist the Owner in connection with the Owner's responsibility for filing documents required for the approval of governmental authorities having jurisdiction over the Project.

ARTICLE 4 ADDITIONAL SERVICES

§ 4.1 The Owner may request Additional Services of the A/E. Additional Services will be requested by the Owner, and confirmed in writing. Should the Owner request services that the A/E believes to be outside the Scope of Basic Services, the A/E shall, before performing those services, inform the Owner in writing of the A/E's belief that the services requested are Additional Services and shall provide an estimate in writing to the Owner of the probable total of the Additional Services fees to be incurred in performing the services requested. **The A/E shall not**

proceed to provide Additional Services until the A/E receives the Owner's written authorization following Owner's receipt of the probable total of the Additional Services fees to be incurred in performing the services requested.

§ 4.2 Additional Services may be provided after execution of this Agreement, without invalidating the Agreement. Except for services required due to the fault of the A/E, any Additional Services provided in accordance with this Section 4.2 shall entitle the A/E to compensation pursuant to Section 11.3 and an appropriate adjustment in the A/E's schedule. Upon recognizing the need to perform Additional Services, the A/E shall notify the Owner with reasonable promptness and explain the facts and circumstances giving rise to the need. **The A/E shall not proceed to provide Additional Services until the A/E receives the Owner's written authorization.**

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 Unless otherwise provided for under this Agreement, the Owner shall provide information in a timely manner regarding requirements for and limitations on the Project, including a written program which shall set forth the Owner's objectives, schedule, constraints and criteria, including space requirements and relationships, flexibility, expandability, special equipment, systems and site requirements. A/E and Owner acknowledge that the information provided is subject to change, but that the Basic Services Fees indicated herein take that change into account.

§ 5.2 The Owner shall establish and periodically update the Owner's budget for the Project, including (1) the budget for the Cost of the Work as defined in Section 6.1; (2) the Owner's other costs; and, (3) reasonable contingencies related to all of these costs. If the Owner significantly increases or decreases the Owner's budget for the Cost of the Work, the Owner shall notify the A/E. The A/E shall prepare designs and Construction Documents so that the Project can be built within the Owner's budget for the Project.

§ 5.3 With respect to any action, decision or determination which is to be taken or made by Owner with respect to the Project, the Owner shall identify a representative authorized to take such action or make such decision or determination or the Owner's representative shall notify A/E in writing of an individual or governing body (i.e. Williamson County Commissioners Court) responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual or governing body for response or action. Owner may change the designated representative upon written notice to the A/E; and the Owner may modify the scope of authority of the designated representative in like manner. The Owner shall render decisions and approve the A/E's submittals in a timely manner in order to avoid unreasonable delay in the orderly and sequential progress of the A/E's services. The Owner's representative shall not have any right to modify, amend or terminate this Agreement or issue authority to A/E to perform Additional Services unless otherwise granted such authority by the Williamson County Commissioners Court.

§ 5.4 Where necessary for the A/E's performance of the Services, the Owner shall furnish surveys to describe physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands; adjacent drainage; rights-of-way, restrictions, easements, encroachments,

deed restrictions, boundaries and contours of the site; locations, dimensions and necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths.

§ 5.5 The Owner shall furnish services of geotechnical engineers, which may include but are not limited to test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, ground corrosion tests and resistivity tests, including necessary operations for anticipating subsoil conditions, with written reports and appropriate recommendations.

§ 5.6 The A/E shall coordinate its Services and those of its subconsultants with the services provided by the Owner or Owner's separate consultants, if any.

§ 5.7 The Owner shall furnish tests, inspections and reports required by law or the Contract Documents, such as structural, mechanical, and chemical tests, tests for air and water pollution, and tests for hazardous materials, where needed for performance of the Work and where the need is not the result of the A/E's negligence or failure to perform.

§ 5.8 The Owner shall furnish all legal, insurance and accounting services, including auditing services, that may be reasonably necessary at any time for the Project to meet the Owner's needs and interests, where needed for performance of the Work and where the need is not the result, in whole or in part, of the A/E's negligence or failure to perform.

§ 5.9 The Owner shall provide prompt written notice to the A/E if the Owner becomes aware of any fault or defect in the Project, including errors, omissions or inconsistencies in the A/E's Instruments of Service, provided nothing in this Agreement shall be construed as to require the Owner to determine the adequacy, accuracy, or sufficiency of the design, the Construction Documents, or the A/E's services.

§ 5.10 The A/E shall coordinate the A/E's duties and responsibilities set forth in the Contract for Construction with the A/E's services set forth in this Agreement. The A/E shall perform in a manner consistent with the obligations of the A/E as stated in this Agreement and in the Contract Documents. The Owner shall provide the A/E a copy of the executed agreement between the Owner and Contractor, including the General Conditions of the Contract for Construction.

§ 5.11 The Owner shall provide the A/E access to the Project site prior to commencement of the Work and shall obligate the Contractor to provide the A/E access to the Work wherever it is in preparation or progress.

ARTICLE 6 COST OF THE WORK

§ 6.1 For purposes of this Agreement, the Cost of the Work shall be the total cost to the Owner to construct all elements of the Project designed or specified by the A/E and shall include contractors' general conditions costs, overhead and profit. The Cost of the Work does not include the compensation of the A/E, the costs of the land, rights-of-way, financing, contingencies for changes in the Work or other costs.

§ 6.2 The Owner's budget for the Cost of the Work may be adjusted throughout the Project. Evaluations of the Owner's budget for the Cost of the Work, the preliminary estimate of the Cost of the Work and updated estimates of the Cost of the Work prepared by the A/E, represent the A/E's judgment as a design professional familiar with the construction industry. It is recognized, however, that neither the A/E nor the Owner has control over the cost of labor, materials or equipment; the Contractor's methods of determining bid prices; or competitive bidding, market or negotiating conditions.

§ 6.3 In preparing estimates of the Cost of Work, the A/E shall be permitted to include contingencies for design, bidding and price escalation; to determine what materials, equipment, component systems and types of construction are to be included in the Contract Documents; to make reasonable adjustments in the program and scope of the Project; and to include in the Contract Documents alternate bids as may be necessary to adjust the estimated Cost of the Work to meet the Owner's budget for the Cost of the Work. The A/E's estimate of the Cost of the Work shall be based on current area, volume or similar conceptual estimating techniques.

§ 6.4 The A/E's estimate of the Cost of the Work shall be projected to the scheduled date of completion of the Bidding and Negotiation Phase of Services.

§ 6.5 If at any time the A/E's estimate of the Cost of the Work exceeds the Owner's budget for the Cost of the Work, the A/E shall make appropriate recommendations to the Owner to adjust the Project's size, quality or budget for the Cost of the Work, and the Owner shall cooperate with the A/E in making such adjustments.

§ 6.6 If the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services is exceeded by the lowest bona fide bid or negotiated proposal for reasons not related to the fault of the A/E, the Owner shall at the Owner's sole discretion:

- **.1** give written approval of an increase in the budget for the Cost of the Work;
- **.2** authorize rebidding or renegotiating of the Project within a reasonable time;
- **.3** terminate in accordance with this Agreement;
- **.4** in consultation with the A/E, revise the Project program, scope, or quality as required to reduce the Cost of the Work;
- **.5** instruct the A/E to modify its design and the Construction Documents so that the Cost of the Work fall within the Owner's budget; or
- **.6** implement any other mutually acceptable alternative.

§ 6.7 If the Owner chooses to proceed under Section 6.6.5, the A/E, shall modify the Construction Documents as necessary to comply with the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services, or the budget as adjusted under Section 6.6.1. A/E shall provide an Additional Services scope and fee for approval by Owner prior to commencing with modifications to approved Construction Documents, in accordance with Article 4 of this Agreement.

ARTICLE 7 COPYRIGHTS AND LICENSES

§ 7.1 The A/E and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project.

§ 7.2 The A/E hereby assigns to the Owner, without reservation, all copyrights in all Project-related documents, models, photographs and other expression created by the A/E. Among those documents are certain "Instruments of Service" including the design drawings and the Construction Documents. The Owner's obligation to pay the A/E is expressly conditioned upon the A/E obtaining a valid assignment of copyrights from its subconsultants in terms similar to those that obligate the A/E to the Owner as express in this Article 7, which copyrights the A/E, in turn, hereby assigns to Owner. The Owner, in return, hereby grants to A/E and its subconsultants a revocable, nonexclusive license to reproduce the documents for purposes relating directly to the A/E's performance of its obligations under this Agreement, to the A/E's archival records, and for the A/E's reproduction of drawings and photographs in the A/E's marketing materials, provided that the Project-related contents of those materials are approved as requested in Section 7.3 of this Agreement. This nonexclusive license shall terminate automatically upon the occurrence of either a breach of this Agreement by the A/E or upon termination of this Agreement. This nonexclusive license granted in this Agreement to the A/E may be sub-licensed to the A/E's subconsultants (with the same limitations). Subject to the foregoing, this nonexclusive license shall terminate automatically upon A/E's assignment of this nonexclusive license to another or its attempt to do so.

§ 7.3 The A/E shall obtain similar nonexclusive licenses from the A/E's consultants consistent with this Agreement.

§ 7.3.1 To the extent that liability arises from misuse of the Instruments of Service by the Owner or another architect or engineer, the A/E shall not be responsible for that misuse.

§ 7.4 Except for the licenses granted in this Article 7, no other license or right shall be deemed granted or implied under this Agreement. No other Project-related data, expression, or documents may be reproduced by the A/E or its consultants for any other purpose without the express written permission of the Owner.

§ 7.5 If the Owner subsequently reproduces Project-related documents or creates a derivative work based upon Project-related documents created by the A/E, the Owner shall (where permitted or required by law) remove or completely obliterate the original professional's seal, logo, and other indications on the documents of the identity of the A/E or its consultants.

§ 7.6 The A/E shall maintain the confidentiality of all Project documents and information and shall not publish or in any way disseminate or distribute any Project-related documents, including, but not limited to, correspondence, estimates, drawings, specifications, photographs, or any other material relating to the Project without the express written authorization of the Owner.

§ 7.7 Contact with the news media, citizens of Williamson County or governmental agencies shall be the responsibility of the Owner. Under no circumstances shall the A/E release any material or

information developed in the performance of its services hereunder without the express written permission of Owner.

§ 7.8 No license is granted by this Agreement or otherwise allowing A/E or its consultants to reproduce, distribute, modify, display or otherwise use Owner-related marks, logos, and graphics. The Parties agree that marks, logos, and graphics related to Owner are valuable intellectual property and that misuse or misappropriation of them will damage the Owner.

ARTICLE 8 CLAIMS AND DISPUTES

§ 8.1 GENERAL

§ 8.1.1 The Owner and A/E shall commence all claims and causes of action, whether in contract, tort, or otherwise, against the other arising out of or related to this Agreement within the period specified by applicable law. The Owner and A/E waive all claims and causes of action not commenced in accordance with this Agreement.

§ 8.1.2 To the extent damages are covered by proceeds received by the claimant from property insurance, the Owner and A/E waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as set forth in the Uniform General Conditions for Williamson County. The Owner or the A/E, as appropriate, shall require of the contractors, consultants, agents and employees of any of them similar waivers in favor of the other parties enumerated herein.

§ 8.1.3 The County Judge or his/her designee and/or agent as designated by the County Judge (individually or collectively the "County Judge") shall decide any and all questions which may arise as to the interpretation of this Agreement and all questions as to the acceptable fulfillment of this Agreement by the A/E. It is mutually agreed by both parties that the County Judge shall act as referee in all questions arising under the terms of this Agreement between the parties hereto. Nothing contained in this section shall be construed to authorize the County Judge to alter, vary or amend any of the terms or provisions of this Agreement.

§ 8.2 MEDIATION

§ 8.2.1 The Owner and A/E shall endeavor to resolve claims, disputes and other matters in question between them by mediation. A request for mediation shall be made in writing, delivered to the other party to the Agreement.

§ 8.2.2 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Williamson County, Texas, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 8.2.3 All disputes not resolved through mediation shall be resolved through litigation in Williamson County, Texas. However, nothing in this Agreement shall be deemed to waive, modify or amend any legal defense available at law or in equity to Owner, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. Owner does not waive, modify, or alter to any extent whatsoever the availability

of the defense of governmental immunity under the laws of the State of Texas and of the United States.

ARTICLE 9 TERMINATION OR SUSPENSION

§ 9.1 The A/E shall give the Owner 21 days' written notice of the A/E's intention to terminate or suspend the Services under this Agreement. The notice shall detail the A/E's specific reason(s) for its intended termination or suspension and shall state with specificity the means by which the Owner may cure the alleged reason.

§ 9.2 If the Owner fails to make payments to the A/E that are otherwise due hereunder, the A/E shall give the Owner 14 days' advanced written notice of its intention to suspend Services. If the Owner fails to either pay or justify its lack of payment in accordance with the terms of this Agreement, A/E may give notice of suspension and suspend the Services five (5) days thereafter. Services shall otherwise be performed continually and expeditiously, including during the pendency of disputes.

§ 9.3 If the Owner suspends the Project for more than 90 cumulative days for reasons other than the fault of the A/E, the A/E may terminate this Agreement by giving not less than seven days' written notice.

§ 9.4. This Agreement may be terminated by the Owner, with or without cause, for the Owner's convenience upon not less than seven (7) days' written notice to the A/E. Should the Owner terminate this Agreement for cause, but that cause be subsequently found to be insufficient to support termination, the termination shall be deemed one of convenience.

§ 9.5 In the event of termination not the fault of the A/E, the A/E shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 This Agreement shall be performable in Williamson County, Texas. Each party to this Agreement hereby agrees and acknowledges that venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this Agreement shall lie exclusively in Williamson County, Texas. Furthermore, this Agreement shall be governed by and construed in accordance with the laws of the State of Texas, excluding, however, its choice of law rules.

§ 10.2 Terms in this Agreement shall have the same meaning as those in Uniform General Conditions for Williamson County, unless a contrary definition is set forth here or inferable herefrom.

§ 10.3 The Owner and A/E, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Agreement. The Services to be provided by the A/E are deemed to be personal in nature and the A/E may not assign its interest or obligations under this Agreement without the written consent of the Owner.

§ 10.4 If the Owner requests the A/E to execute certificates, the proposed language of such certificates shall be submitted to the A/E for review. If the Owner requests the A/E to execute

consents, the A/E shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to the A/E for review. The A/E shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of this Agreement.

§ 10.5 Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or A/E.

§ 10.6 Unless otherwise required in this Agreement, the A/E shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site, unless the hazardous materials or toxic substances were brought to the Project pursuant to the terms of the Contract Documents. Should the A/E become aware of the presence of hazardous materials or toxic substances on the Project site, it shall immediately report that presence to the Owner.

§ 10.7 The A/E shall have the right to include photographic or artistic representations of the design of the Project among the A/E's promotional and professional materials. The A/E shall be given access to the completed Project, when approved by Owner, to make such representations. However, the A/E's materials shall not include the Owner's confidential or proprietary information if the Owner has previously advised the A/E in writing of the specific information considered by the Owner to be confidential or proprietary.

§ 10.8 If the A/E or Owner receives information specifically designated by the other party as "confidential" or "business proprietary," the receiving party shall keep such information strictly confidential and shall not disclose it to any other person except to (1) its employees, (2) those who need to know the content of such information in order to perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of confidential information. However, to the extent, if any, that any provision in this Agreement is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that County, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to County as to whether or not the same are available to the public. It is further understood that County's officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

ARTICLE 11 COMPENSATION

§ 11.1 For the A/E's Basic Services, the Owner shall compensate the A/E as follows:

A lump sum amount of **$106,465.00** (One Hundred Six Thousand Four Hundred Sixty Five Dollars and Zero Cents).

§ 11.2 For Additional Services designated in Section 4.1, the Owner shall compensate the A/E as follows:

A lump sum amount to be agreed upon, in advance, between Owner and A/E. Alternatively, if approved by Owner, in advance and in writing, A/E's Additional Services shall be based on the hourly rate provided herein below as Exhibit B.

§ 11.3 For Additional Services that may arise during the course of the Project, including those under Section 4.2, the Owner shall compensate the A/E as follows:

A lump sum amount to be agreed upon, in advance, between Owner and A/E. Alternatively, if approved by Owner, in advance and in writing, A/E's Additional Services shall be based on the hourly rate provided herein below as Exhibit B.

§ 11.4 Compensation for Additional Services of the A/E's consultants when not included in Section 11.2 or 11.3, shall be the actual amount invoiced to the A/E, or as otherwise stated below.

§ 11.5 Where compensation for Basic Services is based on a stipulated sum or percentage of the Cost of the Work, the compensation for each phase of services shall be as follows:

Project Management Coordination:	$ 3,210.00
Design Development Phase:	$22,470.00
Construction Documents & Regulatory Permitting Phase:	$49,220.00
Bidding Assistance Phase:	$ 3,745.00
Construction Phase Services:	$10,700.00
Project Boundary & Design Survey:	$11,770.00
Geotechnical Engineering Study:	$ 5,350.00
Total Basic Compensation:	**$106,465.00**

§ 11.6 When compensation is based on a percentage of the Cost of the Work and any portions of the Project are deleted or otherwise not constructed, compensation for those portions of the Project shall be payable to the extent services are performed on those portions, in accordance with the schedule set forth in Section 11.5 based on (1) the lowest bona fide bid or negotiated proposal falling within the Owner's budget, or (2) if no such bid or proposal is received, the most recent estimate of the Cost of the Work approved by the Owner for such portions of the Project. The A/E shall be entitled to compensation in accordance with this Agreement for all services performed by the A/E in accordance with this Agreement whether or not the Construction Phase is commenced.

§ 11.7 The hourly billing rates for Additional Services performed by the A/E and the A/E's consultants, if any, are set forth in the attached Exhibit B.

§ 11.8 COMPENSATION FOR REIMBURSABLE EXPENSES

§ 11.8.1 A/E shall be reimbursed for actual non-labor and subcontract expenses incurred directly related to the Project and in the performance of the services under this Agreement strictly in accordance with the Williamson County Vendor Reimbursement Policy, which attached hereto as Exhibit D and is incorporated herein by reference. Reimbursable Expenses are in addition to compensation for Basic and Additional Services and must not exceed **$535.00**.

§ 11.8.2 Invoices requesting reimbursement for costs and expenditures related to the Project (reimbursables) must be accompanied by copies of the provider's invoice and otherwise fully comply with the Williamson County Vendor Reimbursement Policy. The copies of the provider's invoice must evidence the actual costs billed to A/E without mark-up.

§ 11.9 A/E acknowledges that it has reviewed the Williamson County Vendor Reimbursement Policy in advance of executing this Agreement and that A/E hereby agrees to comply with the terms of same.

§ 11.10 PAYMENTS TO THE A/E

§ 11.10.1 Unless otherwise agreed, payments for services shall be made monthly in proportion to services performed. On or about the last day of each calendar month during the performance of the A/E's Services, the A/E shall submit a sworn statement to the Owner's designated representative, along with timesheets detailing hours worked, receipts detailing expenses incurred, and other support documentation, in a form acceptable to Owner's Auditor, setting forth the Services provided under this Agreement during such calendar month, the compensation due, plus any amounts requested by A/E for Additional Services. In the event that A/E's request includes charges based upon hourly billing rates or other rates based upon the amount of time worked by an individual(s), whether employees of A/E or A/E's subconsultants, the charges shall be accompanied by an affidavit signed by an officer or principal of the A/E certifying that the work was performed, it was authorized by Owner, and that all information contained in the invoice is true and correct.

§ 11.10.2. Owner's designated representative shall review the A/E's invoices within twenty-one (21) days of receipt and approve them, or request modifications consistent with this Agreement. Once Owner approves the A/E's invoice, Owner shall pay same within thirty (30) days after the Williamson County Auditor receives the approved invoice.

§ 11.10.3 Owner's payment for goods and services is governed by Chapter 2251 of the Texas Government Code. Interest charges for any overdue payments shall be paid by Owner in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice/application for payment submitted by A/E, Owner shall notify A/E of the error not later than the twenty first (21st) day after the date Owner receives the invoice/application for payment. If the error is resolved in favor of A/E, A/E shall be entitled to receive interest on the unpaid balance of the invoice/application for payment submitted by A/E beginning on the date that the payment for the invoice/application for payment became overdue. If the error is resolved in favor of the County, A/E shall submit a corrected invoice/application for payment that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by Chapter 2251 of the Texas Government Code if the corrected invoice/application for payment is not paid by the appropriate date.

§ 11.10.4 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be submitted to the Owner's designated representative when payment is requested.

§ 11.10.5 Right to Audit. A/E agrees to maintain, for a period of seven years, detailed records identifying each individual performing the services, the date or dates the services were performed, the applicable hourly rates, the total amount billed for each individual and the total amount billed for all persons, and provide such other details as may be requested by the County Auditor for verification purposes. A/E agrees that Owner or its duly authorized representatives shall, until the expiration of three years after final payment under this Agreement, have access to and the right to examine and photocopy any and all books, documents, papers and records of A/E which are directly pertinent to the services to be performed under this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. A/E agrees that Owner shall have access during normal working hours to all necessary A/E facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. County shall give A/E reasonable advance notice of intended audits.

ARTICLE 12 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Agreement are as follows:

§ 12.1 The A/E shall provide prompt written notice to the Owner if the A/E becomes aware of any defect or omission in the design of the Project or in the Construction Documents, including but not limited to errors, omissions, or inconsistencies in the A/E's Instruments of Service.

§ 12.2 A/E AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM AN ACT OR OMISSION, NEGLIGENCE, OR INTENTIONAL TORT COMMITTED BY A/E, A/E'S EMPLOYEES, AGENTS, OR ANY OTHER PERSON OR ENTITY UNDER CONTRACT WITH A/E INCLUDING, WITHOUT LIMITATION, A/E'S SUBCONSULTANTS, OR ANY OTHER ENTITY OVER WHICH A/E EXERCISES CONTROL.

§ 12.3 A/E FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO,

ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM A/E'S FAILURE TO PAY A/E'S EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY A/E.

§ 12.4 A/E FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM THE INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY A/E IN THE PERFORMANCE OF THIS CONTRACT.

§ 12.5 THE LIMITS OF INSURANCE REQUIRED IN THIS CONTRACT AND/OR THE CONTRACT DOCUMENTS SHALL NOT LIMIT A/E'S OBLIGATIONS UNDER THIS SECTION. THE TERMS AND CONDITIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THE CONTRACT AND/OR CONTRACT DOCUMENTS OR THE SUSPENSION OF THE WORK HEREUNDER. TO THE EXTENT THAT ANY LIABILITIES, PENALTIES, DEMANDS, CLAIMS, LAWSUITS, LOSSES, DAMAGES, COSTS AND EXPENSES ARE CAUSED IN PART BY THE ACTS OF THE COUNTY OR THIRD PARTIES FOR WHOM A/E IS NOT LEGALLY LIABLE, A/E'S OBLIGATIONS SHALL BE IN PROPORTION TO A/E'S FAULT. THE OBLIGATIONS HEREIN SHALL ALSO EXTEND TO ANY ACTIONS BY THE COUNTY TO ENFORCE THIS INDEMNITY OBLIGATION.

§ 12.6 IN THE EVENT THAT CONTRACTORS INITIATE LITIGATION AGAINST THE COUNTY IN WHICH THE CONTRACTOR ALLEGES DAMAGES AS A RESULT OF ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS OF A/E, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH A/E EXERCISES CONTROL, INCLUDING, BUT NOT LIMITED TO, DEFECTS, ERRORS, OR OMISSIONS, THEN THE COUNTY SHALL HAVE THE RIGHT TO JOIN A/E IN ANY SUCH PROCEEDINGS AT THE COUNTY'S COST. A/E SHALL ALSO HOLD THE COUNTY HARMLESS AND INDEMNIFY THE COUNTY TO THE EXTENT THAT A/E, ANY OF ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH A/E EXERCISES CONTROL, CAUSED SUCH DAMAGES TO CONTRACTOR, INCLUDING ANY AND ALL COSTS AND ATTORNEYS' FEES INCURRED BY THE COUNTY IN CONNECTION WITH THE DEFENSE OF ANY CLAIMS WHERE A/E, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH A/E EXERCISES CONTROL, ARE ADJUDICATED AT FAULT.

§ 12.7 Not Used.

§ 12.7.1 Not Used.

§ 12.8 The Parties agree that during the performance of the services under this Agreement they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Parties will take affirmative steps to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following:

employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship.

§ 12.9 The Texas Board of Architectural Examiners, P.O. Box 12337, Austin, Texas 78711-2337 or 333 Guadalupe, Suite 2-350, Austin, Texas 78701-3942, 512/305-9000, www.tbae.state.tx.us, has jurisdiction over individuals licensed under the Architect's Registration Law, Texas Civil Statutes, Article 249a. To the extent applicable, the responsible engineer shall sign, seal and date all appropriate engineering submissions to County and shall at all times comply with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

ARTICLE 13 SCOPE OF THE AGREEMENT

§ 13.1 This Agreement represents the entire and integrated agreement between the Owner and the A/E and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and A/E, unless such amendment by unilateral action of the Owner is expressly provided for in this Agreement. Individual handwritten modifications of this Agreement shall be of no effect unless each such modification is initialed by Owner and A/E.

§ 13.2 This Agreement is comprised of the following documents listed below:

.1 This Agreement for Architectural and Engineering Services;
.2 Exhibit A: Initial Project Information, if any;
.3 Exhibit B: Hourly Rates, if any;
.4 Exhibit C: Production Schedule, if any;
.5 Exhibit D: Williamson County Vendor Reimbursement Policy
.6 Exhibit E: Scope of Basic Services
.7 Other documents:

§ 13.3 This Agreement is not effective until signed by the Owner and A/E. The Owner executes this Agreement by and through the County Judge acting pursuant to Order of the Commissioners Court of Williamson County, Texas, so authorizing. The A/E's duly authorized representative acknowledges by his/her signature below that he/she has read and understands the above paragraphs and that A/E has the obligation to ensure compliance with this Agreement by itself and its employees, agents, and representatives.

This Agreement shall be effective as of the date of the last party's execution of this Agreement.

WILLIAMSON COUNTY, TEXAS (Owner)	**HALFF ASSOCIATES, INC. (A/E)**
By: _____	By: _____
Dan A. Gattis,	*(Signature)*
Williamson County Judge	Printed Name: Tim Bargainer, PLA
Date Signed: _____ _____, 20___	Title: Vice President, Planning &

Landscape Architecture

Date Signed: February 28, 2017

Exhibit A
Initial Project Information

BACKGROUND

The Williamson County Expo Center Recreational Vehicle Park, Phase II is a $1 million dollar project that is funded in part with a Non-Urban Outdoor Grant from the Texas Parks and Wildlife Department. The project scope includes the addition of a connector road to Bill Picket Parkway to the west, parking and related infrastructure for up to 46 RV sites with utility pedestals including water and electrical service (20 amp/30 amp/50 amp /110v) and waste water service to support RV sites, site lighting, optional RV wastewater dump station, site work, any necessary demolition, walkways to Expo Center and connector trail Taylor Sports Complex, native plant landscaping, revegetation and irrigation. Phase II project development will also include the data collection, design and boundary survey, geotechnical study, programming/preliminary design, preparation of design and construction drawings, specifications, opinion of probable construction costs, permitting, development of bidding and contract documents; and construction phase services necessary to successfully develop the project.

SCHEMATIC OVERALL SITE PLAN

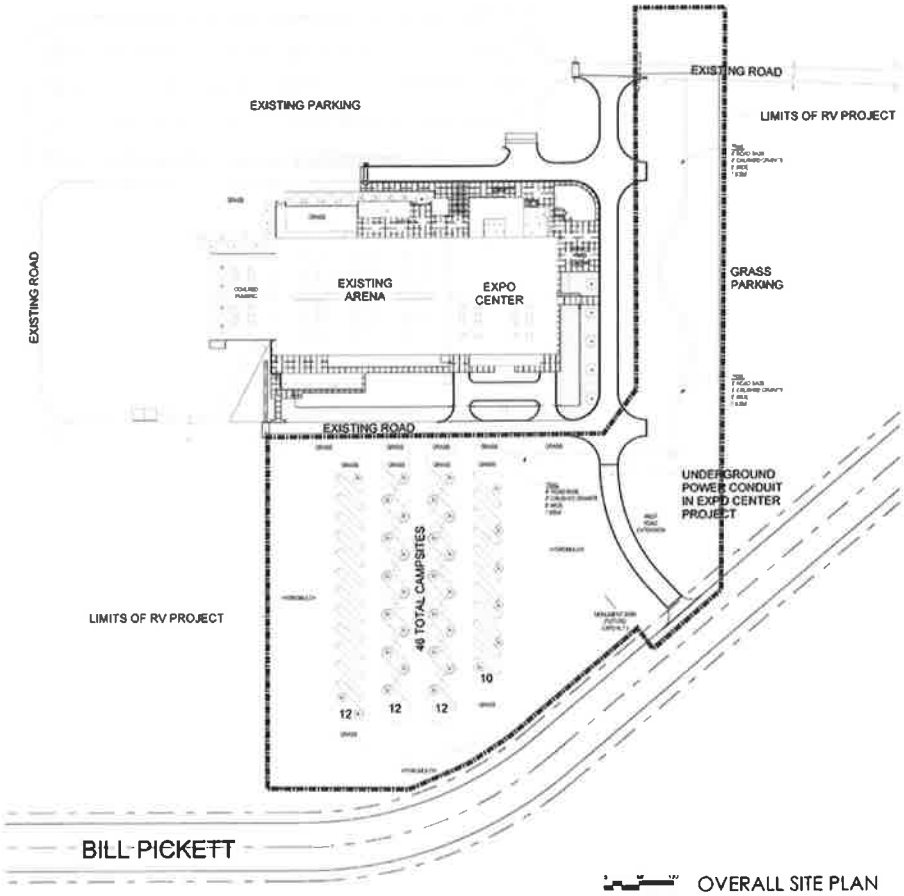


Exhibit B
Hourly Rates

Job Title	Hourly Rate
Principal	$ 250.00
Project Manager/Sr QC	$ 225.00
Senior Project Engineer (PE)	$ 200.00
Project Engineer IV (PE)	$ 185.00
Project Engineer III (PE)	$ 175.00
Project Engineer II (PE)	$ 150.00
Project Engineer I (PE)	$ 130.00
Engineer in Training II	$ 115.00
Engineer in Training I	$ 105.00
CADD/GIS Tech II	$ 95.00
CADD/GIS Tech I	$ 85.00
Survey Manager (RPLS)	$ 225.00
Surveyor (RPLS)	$ 200.00
SUE Manager	$ 150.00
Survey/SUE Tech	$ 105.00
Survey Crew (2-Man)	$ 145.00
Sr Landscape Architect	$ 175.00
Landscape Architect II	$ 150.00
Landscape Architect II	$ 100.00
Sr. Environmental Scientist	$ 205.00
Environmental Scientist II	$ 160.00
Environmental Scientist I	$ 110.00
Contract Administrator	$ 85.00
Administrative Assistant	$ 70.00

Exhibit C
Production Schedule

Schedule is tentative and subject to change:

Phase 1	Project Management | Coordination	On-going
Phase 2	Design Development Phase	1.5 months
Phase 3	Construction Documents & Regulatory Entitlement Phase	4 months
Phase 4	Bidding Assistance Phase	1.5 months
Phase 5	Construction Phase Services	6 months
Phase 6	Project Boundary & Design Survey (concurrent w/ Ph 2/3)	2 months
Phase 7	Geotechnical Engineering Report (concurrent w/Ph2)	1 month
	Total Estimated Schedule (Design & Construction)	13 months

Exhibit D

Williamson County
Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy ("Policy") is to provide clear guidelines to vendors on Williamson County's expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. Invoices and Affidavits

1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.

1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.

1.3 Upon County's request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. Travel Reimbursement

2.1 The County will only cover costs associated with travel on vendors outside a 50 mile radius from Williamson County, Texas.

2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.

2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.

2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).

2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.

2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.

2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.

2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).

2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.

2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.

2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. Meals

3.1 Meal reimbursements are limited to a maximum of $50.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of $20.00 per day. The travel must be outside the Williamson County, Texas line by a 50 mile radius.

3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.

3.3 Meals are reimbursable only for vendors who do not have the necessary personnel located within a 50 mile radius of Williamson County, Texas that are capable of carrying the vendor's obligations to County. Meals will not be reimbursed to vendors who are located within a 50 mile radius of Williamson County, Texas.

3.4 County will not reimburse for alcoholic beverages.

3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance

3.6 No meals purchased for entertainment purposes will be allowed.

3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. Lodging

4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.

4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.

4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. Airfare

5.1 The County will only reimburse up to a coach price fare for air travel.

5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. early bird check in, seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)

5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.

5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.

5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.

6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.

6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.

6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.

6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.

6.6 Insurance purchased when renting vehicle may also be reimbursed.

6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.

7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:

7.2.1.1 Date

7.2.1.2 Destination

7.2.1.3 Purpose

7.2.1.4 Name of traveler(s)

7.2.1.5 Correspondence that verifies business purpose of the expense

7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.

7.4 Mileage will be reimbursed on the basis of the most commonly used route.

7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.

7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.

7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of Williamson County, Texas by at least a 50 mile radius.

7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.

7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).

7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.

7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Nonreimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

10.1 Alcoholic beverages/tobacco products
10.2 Personal phone calls
10.3 Laundry service
10.4 Valet service (excludes hotel valet)
10.5 Movie rentals
10.6 Damage to personal items
10.7 Flowers/plants
10.8 Greeting cards
10.9 Fines and/or penalties
10.10 Entertainment, personal clothing, personal sundries and services
10.11 Transportation/mileage to places of entertainment or similar personal activities
10.12 Upgrades to airfare, hotel and/or car rental

10.13 Airport parking above the most affordable rate available
10.14 Excessive weight baggage fees or cost associated with more than two airline bags
10.15 Auto repairs
10.16 Babysitter fees, kennel costs, pet or house-sitting fees
10.17 Saunas, massages or exercise facilities
10.18 Credit card delinquency fees or service fees
10.19 Doctor bills, prescription and other medical services
10.20 Hand tools
10.21 Safety Equipment (hard hats, safety vests, etc.)
10.22 Office Supplies
10.23 Lifetime memberships to any association
10.24 Donations to other entities
10.25 Any items that could be construed as campaigning
10.26 Community outreach items exceeding $2 per item
10.27 Sales tax on goods purchased
10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

Exhibit E

Scope of Basic Services

Williamson County Expo Center Recreational Vehicle Park, Phase II

INFORMATION AND SERVICES TO BE PROVIDED BY THE COUNTY

- As-built plans for existing Expo facilities and Bill Picket Parkway recently constructed.
- Existing geotechnical reports and data for existing Expo facilities and Bill Picket Parkway. Consultant to provide geotechnical testing and data for the design of this project.
- Utility information (plans, maps, etc.) both current and archived within the COUNTY and City of Taylor Park property, if available.
- Provide available information and studies on existing off-site drainage areas from Bill Picket Parkway design.
- Provide copies of all licensing agreements, utility agreements and other legal instruments related to the project.
- Prepare and coordinate any required Licensing and/or Utility Agreements, if required.
- Pay all filing, permit review, application and inspection fees (Texas Accessibility Standards-TAS plan review/inspection fees, City of Taylor Permit, impact and inspection fees).
- Acquire right-of-entry on any property not owned by the COUNTY should it be determined necessary to complete the scope of work identified within this agreement.
- It is the COUNTY's responsibility to facilitate and coordinate with private property owners, if deemed necessary.
- Provide any other pertinent information to assist design A/E.

TECHNICAL STANDARDS AND PROCEDURE ASSUMPTIONS

- AutoCAD, Microstation and/or Geopak computer applications will be used for all design and plan sheets produced on this project, as well as the following:
- City of Taylor Design Standards
- Williamson County Design Standards
- Texas Department of Transportation (TxDOT) Construction Manual
- Architectural Barriers, Texas Department of Licensing and Regulation (TDLR) – Texas Accessibility Standards 2012
- Americans with Disabilities Act (ADA) Regulations
- TxDOT Design Manual and American Association of State Highway and Transportation Official (AASHTO) Policy on Geometric Design of Highways and Streets (most current version) will be used as the design guidelines for this project.

- Design of traffic control plans will conform to the version of the Texas Manual on Uniform Traffic Control Devices and Texas Department of Transportation Standards.
- Texas Parks and Wildlife Instructions for Approved Projects – September 2014

ITEMS EXCLUDED FROM SCOPE OF BASIC SERVICES

- Public Involvement and/or stakeholder meetings.
- Revisions to drawings previously approved by the COUNTY and regulatory entities due to changes in: Project scope, budget, schedule, unforeseen subsurface construction conditions or when such revisions are inconsistent with written approvals or instructions previously given; enactment or revision codes, laws, or regulations subsequent to the preparation of such documents.
- Preparation of Phased bid package(s) with reduced scope of items defined herein, including construction drawings and specifications not included as part of Phase II development.
- Preparation of presentation materials for marketing or purposes other than in-progress approvals.
- Provide consultation, drawings, reports and other work products related to permits, approvals and ordinances not described in Scope of Basic Services.
- Providing professional services for the field selection of plant materials.
- Traffic Impact Analysis.
- Gas, Telephone/Communication design.
- Design of utility extension(s) to the project site.
- Design of public and franchised utility adjustments.
- Design modifications to existing adjacent roads.
- Detailed Flood Plain Analysis.
- Hydrologic Analysis.
- Design of water quality and detention ponds and appurtenances.
- Stormwater Pollution Prevention Plan (SWPPP)
- Water well design or modification.
- Permitting through Army Corp of Engineers (USACE), Individual 404 Permit
- Geotechnical investigation for structures not accounted for in the Scope of Basic Services.
- Environmental services.
- Geological Assessment
- Archeological Assessment.
- Hazardous Site Assessments.
- Preparation of multi-use agreement(s) and exhibits.
- Easement acquisition or vacation including preparation of easement documents.
- Preparation and processing of Waivers, Variances or Exceptions.
- Land and ROW Acquisition services.
- Construction staking, inspection, quality control or materials testing services.
- Preparation of Record Drawings.

- Permit filing, review, application and inspection fees.
- Providing services other than those outlined in the Scope of Basic Services.

NOTE: PROGRAMMING & SCHEMATIC DESIGN

Programming and Schematic Design were provided by A/E to assist to assist the County in securing the grant funding for this project and are excluded from the Scope of Basic Services. The schematic overall site plan provided in RFQ 1611-128 dated Jan. 4, 2017 shall be the basis for design, refer Exhibit A – Initial Project Information. Revisions and review by the County to the approved site plan will be provided as part of the design development phase of the project.

SCOPE OF BASIC SERVICES TO BE PROVIDED BY THE A/E

The Scope of Basic Services, which are outlined below, shall include: Project Management | Coordination, Design Development, Construction Documents & Regulatory Entitlement, Bidding Assistance, Construction Phase Services, Project Boundary and Design Survey, and Geotechnical Engineering Report.

PHASE 1: PROJECT MANAGEMENT | COORDINATION (on-going)

This phase will include the following activities:

- Coordinate a site kick-off meeting with the COUNTY and Design Team to identify project goals, schedules and projected milestones.
- Provide overall project management services including budget control, schedule control, project coordination, resource allocation, subconsultant management and coordination and preparation & processing of invoices.
- Ensure timely delivery of all deliverables including electronic files, and hard copies of all pertinent information.
- Document and distribute minutes of all meetings with COUNTY and Design Team.
- Perform Quality Control | Quality Assurance reviews.
- Attend Design Development submittal review meeting and coordinate comment responses with design team (1 meeting).
- Attend 90% Construction Document submittal review meeting and coordinate comment responses with design team (1 meeting).
- Assist COUNTY in filing the appropriate plans, documents and reports with jurisdictional and regulatory agencies. Submittal will include but not be limited to: the City of Taylor, TDLR, and TPWD.
- Review all modifications and comments requested by jurisdictional and regulatory agencies with the County. (1 meeting)
- Coordinate and oversee revisions to drawings and assist COUNTY in submitting final documents to the appropriate agency(s) for final processing, approvals and permits.

PHASE 2: DESIGN DEVELOPMENT (6 weeks)

Based on approved Schematic Overall Site Plan, A/E shall prepare design development drawings and a preliminary opinion of probable construction costs (OPCC). The design development plans

will further define the character and essentials of the project concept, including description of materials. Plans may include but not be limited to: RV parking and roadway layout, walkway and trail layout, wet and dry utility layout, preliminary site grading and drainage, preliminary landscape and irrigation areas. This phase will include the following activities:

- Prepare overall project base map of existing conditions and information provided by the COUNTY to be used for initiate project kick-off and site assessment.
- Facilitate kick-off meeting and site assessment with the COUNTY and Design Team to identify project goals, schedules and projected milestones from design development thorough permitting, opportunities and constraints (1 meeting).
- Conduct preliminary meetings and/or research with regulatory entities to determine permit requirements with the COUNTY and City of Taylor (1 meeting).
- Prepare 50% design development drawings incorporating results from kick-off meeting, site assessment and predevelopment requirements (3 weeks).
- Review design development drawings with COUNTY (1 meeting).
- Prepare final design development drawings and OPCC including appropriate escalation factors and contingencies, including recommended alternates and phasing options. Design will utilize existing conditions design survey for defined project development limits (3 weeks).
- Present design development drawings and OPCC to COUNTY Management Team or Commissioners Court if required for approval prior to commencing with Construction Documents (1 meeting).

NOTE: 1) Any presentation boards and materials to be billed as reimbursable expenses.

2) Opinion of probable construction costs (OPCC) provided by the A/E are based on the familiarity with the construction industry and are provided only to assist the COUNTY throughout the design process; such opinions shall not be construed to provide a guarantee or warranty of the actual construction costs at the time construction bids are solicited or construction contracts negotiated. Throughout the design process the A/E will assist the COUNTY in value engineering the project and making necessary adjustments in an effort to meet the project construction budget.

PHASE 3: CONSTRUCTION DOCUMENTS AND REGULATORY ENTITLEMENT (4 months)

Based upon the COUNTY's approval of Design Development plans and OPCC, A/E will develop working/construction drawings and technical specifications necessary to construct the work. Construction drawings will include the following information/plans: general construction and project specific notes; RV parking aisle, bay and connector road – paving, dimension control, grading, typical sections, signing, striping and drainage plans and calculations; water line design assuming a looped connection from Expo Center and sufficient pressure for service and irrigation; wastewater design for two options 1) dump station and 2) gravity full hook-up at each RV space; walkway and trail design; erosion/sedimentation controls; site and utility details; landscape/revegetation and irrigation design, site electric design for RV hook-ups and site lighting. A/E shall compliment drawings with Contract Documents and Technical Specifications including

quantity take-offs, which describe materials, systems and equipment, workmanship, quality and performance criteria required for the construction of the work. A/E shall coordinate any utility needs and adjustment with the COUNTY and utility service provider(s). A/E shall assist COUNTY in submitting plans to regulatory entities for approval and permitting to be used for bidding and implementation of the project. This phase will include the following activities:

- Coordinate construction drawings with other team members.
- Prepare ninety percent (90%) construction drawings and OPCC including appropriate escalation factors and contingencies. Submit to COUNTY for review and comments (6 weeks).
- Review 90% construction drawings and OPCC with COUNTY (1 meeting).
- Prepare final construction drawings (100%), specifications, reports, permit applications, and other documents required for permitting and construction. Submit to COUNTY, City of Taylor, TDLR and TPWD for review and comments (1 month).
- Review and address all comments requested by regulatory agencies with COUNTY and Design Team (1 meeting).
- Revise drawings and submit documents to the appropriate agency(s) for final processing, approvals and permits (2 weeks).

NOTES: *1) All filing, permit review, application and inspection fees to be paid by COUNTY.*

2) Deliverable quantities for permitting required by the COUNTY, CITY, TDLR and/or regulatory entities; plans, specification, reports, etc. to be billed as reimbursable expenses.

3) Opinion of probable construction costs (OPCC) provided by the A/E are based on the familiarity with the construction industry and are provided only to assist the COUNTY throughout the design process; such opinions shall not be construed to provide a guarantee or warranty of the actual construction costs at the time construction bids are solicited or construction contracts negotiated. Throughout the design process the A/E will assist the COUNTY in value engineering the project and making necessary adjustments in an effort to meet the project construction budget.

PHASE 4: BIDDING ASSISTANCE (6 weeks)

Upon COUNTY's approval and permitting of Construction Documents, A/E shall assist COUNTY during the bidding process. This phase will include the following activities:

- Prepare and organize bid solicitation and proposal forms consistent with the COUNTY's requirements.
- Attend and assist the COUNTY with a pre-bid conference (1 meeting).
- Address contractor RFI's, prepare and issue addenda as required.

- Attend and assist the COUNTY with bid opening, review/evaluate bids including alternates (1 meeting).
- Provide written recommendation to COUNTY. Contingent upon project construction delivery method.
- Attend Commissioner Court meeting for award of construction contract (1 meeting).

PHASE 5: CONSTRUCTION PHASE SERVICES (6 months)

Upon execution of the construction contract, A/E shall assist COUNTY during the construction process. A/E shall endeavor to secure compliance by the contractor to the plans and specifications. A/E shall not be responsible for construction means, methods, techniques, sequences or procedures in connection with the work and A/E shall not be responsible for the contractor's errors or omissions or failure to carry out the work in accordance with the contract documents. COUNTY will provide and pay for construction inspection and materials testing services. This phase will include the following activities:

- Attend and assist the COUNTY in conducting and overseeing a pre-construction meeting (1 meeting).
- Construction observation – preparation and processing of Requests for Information, Change Proposals, Change Orders, Change Directives, review/approval of shop drawing, submittals, samples and mock-ups (as required).
- Conduct and oversee monthly progress meetings. Estimate construction time 6 months (6 meetings). A/E will be responsible for recording and keeping minutes of all meetings and distributing to COUNTY management, Design Team and construction contractor.
- Review and approve contractor's monthly Application and Certification for Payment.
- Attend and assist COUNTY with substantial completion inspection(s) and walk-thru including TAS inspection; issue punch list and letter of substantial completion for incomplete items including time for completion (1 meeting).
- Attend and assist COUNTY with final inspection for acceptance of project and issue letter of concurrence (1 meeting).
- Assist COUNTY in acquiring final close-out documents, warranties, accurate as-built drawings and other documents from contractor required to close-out project.
- Review and approve contractor's final Application and Certification for Payment including retainage.

**Field changes, Requests for Information, Change Proposal Requests, Change Orders, Change Directives, or any other changes/modifications during construction of the Project initiated by the COUNTY, without prior written consent of the A/E shall indemnify and hold harmless A/E and its SUBCONSULTANTS from all claims, any damage, liability or cost, including reasonable attorneys' fees and costs of defense, arising from such changes.*

PHASE 6: PROJECT BOUNDARY AND DESIGN SURVEY (2 months)

This phase will include the following activities:

- Conduct preliminary survey meeting with design team and COUNTY to confirm limits of survey work for the project area.
- Conduct horizontal and vertical control survey on State Plane Grid and North American Vertical Datum of 1988, NAVD88. Establish a minimum of four (4) bench marks.
- Provide Boundary verification survey.
- Topographic survey with one-foot contours, locations of above-ground and visible improvements and utilities, overhead utility locations, and hardwood trees 8" and up, existing walks, edge of pavement, curb/gutter locations and elevations, structures, light standards, and misc. appurtenances within the project area.
- Underground utility locates identified through Texas811.
- Drainage appurtenance including culvert pipe or opening sizes and flowlines.
- The graphical location of the property lines, right-of-way lines, and easements for the project area.
- The graphical location of water, wastewater, utilities including manholes, flowlines and invert elevations.
- Design survey of all available and identified information above to be provided in AutoCAD format.
- Upon completion of design development and identification of project limits, provide metes and bounds descriptions for parkland dedication.

PHASE 7: GEOTECHNICAL SERVICES (1 month)

A/E's Subconsultant will perform geotechnical field study, laboratory study and provide an engineering report. The geotechnical engineering report will include the following information and recommendations:

- Summary of the field and laboratory sampling and testing program,
- Boring logs and laboratory testing results;
- A review of general site conditions including descriptions of the site, the subsurface stratigraphy, groundwater conditions, and the presence and condition of fill materials, if encountered.
- Pavement section thickness recommendations for both flexible asphalt and rigid concrete pavements.

The findings and recommendations of the geotechnical investigation, including all boring logs and others test results will be submitted to the COUNTY upon completion of the report. The report will be referenced and utilized by the A/E in the development of the construction documents.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 2/21/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Candy Goehring
Bell Insurance 16980 Dallas Parkway #210 Dallas TX 75248	PHONE (A/C, No, Ext): (972) 581-4800 FAX (A/C, No): (972) 581-4850 E-MAIL ADDRESS: cgoehring@bellgroup.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Hanover American	36064
INSURER B : Massachusetts Bay	22306
INSURER C : The Hanover Ins. Co.	22292
INSURER D : Ironshore Specialty Ins Co	25445
INSURER E :	
INSURER F :	

INSURED
Halff Associates, Inc.
1201 N. Bowser

Richardson TX 75081

COVERAGES **CERTIFICATE NUMBER:** 16/17 2MIL **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X Contractual Liab. GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC			ZDDA055845	7/12/2016	7/12/2017	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ $ $ $ $ $	1,000,000 1,000,000 10,000 1,000,000 2,000,000 2,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			ADDA051300	7/12/2016	7/12/2017	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) Uninsured motorist combined	$ $ $ $ $	1,000,000 1,000,000
C	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $ 10,000			UHDA051287	7/12/2016	7/12/2017	EACH OCCURRENCE AGGREGATE	$ $	5,000,000 5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WDDA028649	7/12/2016	7/12/2017	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $	 1,000,000 1,000,000 1,000,000
D	Professional Liability Claims Made			002091902	7/12/2016	7/12/2017	Per Claim: Aggregate:		$2,000,000 $2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
17-0079 Design through construction plase serviced for Williamson County Expo Center RV Park; Williamson County is included as additional insured as respects general and auto liability if required by written contract. Waiver of subrogation applies to same as respects general and auto liability and workers compensation if required by written contract. 30 day notice of cancellation except 10 days non pay.

CERTIFICATE HOLDER

Williamson County
901 South Austin Avenue
Georgetown, TX 78626

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

T J. Ashley/CANDY

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CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-167228

Date Filed:
02/15/2017

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
Halff Associates, Inc.
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Williamson County, Texas

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
1611-128
Expo Center RV Park Development

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Skipwith , Walter	Richardon, TX United States	X	
Tanksley, Dan	Richardson, TX United States	X	
Moya, Michael	Austin, TX United States	X	
Murray, Menton	McAllen, TX United States	X	
Ickert, Andres	Richardson, TX United States	X	
Adams, Bobby	Houston, TX United States	X	
Romanowski, Michael	Fort Worth, TX United States	X	
Molloy, Martin	Richardson, TX United States	X	
Craig, Matthew	Richardson, TX United States	X	
Killen, Russell	Richardson, TX United States	X	
Kunz, Patrick	Richardson, TX United States	X	
Plugge, Roman	Richardson, TX United States	X	
Kuhn, Gregory	Richardson, TX United States	X	

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

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Halff Associates, Inc.
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Williamson County, Texas

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
1611-128
Expo Center RV Park Development

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. ☐

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

KAREN SEEVERS
Notary Public, State of Texas
My Commission Expires
November 21, 2018

Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said Matt Buechen, this the 17th day of February 2017, to certify which, witness my hand and seal of office.

Karen Seevers — Signature of officer administering oath
Karen Seevers — Printed name of officer administering oath
Admin Assistant — Title of officer administering oath

OFFICE MEMORANDUM

Date: February 6, 2017

COORDINATION — ROUTING			
Div.	Name	Initial	Date

To: Purchasing Department

From: Randy Bell – Parks Department

Randy Bell

Subject: RV Park Development at Williamson County Expo Center
Bid # 1611-128

Re: Bid Evaluation

Remarks:

Return To:

In response to Bid # 1611-128 the Purchasing Department received complete Bid Tabulations from two (2) firms desiring to provide Architectural/Engineering Services for design and development of the Recreational Vehicle (RV) park at the Williamson County Expo Center.

Parks and Recreation Department staff, and Facilities Department staff, with Purchasing Department overview, evaluated the Bid Tabulations against the criteria contained in the Solicitation:

1. Local Presence in Texas
2. Project Manager's experience/qualifications working on RV park design and related infrastructure
3. Firm and project team's experience/qualifications with project management of RV park construction
4. Individuals of the Project Team experience/qualifications working on RV park design, construction, and related infrastructure
5. Availability of Project Manager and project staff to begin on or before March 2017 and complete on or ahead of schedule
6. The firm's understanding of the project specifications
7. Firm's support of available staff to fast-track and make the project a priority from the onset to full completion.

After evaluating all Bid Tabulations against the stated criteria, Halff Associates, Inc. is the best overall selection to provide Architectural/Engineering Services for design and development of the Recreational Vehicle (RV) park at the Williamson County Expo Center.

Halff Associates, Inc. has 11 locations in Texas. Professional services for the (RV) park will be performed out of the Austin office, which is also in Williamson County.

The Project Manager has extensive experience working on (RV) and camping parks, trails, and related facilities for County and municipal parks. The Project Manager also has extensive experience in managing design teams to include engineers, architects, surveyors, geotechnical and soil specialists, environmental specialists, and material suppliers that will serve this project well.

The firm, the projects team, and individuals on the team, have significant experience in the past decade designing over 50 parks and more than 100 miles of trails; far exceeding the published criteria for experience/qualifications with project management of RV park construction, and for working on RV park design, construction, and related infrastructure.

The Project Manager and staff are available to begin the project on or before March 2017 to ensure completion of the project on, or ahead of schedule

Having worked with Williamson County on Phase I development of the Williamson County Expo Center, Halff Associates, Inc. has extensive knowledge and understanding of the project to include: (1) assistance in the schematic/site plan development of the proposed RV park, (2) knowledge of newly installed utilities and stub outs for future water and wastewater connections for the proposed RV park; (3) knowledge of hydrology, hydraulics, and related site drainage patterns supported with associated detention pond development; and, (4) knowledge of site circulation patterns that will help with trail development, west road extension, and overall site safety / integration with the nearby Taylor Sports Park. The firm's extensive knowledge and understanding of the project specifications will allow efficiencies that will benefit the citizens of Williamson County.

Finally, Halff Associates, Inc. has experience in working with Texas Parks and Wildlife Department (TPWD) grant funded projects. The firm's ability to fast track the project and make it a priority from the onset, is particularly important regarding County compliance with the (TPWD) grant requirements.

After review and consideration of all stated criteria, along with the final pricing submission (which is within stated grant funding limitations) the Parks & Recreation Department recommends that Halff Associates, Inc. be awarded the contract to provide Architectural/Engineering Services for design and development of the Recreational Vehicle (RV) park at the Williamson County Expo Center - Bid # 1611-128

Thank you.

Williamson County Parks &
Recreation Department
219 Perry Mayfield
Leander, Texas 78641
512-943-1920
http://parks.wilco.org/

Parks Mission: Our mission is to manage and operate a system of parks that will add quality to life, build community pride and spirit, promote physical fitness and self improvement, evoke an emotional and intellectual response to connections with nature, consider long term open space needs, preserve endangered species, and improve air quality.

Maximum Score Points	Please select a **Whole Number from the list provided** for each question. (Decimal scoring or unlisted rating scores are not permitted)	Halff Associates	Haynie Consulting	
P/F	Must Pass to be qualified	P	P	
30	30 = Significantly Exceeds Requirements 24 = Exceeds Requirements 18 = Meets ALL requirements 12 = Marginally Meets Requirements 0 = Does Not Meet Requirements	24	18	
30	30 = Significantly Exceeds Requirements 24 = Exceeds Requirements 18 = Meets ALL requirements 12 = Marginally Meets Requirements 0 = Does Not Meet Requirements	24	18	
30	30 = Significantly Exceeds Requirements 24 = Exceeds Requirements 18 = Meets ALL requirements 12 = Marginally Meets Requirements 0 = Does Not Meet Requirements	24	18	
15	15 = Significantly exceeds requirements 12 = Exceeds requirements 9 = Meets all requirements 6 = Marginally meets requirements 0 = Does not meet requirements	12	9	
15	15 = Significantly exceeds requirements 12 = Exceeds requirements 9 = Meets all requirements 6 = Marginally meets requirements 0 = Does not meet requirements	15	9	
15	15 = Significantly Exceeds Requirements 12 = Exceeds Requirements 9 = Meets ALL requirements 6 = Marginally Meets Requirements 0 = Does Not Meet Requirements	12	9	
135	TOTAL	111	81	0

Committee Member	Voting Member Yes or No	Signatures
Senior Director, Randy Bell: Chairperson	YES	
Clint Chitsey	YES	
Dale Butler	YES	
Teri Jeffries Bangert	NO	

Halff worked on Phase 1, presented staff + experience. Seaward Letter for 2.

Commissioners Court - Regular Session **47.**

Meeting Date: 03/07/2017

Third Party Administrator for Self-Funded or Fully Insured Benefits

Submitted By: Kerstin Hancock, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive proposals for RFP 1702-144, Third-Party-Administrator for Self-Funded or Fully Insured Benefits for Medical, Dental & Vision Programs to include PPO, POS, and ACO Network options; Biometric/Wellness Program Management; Prescription Drug Card Services - retail card and mail order; Pre-certification/Large Case Management; Disease Management/Diabetic Plan Management; Section 125 Claims Administration.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

RFP packet

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/01/2017 03:21 PM
Form Started By: Kerstin Hancock		Started On: 03/01/2017 11:03 AM
Final Approval Date: 03/01/2017		

PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

WILLIAMSON COUNTY PURCHASING DEPARTMENT
SOLICIATION 1702-144
Third Party Administrator for Self-Funded or Fully Insured Benefits

PROPOSALS MUST BE RECEIVED ON OR BEFORE:
Apr 11, 2017 2:00:00 PM CDT

PROPOSAL WILL BE PUBLICLY OPENED:
Apr 11, 2017 2:00:00 PM CDT

Notice is hereby given that sealed Proposals for the above-mentioned goods and/or services will be accepted by the Williamson County Purchasing Department. Williamson County uses BidSync to distribute and receive proposals. Specifications for this RFP may be obtained by registering at www.bidsync.com.

Williamson County prefers and requests electronic submittal of this Proposal.

All electronic proposal must be submitted via: www.bidsync.com

Electronic proposals are requested, however paper proposals will currently still be received, until further notice and may be mailed or delivered to the address listed below.

Respondents are strongly encouraged to carefully read this entire RFP.

All interested Respondents are invited to submit a Proposal in accordance with the Instructions and General Requirements, Proposal Format, Proposal Specifications, and Definitions, Terms and Conditions stated in this RFP.

Please note that a complete package must be submitted choosing one of the above two methods. Split packages submitted will be considered "unresponsive" and will not be accepted or evaluated.

Williamson County will not accept any Proposals received after the submittal deadline, and shall return such Proposals unopened to the Respondent.

General Information:

- If mailed or delivered in person, Proposal and Proposal addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed above for this RFP, to:

  Williamson County Purchasing Department
  Attn: **PROPOSAL NAME AND NUMBER**
  901 South Austin Avenue
  Georgetown, Texas 78626

  - Respondents should list the Proposal Number, Proposal Name, Name and Address of Respondent, and the Date of the Proposal opening on the outside of the box or envelope and note "Sealed Proposal Enclosed."
  - Respondent should submit one (1) original.
  - Williamson County will NOT be responsible for unmarked or improperly marked envelopes.
  - Williamson County will not accept any responsibility for Proposals being delivered by third party carriers.
  - Facsimile transmittals will NOT be accepted.

- Proposals will be opened publicly in a manner; however, to avoid public disclosure of contents, only the names of Respondents will be read aloud.

- All submitted questions with their answers will be posted and updated on www.bidsync.com.

- It is the Respondent's responsibility to review all documents in BidSync, including any Addenda that may have been added after the document packet was originally released and posted.

  - Any Addenda and/or other information relevant to the RFP will be posted on www.bidsync.com.

  - The Williamson County Purchasing Department takes no responsibility to ensure any interested Respondent has obtained any outstanding addenda or additional information.

Bid 1702-144
Third Party Administrator for Self-Funded or Fully Insured Benefits

Bid Number	1702-144
Bid Title	Third Party Administrator for Self-Funded or Fully Insured Benefits
Bid Start Date	In Held
Bid End Date	Apr 11, 2017 2:00:00 PM CDT
Question & Answer End Date	Apr 5, 2017 5:00:00 PM CDT
Bid Contact	Kerstin N Hancock 512-**943**-1546 khancock@wilco.org
Contract Duration	**3 years**
Contract Renewal	2 annual renewals
Prices Good for	**30 days**
Pre-Bid Conference	**Mar 20, 2017 2:00:00 PM CDT** **Attendance is optional** **Location: Williamson County Purchasing Department** **901 S. Austin Ave.** **Georgetown, TX 78626** **This conference can be attended via phone call:** **Dial-in Number: (641) 715-3680** **For bidders who would like to attend over the phone:** **Dial-in number: (641) 715-3680** **Participant access code: 496683#**
Bid Comments	**The County is seeking proposals on the following Benefits options:** **- Third Party Administrator Services for Medical, Dental & Vision Programs:** **Self-Insured option** **Fully-Insured option** **- PPO, POS, and ACO Network Options** **- Biometric/Wellness Program Management** **- Prescription Drug Card Services – retail card and mail order** **- Precertification/Large case management** **- Disease Management/ Diabetic Plan Management** **- Section 125 Claims Administration** **Administration for these Services should include Plan Sponsor Online Access, Employee Enrollment Platform, standard file feeds and upload capabilities.** **Please include the following documents with your proposal:** **-Transmittal Letter** **-Executive Summary** **-Conflict of Interest Questionnaire (completed)** **-Proposal References** **-Acknowledgement of Addenda (if applicable)** **-Proposal Affidavit** **-Pricing Responses on Worksheets** **-Sample contract/agreement (s)** **-Proposal Response**

Item Response Form

Item	**1702-144--01-01 - Please attach all required documents to this line item**
Quantity	**1 each**

Prices are not requested for this item.

Delivery Location **Williamson County, Texas**

No Location Specified

Qty 1

Description

Please include the following documents with your proposal:
·Transmittal Letter
·Executive Summary
·Conflict of Interest Questionnaire (completed)
·Proposal References
·Acknowledgement of Addenda (if applicable)
·Proposal Affidavit
·Pricing Responses on Worksheets
·Sample contract/agreement (s)
·Proposal Response



CHECK LIST FOR REQURIED DOCUMENTS

Third Party Administrator for Self-Funded or Fully Insured Benefits
1702-143

Proposal may not be deemed complete without the inclusion of requested material below. These required forms should be attached to the line item. Please use this document as a check list for you to ensure you have completed this Proposal Package.

☐	Transmittal Letter
☐	Executive Summary
☐	Conflict of Interest Form (completed and signed)
☐	References
☐	Acknowledgement of Addenda if applicable
☐	Proposal Affidavit
☐	Pricing responses on worksheets
☐	Sample contract/agreement (s)
☐	Statement of Compliance
☐	Proposal Response

Williamson County – Request for Proposal (RFP)

SECTION 1 - DEFINITIONS

Addendum/Addenda – means any written or graphic instruments issued by the County prior to the consideration of Proposals which modify or interpret the Proposal Documents by additions, deletions, clarifications, or corrections.

Agreement/Ensuing Agreement(s) – means the Successful Respondent may be required by the County to sign an additional Agreement containing terms necessary to ensure compliance with the RFP and the Respondent's Proposal. Such Ensuing Agreement(s) shall contain the Proposal specifications, terms and conditions that are derived from the RFP.

Contract – means this RFP and the Proposal of the Successful Respondent shall become a Contract between the Successful Respondent and the County once the Successful Respondent's Proposal is properly accepted by the Williamson County Commissioners Court (sometimes referred to herein as the Commissioner's Court").

Commissioner's Court – means the Williamson County Commissioners Court.

County – means Williamson County, a political subdivision of the State of Texas.

Executive Summary – means the document submitted by Respondent that represents a concise summary of the contents of the Proposal. It does not include any information concerning costs.

Proposal Documents – means the Legal Notice, RFP including attachments, and any Addenda issued by the County prior to the consideration of any Proposals.

Proposal – means the complete, properly signed document, and ALL required forms and documentation listed in the proposal package which have been submitted in accordance with this RFP package. A Proposal submitted in accordance with this RFP is irrevocable during the specified time period for evaluation and acceptance of Proposals, unless a waiver is obtained from the Williamson County Purchasing Agent.

Respondent – means a person or entity who submits a Proposal in response to this RFP.

Request for Proposals (RFP) – means this document, together with the attachments thereto and any future Addenda issued by the County.

Successful Respondent– means the responsible Respondent who, in the County's sole opinion, submits the Proposal which is in the best interest of the County, taking into account factors identified

herein, and to whom the County intends to award the Contract.

SECTION 2 - RESPONSE FORMAT AND SUBMISSION

2.1 INTRODUCTION

Each Proposal submitted in response to this RFP should clearly reference the numbered sections of this RFP that require a response. Failure to arrange the Proposal as requested may result in the disqualification of the Proposal.

Though there is not a page limit for Proposals, to save natural resources including paper, and to allow the County staff to efficiently evaluate all submitted Proposals, the County requests that Proposals be orderly, concise, but comprehensive in providing the requested information. Conciseness and clarity of content are emphasized and encouraged. If mailed or delivered in person, please limit additional, non requested information.

Please provide your Proposal response using:

A. 8 ½" x 11" pages, inclusive of any cover letter or supporting materials.

B. The least amount of plastic/laminate or other non-recyclable binding materials.

C. Single-sided printing.

Vague and general Proposals will be considered non-responsive, and may, at the County's sole discretion, result in disqualification. Proposals must be legible and complete. Failure to provide the required information may result in the disqualification of the Proposal. All pages of the Proposal should be numbered and the Proposal should contain an organized, paginated table of contents corresponding to the sections and pages of the Proposal.

2.2 ORGANIZATION OF PROPOSAL CONTENTS AND TABLE OF CONTENTS

Each Proposal should be submitted with a table of contents that clearly identifies and denotes the location of all enclosures of the Proposal. The table of contents should follow the RFP's structure as much as is practical.

Each Proposal should be organized in the manner described below:

A. Transmittal Letter. Please see Section 2.3, Transmittal Letter, for more information.

B. Table of Contents.

C. Executive Summary. Please see Section 2.4, Executive Summary.

D. Proposal Response to Criteria. (Please see the sections in this RFP package that list the Specifications & Cost Proposal, Experience and Qualifications, References, and Implementation Strategy to respond to our criteria in a clear and concise manner)

E. Price Sheet.

F. References: Identification of three (3) references within the last four (4) years, for which the Respondent is providing, or has provided, the goods and/or services (public sector) of the type requested in this RFP. Include the name, position/title, and telephone number of a contact person at each entity.

G. Conflict of Interest Questionnaire.

H. Proposal Affidavit (Signature Page).

I. Attach your entities sample Contract, if applicable, for the County's review and consideration. This should include any additional terms or conditions. The County is not required to use the sample Contract submitted.

2.3 TRANSMITTAL LETTER

The Respondent should submit a Transmittal Letter that provides the following information:

A. Name and address of individual or business entity submitting the Proposal.

B. Respondent's type of business entity (i.e., Corporation, General Partnership, Limited Partnership, LLC, etc.). See Section 3.5, Signature of Respondent, for more information.

C. Place of incorporation or organization, if applicable.

D. Name and location of major offices and other facilities that relate to the Respondent performance under the terms of this RFP.

E. Name, physical address, email address, business and fax number of the Respondent's principal contact person regarding all contractual matters relating to this RFP.

F. The Respondent's Federal Employer Identification Number.

G. A commitment by the Respondent to provide the services required by the County;

H. A statement that the Proposal is valid for the time specified on page three (3), under the section named *Prices Good for*, of this Proposal packet. Any Proposal containing a term of less than the required amount, may at the County's sole discretion, be rejected as non-responsive.

I. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating the anticipated air quality impact. See Section 4.40, Air Quality for more information.

The Transmittal Letter should be signed by a person legally authorized to bind the Respondent to its representations in the Transmittal Letter and the Proposal. In the case of a joint Proposal, each party must sign the Transmittal Letter.

2.4 EXECUTIVE SUMMARY

The Respondent should provide an Executive Summary of its Proposal that asserts that the Respondent is providing in its response all of the requirements of this RFP. The Executive Summary should not include any information concerning the cost of the Proposal, but instead must represent a full and concise summary of the contents of the Proposal. It is recommended the Executive Summary include the following information:

A. Identify any goods and/or services that are provided beyond those specifically requested. If the Respondent is providing services and/or goods that do not meet the specific requirements of this RFP, but in the opinion of the Respondent are equivalent or superior to those specifically requested, any such differences should be noted in the Executive Summary. However, the Respondent must realize that failure to provide the goods and/or services specifically required, at the County's sole discretion, may result in disqualification of the Proposal.

B. Indicate why the Respondent believes that it is the most qualified Respondent to provide the services described in this RFP. The Successful Respondent must demonstrate extensive experience and understanding of the intent of this project. The Respondent should describe in detail the current and historical experience the Respondent and its subcontractors have that would be relevant to completing the project. References must contain the name of key personnel and telephone numbers for each contact, as described in Section 3.14, References.

C. Briefly state why the Respondent believes its proposed goods and/or services best meet the County's needs and RFP requirements, and the Respondent also should concisely describe any additional features, aspects, or advantages of its goods and/or services in any relevant area not covered elsewhere in its Proposal.

2.5 CONFLICT OF INTEREST

No public official shall have interest in a contract, in accordance with Vernon's Texas Codes Annotated, Local Government Code, Title 5, Subtitle C, Chapter 171, as amended.

As of January 1, 2006, all Respondents are responsible for complying with Local Government Code, Title 5, Subtitle C, Chapter 176. Additional information may be obtained from the County's website at the following link:

http://www.wilco.org/CountyDepartments/Purchasing/ConflictofInterestDisclosure/tabid/689/language/en-US/Default.aspx

Each Respondent must disclose any existing or potential conflict of interest relative to the performance of the requirements of this RFP. **Examples of potential conflicts of interest may include an existing business or personal relationship between the Respondent, its principal, or any affiliate or subcontractor with the County or any other entity or person involved in any way with the project that is subject to this RFP**. Similarly, any personal or business relationship between the Respondent, the principals, or any affiliate or subcontractor with any employee, or official of the County or its suppliers must be disclosed. Any such relationship that might be perceived or represented as a conflict must be disclosed. Failure to disclose any such relationship or reveal personal relationships with the County employees or officials may be cause for termination.

The County will decide if an actual or perceived conflict should result in Proposal disqualification.

By submitting a Proposal in response to this RFP, all Respondents affirm they have not given, nor intend to give, at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a the County public servant or any employee, official or representative of same, in connection with this procurement.

Each Respondent must provide a Conflict of Interest Statement with their Proposal Package. Package may be deemed incomplete without this form.

2.6 CERTIFICATE OF INTERESTED PARTIES – FORM 1295

As of January 1, 2016, all Respondents are responsible for complying with the Texas Government Code, Section 2252.908. The law states that the County may not enter into certain contracts with a Respondent unless the Respondent submits a disclosure of interested parties to the County at the time the Respondent submits the signed contract. The law applies only to a contract of the County on or after January 1, 2016 that either:

A. Requires an action or vote by the Commissioners Court before the contract may be signed (all contracts that fall under the jurisdiction of the Commissioners Court approval, such as contracts resulting from an Initiation for Bid (IFB), RFP, Request for Qualifications (RFQ), etc., excluding,

but not limited to, certain Juvenile Service contracts, contracts funded with Sheriff's seized fun monies, etc.); or

B. Has a value of at least $1,000,000.

By January 1, 2016, the Texas Ethics Commission will make available on its website, a new filing application that must be used to file Form 1295. Information regarding how to use the filing application is available on the Texas Ethics Commission website at the following link:

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

A Respondent must:

A. Use the online application to process the required information on Form 1295.

B. Print a copy of the form which will contain a unique certification number.

C. An authorized agent of the Respondent must sign the printed copy of the form.

D. Have the form notarized.

E. File the completed Form 1295 and certification of filing (scanning and emailing form is sufficient) with Williamson County Purchasing Agent at the time the signed Contract is submitted for approval.

After the Commissioners Court award of the contract, the County shall notify the Texas Ethics Commission, using the Texas Ethics Commission's filing application, of the receipt of the filed Form 1295 and certification of filing not later than the 30th day after the date the contract binds all parties to the contract. The Texas Ethics Commission will post the completed Form 1295 to its website within seven business days after receiving notice from the County.

2.7 PROPOSAL SUBMITTAL DEADLINE

The Proposal is due no later than the submittal date and time set forth in the Public Announcement and General Information listed in this RFP package. Contents of each Proposal shall be submitted in accordance with this RFP.

2.8 ETHICS

The Respondent shall not accept or offer gifts or anything of value, nor enter into any business arrangement with any employee, official or agent of the County.

2.9 DELIVERY OF PROPOSALS

The County uses BidSync to distribute and receive bids and Proposals. It is preferred that Proposals be submitted electronically through BidSync; however, Respondents can submit a hard copy.

Refer to www.bidsync.com for further information on how to submit electronically.

If mailed or delivered in person, Proposal and Proposal Addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed in this RFP package, to:

Williamson County Purchasing Department

Attn: **Proposal Name and Number**
901 South Austin Avenue
Georgetown, Texas 78626

Also, all Respondents should list their Name and Address, and the Date of the Proposal opening on the outside of the box or envelope and note "Sealed Proposal Enclosed." Williamson County will not accept any Proposals after the submittal deadline, and shall return such Proposals unopened to the Respondent. The County will not accept any responsibility for Proposals being delivered by third party carriers.

Proposals will be opened publicly; however, in a manner to avoid public disclosure of contents, only names of Respondents will be read aloud: no pricing will be announced at the opening.

SECTION 3 - INSTRUCTIONS AND GENERAL REQUIREMENTS

3.1 INSTRUCTIONS

Read this document carefully, and follow all instructions and requirements. All Respondents are responsible for fulfilling all requirements and specifications. Be sure to have a clear understanding of this RFP.

General requirements apply to all advertised RFPs; however, these may be superseded, in whole or in part, by the proposal specifications, Addenda and modifications issued as a part of this RFP. Be sure your Proposal package is complete.

3.2 AMBIGUITY, CONFLICT, OR OTHER ERRORS IN THIS RFP

If a Respondent discovers any ambiguity, conflict, discrepancy, omission or other error in this RFP, the Respondent shall immediately notify the County Purchasing Department of such error in writing and request modification or clarification of the document.

Modifications will be made by issuing Addenda. If the Respondent fails to notify the County prior to the date and time fixed for submission of Proposals of an error or ambiguity in the RFP known to the Respondent, or an error or ambiguity that reasonably should have been known to the Respondent, then the Respondent shall be deemed to have waived the error or ambiguity or its later resolution.

The County may also modify the RFP, no later than forty-eight (48) hours prior to the date and time fixed for submission of Proposals, by issuance of an Addendum. All Addenda will be numbered consecutively, beginning with one (1).

3.3 NOTIFICATION OF MOST CURRENT ADDRESS

All Respondents in receipt of this RFP shall notify the Williamson County Purchasing Department of any address changes, contact person changes, and/or telephone number changes no later than forty-eight (48) hours prior to the date and time fixed for submission of Proposals.

3.4 SIGNATURE OF RESPONDENT

A Transmittal Letter, which shall be considered an integral part of the Proposal as stated in Section 2.3, Transmittal Letter, shall be signed by an individual who is authorized to bind the Respondent contractually.

A. If the Respondent is a Corporation or Limited Liability Company, the legal name of the Corporation or Limited Liability Company shall be provided together with the signature of the officer or officers authorized to sign on behalf of such entity.

B. If the Respondent is a General Partnership, the true name of the firm shall be provided with the signature of each partner authorized to sign.

C. If the Respondent is a Limited Partnership, the name of the Limited Partner's General Partner shall be provided with the signature of the officer authorized to sign on behalf of the General Partner.

D. If the Respondent is a Sole Proprietor(s) (individual), each Sole Proprietor(s) shall sign.

E. If signature is by an agent, other than the Sole Proprietor(s) or an officer of a Corporation, Limited

Liability Company, General Partner or a member of a General Partnership, a power of attorney equivalent document must be submitted to the Williamson County Purchasing Department.

3.5 ASSUMED BUSINESS NAME

If the Respondent operates business under an Assumed Business Name, the Respondent must have file with the Williamson County Clerk a current Assumed Name Certificate and provide a file marked copy of same prior to contract award.

3.6 ECONOMY OF PRESENTATION

Proposals should not contain promotional or display materials, except as they may directly answer in whole or in part questions contained in the RFP. Such exhibits shall be clearly marked with the applicable reference number of the question in the RFP. Proposals must address the technical requirements as specified in the RFP. All questions posed by the RFP must be answered concisely and clearly. Proposals that do not address each criterion may be, at the sole discretion of the County, rejected and not considered.

3.7 PROPOSAL OBLIGATION

The contents of the RFP, Proposal, and any clarification thereof submitted by the Successful Respondent shall become part of the contractual obligation and incorporated by reference into the Contract and any Ensuing Agreement(s).

3.8 COMPLIANCE WITH RFP SPECIFICATIONS

It is intended that this RFP describe the requirements and the Proposal format in sufficient detail to secure comparable Proposal. Failure to comply with all provisions of the RFP may, at the sole discretion of the County, result in disqualification.

3.9 EVALUATION

The County reserves the right to use all pertinent information (also learned from sources other than disclosed in the RFP process) that might affect the County's judgment as to the appropriateness of award to the best evaluated Respondent. This information may be appended to the Proposal evaluation process results. Information on a Respondent from reliable sources, and not within the Respondent Proposal, may also be noted and made part of the evaluation file. The County shall have sole discretion for determining the reliability of the source. The County reserves the right to conduct written and/or oral discussions/interviews after the Proposal opening. The purpose of such discussions/interviews is to provide clarification and/or additional information to make an award that is in the best interest of the County.

3.10 WITHDRAWAL OF PROPOSAL

The Respondent may withdraw its Proposal by submitting a written request with the company letterhead and the signature of an authorized individual, as described in Section 3.4, Signature of Respondent, to the Williamson County Purchasing Department any time prior to the submission deadline.

The Respondent may submit a new Proposal prior to the deadline. Alterations of the Proposal in any manner will not be considered if submitted after the deadline. Withdrawal of a Proposal after the deadline will be subject to written approval of the Williamson County Purchasing Agent.

3.11 RESPONSIBILITY

It is expected that a Respondent will be able to affirmatively demonstrate responsibility. A prospective Respondent should be able to meet the following requirements:

A. Have adequate financial resources, or the ability to obtain such resources as required;
B. Be able to comply with the required or proposed delivery schedule;
C. Have a satisfactory record of performance that can be determined thru references provided; and
D. Be otherwise qualified and eligible to receive an award.

The County may request representation and other information sufficient to determine the Respondent ability to meet these minimum standards listed above.

3.12 PURCHASE ORDERS

If required by the Williamson County Purchasing Department, a purchase order(s) may be generated to the Successful Respondent for goods and/or services. If a purchase order is issued, the purchase order number must appear on all itemized invoices and/or requests for payment.

3.13 SILENCE OF SPECIFICATIONS

The apparent silence of any RFP specifications as to any detail or to the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

3.14 REFERENCES

Respondents shall furnish a list of contracts where similar responsibilities and goods and/or services have been required and/or performed for the past five (5) years, to include names, titles, phone numbers and email addresses of reference contacts, contract numbers and dates of performance.

Also, Respondents shall include a list of any contracts that have been cancelled or terminated within the last five (5) years, along with an explanation of the cancellation and the names, email address and phone number of a reference person with that institution.

The County may contact some or all of the references in order to determine the Respondent performance record on work similar to that described in this RFP. The County reserves the right to contact references other than those provided in the response and to use the information gained from them in the evaluation process.

References should be provided in accordance with this RFP. Proposal may not be deemed complete without the inclusion of requested references.

SECTION 4 - TERMS AND CONDITIONS

4.1 VENUE AND GOVERNING LAW

The Respondent hereby agrees and acknowledges that venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this RFP, the Contract and any Ensuing Agreement(s), shall lie exclusively in either Williamson County, Texas or in the Austin Division of the Western Federal District of Texas, and the parties hereto expressly consent and submit to such jurisdiction. Furthermore, except to the extent that this RFP, the Contract and any Ensuing Agreement(s) is governed by the laws of the United States, this RFP, the Contract and any Ensuing Agreement(s) shall be governed by and construed in accordance with the laws of the State of Texas, excluding, however, its choice of law rules.

4.2 INCORPORATION BY REFERENCE AND PRECEDENCE

A. The Contract shall be derived from the RFP and its Addenda (if applicable), and the Respondent Proposal. In the event of a dispute under the Contract, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. The RFP and its Addenda (if applicable); and

   2. The Respondent's Proposal.

B. In the event the County requires that an Ensuing Agreement be executed following award and a dispute arises between the terms and conditions of the Ensuing Agreement, the RFP and its Addenda (if applicable), and the Respondent's Proposal, applicable documents will be referred to for the purpose of clarification or for additional detail in the following order of precedence:

   1. The terms and conditions of the Ensuing Agreement;

   2. The RFP and its Addenda; and

   3. The Respondent's Proposal.

4.3 OWNERSHIP OF PROPOSAL

Each Proposal shall become the property of the County upon submittal and will not be returned to Respondents unless received after the submittal deadline.

4.4 DISQUALIFICATION OF RESPONDENT

Upon signing and submittal of the Proposal, a Respondent offering to sell supplies, materials, services, or equipment to the County, certifies that the Respondent has not violated the antitrust laws of the State of Texas codified in Business & Commerce Code, Section 15.01, or the Federal Antitrust Laws, and has not communicated directly or indirectly the offer made to any competitor or any other person engaged such line of business. Any or all Proposals may be rejected if the County believes that collusion exists among the Respondents.

4.5 FUNDING

The County intends to budget and make sufficient funds available and authorize funds for expenditure to finance the costs of the Contract. All Respondents understand and agree that the County's payment of

amounts under the Contract shall be contingent on the County receiving appropriations or other expenditure authority sufficient to allow the County, in the exercise of reasonable administrative discretion, to make payments under this Contract.

4.6 ASSIGNMENT, SUCCESSORS AND ASSIGNS

The Successful Respondent may not assign, sell, or otherwise transfer the Contract or any other rights or interests obtained under the Contract without written permission of the Williamson County the Commissioners Court. The Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the contracting parties hereto and their respective successors and permitted assigns.

4.7 IMPLIED REQUIREMENTS

Products or services not specifically described or required in the RFP, but are necessary to provide the functional capabilities described by the Respondent, shall be implied and deemed to be included in the Proposal.

4.8 TERMINATION

A. **Termination for Cause:** The County reserves the right to terminate the Contract and/or any Ensuing Agreement(s) for default if the Successful Respondent breaches any of the Proposal specifications, terms and conditions, including warranties of the Respondent, if any, or if the Successful Respondent becomes insolvent or commits acts of bankruptcy. Such right of termination is in addition to and not in lieu of any other remedies the County may have at law or equity or as may otherwise be provided hereunder. Default may be construed as, but not limited to, failure to deliver the proper goods and/or services within the proper amount of time, and/or to properly perform any and all other requirements to the County's satisfaction, and/or to meet all other obligations and requirements.

B. **Termination for Convenience:** The County may terminate the Contract and/or any Ensuing Agreement(s) for convenience and without cause or further liability, upon no less than thirty (30) calendar days written notice to the Successful Respondent. The County reserves the right to extend this period if it is in the best interest of the County. In the event the County exercises its right to terminate without cause, it is understood and agreed that only the amounts due to the Successful Respondent for goods, commodities and/or services provided and expenses incurred to and including the date of termination, will be due and payable. No penalty will be assessed for the County's termination for convenience.

4.9 NON-PERFORMANCE

It is the objective of the County to obtain complete and satisfactory performance of the requirements set forth herein. In addition to any other remedies available at law, in equity or that may be set out herein, failure to perform may result in a deduction of payment equal to the amount of the goods and/or services that were not provided and/or performed to the County's satisfaction.

In the event of such non-performance, the County shall have the right, but shall not be obligated, to complete the services itself or by others and/or purchase the goods from other sources. If the County elects to acquire the goods or perform the services itself or by others, pursuant to the foregoing, the Successful Respondent shall reimburse the County, within ten (10) calendar days of demand, for all costs incurred by the County (including, without limitation, applicable, general, and administrative expenses, and field overhead, and the cost of necessary equipment, materials, and field labor) in correcting the nonperformance which the Successful Respondent fails to meet pursuant to the requirements set out herein. In the event the Successful Respondent refuses to reimburse the County as set out in this provision, the County shall have the right to deduct such reimbursement amounts from any amounts that may be then owing or that may become owing in the future to the Successful Respondent.

4.10 PROPRIETARY INFORMATION AND THE TEXAS PUBLIC INFORMATION ACT

All material submitted to the County shall become public property and subject to the Texas Public Information Act upon receipt. If a Respondent does not desire proprietary information in the Proposal to be disclosed, each page must be clearly identified and marked proprietary at time of submittal or, more preferably, all proprietary information may be placed in a folder or appendix and be clearly identified and marked as being proprietary. Failure to clearly identify and mark information as being proprietary as set forth under this provision will result in all unmarked information being deemed non-proprietary and available to the public. For all information that has not been clearly identified and marked as proprietary by the Respondent, the County may choose to place such information on the County's website and/or a similar public database without obtaining any type of prior consent from the Respondent.

The County will, to the extent allowed by law, endeavor to protect from public disclosure the information that has been identified and marked as proprietary. The final decision as to what information must be disclosed, however, lies with the Texas Attorney General.

To the extent, if any, that any provision in this RFP or in the Respondent's Proposal is in conflict with Texas Government Code, Chapter 552, as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood, and agreed, that the County, and its officers and employees, may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to the County as to whether or not the same are available to the public. It is further understood that that the County, and its officers and employees, shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that the County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to the County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

4.11 RIGHT TO AUDIT

The Successful Respondent agrees that the County or its duly authorized representatives shall, until the expiration of three (3) years after termination or expiration of the services to be performed, have access to and the right to examine and photocopy any and all books, documents, papers and records of the Successful Respondent, which are directly pertinent to the services to be performed or goods to delivered for the purposes of making audits, examinations, excerpts and transcriptions. The Successful Respondent agrees that the County shall have access during normal working hours to all necessary facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. The County shall give the Successful Respondent reasonable advance notice of intended audits.

4.12 TESTING AND INSPECTIONS

The County reserves the right to inspect and test equipment, supplies, materials and goods for quality and compliance with this RFP, and ability to meet the needs of the user. Demonstration units must be available for review. Should the goods or services fail to meet requirements and/or be unavailable for evaluation, the County can deem the Respondent to be in breach and terminate the Contract and/or any Ensuing Agreement(s).

4.13 PROPOSAL PREPARATION COSTS

The cost of developing Proposals is the sole responsibility of the Respondents and shall not be charged to the County. There is no expressed or implied obligation for the County to reimburse the Respondents for any expense incurred in preparing a Proposal in response to this RFP and the County will not reimburse the Respondents for such expenses.

4.14 INDEMNIFICATION

The Successful Respondent shall indemnify, defend and save harmless, the County, its officials, employees, agents and agent's employees from, and against, all claims, liability, and expenses including reasonable attorneys' fees, arising from activities of the Respondent, its agents, servants or employees, performed hereunder that result from the negligent act, error, or omission of the Respondent or any of the Respondent's agents, servants or employees, as well as all claims of loss or damage to the Respondent's and the County's property, equipment, and/or supplies.

Furthermore, the County, its officials, employees, agents and agents' employees shall not be liable for damages to the Successful Respondent arising from any act of any third party, including, but not limited to, theft. The Successful Respondent further agrees to indemnify, defend and save harmless, the County from its officials, employee, agents and agents' employees against all claims of whatever nature arising from any accident, injury, or damage whatsoever, caused to any person, or the property of any person, occurring in relation to the Successful Respondent's performance of any services requested hereunder during the term of the Contract and/or any Ensuing Agreement(s).

The Successful Respondent shall timely report all claims, demands, suits, actions, proceedings, liens or judgements to the County and shall, upon the receipt of any claim, demand, suit, action, proceeding, lien or judgement, not later than the fifteenth (15^{th}) day of each month; provide the County with a written report on each such matter, setting forth the status of each matter, the schedule or planned proceedings with respect to each matter and the cooperation or assistance, if any, of the County required by the Successful Respondent in the defense of each matter. The Successful Respondent's duty to defend, indemnify and hold the County harmless shall be absolute. It shall not abate or end by reason of the expiration or termination of the Contract and/or any Ensuing Agreement(s), unless otherwise agreed by the County in writing. The provisions of this section shall survive the termination of the Contract and shall remain in full force and effect with respect to all such matters no matter when they arise.

In the event of any dispute between the parties, as to whether a claim, demand, suit, action, proceeding, lien or judgement, that appears to have been caused by or appears to have arisen out of or in connection with acts or omissions of the County, the Respondent shall nevertheless fully defend such claim, demand, suit or action, proceeding, lien or judgement, until and unless there is a determination by a court of competent jurisdiction that the acts and omissions of the Respondent are not an issue in the matter.

The Successful Respondent's indemnification shall cover, and the Successful Respondent agrees to, indemnify the County, in the event the County is found to have been negligent for having selected the Successful Respondent to perform the work described in this request. The provision by the Successful Respondent of insurance shall not limit the liability of the Successful Respondent under the Contract and/or any Ensuing Agreement(s).

4.15 WAIVER OF SUBROGATION

The Successful Respondent and the Successful Respondent's insurance carrier waive any and all rights whatsoever with regard to subrogation against the County as an indirect party to any suit arising out of personal or property damages resulting from the Respondent's performance under this Contract and any Ensuing Agreement(s).

4.16 RELATIONSHIP OF THE PARTIES

The Successful Respondent shall be an independent contractor and shall assume all of the rights, obligations, liabilities, applicable to it as such independent contractor hereunder and any provisions herein which may appear to give the County the right to direct the Successful Respondent as to details of doing work herein covered, or to exercise a measure of control over the work, shall be deemed to mean that the Successful Respondent shall follow the desires of the County in the results of the work only. The County shall not retain or have the right to control the Successful Respondent's means, methods or

details pertaining to the Successful Respondent's performance of the work. The County and the Successful Respondent hereby agree and declare that the Successful Respondent is an independent contractor and as such meets the qualifications of an "Independent Contractor" under Texas Workers Compensation Act, Texas Labor Code, Section 406.141, that the Successful Respondent is not an employee of the County, and that the Successful Respondent and its employees, agents and subcontractors shall not be entitled to workers compensation coverage or any other type of insurance coverage held by the County.

4.17 SOLE PROVIDER

The Successful Respondent agrees and acknowledges that it shall not be considered a sole provider of the goods and/or services described herein and that the County may contract with other providers of such goods and/or services if the County deems, at its sole discretion, that multiple providers of the same goods and/or services will serve the best interest of the County.

4.18 FORCE MAJEURE

If the party obligated to perform is prevented from performance by an act of war, order of legal authority, act of God, or other unavoidable cause not attributable to the fault or negligence of said party, the other party shall grant such party relief from the performance. The burden of proof for the need of such relief shall rest upon the party obligated to perform. To obtain release based on force majeure, the party obligated to perform shall file a written request with the other party.

4.19 SEVERABILITY

If any provision of this RFP, the Contract or any Ensuing Agreement(s) shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision thereof, but rather the entire RFP, Contract or any Ensuing Agreement (s) will be construed as if not containing the particular invalid or unenforceable provision or provisions, and the rights and obligation of the parties shall be construed and enforced in accordance therewith. The parties acknowledge that if any provision of this RFP, the Contract or any Ensuing Agreement(s) is determined to be invalid or unenforceable, it is the desire and intention of each that such provision be reformed and construed in such a manner that it will, to the maximum extent practicable, give effect to the intent of this RFP, the Contract or any Ensuing Agreement(s) and be deemed to be validated and enforceable.

4.20 EQUAL OPPORTUNITY

Neither party shall discriminate against any employee or applicant for employment because of race, color, sex, religion or national origin.

4.21 NOTICE

Any notice to be given shall be in writing and may be distributed by personal delivery, or by registered or certified mail, return receipt requested, addressed to the proper party, at the following address:

The County: Williamson County Purchasing Department
Attn: Purchasing Agent
901 South Austin Avenue
Georgetown, Texas 78626

The Respondent: Address set out in Respondent's Transmittal Letter

Notices given in accordance with this provision shall be effective upon (1) receipt by the party to which notice is given, or (2) on the third (3rd) calendar day following mailing, whichever occurs first.

4.22 SALES AND USE TAX EXEMPTION

The County is a body, corporate and politic, under the laws of the State of Texas and claims exemption from sales and use taxes under Texas Tax Code, Section 151.309, as amended, and the services and/or goods subject hereof are being secured for use by the County.

4.23 COMPLIANCE WITH LAWS

The County and the Successful Respondent shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of the Contract and any Ensuing Agreement(s), including, without limitation, Workers' Compensation laws, salary and wage statutes and regulations, licensing laws and regulations. When required, the Successful Respondent shall furnish the County with certification of compliance with said laws, statues, ordinances, rules, regulations, orders, and decrees above specified.

4.24 INCORPORATION OF EXHIBITS, APPENDICES AND ATTACHMENTS

All of the Exhibits, Appendices and Attachments referred to herein are incorporated by reference as if set forth verbatim herein. Any conflicting terms in the Contract documents will be resolved at the sole discretion of the Commissioners Court.

4.25 NO WAIVER OF IMMUNITIES

Nothing herein shall be deemed to waive, modify or amend any legal defense available at law or in equity to the County, its past or present officers, employees, or agents, nor to create any legal rights or claim on behalf of any third party. The County does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

4.26 NO WAIVER

The failure or delay of any party to enforce at any time or any period of time any of the provisions of this RFP, the Contract or any Ensuing Agreement(s) shall not constitute a present or future waiver of such provisions nor the right of either party to enforce each and every provision. Furthermore, no term or provision hereof shall be deemed waived and no breach excused unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. Any consent by any party to, or waiver of, a breach by the other, whether expressed or implied, shall not constitute a consent to, waiver of or excuse for any other, different or subsequent breach.

4.27 CURRENT REVENUES

The obligations of the parties under the Contract and any Ensuing Agreement(s) do not constitute a general obligation or indebtedness of the County for which the County is obligated to levy, pledge, or collect any of taxation. It is understood and agreed that the County shall have the right to terminate the Contract and any Ensuing Agreement(s) at the end of any the County fiscal year if the governing body of the County does not appropriate sufficient funds as determined by the County's budget for the fiscal year in question. The County may effect such termination by giving written notice of termination to t Successful Respondent at the end of its then-current fiscal year.

4.28 BINDING EFFECT

This Contract and any Ensuing Agreement(s) shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

4.29 ASSIGNMENT

The Successful Respondent's interest and duties hereunder may not be assigned or delegated to a third party without the express written consent of the County.

4.30 SAFETY

The Successful Respondent is responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with any services to be provided hereunder. The safety program shall comply with all applicable requirements of the current federal Occupational Safety and Health Act and all other applicable federal, state and local laws and regulations.

4.31 GENERAL OBLIGATIONS AND RELIANCE

The Successful Respondent shall perform all services and/or provide all goods, as well as those reasonably inferable and necessary for completion and provision of services and/or goods required hereunder. The Successful Respondent shall keep the County informed of the progress and quality the services. The Successful Respondent agrees and acknowledges that the County is relying on the Successful Respondent's represented expertise and ability to provide the goods and/or services described herein. The Successful Respondent agrees to use its best efforts, skill, judgment, and abilities to perform its obligations in accordance with the highest standards used in the profession and to further the interests of the County in accordance with the County's requirements and procedures. The Successful Respondent's duties, as set forth herein, shall at no time be in any way diminished by reason of any approval by the County, nor shall the Successful Respondent be released from any liability reason of such approval by the County, it being understood that the County at all times is ultimately relying upon the Successful Respondent's skill and knowledge in performing the services and providing any goods required hereunder.

4.32 CONTRACTUAL DEVELOPMENT

The Commissioners Court may award the Contract on the basis of the initial Proposals received, without any further or additional discussions. Therefore, each initial Proposal should contain the Respondent best terms and offer. The contents of the RFP and the selected Proposal will become an integral part of the Contract, but may be modified, at Williamson County's sole discretion, by provisions of an Ensuing Agreement. Therefore, the Respondent must agree to inclusion in an Ensuing Agreement of t Proposal specifications, terms and conditions of this RFP. Williamson County may, at its discretion, opt to conduct further discussions with responsible offerors and request the highest ranked firm's Best and Final Offer (BAFO).

4.33 ENTIRE AGREEMENT

The Contract and any Ensuing Agreement(s) shall supersede all prior Agreements, written or oral between the Successful Respondent and the County and shall constitute the entire Agreement and understanding between the parties with respect to the services and/or goods to be provided. Each of the provisions herein shall be binding upon the parties and may not be waived, modified, amended or altered, except by writing signed by the Successful Respondent and the County.

4.34 SURVIVABILITY

All applicable agreements that were entered into between the Successful Respondent and the County, under the terms and conditions of the Contract and/or any Ensuing Agreement(s), shall survive the expiration or termination thereof for ninety (90) days unless a new contract has been awarded.

The County may exercise, by written notice to the Successful Respondent no later than ten (10) calendar days of the Contract expiration, this clause for emergency cases only.

4.35 PAYMENT

The County's payment for goods and services shall be governed by the Texas Government Code, Chapter 2251. An invoice shall be deemed overdue the thirty-first (31st) day after the later of the following:

A. The date the County receives the goods under the Contract;
B. The date the performance of the service under the Contract is completed; or
C. The date the Williamson County Auditor receives an invoice for the goods or services.

Interest charges for any overdue payments shall be paid by the County in accordance with Texas Government Code, Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of the County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one (1) percent and the prime rate published in the Wall Street Journal on the first (1st) day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice submitted by the Successful Respondent, the County shall notify the Successful Respondent of the error not later than the twenty-first (21st) day after the date the County receives the invoice. If the error is resolved in favor of the Successful Respondent, the Successful Respondent shall be entitled to receive interest on the unpaid balance of the invoice submitted by the Successful Respondent beginning on the date that the payment for the invoice became overdue. If the error is resolved in favor of the County, the Successful Respondent shall submit a corrected invoice that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by the Texas Government Code, Chapter 2251, if the corrected invoice is not paid by the appropriate date.

As a minimum, invoices shall include:

A. Name, address, and telephone number of the Successful Respondent and similar information in the event the payment is to be made to a different address.

B. The County Contract, Purchase Order.

C. Identification of items or service as outlined in the Contract.

D. Quantity or quantities, applicable unit prices, total prices and total amount.

E. Any additional payment information which may be called for by the Contract.

Payment inquiries should be directed to the following address:

Williamson County Auditor's Office, Accounts Payable Department
Email: accountspayable@wilco.org
Phone: 512-943-1500

4.36 CONTRACTUAL FORMATION AND ENSUING AGREEMENT

The RFP and the Respondent's Proposal, when properly accepted by the Commissioners Court, shall constitute a Contract equally binding between the Successful Respondent and the County. The Successful Respondent may be required by Williamson County to sign an additional Agreement containing terms necessary to ensure compliance with the RFP and Respondent's Proposal.

4.37 LEGAL LIABILITY INFORMATION

The Successful Respondent shall disclose all legal liability information by listing any pending litigation anticipated litigation that your firm is involved in including, but not limited to, potential or actual legal matters with private parties and any local, state, federal or international governmental entities. The County reserves the right to consider legal liability information in the recommendation of any proposed contract to the Commissioners Court.

4.38 CONFIDENTIALITY

Respondent expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.

4.39 INCLEMENT WEATHER

In case of inclement weather or any other unforeseen event causing the County to close for business on the date of a Proposal submission deadline, the Proposal closing will automatically be postponed until the next business day the County is open. If inclement weather conditions or any other unforeseen event causes delays in carrier service operations, the County may issue an Addendum to all known Respondents interested in the project to extend the deadline. It will be the responsibility of the Respondent to notify the County of their interest in the project if these conditions are impacting their ability to turn in a submission within the stated deadline. The County reserves the right to make the final judgement call to extend any deadline.

4.40 AIR QUALITY

In determining the overall best Proposal, the County may, to the extent applicable, exercise the option granted to local governments under the Texas Local Government Code, Section 271.907.

This option allows the County to evaluate Proposals and give preference to goods and/or services of Respondent that demonstrates that the Respondent meets or exceeds any and all state or federal environmental standards, including voluntary standards, relating to air quality. If the Proposal being submitted will have an effect on air quality for the County (as it relates to any state, federal, or voluntary air quality standard), then the Respondent is encouraged to provide information in narrative indicating the anticipated air quality impact. All Respondents are expected to meet all mandated state and federal air quality standards.

4.41 COOPERATIVE PURCHASING PROGRAM

During the term of the Contract resulting from this RFP, the County would like to afford the same prices, terms and conditions to other political subdivisions or public entities. Another entity's participation in the Contract resulting from this RFP is subject to a properly authorized Purchasing Cooperative Inter-local Agreement (ILA) with the County. Any liability created by purchase orders issued against the Contract shall be the sole responsibility of the governmental agency placing the order.

4.42 CONFIDENTALITY

The Respondent expressly agrees that it will not use any direct or incidental confidential information that may be obtained while working in a governmental setting for its own benefit, and agrees that it will not access unauthorized areas or confidential information and it will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.



Specifications

1 Proposal Specifications

1.1 Background Information

The County has a self-funded medical benefit program that provides benefits to its employees and dependents. The County has two (2) self-funded medical plans, an ACO and a PPO, both currently administered by Aetna Third Party Administrator that differ by network. The medical plans include vision coverage. The County also has Preventative Diabetic Wellness and Co-Morbid Disease benefits provided in both medical plans and administered by Aetna Third Party Administrator. Details of this plan are included in Section K.

As of December 2016, the County has 1780. 1473 employees, 88 Retirees, and 5 COBRA participants are enrolled in the two medical plans. The County is currently using Aetna's PPO Network and Seton's ACO Network.

The County also offers a self-funded PPO dental Plan with two (2) plan options to choose from with 1283 employees and 76 retirees participating and 5 COBRA participants.

Premier Pension Solutions is currently administering the Section 125 Cafeteria Plan with approximately 400 participants. The maximum an employee can elect to contribute for the Health Care Reimbursement Account is $2,550 and $5,000 for the Dependent Care Account.

1.2 Scope of Work

The bulk of this RFP is for differing types of administration. Respondents may submit Proposals for all or selected services, however, if Respondent submits for one specific service offered, Respondent must ensure the capability of integrating with the Third Party Administrator selected.

The following services are requested with this RFP:

- Third Party Administrator Services for Medical, Dental & Vision Programs
    - Self-Insured option
    - Fully-Insured option

- PPO, POS, and ACO Network Options
- Biometric/Wellness Program Management
- Prescription Drug Card Services – retail card and mail order
- Precertification/Large case management
- Disease Management/ Diabetic Plan Management
- Section 125 Claims Administration

Administration for these Services should include Plan Sponsor Online Access, Employee Enrollment Platform, standard file feeds and upload capabilities.

As it pertains to the medical plan, the County is particularly interested in reviewing PPO, POS, and ACO network options which can slow the rate of healthcare inflation, while providing excellent access to providers where our members live. The County is interested in reviewing comprehensive, narrow, and concentric network options. Ideally the chosen network option will provide trend guarantees, and/ or target claim cost guarantees. The County is also interested in reviewing and considering both traditional and transparent PBM models.

Your inability to quote all of the above options <u>would not</u> preclude you from being selected as a finalist. Should you have standard products which do not, in their entirety, meet the RFP, please feel free to quote based upon your standard package, or custom solutions. However, you must specify any and all deviations in your quotation and the RFP on the "Statement of Compliance." It will be assumed that your Proposal is in compliance if deviations are not noted in the "Statement of Compliance."

Any prospective Respondent will be responsible for having qualified personnel and computerized systems capable of handling a case of this size and their plan of benefits. The Respondent must provide references and proof of the provider's ability to satisfactorily serve the County**. All Respondents must be completely HIPAA compliant - a statement of compliance is required with any Proposals submitted to the County.**

NOTE: Williamson County reserves the right to make changes to Plan Design based upon legislative changes.

1.3 Mandatory Requirements

1.3.1 For evidence of Financial Stability of Insurance Company, Respondent must provide the following:

1.3.1.1 Respondent must have been rated by A.M. Best for at least the past three years as an A- rated company, provide rating and date of rating.

1.3.1.2 Respondent must have been rated by Moody's Investors Service, Inc. for at least the past three years as an A- rated company, provide rating and date of rating.

1.3.1.3 Respondent must have been rated by Standard & Poor's Corp. for at least the past three years as an A- rated company, provide rating and date of rating.

1.3.2 Respondent must be licensed to do business in the State of Texas

1.4 Requirements

Please note that the requirements are listed in the excel worksheets attached to this RFP. The evaluation will be based upon the responses submitted to the questions and the data provided on the worksheets, by each Respondent.

Please respond only with the worksheet (s) for the services Respondent wishes to bid on.

Additional Stipulations

1 Additional Stipulations

1.1 Introduction

The Proposal evaluation and selection process is detailed in this section, as are other factors, and the format in which the Price Proposal of each Proposal should be submitted.

1.2 Price Proposal

The Respondent must utilize the price sheet form as provided in the Appendix A which will be attached to this RFP. The Price Proposal should be included in each copy of the Proposal if submitted in paper form.

Note: Any reworked version of the Appendix that is intended to be a substitute and that is provided by a Respondent may be determined as non-responsive, and may, at the County's sole discretion, result in the Respondent's disqualification.

1.3 Proposal Evaluation and Selection

1.3.1 Evaluation/Selection Criteria

All Proposals received by the designated date and time will be evaluated based on the Respondent's Proposal. Other information may be taken into consideration when that information potentially provides an additional benefit to the County, and further helps the County in receiving the services listed in the RFP.

Respondents' Proposals must meet all mandatory (minimum) requirements in order to be scored. Scoring may also be based on total information gathered by the County at its discretion, including but not limited to respondent's ability to perform "without delay or interference, character,

responsibility, integrity, and experience or demonstrated capability; quality of prior work; compliance with laws; and noncompliance with requirements as to submission of relevant information."

1.3.2 Evaluation Committee and Selection Process

All Proposals will be evaluated by a County appointed Evaluation Committee. The Evaluation Committee may be composed of County Staff that may have expertise, knowledge or experience with the services and/or goods being procured hereunder. Those Respondents meeting all requirements and deemed most qualified may receive further evaluation via telephone or in-person interviews with members of the Evaluation Committee. The County will select a Respondent determined best and most responsible Respondent meeting minimum specifications and qualifications.

Respondents are advised that the Evaluation Committee, at its option, may recommend an award strictly on the basis of the initial RFP responses, or in addition, may have interviews with firms to determine its final recommendation. The Evaluation Committee will present its recommendation to the Williamson County Commissioners' Court for approval and award of contract.

Finalist shall be determined by the Respondent receiving the most points in relation to the following Evaluation Criteria. Additional scoring may be conducted based upon Respondent's presentation during the interview process and may or may not include previous scores from Respondent's Proposal.

1.3.3 Mandatory Criteria

Mandatory Criteria must be passed in order to be considered for scoring as described in section 1.3.4

Minimum Requirements	Rating provided yes/no	Rating	Date of Rating
A.M. Best			
Moody's Investors Service, Inc			
Standard & Poor's Corp.			
	yes/no		
Licensed to do business in the State of Texas			

1.3.4 Graded Evaluation Factors

The following graded evaluation factors will be used to determine how well a Respondent(s) meet(s) the desired performance.

Evaluation Criteria	Total Points Available
Customer Service	**10**
Administrative Flexibility	**10**
Experience	**20**
Network	**20**
Price (RFP Cost/Lowest Respondent's proposal/ Respondent's Proposal x 40 (points)	**40**
Total	**100**

1.3.5 Interviews

Interview scoring (if applicable) will be provided along with invitation to interview candidates. Best and Final Offer may be required from all Respondents scheduled for interviews, twenty-four (24) hours prior to scheduled interview.

1.3.6 Additional Evaluation Information

The County reserves the right to award a contract for any or all areas of this RFP.

It is the responsibility of the Respondent to provide sufficient information/data in a convincing manner to the County to assure all of the terms, conditions and expectations **for** satisfactory performance of the services requested herein will be met.

All contact during the evaluation phase shall be through the Williamson County Purchasing Department only. The Respondent shall neither contact

nor lobby evaluators during the evaluation process. Attempts by the Respondent to contact and/or influence members of the Evaluation Committee may result in disqualification of Proposal.

1.4 Technical Contact

Shelley Loughrey, Benefits Administrator (or successor), Williamson County,301 SE Inner Loop, Ste 108, Georgetown, TX shall serve as the County's Technical Contact with designated responsibility to ensure compliance with the requirements of the Contract and any ensuing agreement, such as but not limited to, acceptance, inspection and delivery, together with the Purchasing Department. The Technical Contact, together with the Purchasing Department, will serve as liaison between Williamson County Commissioners Court and the Successful Respondent.

1.5 Initial Contract Term

The Successful Respondent shall provide the goods and/or services described herein for an initial term of thirty-six (36) months beginning on January 1, 2018 through December 31, 2020

1.6 Contract Extensions

At the end of the Initial Contract Term, the Commissioners Court reserves the right to extend the Initial Contract Term, by mutual agreement of both parties, as it deems to be in the best interest of the County. The extension may be negotiated if renewal indications are provided within the County's timeframe which reflect renewal terms for the forthcoming policy year that are deemed by the County to be competitive with current market conditions. However, the County may terminate the contract at any time if funds are restricted, withdrawn, not approved, or if service is unsatisfactory. Any extension will be in twelve (12) month increments for up to an additional twenty-four (24) months, with the terms and conditions remaining the same. The total period of the contract, including all extensions will not exceed a maximum combined period of sixty (60) months. The extension of the contract is contingent on the appropriation of necessary funds by the Commissioners Court for the fiscal year in question. Upon the failure of the Commissioners Court to so appropriate in any year, the Respondent may elect to terminate the contract, with no additional liability to the County. The County and the Respondent agree that termination shall be the Respondent's sole remedy under this circumstance.

1.7 Insurance Requirements

By signing its Proposal, the Respondent agrees to maintain at all times during any term of the Contract and any ensuing Agreement at Respondent's cost, insurance in accordance with this provision.

Respondent will be required to submit Certificates of Insurance **prior to contract award and any renewals.**

All certificates of insurance coverage as specified below must be provided to the following location:

Williamson County Purchasing Department
901 S Austin Ave
Georgetown, Texas 78626

Failure to comply with these Insurance Requirements may result in the termination of the Contract and any ensuing Agreement(s) between the Successful Respondent and County.

The following coverage limits shall be required at a minimum:

A. Worker's Compensation — Statutory – Texas Law

B. Employer's Liability:

Bodily Injury by Accident	$500,000 Ea. Accident
Bodily Injury by Disease	$500,000 Ea. Employee
Bodily Injury by Disease	$500,000 Policy Limit

C. Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE	PER PERSON	PER OCCURRENCE
Comprehensive General Liability	$1,000,000	$1,000,000
Aggregate policy limits:	$1,000,000	

Successful Respondent's property will not be covered by any insurance that may be carried by Williamson County. Successful Respondent assumes the risk of loss on its contents and property that are situated on/in/around the County property. The Successful Respondent is strongly encouraged to obtain insurance on its property to the extent deemed necessary by the Successful Respondent.

The deductible for an insurance policy required hereunder shall not exceed $100,000. **The County shall be named as an additional insured under any policy of insurance required hereunder.**

Successful Respondent shall not commence any work until it has obtained all required insurance and such insurance has been approved by County. Successful Respondent shall not allow any subcontractor(s) to commence work to be performed until all required insurance has been obtained by such subcontractor(s) and approved by County. Approval of the insurance by County shall not relieve or decrease the liability of Successful Respondent or its subcontractor(s) hereunder.

The required insurance must be written by a company approved to do business in the State of Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued. Successful Respondent shall furnish County with a certificate of coverage issued by the insurer. Successful Respondent shall not cause any insurance to be canceled nor permit any insurance to lapse. ALL INSURANCE CERTIFICATES SHALL INCLUDE A CLAUSE TO THE EFFECT THAT THE POLICY SHALL NOT BE CANCELED OR

REDUCED, RESTRICTED OR LIMITED UNTIL TEN (10) CALENDAR DAYS AFTER COUNTY HAS RECEIVED WRITTEN NOTICE AS EVIDENCED BY RETURN RECEIPT OF REGISTERED OR CERTIFIED LETTER.

It is the intention of the County, and agreed to and hereby acknowledged by the Successful Respondent, that no provision of this Contract or any ensuing Agreement shall be construed to require the County to submit to mandatory arbitration or mediation in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required hereunder which absolutely requires arbitration or mediation of such claim, or as otherwise required by law or a court of law with jurisdiction over the provisions of this Contract or any ensuing Agreement.

1.8 Legal Compliance

The Successful Respondent shall have the ability to provide services for this specific project without any legal impediment in the opinion of legal counsel for Williamson County. This includes adequate confirmation that there is no conflict of interest, including but not limited to, the appearance of improper influence over the administration of elections. *See* Tex. Const. Art. XVI, § 1 (stating in relevant part that "I have not directly or indirectly … offered … any money or thing of value … or promised any … employment for the giving or withholding of a vote …"). Williamson County reserves the right to consider legal compliance information in the recommendation of any proposed contract to the Williamson County Commissioners Court, including all local, state, and federal laws.

1.9 Tentative Schedule

Event	**Date**	**Time**
RFP released in BidSync	March 7, 2017	
Deadline for RFP questions	April 5, 2017	5:00PM
RFP final responses due	April 11, 2017	2:00PM
Onsite Interviews with Finalists at Finalist locations	April 26 and April 27, 2017	All day
Benefit Committee Meeting – Final Selection of Vendor	May 11, 2017	3:00PM
Contract awarded	June 6, 2017	
Contract effective date	January 1, 2018	

Proposal References

List the last three (3) companies or governmental agencies, where the same or similar goods and/or services as contained in this RFP package, were recently provided by Respondent.

Reference 1

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 2

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 3

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of person doing business with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.**

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 **Describe each affiliation or business relationship with an employee or contractor of the local governmental entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.**

4 **Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.**

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ
Page 2

5 **Name of local government officer with whom filer has affiliation or business relationship.**
(Complete this section only if the answer to A, B, or C is YES.)

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

☐ Yes ☐ No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?

☐ Yes ☐ No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐ Yes ☐ No

D. Describe each affiliation or business relationship.

6. Describe any other affiliation or business relationship that might cause conflict of interest:

7

Signature of person doing business with the governmental entity	Date

Signature not required if completing in BIDSYNC electronically.

PROPOSAL AFFIDAVIT

This form must be completed, signed, notarized and returned with Proposal package

The undersigned certifies that the RFP and the Respondent's Proposal have been carefully reviewed and are submitted as correct and final. Respondent further certifies and agrees to furnish any and/or all goods and/or services upon which prices are extended at the price Proposal, and upon the conditions contained in the RFP.

I hereby certify that the foregoing Proposal has not been prepared in collusion with any other Respondent or other person or persons engaged in the same line of business prior to the official opening of this Proposal. Further, I certify that the Respondent is not now, nor has been for the past six (6) months, directly or indirectly concerned in any pool or agreement or combination, to control the price of services/commodities Proposal on, or to influence any person or persons to submit a Proposal or not to submit a Proposal thereon."

Name of Respondent:	
Address of Respondent:	
Email:	
Telephone:	
Printed Name of Person Submitting Affidavit:	
Signature of Person Submitting Affidavit:	

Cooperative Purchasing Program

Check one of the following options below. A non-affirmative Proposal will in no way have a negative impact on the County's evaluation of the Proposal.

☐	I will offer the quoted prices to all authorized entities during the term of the County's Contract.
☐	I will not offer the quoted prices to all authorized entities.

If no box is checked, the Respondent agrees to make best efforts in good faith to offer the quoted prices to all authorized entities.

BEFORE ME, the undersigned authority, a Notary Public, personally appeared _____ (*Name of Signer*), who after being by me duly sworn, did depose and say: "I, _____, (*Name of Signer*) am a duly authorized officer of/agent for _____ (*Name of Respondent*) and have been duly authorized to execute the foregoing on behalf of the said _____ (*Name of Respondent*).

SUBSCRIBED AND SWORN to before me by the above-named _____

on this the _____ day of _____, 20_____.

_____

Notary Public in and for

The State of _____

The County of _____

SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYNC ELECTRONICALLY.

STATEMENT OF COMPLIANCE

Please submit as a part of your Proposal the following information:

RE: WILLIAMSON COUNTY

We hereby acknowledge receipt of Request for Proposal for Third Party Administrator for Self-Funded or Fully Insured Benefits to include Third Party Administrator Services for Medical, Dental & Vision Programs, PPO, POS, and ACO Network Options, Biometric/Wellness Program Management, Prescription Drug Card Services – retail card and mail order, Precertification/Large Case Management, Section 125 Claims Administration.

Proposal Number: 1702-144 (the "RPF") and certify that our Proposal conforms to the RFP except as detailed below:

If signature is by an agent, other than the Sole Proprietor(s) or an officer of a Corporation, Limited Liability Company, General Partner or a member of a General Partnership, a power of attorney or equivalent document must be submitted to the Williamson County Purchasing Department prior to contract award.

Organization	Signature
Date	Title

Flexible Spending Account Questionnaire

Vendor Name

The following questionnaire must be completed.

Flexible Spending Account (FSA) carriers are required to respond to all requests for information contained in this questionnaire. This questionnaire will be scored; therefore, it is necessary that you provide concise answers. Your responses to the questions should be based on your current proven capabilities. Should there be instances where certain questions are not applicable to your organization or its operations, please so indicate. If you are selected to administer the Client's employee benefit plans, your responses to the questionnaire will be considered part of your contractual responsibilities. You are also requested to return the indicated exhibits as part of your proposal.

Answers should be summarized in short format and not exceed the allotted space within the cell(s) provided. DO NOT add extra rows/columns--work within the allotted space. Additional information in carrier format may be submitted along with the Attachments spreadsheet if a carrier would like to include more detailed information.

	Vendor Name	Response
1	How many clients do you provide FSA services to?	
2	How long has your organization been providing FSA services?	
	Plan Design	**Response**
3	Do you offer an FSA debit card?	
4	Are these debit cards included in the FSA fees you have proposed?	
5	How many cards are provided per enrollee?	
6	For what claims/services can the debit card be used?	

Implementation and Termination		Response
7	What initial information is required from the employer for implementation? Explain in detail the steps you anticipate will be needed to ensure a smooth implementation.	
8	Please attach a checklist that details the implementation steps.	
9	Will you produce an FSA SPD on behalf of the client?	
10	If yes, is there a cost for this SPD?	
11	Is there a dedicated account manager assigned for the client/consultant?	
12	What is the standard turnaround time for adding new enrollees?	
13	How will terminations be handled?	
14	In the event of contract termination, discuss the transition process. Include penalties, number of days notice, etc.	Please see above response.
Banking and Billing		**Response**
15	Is a separate bank account required for the FSA?	
16	Is an imprest balance required for this account?	
17	If yes, what is the amount required?	
18	Do you offer self-bill?	
19	Do you offer electronic billing?	
Reporting		**Response**
20	Are FSA utilization reports available?	
21	At what frequency are they available?	
22	Provide a copy of the standard reports.	
23	Confirm that your reporting will be broken out between Medical FSA and Dependent Care FSA	
24	Do you provide discrimination testing on the FSA plan?	
Communications and Web Tools		**Response**
25	Provide a URL, userID and password for the RFP evaluation team to view your employee website.	
26	Do you have the ability to communicate the unused balances to FSA participants towards the end of the plan year?	
27	If so, is there a cost involved?	
Claims Payment		**Response**
28	What is your average claim payment time frame?	
29	What receipts are required to make payment for a claim?	
30	Are receipts required to substantiate debit card transactions?	
31	If receipts are required but not obtained, is the debit card suspended?	
32	Are receipts required to make payment for non-debit card transactions?	
33	Do you provide auto-rollover claim payments from the medical system?	
34	Do you offer direct deposit for FSA payments?	
35	If yes, is there a minimum claim payment amount for direct deposit?	

Vendor Name -

Please note that you must complete rate information in the following requested format in order for your quote to be considered.

Proposed FSA Fees

	Proposed FSA Fees
FSA Administration Fee (PEPM)	
Debit Card Fee (PEPM)	
Implementation/Set Up Fee	
Annual Renewal Fee	
Additional Fees (please outline/explain **Minimum Monthly Fee**	
Employee Communication Matieral (Please List)	
1 Educational Brochures / On-Line Video Library	
2 Enrollment Communications	
Monthly Premiums	
Annual Premiums	

Assumptions

Participation Requirements	
Rate Guarantee	
Net Commissions	
Other	

Control - SFX - ACCT Total	Product	Month	*(1) Estimated Employees	*(2) Customer Funded Claims	*(3) Individual Stop Loss Claims	*(4) Aggregate Stop Loss Claims	Total Claims
866349 - 010 - 001	(5) Managed Behavioral Health	11/01/2015	0	$150.00	$0.00	$0.00	$150.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$150.00	$0.00	$0.00	$150.00
	Indemnity Vision	11/01/2015	0	$2,556.25	$0.00	$0.00	$2,556.25
		12/01/2015	0	$105.80	$0.00	$0.00	$105.80
		01/01/2016	0	$33.00	$0.00	$0.00	$33.00
		02/01/2016	0	$184.60	$0.00	$0.00	$184.60
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$2,879.65	$0.00	$0.00	$2,879.65
	Open Acc EPO	11/01/2015	0	$50,288.38	$0.00	$0.00	$50,288.38
		12/01/2015	0	$21,464.05	$0.00	$0.00	$21,464.05
		01/01/2016	0	$10,335.10	$0.00	$0.00	$10,335.10
		02/01/2016	0	$732.67	$0.00	$0.00	$732.67
		03/01/2016	0	-$15,252.15	$0.00	$0.00	-$15,252.15
		04/01/2016	0	$2,811.06	$0.00	$0.00	$2,811.06
		05/01/2016	0	$3,163.65	$0.00	$0.00	$3,163.65
		06/01/2016	0	$264,612.36	$0.00	$0.00	$264,612.36
		07/01/2016	0	-$268,631.65	$0.00	$0.00	-$268,631.65

		08/01/2016	0	$2,228.93	$0.00	$0.00	$2,228.93
		09/01/2016	0	-$1,542.56	$0.00	$0.00	-$1,542.56
		10/01/2016	0	-$4,698.86	$0.00	$0.00	-$4,698.86
		11/01/2016	0	$0.00	-$335.40	$0.00	-$335.40
		12/01/2016	0	-$18.43	$0.00	$0.00	-$18.43
	Open Acc EPO Total		0	$65,492.55	-$335.40	$0.00	$65,157.15
	Pharmacy	11/01/2015	0	$13,895.64	$0.00	$0.00	$13,895.64
		12/01/2015	0	$109.94	$0.00	$0.00	$109.94
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$538.13	$0.00	$0.00	$538.13
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$14,543.71	$0.00	$0.00	$14,543.71
Control - SFX - ACCT Total			0	$83,065.91	-$335.40	$0.00	$82,730.51
866349 - 010 - 002	Indemnity Vision	11/01/2015	0	$516.00	$0.00	$0.00	$516.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$516.00	$0.00	$0.00	$516.00
	Open Acc EPO	11/01/2015	0	$17,506.10	$0.00	$0.00	$17,506.10
		12/01/2015	0	$940.67	$0.00	$0.00	$940.67
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$481.30	$0.00	$0.00	$481.30
		03/01/2016	0	$19.22	$0.00	$0.00	$19.22
		04/01/2016	0	$180.21	$0.00	$0.00	$180.21
		05/01/2016	0	-$1,874.87	$0.00	$0.00	-$1,874.87

		06/01/2016	0	-$2,408.30	$0.00	$0.00	-$2,408.30
		07/01/2016	0	-$949.80	$0.00	$0.00	-$949.80
		08/01/2016	0	$140.61	$0.00	$0.00	$140.61
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	-$42.15	$0.00	$0.00	-$42.15
	Open Acc EPO Total		0	$13,992.99	$0.00	$0.00	$13,992.99
	Pharmacy	11/01/2015	0	$4,686.51	$0.00	$0.00	$4,686.51
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$88.92	$0.00	$0.00	$88.92
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$4,775.43	$0.00	$0.00	$4,775.43
Control - SFX - ACCT Total			0	$19,284.42	$0.00	$0.00	$19,284.42
866349 - 010 - 997	Pharmacy	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	-$14,989.06	$0.00	$0.00	-$14,989.06
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	-$14,989.06	$0.00	$0.00	-$14,989.06
Control - SFX - ACCT Total			0	-$14,989.06	$0.00	$0.00	-$14,989.06
866349 - 011 - 101	(5) Managed Behavioral Health	11/01/2015	0	$5,876.32	$0.00	$0.00	$5,876.32
		12/01/2015	0	$1,098.47	$0.00	$0.00	$1,098.47
		01/01/2016	0	$4,385.11	$0.00	$0.00	$4,385.11

		02/01/2016	0	$11,683.07	$0.00	$0.00	$11,683.07
		03/01/2016	0	$3,387.98	$0.00	$0.00	$3,387.98
		04/01/2016	0	$8,602.66	$0.00	$0.00	$8,602.66
		05/01/2016	0	$3,763.47	$0.00	$0.00	$3,763.47
		06/01/2016	0	$17,583.01	$0.00	$0.00	$17,583.01
		07/01/2016	0	$4,237.94	$0.00	$0.00	$4,237.94
		08/01/2016	0	$8,728.88	$0.00	$0.00	$8,728.88
		09/01/2016	0	$3,572.35	$0.00	$0.00	$3,572.35
		10/01/2016	0	$8,031.37	$0.00	$0.00	$8,031.37
		11/01/2016	0	$6,569.08	$0.00	$0.00	$6,569.08
		12/01/2016	0	$1,215.48	$270.00	$0.00	$1,485.48
	(5) Managed Behavioral Health Total		0	$88,735.19	$270.00	$0.00	$89,005.19
	Indemnity Vision	11/01/2015	0	$29,108.59	$0.00	$0.00	$29,108.59
		12/01/2015	0	$18,535.81	$0.00	$0.00	$18,535.81
		01/01/2016	0	$10,741.25	$0.00	$0.00	$10,741.25
		02/01/2016	0	$26,463.84	$0.00	$0.00	$26,463.84
		03/01/2016	0	$20,781.51	$0.00	$0.00	$20,781.51
		04/01/2016	0	$10,872.39	$0.00	$0.00	$10,872.39
		05/01/2016	0	$14,052.26	$0.00	$0.00	$14,052.26
		06/01/2016	0	$12,164.14	$0.00	$0.00	$12,164.14
		07/01/2016	0	$17,858.59	$0.00	$0.00	$17,858.59
		08/01/2016	0	$24,892.16	$0.00	$0.00	$24,892.16
		09/01/2016	0	$18,036.59	$0.00	$0.00	$18,036.59
		10/01/2016	0	$25,113.91	$0.00	$0.00	$25,113.91
		11/01/2016	0	$22,258.26	$0.00	$0.00	$22,258.26
		12/01/2016	0	$25,588.97	$0.00	$0.00	$25,588.97
	Indemnity Vision Total		0	$276,468.27	$0.00	$0.00	$276,468.27
	Open Acc EPO	11/01/2015	1,007	$273,470.76	$0.00	$0.00	$273,470.76
		12/01/2015	1,007	$297,955.15	$0.00	$0.00	$297,955.15
		01/01/2016	1,017	$254,109.77	$0.00	$0.00	$254,109.77
		02/01/2016	1,020	$420,909.36	$0.00	$0.00	$420,909.36
		03/01/2016	1,018	$594,053.83	$0.00	$0.00	$594,053.83
		04/01/2016	1,028	$621,693.99	$5,239.48	$0.00	$626,933.47
		05/01/2016	1,028	$663,494.61	$8,639.19	$0.00	$672,133.80
		06/01/2016	1,040	$466,159.66	-$486.33	$0.00	$465,673.33
		07/01/2016	1,044	$417,519.78	$0.00	$0.00	$417,519.78
		08/01/2016	1,095	$955,653.75	$0.00	$0.00	$955,653.75
		09/01/2016	1,112	$515,897.67	$1,777.36	$0.00	$517,675.03
		10/01/2016	1,116	$743,994.77	$49,673.39	$0.00	$793,668.16
		11/01/2016	1,123	$1,008,368.10	$51,745.66	$0.00	$1,060,113.76
		12/01/2016	1,123	$536,279.61	$148,772.92	$0.00	$685,052.53
	Open Acc EPO Total		14,778	$7,769,560.81	$265,361.67	$0.00	$8,034,922.48
	Pharmacy	11/01/2015	1,007	$177,981.75	$0.00	$0.00	$177,981.75
		12/01/2015	1,007	$157,559.43	$0.00	$0.00	$157,559.43
		01/01/2016	1,017	$202,560.08	$0.00	$0.00	$202,560.08

		02/01/2016	1,020	$202,110.57	$0.00	$0.00	$202,110.57
		03/01/2016	1,018	$245,069.67	$0.00	$0.00	$245,069.67
		04/01/2016	1,028	$224,169.26	$245.32	$0.00	$224,414.58
		05/01/2016	1,028	$162,683.09	$77.50	$0.00	$162,760.59
		06/01/2016	1,040	$242,355.94	$162.86	$0.00	$242,518.80
		07/01/2016	1,044	$197,082.97	$0.00	$0.00	$197,082.97
		08/01/2016	1,095	$209,849.31	-$154.03	$0.00	$209,695.28
		09/01/2016	1,112	$231,795.02	$0.00	$0.00	$231,795.02
		10/01/2016	1,116	$202,264.70	$747.78	$0.00	$203,012.48
		11/01/2016	1,123	$207,666.06	$1,168.05	$0.00	$208,834.11
		12/01/2016	1,123	$275,582.70	$804.99	$0.00	$276,387.69
	Pharmacy Total		14,778	$2,938,730.55	$3,052.47	$0.00	$2,941,783.02
Control - SFX - ACCT Total			29,556	$11,073,494.82	$268,684.14	$0.00	$11,342,178.96
866349 - 011 - 102	(5) Managed Behavioral Health	11/01/2015	0	$265.01	$0.00	$0.00	$265.01
		12/01/2015	0	$9,897.70	$0.00	$0.00	$9,897.70
		01/01/2016	0	$8,483.50	$0.00	$0.00	$8,483.50
		02/01/2016	0	$84.87	$0.00	$0.00	$84.87
		03/01/2016	0	$877.12	$0.00	$0.00	$877.12
		04/01/2016	0	$1,253.34	$0.00	$0.00	$1,253.34
		05/01/2016	0	$30,887.25	$0.00	$0.00	$30,887.25
		06/01/2016	0	$3,308.74	$0.00	$0.00	$3,308.74
		07/01/2016	0	$957.24	$0.00	$0.00	$957.24
		08/01/2016	0	-$4,218.39	$0.00	$0.00	-$4,218.39
		09/01/2016	0	$7,909.74	$0.00	$0.00	$7,909.74
		10/01/2016	0	$172.00	$0.00	$0.00	$172.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$16,150.00	$0.00	$0.00	$16,150.00
	(5) Managed Behavioral Health Total		0	$76,028.12	$0.00	$0.00	$76,028.12
	Indemnity Vision	11/01/2015	0	$1,924.60	$0.00	$0.00	$1,924.60
		12/01/2015	0	$1,036.00	$0.00	$0.00	$1,036.00
		01/01/2016	0	$810.00	$0.00	$0.00	$810.00
		02/01/2016	0	$1,436.00	$0.00	$0.00	$1,436.00
		03/01/2016	0	$49.60	$0.00	$0.00	$49.60
		04/01/2016	0	$300.00	$0.00	$0.00	$300.00
		05/01/2016	0	$750.00	$0.00	$0.00	$750.00
		06/01/2016	0	$590.30	$0.00	$0.00	$590.30
		07/01/2016	0	$295.00	$0.00	$0.00	$295.00
		08/01/2016	0	$551.75	$0.00	$0.00	$551.75
		09/01/2016	0	$1,159.96	$0.00	$0.00	$1,159.96
		10/01/2016	0	$426.75	$0.00	$0.00	$426.75
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$9,329.96	$0.00	$0.00	$9,329.96

	Open Acc EPO	11/01/2015	53	$55,969.57	$0.00	$0.00	$55,969.57
		12/01/2015	51	$39,706.71	$0.00	$0.00	$39,706.71
		01/01/2016	51	$40,656.61	$0.00	$0.00	$40,656.61
		02/01/2016	51	$44,357.37	$0.00	$0.00	$44,357.37
		03/01/2016	49	$33,630.96	$0.00	$0.00	$33,630.96
		04/01/2016	49	$85,681.25	$0.00	$0.00	$85,681.25
		05/01/2016	50	$36,725.72	$0.00	$0.00	$36,725.72
		06/01/2016	50	$31,856.88	$0.00	$0.00	$31,856.88
		07/01/2016	49	$68,849.87	$0.00	$0.00	$68,849.87
		08/01/2016	2	$88,991.80	$0.00	$0.00	$88,991.80
		09/01/2016	1	$64,144.58	$0.00	$0.00	$64,144.58
		10/01/2016	1	$37,064.06	$0.00	$0.00	$37,064.06
		11/01/2016	1	$742.44	$0.00	$0.00	$742.44
		12/01/2016	1	$283.59	$0.00	$0.00	$283.59
	Open Acc EPO Total		459	$628,661.41	$0.00	$0.00	$628,661.41
	Pharmacy	11/01/2015	53	$16,950.60	$0.00	$0.00	$16,950.60
		12/01/2015	51	$17,297.60	$0.00	$0.00	$17,297.60
		01/01/2016	51	$22,287.24	$0.00	$0.00	$22,287.24
		02/01/2016	51	$18,070.85	$0.00	$0.00	$18,070.85
		03/01/2016	49	$33,328.29	$0.00	$0.00	$33,328.29
		04/01/2016	49	$31,386.33	$0.00	$0.00	$31,386.33
		05/01/2016	50	$19,625.87	$0.00	$0.00	$19,625.87
		06/01/2016	50	$29,397.19	$0.00	$0.00	$29,397.19
		07/01/2016	49	$46,504.77	$0.00	$0.00	$46,504.77
		08/01/2016	2	$15,892.50	$0.00	$0.00	$15,892.50
		09/01/2016	1	$37,936.65	$0.00	$0.00	$37,936.65
		10/01/2016	1	$18,249.52	$0.00	$0.00	$18,249.52
		11/01/2016	1	-$12,894.57	$0.00	$0.00	-$12,894.57
		12/01/2016	1	$857.45	$0.00	$0.00	$857.45
	Pharmacy Total		459	$294,890.29	$0.00	$0.00	$294,890.29
Control - SFX - ACCT Total			918	$1,008,909.78	$0.00	$0.00	$1,008,909.78
866349 - 011 - 103	Indemnity Vision	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$300.00	$0.00	$0.00	$300.00

	Indemnity Vision Total		0	$300.00	$0.00	$0.00	$300.00
	Open Acc EPO	11/01/2015	0	$240.00	$0.00	$0.00	$240.00
		12/01/2015	1	$0.50	$0.00	$0.00	$0.50
		01/01/2016	1	$38.87	$0.00	$0.00	$38.87
		02/01/2016	2	$1.00	$0.00	$0.00	$1.00
		03/01/2016	2	$1.00	$0.00	$0.00	$1.00
		04/01/2016	2	$289.66	$0.00	$0.00	$289.66
		05/01/2016	2	$265.22	$0.00	$0.00	$265.22
		06/01/2016	2	$1.20	$0.00	$0.00	$1.20
		07/01/2016	3	$17.70	$0.00	$0.00	$17.70
		08/01/2016	4	$534.79	$0.00	$0.00	$534.79
		09/01/2016	5	$5,966.97	$0.00	$0.00	$5,966.97
		10/01/2016	5	$5,361.02	$0.00	$0.00	$5,361.02
		11/01/2016	5	$3,855.56	$0.00	$0.00	$3,855.56
		12/01/2016	5	$4,494.40	$0.00	$0.00	$4,494.40
	Open Acc EPO Total		39	$21,067.89	$0.00	$0.00	$21,067.89
	Pharmacy	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	1	$0.00	$0.00	$0.00	$0.00
		01/01/2016	1	$0.00	$0.00	$0.00	$0.00
		02/01/2016	2	$0.00	$0.00	$0.00	$0.00
		03/01/2016	2	$109.54	$0.00	$0.00	$109.54
		04/01/2016	2	$160.56	$0.00	$0.00	$160.56
		05/01/2016	2	$412.61	$0.00	$0.00	$412.61
		06/01/2016	2	$0.00	$0.00	$0.00	$0.00
		07/01/2016	3	$0.00	$0.00	$0.00	$0.00
		08/01/2016	4	$409.08	$0.00	$0.00	$409.08
		09/01/2016	5	$1,380.50	$0.00	$0.00	$1,380.50
		10/01/2016	5	$1,902.10	$0.00	$0.00	$1,902.10
		11/01/2016	5	$2,360.64	$0.00	$0.00	$2,360.64
		12/01/2016	5	$1,611.09	$0.00	$0.00	$1,611.09
	Pharmacy Total		39	$8,346.12	$0.00	$0.00	$8,346.12
Control - SFX - ACCT Total			78	$29,714.01	$0.00	$0.00	$29,714.01
866349 - 012 - 201	(5) Managed Behavioral Health	11/01/2015	0	$1,035.30	$0.00	$0.00	$1,035.30
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.80	$0.00	$0.00	$0.80
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00

		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$1,036.10	$0.00	$0.00	$1,036.10
	Indemnity Vision	11/01/2015	0	$693.03	$0.00	$0.00	$693.03
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$9.00	$0.00	$0.00	$9.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$128.00	$0.00	$0.00	$128.00
	Indemnity Vision Total		0	$830.03	$0.00	$0.00	$830.03
	Open Acc POS	11/01/2015	0	$46,849.97	$0.00	$0.00	$46,849.97
		12/01/2015	0	$47,018.76	$0.00	$0.00	$47,018.76
		01/01/2016	0	$2,196.71	$0.00	$0.00	$2,196.71
		02/01/2016	0	-$54,975.60	$0.00	$0.00	-$54,975.60
		03/01/2016	0	-$2,965.52	$0.00	$0.00	-$2,965.52
		04/01/2016	0	$1,049.33	$0.00	$0.00	$1,049.33
		05/01/2016	0	-$488.22	$0.00	$0.00	-$488.22
		06/01/2016	0	$164.80	$0.00	$0.00	$164.80
		07/01/2016	0	$187.48	$0.00	$0.00	$187.48
		08/01/2016	0	$164.27	$0.00	$0.00	$164.27
		09/01/2016	0	$69.02	$0.00	$0.00	$69.02
		10/01/2016	0	$278.79	$0.00	$0.00	$278.79
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$25.68	$0.00	$0.00	$25.68
	Open Acc POS Total		0	$39,575.47	$0.00	$0.00	$39,575.47
	Pharmacy	11/01/2015	0	$21,977.40	$0.00	$0.00	$21,977.40
		12/01/2015	0	-$18.90	$0.00	$0.00	-$18.90
		01/01/2016	0	$890.90	$0.00	$0.00	$890.90
		02/01/2016	0	$1,020.11	$0.00	$0.00	$1,020.11
		03/01/2016	0	$449.42	$0.00	$0.00	$449.42
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$1,206.82	$0.00	$0.00	$1,206.82

		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$25,525.75	$0.00	$0.00	$25,525.75
Control - SFX - ACCT Total			0	$66,967.35	$0.00	$0.00	$66,967.35
866349 - 012 - 202	Indemnity Vision	11/01/2015	0	$215.00	$0.00	$0.00	$215.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$215.00	$0.00	$0.00	$215.00
	Open Acc POS	11/01/2015	0	$3,546.37	$0.00	$0.00	$3,546.37
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	-$296.68	$0.00	$0.00	-$296.68
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$39.71	$0.00	$0.00	$39.71
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$338.01	$0.00	$0.00	$338.01
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	$3,627.41	$0.00	$0.00	$3,627.41
	Pharmacy	11/01/2015	0	$505.58	$0.00	$0.00	$505.58
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00

		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$505.58	$0.00	$0.00	$505.58
Control - SFX - ACCT Total			0	$4,347.99	$0.00	$0.00	$4,347.99
866349 - 012 - 203	Open Acc POS	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	-$11.56	$0.00	$0.00	-$11.56
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	-$11.56	$0.00	$0.00	-$11.56
	Pharmacy	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$5.60	$0.00	$0.00	$5.60
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$5.60	$0.00	$0.00	$5.60
Control - SFX - ACCT Total			0	-$5.96	$0.00	$0.00	-$5.96
866349 - 013 - 301	(5) Managed Behavioral Health	11/01/2015	0	$1,164.72	$0.00	$0.00	$1,164.72
		12/01/2015	0	$3,595.75	$0.00	$0.00	$3,595.75
		01/01/2016	0	$1,021.79	$0.00	$0.00	$1,021.79
		02/01/2016	0	$1,380.76	$0.00	$0.00	$1,380.76
		03/01/2016	0	$914.99	$0.00	$0.00	$914.99
		04/01/2016	0	$4,127.78	$0.00	$0.00	$4,127.78

		05/01/2016	0	$13,781.55	$0.00	$0.00	$13,781.55
		06/01/2016	0	$8,840.63	$0.00	$0.00	$8,840.63
		07/01/2016	0	$21,287.86	$0.00	$0.00	$21,287.86
		08/01/2016	0	$5,644.65	$0.00	$0.00	$5,644.65
		09/01/2016	0	$18,982.25	$0.00	$0.00	$18,982.25
		10/01/2016	0	$1,073.09	$0.00	$0.00	$1,073.09
		11/01/2016	0	$722.35	$0.00	$0.00	$722.35
		12/01/2016	0	$613.72	$0.00	$0.00	$613.72
	(5) Managed Behavioral Health Total		0	$83,151.89	$0.00	$0.00	$83,151.89
	Indemnity Vision	11/01/2015	0	$5,488.03	$0.00	$0.00	$5,488.03
		12/01/2015	0	$5,138.31	$0.00	$0.00	$5,138.31
		01/01/2016	0	$2,027.25	$0.00	$0.00	$2,027.25
		02/01/2016	0	$11,778.68	$0.00	$0.00	$11,778.68
		03/01/2016	0	$6,380.38	$0.00	$0.00	$6,380.38
		04/01/2016	0	$3,472.00	$0.00	$0.00	$3,472.00
		05/01/2016	0	$2,841.05	$0.00	$0.00	$2,841.05
		06/01/2016	0	$4,912.78	$0.00	$0.00	$4,912.78
		07/01/2016	0	$3,044.88	$0.00	$0.00	$3,044.88
		08/01/2016	0	$9,795.19	$0.00	$0.00	$9,795.19
		09/01/2016	0	$2,624.25	$0.00	$0.00	$2,624.25
		10/01/2016	0	$10,795.39	$0.00	$0.00	$10,795.39
		11/01/2016	0	$8,225.04	$0.00	$0.00	$8,225.04
		12/01/2016	0	$6,319.65	$0.00	$0.00	$6,319.65
	Indemnity Vision Total		0	$82,842.88	$0.00	$0.00	$82,842.88
	Open Acc POS	11/01/2015	283	$158,853.73	$0.00	$0.00	$158,853.73
		12/01/2015	284	$255,147.16	$0.00	$0.00	$255,147.16
		01/01/2016	285	$227,692.58	$0.00	$0.00	$227,692.58
		02/01/2016	286	$788,811.83	$5,759.89	$0.00	$794,571.72
		03/01/2016	285	$447,477.61	$6,563.40	$0.00	$454,041.01
		04/01/2016	287	$286,180.72	$1,226.55	$0.00	$287,407.27
		05/01/2016	284	$280,221.19	$38.04	$0.00	$280,259.23
		06/01/2016	281	$189,368.67	$63.05	$0.00	$189,431.72
		07/01/2016	283	$208,217.19	$63.05	$0.00	$208,280.24
		08/01/2016	318	$290,828.50	$194.49	$0.00	$291,022.99
		09/01/2016	318	$310,807.85	$94,560.29	$0.00	$405,368.14
		10/01/2016	324	$232,620.20	$10,179.91	$0.00	$242,800.11
		11/01/2016	328	$246,413.32	$1,897.50	$0.00	$248,310.82
		12/01/2016	328	$309,230.83	$411.98	$0.00	$309,642.81
	Open Acc POS Total		4,174	$4,231,871.38	$120,958.15	$0.00	$4,352,829.53
	Pharmacy	11/01/2015	283	$72,215.65	$0.00	$0.00	$72,215.65
		12/01/2015	284	$85,287.25	$0.00	$0.00	$85,287.25
		01/01/2016	285	$120,037.63	$0.00	$0.00	$120,037.63
		02/01/2016	286	$84,731.62	$214.86	$0.00	$84,946.48
		03/01/2016	285	$126,681.54	$711.57	$0.00	$127,393.11
		04/01/2016	287	$128,005.60	$576.39	$0.00	$128,581.99

		05/01/2016	284	$75,526.93	$227.62	$0.00	$75,754.55
		06/01/2016	281	$128,090.91	$576.39	$0.00	$128,667.30
		07/01/2016	283	$87,073.13	$576.39	$0.00	$87,649.52
		08/01/2016	318	$87,024.05	$225.88	$0.00	$87,249.93
		09/01/2016	318	$75,100.56	$231.08	$0.00	$75,331.64
		10/01/2016	324	$108,317.16	$373.68	$0.00	$108,690.84
		11/01/2016	328	$98,443.26	$1,378.33	$0.00	$99,821.59
		12/01/2016	328	$119,440.18	$1,593.17	$0.00	$121,033.35
	Pharmacy Total		4,174	$1,395,975.47	$6,685.36	$0.00	$1,402,660.83
Control - SFX - ACCT Total			8,348	$5,793,841.62	$127,643.51	$0.00	$5,921,485.13
866349 - 013 - 302	(5) Managed Behavioral Health	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$54.17	$0.00	$0.00	$54.17
		03/01/2016	0	$227.42	$0.00	$0.00	$227.42
		04/01/2016	0	$161.66	$0.00	$0.00	$161.66
		05/01/2016	0	$24.00	$0.00	$0.00	$24.00
		06/01/2016	0	$24.00	$0.00	$0.00	$24.00
		07/01/2016	0	$69.00	$0.00	$0.00	$69.00
		08/01/2016	0	$69.00	$0.00	$0.00	$69.00
		09/01/2016	0	$132.62	$0.00	$0.00	$132.62
		10/01/2016	0	$138.00	$0.00	$0.00	$138.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$899.87	$0.00	$0.00	$899.87
	Indemnity Vision	11/01/2015	0	$1,188.00	$0.00	$0.00	$1,188.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$300.00	$0.00	$0.00	$300.00
		02/01/2016	0	$600.00	$0.00	$0.00	$600.00
		03/01/2016	0	$1,036.00	$0.00	$0.00	$1,036.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$300.00	$0.00	$0.00	$300.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$234.70	$0.00	$0.00	$234.70
		08/01/2016	0	$300.00	$0.00	$0.00	$300.00
		09/01/2016	0	$300.00	$0.00	$0.00	$300.00
		10/01/2016	0	$600.00	$0.00	$0.00	$600.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$4,858.70	$0.00	$0.00	$4,858.70
	Open Acc POS	11/01/2015	36	$19,071.18	$0.00	$0.00	$19,071.18
		12/01/2015	35	$52,365.91	$0.00	$0.00	$52,365.91
		01/01/2016	35	$5,140.67	$0.00	$0.00	$5,140.67

		02/01/2016	35	$5,412.46	$0.00	$0.00	$5,412.46
		03/01/2016	35	$12,344.78	$0.00	$0.00	$12,344.78
		04/01/2016	35	$11,964.67	$0.00	$0.00	$11,964.67
		05/01/2016	37	$7,884.82	$0.00	$0.00	$7,884.82
		06/01/2016	38	$13,562.56	$0.00	$0.00	$13,562.56
		07/01/2016	39	$30,508.16	$0.00	$0.00	$30,508.16
		08/01/2016	2	$7,062.69	$0.00	$0.00	$7,062.69
		09/01/2016	1	$8,155.21	$0.00	$0.00	$8,155.21
		10/01/2016	0	$4,786.52	$0.00	$0.00	$4,786.52
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	-$97.84	$0.00	$0.00	-$97.84
	Open Acc POS Total		328	$178,161.79	$0.00	$0.00	$178,161.79
	Pharmacy	11/01/2015	36	$18,828.11	$0.00	$0.00	$18,828.11
		12/01/2015	35	$13,003.30	$0.00	$0.00	$13,003.30
		01/01/2016	35	$28,397.35	$0.00	$0.00	$28,397.35
		02/01/2016	35	$19,777.22	$0.00	$0.00	$19,777.22
		03/01/2016	35	$19,277.74	$0.00	$0.00	$19,277.74
		04/01/2016	35	$21,313.16	$0.00	$0.00	$21,313.16
		05/01/2016	37	$23,670.27	$0.00	$0.00	$23,670.27
		06/01/2016	38	$23,067.96	$0.00	$0.00	$23,067.96
		07/01/2016	39	$17,874.64	$0.00	$0.00	$17,874.64
		08/01/2016	2	$23,380.31	$0.00	$0.00	$23,380.31
		09/01/2016	1	$19,501.65	$0.00	$0.00	$19,501.65
		10/01/2016	0	$12,205.25	$0.00	$0.00	$12,205.25
		11/01/2016	0	-$160.99	$0.00	$0.00	-$160.99
		12/01/2016	0	$269.15	$0.00	$0.00	$269.15
	Pharmacy Total		328	$240,405.12	$0.00	$0.00	$240,405.12
Control - SFX - ACCT Total			656	$424,325.48	$0.00	$0.00	$424,325.48
866349 - 013 - 303	Open Acc POS	11/01/2015	1	$156.45	$0.00	$0.00	$156.45
		12/01/2015	1	$114.15	$0.00	$0.00	$114.15
		01/01/2016	0	$2,041.89	$0.00	$0.00	$2,041.89
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	1	$154.67	$0.00	$0.00	$154.67
		09/01/2016	1	$58,210.58	$0.00	$0.00	$58,210.58
		10/01/2016	1	$2,435.69	$0.00	$0.00	$2,435.69
		11/01/2016	1	$7,062.95	$0.00	$0.00	$7,062.95
		12/01/2016	1	$27,188.00	$0.00	$0.00	$27,188.00
	Open Acc POS Total		7	$97,364.38	$0.00	$0.00	$97,364.38
	Pharmacy	11/01/2015	1	$221.58	$0.00	$0.00	$221.58

		12/01/2015	1	$896.61	$0.00	$0.00	$896.61
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$60.00	$0.00	$0.00	$60.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	1	$0.00	$0.00	$0.00	$0.00
		09/01/2016	1	$666.18	$0.00	$0.00	$666.18
		10/01/2016	1	$623.17	$0.00	$0.00	$623.17
		11/01/2016	1	$21.17	$0.00	$0.00	$21.17
		12/01/2016	1	$611.38	$0.00	$0.00	$611.38
	Pharmacy Total		7	$3,100.09	$0.00	$0.00	$3,100.09
Control - SFX - ACCT Total			14	$100,464.47	$0.00	$0.00	$100,464.47
866349 - 020 - 401	PPO Dental	11/01/2015	900	$68,088.96	$0.00	$0.00	$68,088.96
		12/01/2015	900	$71,191.68	$0.00	$0.00	$71,191.68
		01/01/2016	905	$69,409.33	$0.00	$0.00	$69,409.33
		02/01/2016	908	$65,772.02	$0.00	$0.00	$65,772.02
		03/01/2016	907	$55,268.75	$0.00	$0.00	$55,268.75
		04/01/2016	910	$6,626.10	$0.00	$0.00	$6,626.10
		05/01/2016	907	$168,090.36	$0.00	$0.00	$168,090.36
		06/01/2016	913	$53,514.79	$0.00	$0.00	$53,514.79
		07/01/2016	914	$59,838.61	$0.00	$0.00	$59,838.61
		08/01/2016	973	$75,453.11	$0.00	$0.00	$75,453.11
		09/01/2016	978	$50,551.28	$0.00	$0.00	$50,551.28
		10/01/2016	983	$59,971.58	$0.00	$0.00	$59,971.58
		11/01/2016	988	$63,431.12	$0.00	$0.00	$63,431.12
		12/01/2016	988	$54,110.64	$0.00	$0.00	$54,110.64
	PPO Dental Total		13,074	$921,318.33	$0.00	$0.00	$921,318.33
Control - SFX - ACCT Total			13,074	$921,318.33	$0.00	$0.00	$921,318.33
866349 - 020 - 402	PPO Dental	11/01/2015	67	$5,661.57	$0.00	$0.00	$5,661.57
		12/01/2015	65	$4,826.30	$0.00	$0.00	$4,826.30
		01/01/2016	65	$2,226.74	$0.00	$0.00	$2,226.74
		02/01/2016	64	$2,588.92	$0.00	$0.00	$2,588.92
		03/01/2016	61	$2,976.81	$0.00	$0.00	$2,976.81
		04/01/2016	61	$793.80	$0.00	$0.00	$793.80
		05/01/2016	64	$8,886.77	$0.00	$0.00	$8,886.77
		06/01/2016	66	$3,616.46	$0.00	$0.00	$3,616.46
		07/01/2016	67	$1,932.90	$0.00	$0.00	$1,932.90
		08/01/2016	3	$2,032.40	$0.00	$0.00	$2,032.40
		09/01/2016	1	$4,255.47	$0.00	$0.00	$4,255.47
		10/01/2016	0	$734.00	$0.00	$0.00	$734.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00

		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	PPO Dental Total		584	$40,532.14	$0.00	$0.00	$40,532.14
Control - SFX - ACCT Total			584	$40,532.14	$0.00	$0.00	$40,532.14
866349 - 020 - 403	PPO Dental	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	1	$0.00	$0.00	$0.00	$0.00
		03/01/2016	1	$0.00	$0.00	$0.00	$0.00
		04/01/2016	1	$0.00	$0.00	$0.00	$0.00
		05/01/2016	1	$0.00	$0.00	$0.00	$0.00
		06/01/2016	1	$0.00	$0.00	$0.00	$0.00
		07/01/2016	1	$0.00	$0.00	$0.00	$0.00
		08/01/2016	1	$0.00	$0.00	$0.00	$0.00
		09/01/2016	2	$544.00	$0.00	$0.00	$544.00
		10/01/2016	2	$251.00	$0.00	$0.00	$251.00
		11/01/2016	2	$120.00	$0.00	$0.00	$120.00
		12/01/2016	2	$0.00	$0.00	$0.00	$0.00
	PPO Dental Total		15	$915.00	$0.00	$0.00	$915.00
Control - SFX - ACCT Total			15	$915.00	$0.00	$0.00	$915.00
866349 - 021 - 501	PPO Dental	11/01/2015	311	$11,395.10	$0.00	$0.00	$11,395.10
		12/01/2015	311	$9,997.60	$0.00	$0.00	$9,997.60
		01/01/2016	310	$8,449.80	$0.00	$0.00	$8,449.80
		02/01/2016	310	$12,013.10	$0.00	$0.00	$12,013.10
		03/01/2016	305	$5,587.60	$0.00	$0.00	$5,587.60
		04/01/2016	312	$76.00	$0.00	$0.00	$76.00
		05/01/2016	311	$29,257.90	$0.00	$0.00	$29,257.90
		06/01/2016	310	$8,355.80	$0.00	$0.00	$8,355.80
		07/01/2016	314	$8,987.90	$0.00	$0.00	$8,987.90
		08/01/2016	322	$9,682.68	$0.00	$0.00	$9,682.68
		09/01/2016	332	$7,670.70	$0.00	$0.00	$7,670.70
		10/01/2016	336	$9,303.60	$0.00	$0.00	$9,303.60
		11/01/2016	338	$10,573.60	$0.00	$0.00	$10,573.60
		12/01/2016	338	$9,299.40	$0.00	$0.00	$9,299.40
	PPO Dental Total		4,460	$140,650.78	$0.00	$0.00	$140,650.78
Control - SFX - ACCT Total			4,460	$140,650.78	$0.00	$0.00	$140,650.78
866349 - 021 - 502	PPO Dental	11/01/2015	6	$74.40	$0.00	$0.00	$74.40
		12/01/2015	6	$67.00	$0.00	$0.00	$67.00
		01/01/2016	6	$861.00	$0.00	$0.00	$861.00
		02/01/2016	7	$120.00	$0.00	$0.00	$120.00
		03/01/2016	7	$158.00	$0.00	$0.00	$158.00
		04/01/2016	7	$0.00	$0.00	$0.00	$0.00

		05/01/2016	7	$310.60	$0.00	$0.00	$310.60
		06/01/2016	7	$0.00	$0.00	$0.00	$0.00
		07/01/2016	8	$318.00	$0.00	$0.00	$318.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$543.50	$0.00	$0.00	$543.50
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	PPO Dental Total		61	$2,452.50	$0.00	$0.00	$2,452.50
Control - SFX - ACCT Total			61	$2,452.50	$0.00	$0.00	$2,452.50
866349 - 022 - 601	Open Acc EPO	11/01/2015	0	$6,200.80	$0.00	$0.00	$6,200.80
		12/01/2015	0	$14.11	$0.00	$0.00	$14.11
		01/01/2016	0	$39.19	$0.00	$0.00	$39.19
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc EPO Total		0	$6,254.10	$0.00	$0.00	$6,254.10
	Pharmacy	11/01/2015	0	$287.02	$0.00	$0.00	$287.02
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$287.02	$0.00	$0.00	$287.02
Control - SFX - ACCT Total			0	$6,541.12	$0.00	$0.00	$6,541.12
866349 - 022 - 602	(5) Managed Behavioral Health	11/01/2015	0	$86.40	$0.00	$0.00	$86.40
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00

		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$86.40	$0.00	$0.00	$86.40
	Open Acc POS	11/01/2015	0	$565.84	$0.00	$0.00	$565.84
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	$565.84	$0.00	$0.00	$565.84
	Pharmacy	11/01/2015	0	$88.27	$0.00	$0.00	$88.27
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$3,385.55	$0.00	$0.00	$3,385.55
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$3,473.82	$0.00	$0.00	$3,473.82
Control - SFX - ACCT Total			0	$4,126.06	$0.00	$0.00	$4,126.06

866349 - 022 - 603	Indemnity Vision	11/01/2015	0	$708.51	$0.00	$0.00	$708.51
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$708.51	$0.00	$0.00	$708.51
	Open Acc POS	11/01/2015	0	$1,089.00	$0.00	$0.00	$1,089.00
		12/01/2015	0	$7.44	$0.00	$0.00	$7.44
		01/01/2016	0	$157.86	$0.00	$0.00	$157.86
		02/01/2016	0	-$62.00	$0.00	$0.00	-$62.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	-$23.35	$0.00	$0.00	-$23.35
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$234.79	$0.00	$0.00	$234.79
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	$1,403.74	$0.00	$0.00	$1,403.74
	Pharmacy	11/01/2015	0	$660.99	$0.00	$0.00	$660.99
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$26.82	$0.00	$0.00	$26.82
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$7,013.79	$0.00	$0.00	$7,013.79
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$7,701.60	$0.00	$0.00	$7,701.60

Control - SFX - ACCT Total			0	$9,813.85	$0.00	$0.00	$9,813.85
Grand Total				**$19,715,770.61**	**$395,992.25**	**$0.00**	**$20,111,762.86**

Vendor Name	

RFP BID# _____

Primary Contact Information

Name	
Title	
Address	
Phone #	
Fax #	
Email	

Secondary Contact Information

Name	
Title	
Address	
Phone #	
Fax #	
Email	

Coverages to be Proposed (Please mark an "x" to all plan ty

Medical	
PBM	
Life	

MEDICAL QUESTIONNAIRE
Carrier Name

The following questionnaire must be completed.

Medical health carriers are required to respond to all requests for information contained in this questionnaire. This questionnaire will be scored; therefore, it is necessary that you provide concise answers. Your responses to the questions should be based on your current proven capabilities. Should there be instances where certain questions are not applicable to your organization or its operations, please indicate this. If you are selected to administer the Client's employee benefit plans, your responses to the questionnaire will be considered part of your contractual responsibilities. You are also requested to return the indicated exhibits as part of your proposal.

Answers should be summarized in short format and not exceed the allotted space within the cell(s) provided. DO NOT add extra rows/columns--work within the allotted space. Additional information in carrier format may be submitted along with the "Attachments" spreadsheet if a carrier would like to include "more detailed" information.

	VENDOR Questionnaire	
1	Do you have the ability to administer direct medical contracts?	Please Select
2	Does your contractual definition of provider include facilities as well as medical professionals?	Please Select
3	Will you provide a fulltime onsite dedicated representative for the Williamson County?	Please Select
4	Do you have the ability to receive RX claims from third party vendors and integrate for out of pocket maximums?	Please Select
5	Do you have the ability to transfer medical, Rx and eligibility claims data to 3rd party vendors on a monthly basis?	Please Select
6	The County currently has an enhanced benefit tier with different benefits for certain hospital organizations. Can you adminster this benefit? Do you offer different of similar network options?	Please Select
	Additional Vendor Questions	
	Organizational Strength	**Response**
7	How many clients do you currently have inforce in the state of Texas?	Please Select
8	Do you have a specialized team that works with public entity employers?	Please Select
9	How many clients do you currently have in Texas that are public entities?	
	Administrative Flexibility	**Response**
10	The County will require employees to get a preventive care visit. Can you track which employees have received their visits and report this information back to a 3rd party vendor?	Please Select

MEDICAL QUESTIONNAIRE		
	Carrier Name	
The following questionnaire must be completed.		
11	If there is an additional cost, please indicate what that cost will be and make sure it is included in your PEPM administrative fee.	
12	How does your claims system process a preventive care claim?	
13	Are you able to pay a preventive care claim at 100% if a preventive diagnosis is not the primary diagnosis?	Please Select
14	Will you partner with pricing transparency vendors?	Please Select
15	Do you have your own proprietary pricing transparency service?	Please Select
16	Are you able to administer direct contracts for the County?	Please Select
17	Is there an additional cost for administering a direct contract, please indicate what that cost will be.	
18	Can your system allow for different plan designs or copays to promote steerage to preferred facilities and physicians?	Please Select
19	If so, what is the lead time to make these changes?	
20	If there is an additional cost, please indicate what that cost will be and make sure it is included in your PEPM administrative fee.	Please Select
21	Will there be a dedicated banking representative?	Please Select
22	What are the banking payment options available? (i.e.: ACH or Wire)	
23	What are your preferred/required banks?	
24	What are your banking requirements?	
25	Provide a copy of the sample banking reports	Please Select
26	Can banking reports be made available daily?	Please Select
27	Please provide your most recent Service Organizational Control report(s).	Please Select
28	Will you notify the County prior to a high dollar claim being paid?	Please Select
29	If so, what is the high dollar threshold?	
30	How will you assist the County with the payment of the healthcare reform PCORI fee?	
Implementation Process		**Response**
31	Will you have an onsite representative available for Benefits Fair, and potential open enrollment meetings as requested by the County?	Please Select
32	Please confirm that as part of the annual implementation process you will fund the creation and development of your product's communication materials which will include: Williamson County video library employee communication materials.	Please Select
33	If so, what is your annual communication allowance?	
34	Please confirm the following systems are integrated: Enrollment, Medical claims processing/ Care Coordination Referral and Authorization/ Contracts.	Please Select
35	Provide a timeline for implementation	Please Select
36	Confirm that you will produce the SPD for the County	Please Select

MEDICAL QUESTIONNAIRE		
	Carrier Name	

The following questionnaire must be completed.

37	Confirm the County will have a dedicated implementation manager.	Please Select
38	Do you have implementation guarantees?	Please Select
39	Confirm that you will produce the SBC for the County	Please Select
Claims Administration		**Response**
40	Please attach a sample of your Administrative Services Agreement.	Please Select
41	Will there be a dedicated claims analyst?	Please Select
42	If so, what experience will be required before they are assigned to the County?	
43	Additionally, what training will they receive?	
44	What dollar threshold is set for the claims analyst?	
45	Are large claims reviewed by a supervisor?	Please Select
46	What is the threshold for an audit or review?	
47	Will the County have access to see claims online?	Please Select
48	What is your error/reprocessing rate?	
49	What are the claims processing timeliness measurements?	
50	What are the YTD claims timeliness results?	
51	How will your systems integrate with a PBM vendor in order to comply with the max out of pocket benefit to comply with HCR.	
52	Are you making enhancements to the claim system as part of HCR requirements?	Please Select
53	Please confirm the following systems are integrated: Enrollment, Medical claims processing/ Care Coordination Referral and Authorization/ Contracts.	Please Select
54	What is the percentage of auto adjudication for your claims?	
55	Do you have recommended benefit changes to SPD to increase auto adjudication? (If yes, add to the Deviations-Variations tab)	Please Select
56	What types of claims are auto adjudicated?	
57	Is this based upon a threshold?	Please Select
58	If yes, what is that threshold?	
59	Is there a process in place to verify that these claims have been paid in accordance with the Plan?	Please Select
Claims Audits		**Response**
60	How many times a year can the County complete a claims audit?	
61	Describe your internal audit claim procedures.	
62	What are the YTD quality audit results?	
63	Please explain large dollar claim auditing criteria	
Utilization Management		**Response**
64	How are UM cases identified?	
65	Are any UM activities that your company performs subcontracted?	Please Select
66	If so, who is your subcontractor and how long has that partnership been in place?	

MEDICAL QUESTIONNAIRE	
Carrier Name	

The following questionnaire must be completed.

67	If so, are there costs involved with the subcontracting?	Please Select
68	Describe the denial and appeals process for UM.	
69	What is the associated turn-around time for these processes?	
70	Do you have onsite nurse at each hospital indicated on the disruption tab?	Please Select

MEDICAL QUESTIONNAIRE	
Carrier Name	

The following questionnaire must be completed.

	Disease Management	Response
71	Which disease management (DM) programs do you offer as part of your base fee?	
72	Can the County carve out these programs?	Please Select
73	How do you integrate your DM programs with PBM programs?	
74	Which disease management (DM) programs do you offer at an additional cost? (Please outline the additional costs on the Fee Tab of the spreadsheet.)	
	Reporting	**Response**
75	Provide a sample of all financial reporting the County can expect to receive on a regular basis. Additionally, include any Adhoc reports that other clients have found useful in claims analysis.	Please Select
76	The County occaisionally has members transisiton form active plans to retiree plans. Can your system track accumulator between plans?	Please Select
77	Are Direct Billi services available? If so please provide details.	
78	Can claims be reported by type (i.e., Retiree, COBRA, employee, medical, dental, etc.)?	Please Select
79	If yes, how are these identified on the reporting file?	
80	Can you break out claims by dependent (i.e., child or spouse)?	Please Select
81	Is the reporting in a format that can be manipulated (ie. Excel, CSV)?	Please Select
82	Can reporting be provided that will have calendar YTD (1/1 – 12/31) that will have claims in detail by type (i.e., COBRA dental, retiree medical, etc.)	Please Select
83	Will you prepare a monthly reconciliation between incurred to paid claims?	Please Select
84	Can you provide a detailed report of large claims and diagnoses?	Please Select
85	Describe the process to communicate with plan administrators information that aids in making timely decisions and/or adjustments.	
86	If you have system updates, please confirm that you will inform the County prior to system updates occurring and what these updates will effect.	Please Select
87	Provide a sample of your annual health plan review.	Please Select
88	Would the County have a dedicated reporting analyst?	Please Select
89	What is the standard distribution frequency for each report provided?	Please Select
90	When are you monthly financial reports produced?	
91	Will you set up a schedule to automatically email the standard reports to the County on a monthly, quarterly and annual basis as requested at no additional cost?	Please Select
92	Will you provide Third Party claims appeal options as required by healthcare reform?	Please Select
93	What is the process for requesting ad hoc reports?	
94	Is there a fee involved?	Please Select
95	What is the standard turn around time?	
96	Describe how current reporting data is used for predictive modeling and risk management analysis	

MEDICAL QUESTIONNAIRE		
	Carrier Name	

The following questionnaire must be completed.

97	Will you send Holmes Murphy a full medical and eligibility claims file monthly?	Please Select
98	If so, outline these costs and make sure this is included in your PEPM administrative fee.	
99	How are you helping your clients with increasing claim cost?	
100	Provide examples of actual client success stories within the past 2-3 years.	
101	How are you keeping clients informed about HRC requirements and changes?	
102	How will you assist the County with the 6066 and 6055 reporting?	
Direct Contracts		**Response**
103	Is there an additional fee for loading and maintaining direct medical contracts? If so, please included that cost in your proposed PEPM.	Please Select
104	Please confim that you can adminster a direct contract if needed.	Please Select
105	Will you perform a pre-implementation audit and deliver the results to the County prior to the contract effective date?	Please Select
106	Are there restrictions on particular services or facilities in reference to direct contracting? If so, please explain.	
107	Are you able to adminster bundled pricing on a direct contract?	Please Select
108	Would you reduce your network access fee as a result of direct contracting?	Please Select
Wellness		**Response**
109	Do you use detailed claim information to help clients design an impactful wellness program?	Please Select
110	If so, provide examples	
111	Provide examples of recommendations of wellness programs that you have worked with clients on in the past 2 years.	
112	Provide examples of ROI on client wellness activities.	
113	Do you provide an online health risk assessment for members?	Please Select
114	If yes, is this included as part of your base fee?	Please Select
115	Will you include a wellness budget for the County?	Please Select
116	If yes, is this included as part of your base fee? If not, outline separately on the pricing spreadsheet.	Please Select
117	Describe the wellness programs offered to the County at no additional charge.	
118	Do you design programs around the conditions of the employee population?	Please Select
119	Do you subcontract any wellness services to an outside vendor?	Please Select
120	If yes, identify which services are outsourced and the name of the subcontractor.	
121	What methods of coaching available (online, telephonic…)?	Please Select
122	Does your organization offer discounts to support healthy lifestyles such as gym memberships, vitamins, massage therapy, etc.?	Please Select
123	If yes, is there an additional cost for this program?	Please Select

MEDICAL QUESTIONNAIRE	
Carrier Name	

The following questionnaire must be completed.

	Employer/Employee Websites	Response
124	Provide a URL, userID and password for the RFP evaluation team to view your employer website.	
125	URL	
126	User ID	
127	Password	
128	Provide a URL, userID and password for the RFP evaluation team to view your member website.	
129	URL	
130	User ID	
131	Password	
132	Please confirm an in depth, live demo of both employer and employee websites will be given upon request.	
	Fees and Subrogation	**Response**
133	Do you have capitation fees?	Please Select
134	Confirm that ASO costs are mature	Please Select
135	What will be the cost to accept data feeds from 3rd party PBM? (please make sure this amount is included in your PEPM admin. fee)	
136	Confirm that you will be able to provide claims subrogation services for the County.	Please Select
137	Confirm that you can provide monthly reporting to the County outlining the Subrogation activity/savings.	Please Select
138	Will this service be outsourced to a 3rd party?	Please Select
139	If yes, is there an additional cost for this service?	Please Select
140	If there is an additional cost, please indicate what those costs will be.	
	Customer Service	**Response**
141	Where is your call center located?	Please Select
142	Will there be a dedicated call center to Williamson County?	Please Select
143	If so, where is this located?	
144	Are there multilingual resources available on this team, if so, please list which languages are available?	
145	What are the hours of operation?	
146	What is the turnover percentage of your call center?	
147	What is the turnover percentage of your account management team?	
148	What is the average tenure of the account managers that service the municipalities in your organization?	
149	How many clients do they currently service?	
150	What is the average answer speed?	
151	What are the YTD results for your average speed to answer?	

MEDICAL QUESTIONNAIRE	
Carrier Name	

The following questionnaire must be completed.

152	What is the call abandonment rate?	
153	What are the YTD results for your call abandonment rate?	
	Misc.	**Response**
154	Do you have a post 65 retiree offering?	Please Select
155	Review inforce SPD and indicate any provisions you cannot accommodate on the "SPD" deviations / variations page. If there are NO deviations listed we will assume the plan can be duplicated in its entirety.	Please Select

Carrier Name

For any benefits you cannot duplicate or administer, per the in force SPD, please indicate on this tab. Please clearly note the differences.

Proposed Medical -- Deviations/Variations

Please Select the Appropiate Category for each Deviation / Variation	Deviation / Variation
Please Select	
Please Select	
Please Select	
Please Select	
Please Select	
Please Select	
Please Select	

Carrier Name

Please note that you must include this information in the following requested formats in order for your quote to be considered. Enter only the network information that is included in your quoted rate.

If offering options, please create an additional tab and clearly label

Medical Network Discounts

Please provide your organization's self reported discounts within the Client's area for:

Hospital Inpatient	
Hospital Outpatient	
Physician	

Geo Access Results

Please provide full detailed reports for the medical GEO access within your formal proposal.

Measurement	Primary Care Physicians	Specialists	Acute Care Hospitals
# of Employees / Zip Codes Evaluated			
Providers			
# of Providers			
# of Locations			
X Providers within X Miles	**2 / 10**	**2 / 15**	**1 / 20**
% of Employee WITH access			
# of Employees WITH access			
% of Employee WITHOUT access			
# of Employees WITHOUT access			
Average distance to 2 providers for employees WITH desired access			
Please list all Centers of Excellence (COE) and/or Speciality Providers including medical tourism in your network			

Carrier Name

Please note that you must complete the disruption analysis for each network quoted in the following requested format in order for your quote to be considered.

Medical Disruption Analysis

Name	Tax ID	Zip	In Network? (Y/N)	Net Paid
Seton Medical Center Williamson	741109643	78665	Y	$1,221,933.47
Cedar Park Regional Medical Center	203904667	78613	Y	$509,762.11
Seton Medical Center	741109643	78705	Y	$462,349.86
North Austin Medical Center - HCA Affili	742781812	78758	Y	$457,553.40
Round Rock Medical Center - HCA Affiliat	742781812	78681	Y	$371,423.65
Dell Children's Medical Center of Centra	741109643	78723	Y	$369,804.27
St. David's Medical Center	742781812	78705	Y	$283,163.48
St. David's Medical Center	742781812	78705	N	$208,214.81
Baylor Scott & White Medical Center - Te	741166904	76508	Y	$179,234.93
Baylor Scott & White Medical Center - Ro	203749695	78665	Y	$177,716.85
St. David's Georgetown Hospital - HCA Af	742781812	78628	Y	$139,042.87
Seton Highland Lakes	741109643	78611	Y	$137,599.86
Little River Healthcare	205220791	76567	Y	$123,886.47
University Medical Center at Brackenridg	741109643	78701	Y	$110,696.87
Williamson Surgery Center	270929515	78665	Y	$84,710.40
Austin Endoscopy Center I	742934462	78757	Y	$64,770.92
St. David's Georgetown Hospital - HCA Af	742781812	78628	N	$63,477.44
Hendrick Medical Center	750827446	79601	N	$62,596.45
Seton Northwest Hospital	741109643	78759	Y	$47,754.14
Baylor Scott & White Medical Center-Tayl	741595711	76574	Y	$46,664.31
Cook Children's Medical Center	752051646	76104	Y	$44,052.52
Christus Spohn Hospital Shoreline	741109836	78404	Y	$43,935.06
Harborview Medical Center	911631806	98104	Y	$43,568.97
Round Rock Medical Center - HCA Affiliat	742781812	78681	N	$42,379.99
Heart Hospital of Austin	742781812	78756	Y	$41,245.26
Texas Orthopedic Surgery Center L.P., L.	743013713	78759	Y	$39,200.68
Newman Memorial Hospital	730570773	73858	N	$37,014.30
Georgetown Behavioral Health Institute,	462465087	78626	Y	$36,565.98

Northwest Hills Surgical Hospital	582028767	78731	Y	$35,841.02

Temple VAMC	742791419	76504	Y	$33,108.47
Seton Medical Center Harker Heights	272814378	76548	Y	$28,621.80
University Behavioral Health	203078922	76201	N	$27,482.00
St. David's South Austin Medical Center	742781812	78704	N	$27,342.17
Spring Valley Medical Center	721549752	89118	N	$26,165.70
Healthsouth Rehabilitation Hospital of R	208038733	78681	Y	$24,650.00
Sundown Ranch, Inc.	752195214	75103	Y	$23,500.00
Newman Memorial Hospital	730570773	73858	Y	$22,299.30
Texas Non-Profit Hospice Alliance	742761617	76107	Y	$21,110.00
St. David's South Austin Medical Center	742781812	78704	Y	$20,037.66
Houston Methodist Hospital	741180155	77030	Y	$19,889.51
Strictly Pediatrics Surgery Center	200943974	78723	Y	$19,323.32
Seton Medical Center Hays	741109643	78640	Y	$17,567.90
Texan Surgery Center	331058382	78731	Y	$17,008.00
Five Star ER, LLC	464712336	78681	N	$16,443.89
Methodist Hospital - HCA Affiliate	742730328	78229	Y	$15,071.55
Baylor Scott & White Medical Center - Ro	203749695	78665	N	$14,915.39
Seton Shoal Creek Hospital	741109643	78731	Y	$14,858.00
Baylor Scott & White Medical Center-Tayl	741595711	76574	N	$14,797.93
EHI Surgery Center Austin, PLLC	464266877	78727	N	$14,328.33
Georgetown Behavioral Health Institute,	462465087	78626	N	$13,186.40
Brooke Army Medical Center (MSA)	741282653	78234	N	$13,045.57
Rock Springs, LLC	611703148	78626	N	$12,593.98
University Behavioral Health	203078922	76201	Y	$12,150.00
Scott & White Skilled Nursing Facility	741166904	76508	Y	$12,076.01
Physicians Premier Emergency Room	472616215	78412	N	$11,870.54
Texas Health Harris Methodist Hospital	751752253	76401	N	$11,013.86
Merit Health Biloxi	592754033	39530	N	$10,618.07
Scott & White Emergency Hospital - Cedar	800864632	78613	N	$10,445.18
North Austin Medical Center - HCA Affili	742781812	78758	N	$10,425.05
Oakwood Surgery Center-HCA Affiliate	621641024	78681	Y	$10,362.67
Healthsouth Rehabilitation Hospital Of A	631105908	78701	N	$9,838.64
Faith Community Hospital	756004585	76458	Y	$9,506.12
Southwestern Regional Medical Center at	363755999	74133	N	$9,473.30
Baylor Scott & White Medical Center - Te	741166904	76508	N	$9,060.71
First Choice Emergency Room	901023315	78660	N	$8,801.10
North Austin Surgery Center - HCA Affili	200648730	78758	Y	$8,393.98
Northwest Surgery Center, L.L.P.	205537270	78759	Y	$7,764.87
Lake Granbury Medical Center	752682017	76048	Y	$7,714.38

Eating Recovery Center of Austin	660703496	78758	N	$7,113.97
Cedar Park Emergency Center	462218636	78613	N	$6,995.50
St. Joseph Hospital and Health Center	741282696	77802	N	$6,219.56
Rock Springs, LLC	611703148	78626	Y	$6,181.80
St. Anthony Summit Medical Center	840405257	80443	N	$6,139.58
Rollins Brook Community Hospital	742225672	76550	N	$6,105.22
UTMB at Galveston	746000949	77555	N	$5,883.50
Austin Emergency Center	465453686	78750	N	$5,653.50
Seton Southwest Healthcare Center	741109643	78737	Y	$5,481.00
Providence Health Center	741109636	76712	N	$4,869.72
Willis-Knighton Bossier Health Center	720400933	71111	N	$4,768.56
Hill Country Surgery Center	202829728	78613	Y	$4,660.22
The University of TX M.D. Anderson Cance	746001118	77030	Y	$4,651.41
Baylor Scott & White Medical Center - Ma	464007700	78654	Y	$4,605.65
St. Anthony Hospital	840405257	80228	Y	$4,595.64
Round Rock Surgery Center, LLC	260856139	78664	Y	$4,516.25
CORE Health Care	510455232	78620	N	$4,122.00
Central Texas Medical Center	742575462	78666	N	$3,823.74
Bay Area Regional Medical Center LLC	460703465	77598	Y	$3,502.26
McClane Children's Hospital Scott & Whi	741166904	76502	Y	$3,333.76
NEC Lakeline Emergency Center, LP	463975405	78750	N	$3,269.80
ERCA Lubbock LLC	471266672	79424	N	$3,193.24
First Choice Emergency Room	383923792	78665	N	$3,064.50
University of Washington Medical Center	916001537	98037	Y	$2,960.73
Scott & White Emergency Hospital - Cedar	800864632	78613	Y	$2,954.70
Little River Healthcare	205220791	76567	N	$2,935.37
Express ER Temple	320493679	76504	N	$2,905.00
Metroplex Adventist Hospital	742225672	76549	Y	$2,889.05
Northeast Methodist Hospital - HCA Affil	742730328	78233	N	$2,843.00
Cedar Crest Hospital & RTC	201915868	76513	Y	$2,704.80
UK Healthcare Hospitals	616001218	40536	N	$2,490.28
Central Texas Medical Center	742575462	78666	Y	$2,419.80
Hospice Compassus-Austin	260251083	78664	N	$2,400.00
Metroplex Adventist Hospital	742225672	76549	N	$2,374.96
Proliance Eastside Surgery Center	911606533	98034	Y	$2,206.53
Cook Children's Northeast Hospital, LLC	205227064	76054	Y	$2,068.48
Jane Phillips Medical Center	730606129	74006	Y	$2,061.13
Hill Country Memorial Surgery Center, LL	331039828	78654	Y	$2,056.47
Arise Austin Medical Center	462728964	78746	N	$2,019.23

HMS Centene Management Corp	742770542	63105	N	$1,944.00
Austin Diagnostic Clinic Ambulatory Surg	741625143	78731	Y	$1,919.11
Eating Recovery Center of Dallas	660703496	75093	Y	$1,896.68
Hendrick Medical Center	750827446	79601	Y	$1,875.42
Bailey Square Surgery Center - HCA Affil	752467365	78705	Y	$1,849.99
Baylor Scott & White Medical Center - Co	274434451	77845	Y	$1,761.07
St. Francis Medical Center	237246265	63703	N	$1,713.46
EyeMed Vision Care	311656473	45040	N	$329,782.00
Benjamin Joel Downie	460829574	78731	Y	$263,190.08
Fresenius Medical Care	742928010	77074	Y	$210,282.57
Clinical Pathology Labs, Inc.	742554159	78205	Y	$141,351.13
Beth A. Hellerstedt	752131429	78681	Y	$113,198.89
ARA Imaging	201651590	78745	Y	$98,431.47
Longhorn Emergency Medical Associates, P	472785231	78681	N	$84,117.85
Monty B. Tew	741625143	78758	Y	$62,939.87
Courtney Yau	752131429	78665	Y	$58,692.36
Tina Bunch	742109824	78759	Y	$53,738.54
EagleMed,LLC	270645387	65775	N	$47,654.85
Carl D Frank	742978480	78626	Y	$45,043.88
NextCare Urgent Care	260845489	78233	Y	$44,943.50
Darren M. Kocs	752131429	78681	Y	$41,216.09
Murray A Snook	742877056	78628	Y	$40,744.08
Kathryn Ruth Shirley	460829574	78626	Y	$37,667.50
David W. George	752131429	78665	Y	$36,654.88
Robert John Koval	742419168	78759	Y	$35,731.48
Oscar Ochoa	742715291	78240	Y	$35,232.82
Richard E Otto	742877056	78628	Y	$35,221.94
James H. Boehmler	461059985	43160	N	$34,104.00
Austin Regional Clinic, P.A.	742109824	78664	Y	$27,249.82
Nabil A. Habash	461059985	45415	N	$26,936.17
Courtney A. Sheinbein	752131429	78665	Y	$26,705.02
Shivani R. Patel	742943775	76549	Y	$25,044.41
Stanley H Kim	861060480	78731	N	$24,066.14
James W. Rogers	742109824	78634	Y	$23,853.67
Cathy Castillo	742109824	78634	Y	$23,475.89
Quest Diagnostics Incorporated	382084239	19107	Y	$23,137.98
Michael Paul Herman	752131429	78681	Y	$22,377.89
Mark Levitan	742034080	78705	Y	$20,339.56
Lisa S. Flachs	742943775	78626	Y	$20,159.85

Mark Sturm	452611063	78666	Y	$20,082.41
Adana M. Gipson	454764380	78628	Y	$20,058.26
Texas State Clinical Laboratories	452808991	78759	N	$19,676.55
Beth L Thai	271789460	78665	Y	$19,561.90
AllCareme LLC	273602487	74066	N	$19,440.32
Williamson County EMS	746000978	77014	N	$18,639.38
DaVita, Inc.	261649744	75652	Y	$18,058.40
MedSpring	800692886	78726	Y	$17,955.29
Texan Urgent Care Center, PLLC	274412271	78223	Y	$17,831.79
Kristy Herrman	650578395	78705	Y	$17,452.00
Ned Snyder	202483545	78703	Y	$17,245.12
Ankur R. Rana	742860243	78723	Y	$16,842.20
Caroline A. Kaufman	742109824	78613	Y	$16,694.25
Robert M. Whitfield	202483545	78703	Y	$16,407.10
Allison E Gorrebeeck	460829574	78758	Y	$16,381.40
Kevin L. Miller	542115445	78626	Y	$16,311.99
Austin Radiological Association	741597116	78746	Y	$16,299.17
Healthline Medical Equipment	752408872	76308	Y	$16,005.67
Jana Jones Schrier	462684849	78626	Y	$15,970.02
Brenda Dawn Hinman	742109824	78726	Y	$15,959.94
Lonestar Hospital Medicine Association	454070993	77008	N	$15,928.62
P & H Services, LLC	742814806	78613	Y	$15,918.06
Soleo Health	464908851	90301	Y	$15,852.82
Charity Lynn Jackson	742109824	78613	Y	$15,605.76
Scott William Franklin	820559555	78626	Y	$15,353.41
United Toxicology, LLC	274663868	75240	N	$15,137.28
MC DEFAULT PROVIDER	0	U	N	$14,895.66
EyeMed Vision Care	311656473	45040	Y	$14,868.00
RCMH LLC dba RediClinic	464868413	77057	Y	$14,724.56
Emergency Physicians Of Central Texas, P	364610201	78613	Y	$14,470.77
Donna McCain	550886585	78628	Y	$14,135.01
Jason C. McCain	550886585	78628	Y	$13,982.12
Kristi K. Harvey	742109824	78681	Y	$13,971.73
Michael Edwin S Nacol	742501955	78626	Y	$13,867.58
Arash Ivanaki Esmaili	300785442	78759	Y	$13,612.34
Karen H. Cohen	752131429	78681	Y	$13,390.51
Rebecca Lynn Teng	271789460	78665	Y	$13,175.76
David A. Ramsey	742943775	78626	Y	$13,023.49
Kelley M. Warwick	364610201	77868	Y	$13,005.88

Jon F Dietlein	742985984	78628	Y	$12,566.69
Srivani Thatikonda	752131429	78705	Y	$12,396.85
Fredric Michael Pfeifer	741597116	78759	Y	$11,844.33
Kurt Jonathon Knauth	741720474	78705	Y	$11,783.35
Donald R. Gladden	364610201	78640	Y	$11,714.38
Austin Anesthesiology Group, LLP	741201585	78681	Y	$11,587.86
Richard Garza	205779666	78705	Y	$11,380.39
HMS OKLAHOMA HCA	731476619	75267	N	$11,151.18
Julie K Wachtel	364610201	78752	Y	$10,832.67
David Lee Berry	742901320	78731	Y	$10,780.01
Austin Gastroenterology Anesthesia Assoc	812171811	78745	N	$10,630.74
John R. Leahy	741597116	78759	Y	$10,624.55
Christopher David Collins	461872434	78641	Y	$10,550.20
Steven Michael Conroy	364610201	18103	Y	$10,380.98
Margaret Barron Listrom	741619182	78731	Y	$10,348.00
Katherine Scott	742958277	78705	Y	$10,324.80
Stephen D Schaefer	550886585	52803	Y	$10,288.08
Corey R. Fearheiley	364610201	78640	Y	$10,198.19
Monica M Madray	542115445	78626	Y	$10,143.02
Violeta Vanessa Griffin	742109824	78634	Y	$10,129.28
Tannon Dajuan Carroll	264562522	78665	Y	$10,036.15
Kerem Ozer	742999300	77030	Y	$9,937.27
Peter D Scholl	741991553	78705	Y	$9,847.12
Douglas D. Jeffrey	364610201	78640	Y	$9,842.60
Maria C. Scranton	742109824	78664	Y	$9,777.51
Erik Jude Bruce	261673677	78665	Y	$9,727.00
Minimed Distribution Corp.	954662001	91325	Y	$9,694.90
Bryan Todd Irvin	742109824	78681	Y	$9,665.72
Cameron Todd King	260107385	78613	Y	$9,645.32
Urgent and Family Care at Avery Ranch, L	203774126	78717	Y	$9,598.27
Quest Diagnostics	382084239	20151	Y	$9,562.85
Ghulam Thaver	741597116	78759	Y	$9,515.15
Lesley Hamilton-Fox	742934350	78665	Y	$9,420.82
Harrel Dee Butler	742109824	78613	Y	$9,397.63
Michael E Putney	742343512	78681	Y	$9,310.33
Daniel Joseph Kelly	742109824	78750	Y	$9,148.81
Austin Pathology Associates	741703601	78758	Y	$9,065.69
Swati Jadhav	742109824	32073	Y	$9,024.54
Kyle Mezger	741720474	78705	Y	$8,998.41

Shannon L. Duble	571202365	78681	Y	$8,957.87
Austin Cancer Centers	460829574	78702	Y	$8,922.98
Allen L Dennis	331043094	78664	Y	$8,903.73
Anita Sandhu	742109824	78613	Y	$8,901.19
John G. Johnson	364610201	78640	Y	$8,829.44
Matthew M. Meigs	742109824	78681	Y	$8,775.96
Jefferey P Klein	741720474	78705	Y	$8,733.15
Jeremy N. Robillard	261455666	78641	Y	$8,640.00
Jeremy Maurice Kenter	364610201	78752	Y	$8,624.94
Austin Five Star ER, PA	465145577	78681	N	$8,606.46
Michelle Theresa Ashworth	752131429	78681	Y	$8,439.58
Andrew Glenn Mahaffey	743001674	78626	Y	$8,412.52
Christopher P Thompson	460862530	78731	Y	$8,386.35
Michael S Valastro	742343512	78681	Y	$8,366.95
Barbara Dawn Sebastian	741720474	78705	Y	$8,352.20
Wade Robert Travis	571202365	78681	Y	$8,316.49
John B. Marshall	364610201	75251	Y	$8,242.00
James R. Hannigan	202519993	76132	N	$8,238.41
Frank C Hinds	760528576	78613	Y	$8,204.60
ClearPoint Diagnostic Laboratories, LLC	272356066	75067	N	$8,202.02
Eric J Giesler	742837301	78759	Y	$8,130.16
James B Thompson	208327147	78633	Y	$8,065.96
Jonathan G Smedley	742939527	78681	Y	$7,969.89
Magella Medical Associates-Maternal Feta	752740653	78666	Y	$7,843.44
Boris Gritzka	742109824	78681	Y	$7,824.40
Brenda Ru-Lan Chao	271789460	78665	Y	$7,728.27

Customer Name **Williamson County**

Policy Number:
Service Dates: ALL
Paid Dates: 01/01/2014 - 12/31/2014
Coverage Types: Medical, Mental Health, Substance Abuse, and Managed Pharmacy
Threshold: $200,000.00

Claimant ID	Diagnosis Code	Diagnosis Description	Total Paid
Claimant 1			
Claimant 2			
Claimant 3			
Claimant 4			
Claimant 5			
Claimant 6			
Claimant 7			
Claimant 8			
Claimant 9			
Claimant 10			
Claimant 11			
Claimant 12			
Claimant 13			
Claimant 14			
Claimant 15			
Claimant 16			
Claimant 17			
Claimant 18			
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Claimant 23			
Claimant 24			
Claimant 25			
Claimant 26			
Claimant 27			
Claimant 28			
Claimant 29			
Claimant 30			
Claimant 31			
Claimant 32			
Claimant 33			
Claimant 34			
Claimant 35			

Carrier Name

Please note that you must complete plan design and rate information in the following requested formats in order for your quote to be considered. Enter only those plan design elements that are included in your quoted rates.

If offering options, please add in additional columns and clearly label

Proposed Self-Funded Administration Fees

Enrollment Assumptions					
Employees					
Dependents					

Administrative Fee Breakdown (PEPM)	Year 1 - Mature Fees (run out administration included)	Year 2 - Mature Fees (run out administration included)	Year 3 - Mature Fees (run out administration included)	Year 4 - Mature Fees (run out administration included)	Year 5 - Mature Fees (run out administration included)
TOTAL PEPM Admin Fee (with Rx included)					
TOTAL PROJECTED ANNUAL ADMIN. FEES (with Rx included)	$0.00	$0.00	$0.00	$0.00	$0.00
TOTAL PEPM Admin Fee (without Rx included)					
TOTAL PROJECTED ANNUAL ADMIN. FEES (without Rx included)	$0.00	$0.00	$0.00	$0.00	$0.00
Required Administrative Fee Breakdown	**Note: All services indicated below MUST be included within the total PEPM Admin fee above for your quote to be considered.**				
1 Claims Processing	Please Select	Please Select	Please Select	Please Select	Please Select
2 Utilization and Case Management	Please Select	Please Select	Please Select	Please Select	Please Select
3 Network Administration / Access Fee	Please Select	Please Select	Please Select	Please Select	Please Select
4 Enrollment / Eligibility System Access	Please Select	Please Select	Please Select	Please Select	Please Select
5 Directories / Fulfillment	Please Select	Please Select	Please Select	Please Select	Please Select
6 Reporting Access	Please Select	Please Select	Please Select	Please Select	Please Select

7	**Booklet / SPD Printing & Distribution**	Please Select	Please Select	Please Select	Please Select	Please Select
8	**Initial ID Cards / Replacement Cards**	Please Select	Please Select	Please Select	Please Select	Please Select
9	**Banking Charges / Fees**	Please Select	Please Select	Please Select	Please Select	Please Select
10	**Standard or Electronic Reporting**	Please Select	Please Select	Please Select	Please Select	Please Select
11	**Centers of Excellence**	Please Select	Please Select	Please Select	Please Select	Please Select
12	**Physician Review and Medical Claim Review**	Please Select	Please Select	Please Select	Please Select	Please Select
13	**Direct Contracting Fees**	Please Select	Please Select	Please Select	Please Select	Please Select
14	**Explanation of Benefits (EOB)**	Please Select	Please Select	Please Select	Please Select	Please Select
15	**Integration with 3rd Party PBM (including accepting file feeds)**	Please Select	Please Select	Please Select	Please Select	Please Select
16	**Send monthly Medical/Eligibility Claim files to 3rd party**	Please Select	Please Select	Please Select	Please Select	Please Select
17	**Coordination of Benefits**	Please Select	Please Select	Please Select	Please Select	Please Select
18	**Behavioral Health Management (Mental Health and Substance Abuse)**	Please Select	Please Select	Please Select	Please Select	Please Select
19	**Integration of ongoing external pharmacy vendor data into predictive model**	Please Select	Please Select	Please Select	Please Select	Please Select
20	**Appeals and 3rd party external review**	Please Select	Please Select	Please Select	Please Select	Please Select

	Additional Fees and Services	PEPM	PEPM	PEPM	PEPM	PEPM
21	Stop Loss Reporting to a 3rd party					
22	Shared Savings program, fees, percent of savings model, or any other revenue source associated with leased or third party out of network claims					
23	Wellness Portal Allowance (to be used with carrier's product or a 3rd party solution)					
24	Implementation Allowance					
25	Wellness Allowance					
26	Access to the Tiered Network					
27	Disease Management					
28	Send lab values to 3rd party / Send preventive care visit aggregate data to 3rd party					
29	Customization of ID cards					
30	Non-Erisa plan charge					
31	Tele Medicine Access fee (if any)					
32						
	Additional Guarantees	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
33	Discount Guarantees					
34	Implementation Guarantees					
35	Performance Guarantees					

Other Set-Up, If Applicable	
Subrogation Percentage	
Initial Set-Up Charges (Enter amount)	
Capitated Charges (must specifically outline what the capitated fees are for)	
Run-out	

Assumptions

Commissions	Net

Carrier Name

Please note that you must complete plan design and rate information in the following requested formats in order for your quote to be considered. Enter only those plan design elements that are included in your quoted rates.

If offering options, please add in additional columns and clearly label

Proposed Fully-Insured Premium

Enrollment Assumptions						
	Employees					
	Dependents					

Fully-Insured Premium Breakdown (PEPM)		Year 1 - Premium	Year 2 - Premium	Year 3 - Premium	Year 4 - Premium	Year 5 - Premium
Employee Only						
Employee Spouse						
Employee Child						
Employee Family						
Estimated Monthly Premium						
Estmated Annual Premium						
Required Fully-Insured Premium Breakdown		**Note: All services indicated below MUST be included within the total PEPM premium above for your quote to be considered.**				
1	Claims Processing	Please Select	Please Select	Please Select	Please Select	Please Select
2	Utilization and Case Management	Please Select	Please Select	Please Select	Please Select	Please Select
4	Enrollment / Eligibility System Access	Please Select	Please Select	Please Select	Please Select	Please Select
5	Directories / Fulfillment	Please Select	Please Select	Please Select	Please Select	Please Select
6	Reporting Access	Please Select	Please Select	Please Select	Please Select	Please Select

7	**Booklet / SPD Printing & Distribution**	Please Select	Please Select	Please Select	Please Select	Please Select
8	**Initial ID Cards / Replacement Cards**	Please Select	Please Select	Please Select	Please Select	Please Select
9	**Banking Charges / Fees**	Please Select	Please Select	Please Select	Please Select	Please Select
10	**Standard or Electronic Reporting**	Please Select	Please Select	Please Select	Please Select	Please Select
11	**Centers of Excellence**	Please Select	Please Select	Please Select	Please Select	Please Select
12	**Physician Review and Medical Claim Review**	Please Select	Please Select	Please Select	Please Select	Please Select
13	**Direct Contracting Fees**	Please Select	Please Select	Please Select	Please Select	Please Select
14	**Explanation of Benefits (EOB)**	Please Select	Please Select	Please Select	Please Select	Please Select
15	**Integration with 3rd Party PBM (including accepting file feeds)**	Please Select	Please Select	Please Select	Please Select	Please Select
16	**Send monthly Medical/Eligibility Claim files to 3rd party**	Please Select	Please Select	Please Select	Please Select	Please Select
17	**Coordination of Benefits**	Please Select	Please Select	Please Select	Please Select	Please Select
18	**Behavioral Health Management (Mental Health and Substance Abuse)**	Please Select	Please Select	Please Select	Please Select	Please Select
19	**Integration of ongoing external pharmacy vendor data into predictive model**	Please Select	Please Select	Please Select	Please Select	Please Select
20	**Appeals and 3rd party external review**	Please Select	Please Select	Please Select	Please Select	Please Select

	Additional Fees and Services	PEPM	PEPM	PEPM	PEPM	PEPM
23	Wellness Portal Allowance (to be used with carrier's product or a 3rd party solution)					
24	Implementation Allowance					
25	Wellness Allowance					
26	Access to the Tiered Network					
27	Disease Management					
28	Send lab values to 3rd party / Send preventive care visit aggregate data to 3rd party					
29	Customization of ID cards					
30	Non-Erisa plan charge					
31	Tele Medicine Access fee (if any)					
32						
	Additional Guarantees	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
33	Discount Guarantees					
34	Implementation Guarantees					
35	Performance Guarantees					
	Other Set-Up, If Applicable					
	Subrogation Percentage					
	Initial Set-Up Charges (Enter amount)					
	Capitated Charges (must specifically outline what the capitated fees are for)					

Assumptions

Commissions	Net

Network Discounts	Year 1 - Mature Fees (run out administration included)
Discount Target Guarantee	0%
% of Fees at Risk for not Achieving Discount	0%
Risk-Fee Corridor (no payout)	0%
Claims Excluded from Discount Guarantee Calculation	Define
Total Fees at Risk for missing target	$0.00

Vendor Name

Please note that you must complete rate information in the following requested format in order for your quote to be considered.

COMPLETE THIS TAB FOR EACH PLAN QUOTED.

Proposed Dental Fees & Rates

Are retirees included in fully insured rates?	Please Select
Quote rates in the following tier structure(s):	Please Select

	EE Counts	Proposed EPO Dental Rates
Employee Only	xx	
Employee + Spouse	xx	
Employee + Child(ren)	xx	
Employee + Family	xx	
Estimated Monthly Premiums		$0
Estimated Annual Premiums		$0

Assumptions

Rate Guarantee	
Participation Requirements	
Commissions	Net
Other	

Self-Funded ASO Fees	

DENTAL QUESTIONNAIRE
Vendor Name

The following questionnaire must be completed.

Dental vendors are required to respond to all requests for information contained in this questionnaire. All responses must be provided in a brief, bulleted format when possible. This questionnaire will be scored; therefore, it is necessary that you provide concise answers. Your responses to the questions should be based on your current proven capabilities. Should there be instances where certain questions are not applicable to your organization or its operations, please so indicate. If you are selected to administer the Client's employee benefit plans, your responses to the questionnaire will be considered part of your contractual responsibilities. You are also requested to return the indicated exhibits as part of your proposal.

Answers should be summarized in short format and not exceed the allotted space within the cell(s) provided. DO NOT add extra rows/columns--work within the allotted space. Additional information in vendor format may be submitted along with the "Attachments" spreadsheet if a vendor would like to include "more detailed" information.

	Organizational Strength	Response
1	How many clients do you currently have in force for Dental on a national level?	
2	How many clients do you currently have in force for Dental in the state of Texas?	
3	How many clients do you currently have in force for Dental that are public entities in Texas?	
	General	**Response**
4	What is the location of your claim payment operations?	
5	How long do you maintain dental claims records?	
	Account Management	**Response**
6	Will the County have a dedicated Account Manager?	Please Select
7	If so, what is their location and standard hours?	

	Customer Service	Response
8	Please provide your customer service hours, days of operation, time zone.	
9	How are calls "after hours" of operation handled?	Please Select
10	Are there multilingual resources available on this team, if so, please list which languages are available?	
11	Is your customer service unit outsourced?	Please Select
12	Does your company provide a customized toll free number to handle questions related to product offerings during the enrollment period?	Please Select
	System Processes and Technology	**Response**
13	How often do you process and verify the eligibility information.	Please Select
16	What is the standard turnaround time for change / addition / deletion file uploads?	Please Select
17	How can eligibility data be transferred from the County to your organization?	Please Select
18	Are you able to make manual eligibility updates? If so, are they real-time updates?	Please Select
19	Describe your process for handling retroactive enrollment and cancellations.	

	Providers/Networks	Response
20	What percentage of orthodontists, maxillofacial surgeons, endodontists and periodontists have certification in their specialty from an accredited program?	Please Select
21	How often are online directories updated?	Please select
	Implementation Process	**Response**
22	What initial information is required from the employer for implementation?	Add attachment
23	Provide a detailed implementation timeline	Add attachment
24	Will there be a dedicated implemenation manager?	
25	Will an account manager be available for open enrollment meetings?	Please Select
26	Do you provide ID cards?	Please Select
27	If so, what is your turn around time to provide ID cards?	Please Select
28	Do you agree to allow the County to pre-approve any communication to employees that would reach a significant portion of the County's population? Individualized communications are excluded.	Please Select
29	Please confirm that as part of the annual implementation process you will fund the creation and development of your product's communication materials which will include: Williamson County video library employee communication materials.	Please Select
30	If so, what is your annual communication allowance?	
	Claims Payment	**Response**
31	What procedures are in place for insuring proper COB?	
32	How would "work-in-process" dental treatment be handled if the contract is terminated with the Client?	
33	How would othodontia treatment be handled if the contract is terminated with the Client?	
34	How are non-network claims paid?	Please Select
35	What is the TAT for claims payment?	
	Reporting	**Response**
36	Please provide a sample reporting package.	Add attachment
37	Is the reporting available on a monthly basis?	Please Select
38	If yes, are there any additional cost?	Please Select
	Legal Concerns	**Response**

39	Do you have a clause in your contract with providers that prohibit providers from billing or collection from patients more than the plan's designated coinsurance or co-payment?	Please Select
40	Does your organization have any ownership interest, equity interest, or other financial interest in any dental provider included in your network?	Please Select
41	Are you willing to agree that all documents, records, reports and data, including data recorded in your processing systems, related to the receipt, processing and payment of claims, including all claims histories will be the property of the County?	Please Select
42	Please include a sample contract for dental services and a copy of the SPD/booklet the employees will receive.	Add attachment
43	Confirm that you will produce a Dental SPD for Williamson County.	

Vendor Name

For any benefits you cannot duplicate or administer, per the inforce SPD, please indicate on this tab. Please clearly note the differences by plan (INO, PPO, DHMO).

Proposed Dental -- Deviations/Variations

Question #	Deviation/Variation - List by Plan
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	

Vendor Name

Please note that you must keep this information in the following requested formats in order for your quote to be considered. Enter only the networks that are included in your quoted rates.

COMPLETE THIS TAB FOR EACH PLAN QUOTED.

Dental Network Discounts

Please provide your organization's self reported discounts within the client's area for:

General Dentists	
Specialist Dentists	
Orthodontists	

INO Geo Access Results

Please provide full detailed reports for the medical GEO access within your formal proposal.

INO Measurement	General Dentists	Specialist Dentists	Orthodontists
# of Employees / Zip Codes Evaluated			
Providers			
# of Providers			
# of Locations			
X Providers within X Miles	**2 / 10**	**2 / 15**	**1 / 20**
% of Employee WITH access			
# of Employees WITH access			
% of Employee WITHOUT access			
# of Employees WITHOUT access			
Average distance to 2 providers for employees WITH desired access			
Average distance to 2 providers for employees WITHOUT desired access			

Vendor Name

Please note that you must complete the disruption analysis for each network quoted in the following requested formats in order for your quote to be considered.

Dental Disruption Analysis

Provider	Provider Address	City	ST	ZIP	Tax ID	Provider ID	Number of Claimants
Vernon Robert Bender	117 Louis Henna Drive	Round Rock	TX	78664	861159159	711374309	45
John F. McEntire	123 Ed Schmidt Blvd.	Hutto	TX	78634	261931306	902911009	54
Mandy L. Holley	3622 Williams Drive	Georgetown	TX	78628	753168047	751939509	30
Kelly Marie Gonzales	3614 Williams Drive	Georgetown	TX	78628	261516884	753470209	49
Ryan Payne Roberson	3006 Dawn Drive	Georgetown	TX	78628	454689506	947913409	34
Dustin P. Dinh	1950 South Austin Avenue	Georgetown	TX	78626	260879872	918709209	36
Travis Reed Hildebrand	1100 Lowes Blvd.	Killeen	TX	76542	261694505	968818509	49
Michael E. Dyer	3003 Dawn Drive	Georgetown	TX	78628	61783978	719286009	35
Kenneth Seely Havard	4402 Williams Drive	Georgetown	TX	78628	261694505	986719209	53
Keren Cherian	950 University Drive	Georgetown	TX	78626	742802915	512492409	30
Thad H. Gillespie	14933 West State Hwy. 29	Liberty Hill	TX	78642	200773477	523136709	28
Jeremy Louk	1 Chisholm Trail	Round Rock	TX	78681	464786288	486131209	13
Monica Goldenberg	3622 Williams Drive	Georgetown	TX	78628	742995034	598553109	11
Jamiesue Ferguson	235 South Dalton	Bartlett	TX	76511	742923417	514548709	32
William C. Cain	2027 South 61st Street	Temple	TX	76504	741699140	958505809	11
Eddie Glenn Tennison	2021 North Mays Street	Round Rock	TX	78664	460069142	573035409	18

Teri L. Marek	123 Ed Schmidt Blvd.	Hutto	TX	78634	261931306	908738009	36
William Chris Cornman	5790 Williams Drive	Georgetown	TX	78633	742789033	536723109	19
Cory W. Roach	602 East Elms Road	Killeen	TX	76542	454689506	732255909	26
Jackeline A. Argandona Daab	2906 South Bagdad Road	Leander	TX	78641	471843899	924511409	14
Emily E. Abbott-Ryu	16000 Park Valley Drive	Round Rock	TX	78681	742802915	737386909	22
Henri Bartleigh Smith	3006 Dawn Drive	Georgetown	TX	78628	454689506	550000709	14
Angela M. Lopez-Loverich	3614 Williams Drive	Georgetown	TX	78628	261516884	921274509	30
Scott Monroe Williams	2430 South Interstate 35 East	Denton	TX	76205	467084437	425187709	25
Jeremy D. Leland	3622 Williams Drive	Georgetown	TX	78628	741699140	711194609	11
Bryan P. Hassler	2525 West Anderson Lane	Austin	TX	78757	453639447	920340309	21
Chad K. Brown	321 Ed Schmidt Blvd.	Hutto	TX	78634	383815306	997014209	16
Euclid N. McLeod	1 Citizens Plaza	Georgetown	TX	78626	741675660	542333009	21
John Zavala	119 East Old Settlers Blvd.	Round Rock	TX	78664	10592949	765625509	14
Zeyad Mughrabi	1615 Williams Drive	Georgetown	TX	78628	452038813	959766309	23
Richard Brannock	501 Mallard Lane	Taylor	TX	76574	463402241	966794009	10
Scott V. Law	300 Morgan Street	Harker Heights	TX	76548	270900161	940038809	5
Kevin M. Bowcutt	4000 Bellmead Drive	Waco	TX	76705	474126471	766797809	9
Holly Josephine Marabella	3007 Williams Drive	Georgetown	TX	78628	451063322	490279509	11
Mark W. Friedrich	7700 Cat Hollow Drive	Round Rock	TX	78681	742973673	582866909	16
Roy Kirk McCormick	604 Crystal Falls Pkwy.	Leander	TX	78641	202394859	787262109	23
Bert C. Vasut	2051 Cypress Creek Road	Cedar Park	TX	78613	201804828	576615709	10
William S. Cabaniss	9000 Anderson Mills Road	Austin	TX	78729	742310797	596641309	10
Thomas William Rawcliffe	401 Ed Schmidt Blvd.	Hutto	TX	78634	383815306	559597109	10

Justin J. D'Abadie	6500 McNeil Drive	Austin	TX	78729	522389841	527338309	9
Kevin R. Rhodes	9902 Potranco Road	San Antonio	TX	78251	272800621	970509209	6
Darrell D. Faught	2608 Sunrise Road	Round Rock	TX	78665	203194116	465987009	12
Gerard L. DeSantis	1134 North Rolling Road	Catonsville	MD	21228	463191639	792670109	5
Leonard Joseph Kinateder	4400-1 East Central Texas Expwy.	Killeen	TX	76543	742802915	576237409	12
Houtan Alayan	15930 Great Oaks Drive	Round Rock	TX	78681	200350959	755142309	5
Ana M Torres	2242 1/2 Fair Park Ave	Chicago	IL	60659	453639447	796560909	14
Soi Douglas Hinh	7002 Manchaca Road	Austin	TX	78745	811590406	732553209	9
Avish Anil Haria	16000 Park Valley Drive	Round Rock	TX	78681	742802915	788039509	12
Rachel Foster	500 Canyon Ridge Drive	Austin	TX	78753	760486897	979379009	14
Stephen Bradley Bookmyer	12201 Renfert Way	Austin	TX	78758	134211482	757935209	5
Todd Carlton Harris	1600 West 38th Street	Austin	TX	78731	742773868	562068709	9
Howard Harland Chapple	893 North IH 35	Round Rock	TX	78664	742745322	535036909	6
Kevin Y. Kim	11007 Jones Road	Houston	TX	77070	274504187	770374509	10
Grant Nakashima	701 San Gabriel Village Blvd.	Georgetown	TX	78626	200972339	790625809	6
Kendall Jay Brennan	950 University Drive	Georgetown	TX	78626	742802915	537125009	18
Michelle Renee West	101 Jonathan Drive	Liberty Hill	TX	78642	200313094	770394509	8
Robert C. Hogge	651 North US Hwy. 183	Leander	TX	78641	454240250	965583809	14
Bhavesh B. Bhakta	1103 Rivery Blvd.	Georgetown	TX	78628	320202016	923983809	7
Blake E. Dawes	150 Deepwood Drive	Round Rock	TX	78681	271565534	987716009	15
David Emory Martin	2911 South A.W. Grimes Blvd.	Pflugerville	TX	78660	460631056	962987109	6
Jennifer L. Kiening	205 Denali Pass	Cedar Park	TX	78613	203068430	727919209	21
William L. Anderson	500 Crystal Falls Pkwy.	Leander	TX	78641	474337708	973790209	12

Scott P. Smith	901 Cypress Creek Road	Cedar Park	TX	78613	742570657	722043009	9
Fang Gu	3001 South Lamar Blvd.	Austin	TX	78704	742802915	913259909	5
Anil P. Gudapati	601 East Whitestone Blvd.	Cedar Park	TX	78613	205434615	790740009	14
Andrew D. Ducote	503 East Palm Valley Blvd.	Round Rock	TX	78664	205846366	707491709	16
Dayton R. Warden	1220 West State Hwy. 29	Bertram	TX	78605	742131487	599038809	6
William J. Montreuil	901 Round Rock Avenue	Round Rock	TX	78681	205978006	701585109	11
Prathima Sree Prasanna Vemulapalli	209 Denali Pass	Cedar Park	TX	78613	472924627	937966009	4
Ellen Marie Nelson	7215 Wyoming Springs	Round Rock	TX	78681	742819143	540508209	3
Mark E. Kupec	896 Summit Street	Round Rock	TX	78664	742900863	571666409	8
Lizania Montero	7002 Northeast Zac Lentz Pkwy.	Victoria	TX	77904	742948302	483601909	13
Julie A. Eivens	8701 West Parmer Lane	Austin	TX	78729	364490542	735159209	4
Kelsey L. Bookmyer	2100 Round Rock Avenue	Round Rock	TX	78681	134211482	714638709	10
Pamela Rene Singletary	1000 East 41st Street	Austin	TX	78751	455260488	551267009	8
Kerry J. Neal	4407 Bee Caves Road	Austin	TX	78746	742837561	585827809	2
Robert W. Roup	1780 Round Rock Avenue	Round Rock	TX	78681	412042873	572358409	3
Ronald L. Warren	3011 Dawn Drive	Georgetown	TX	78628	571136248	573035309	17
David M. Burden	8021 Fm 78	San Antonio	TX	78244	261931306	995005909	4
Cynthia Lynne Graves	10418 Lake Creek Pkwy.	Austin	TX	78750	271545228	967818909	6
Ziad Alex Zreik	16000 Park Valley Drive	Round Rock	TX	78681	742802915	921805109	4
Brandon L. Grantham	1801 Patriot Circle	Copperas Cove	TX	76522	205274217	762081709	5
Robert A. Kirk	5000 West Slaughter Lane	Austin	TX	78749	742802915	513581709	15
Darrell J. Park	901 Cypress Creek Road	Cedar Park	TX	78613	742570657	748955909	7
Jeffrey T. Burnett	15300B FM 1825	Pflugerville	TX	78660	742248247	589334909	10

Sharon C. Mathias	8415 Datapoint Drive	San Antonio	TX	78229	810818785	957608209	9
Brian J. Peters	893 North Interstate 35	Round Rock	TX	78664	742948302	960950909	3
Jeffrey C. Fendley	18111 Preston Road	Dallas	TX	75252	320202016	724132209	14
Sarah M. Jovanovski	4010 Sandy Brook Drive	Round Rock	TX	78665	10928536	958440409	3
Don R. Davis	10125 Lake Creek Pkwy.	Austin	TX	78729	320048507	533673509	6
Patrick S. Bell	181 Town Center Blvd.	Jarrell	TX	76537	208920479	772996009	8
Larry H Lindsay	6500 North Mopac	Austin	TX	78731	742586901	501953409	2
Kacey Layne Howell	16000 Park Valley Drive	Round Rock	TX	78681	742802915	918760809	9
Teresa Beth Gaddy	2501 Red Bud Lane	Round Rock	TX	78664	743022292	563535109	5
David A. Baker	4201 Bee Caves Road	Austin	TX	78746	752350502	787110409	2
Timothy Collins	3600 East McKinney Street	Denton	TX	76209	811469752	487216409	3
Maria I. Mendoza	893 North Interstate 35	Round Rock	TX	78664	271242781	759783009	19
David R. Hennington	3613 Williams Drive	Georgetown	TX	78628	201211044	564336909	8
Kathy Lynn Raesz	11615 Angus Road	Austin	TX	78759	742745322	507721009	5
Michaelanne Elizabeth Briggs	701 San Gabriel Village Blvd.	Georgetown	TX	78626	200972339	719960409	3
John F. Lann	7700 Cat Hollow Drive	Round Rock	TX	78681	742821936	569402209	4
Natalie G. Scott	15424 FM 1825	Pflugerville	TX	78660	463040994	918381909	8
Oakbrook Endodontics LTD LLP	1830 Round Rock Avenue	Round Rock	TX	78681	550811037	784248909	3
Brandon Cole Hedgecock	2700 McClelland Blvd.	Joplin	MO	64804	471661633	997121009	10
Ronald C. Barnett	7800 North Mopac Expressway	Austin	TX	78759	742876461	501239709	3
Gregory D. Edson	3301 Northland Drive	Austin	TX	78731	742794754	545044209	5
Russell D. Cunningham	12416 Hymeadow Drive	Austin	TX	78750	741699140	463598509	2
Saba Parveen Asrar	4506 Williams Drive	Georgetown	TX	78633	760486897	793860409	3

Chang W. Ryu	893 North Interstate 35	Round Rock	TX	78664	742948302	524091809	8
Kaveh Azarnoush	115 Sundance Pkwy.	Round Rock	TX	78681	461335632	986157509	5
Dzung Huu Hoang Nguyen	601 East Whitestone Blvd.	Cedar Park	TX	78613	465647065	921383209	4
David C. Myhre	15004 Avery Ranch Blvd.	Austin	TX	78717	450534553	482560909	4
Patrick S. Bell	181 Town Center Blvd.	Jarrell	TX	76537	611580487	772996009	11
Tuan Anh Chau	11416 FM 620 North	Austin	TX	78726	454707279	737899909	2
Jeffrey Scott Zapalac	5656 Bee Cave Road	Austin	TX	78746	10570299	716236109	1
Susmitha Aluru	1201 Barbara Jordan Blvd.	Austin	TX	78723	463185895	988943609	9
Jason M. Duggan	1500 West 38th Street	Austin	TX	78731	263791880	974806209	2
Loubna Tahiri	5656 Bee Caves Road	Austin	TX	78746	742802915	782644609	5
Glen M. Wainwright	300 Beardsley Lane	Austin	TX	78746	61800269	722987209	1
Craig Knell	12416 Hymeadow Drive	Austin	TX	78750	741699140	983486609	5
Douglas B. Willingham	2 North Main	Salado	TX	76571	454024694	529039709	3
Aliisha Kathleen Choucair	10703 East Crystal Falls Pkwy.	Leander	TX	78641	208028933	972361609	5
Mark David Burchard	7200 Wyoming Springs	Round Rock	TX	78681	742912451	577843709	4
Daniel W Quick	2110 New Slaughter Lane	Austin	TX	78748	743024068	462404109	1
Stephen F. Snodell	1907 Cypress Creek Road	Cedar Park	TX	78613	30399859	548766909	1
Michelle L. Freeze	14005 North Us Hwy. 183	Austin	TX	78717	474844229	755664309	9
Michael B. Doughty	3415 El Salido Pkwy.	Cedar Park	TX	78613	10691882	589809709	2
Vincent L. Ho	11130 Jollyville Road	Austin	TX	78759	742800896	572497809	4
Eric D. Hoffman	150 Deepwood Drive	Round Rock	TX	78681	271565534	764081509	7
Aaron Wayne Engels	11149 Research Blvd.	Austin	TX	78759	205434615	949257409	7
Craig P. Torres	4402 Williams Drive	Georgetown	TX	78628	453820108	948586809	6

Kyleen J. Chen	6301 West Parmer Lane	Austin	TX	78729	830450009	772617009	2
David Kent Pendleton	307 Childress Drive	Rockdale	TX	76567	20655538	580238109	1
Trent M. Smith	150 Deepwood Drive	Round Rock	TX	78681	271565534	969163609	5
Michael Scott Monts	10601 Pecan Park Blvd.	Austin	TX	78750	200960703	749459109	2
Rachel Trueblood	1335 East Whitestone Blvd.	Cedar Park	TX	78613	474844229	776684609	5
Blair R. Barnett	12151 West Parmer Lane	Cedar Park	TX	78613	260544039	960306909	2
Lyndsey Wang	2606 FM 1825	Pflugerville	TX	78660	462430957	410626209	3
Michael Pham Ding	12416 Hymeadow Drive	Austin	TX	78750	741699140	979053009	2
John Colby Smith	3007 Williams Drive	Georgetown	TX	78628	451063322	726457009	6
Steven C. Wood	971 Hilltop Drive	Weatherford	TX	76086	261694505	598340209	2
Ann Marie Olson	11623 Angus Road	Austin	TX	78759	200573948	462123509	1
Gene Hassell	200 West Main Street	Pflugerville	TX	78660	742281178	527337909	1
James Vincent Venuti	12901 North IH 35	Austin	TX	78753	760486897	486676609	3
Ali Golshani	301 Hwy. 71 West	Bastrop	TX	78602	263884341	526695909	1
Jason Wade Dyson	16000 Park Valley Drive	Round Rock	TX	78681	611466241	778601909	2
Kenny M. Baird	800 Lakeway Drive	Georgetown	TX	78628	742686607	556836809	3
Joshua M. Knowles	2027 South 61st Street	Temple	TX	76504	474875860	561693509	1

Dental Paid Claims

Control - SFX - ACCT Total	Product	Month	*(1) Estimated Employees	*(2) Customer Funded Claims	*(3) Individual Stop Loss Claims	*(4) Aggregate Stop Loss Claims	Paid Claims
866349 - 010 - 001	(5) Managed Behavioral Health	11/01/2015	0	$150.00	$0.00	$0.00	$150.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$150.00	$0.00	$0.00	$150.00
	Indemnity Vision	11/01/2015	0	$2,556.25	$0.00	$0.00	$2,556.25
		12/01/2015	0	$105.80	$0.00	$0.00	$105.80
		01/01/2016	0	$33.00	$0.00	$0.00	$33.00
		02/01/2016	0	$184.60	$0.00	$0.00	$184.60
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$2,879.65	$0.00	$0.00	$2,879.65
	Open Acc EPO	11/01/2015	0	$50,288.38	$0.00	$0.00	$50,288.38
		12/01/2015	0	$21,464.05	$0.00	$0.00	$21,464.05
		01/01/2016	0	$10,335.10	$0.00	$0.00	$10,335.10
		02/01/2016	0	$732.67	$0.00	$0.00	$732.67
		03/01/2016	0	-$15,252.15	$0.00	$0.00	-$15,252.15
		04/01/2016	0	$2,811.06	$0.00	$0.00	$2,811.06
		05/01/2016	0	$3,163.65	$0.00	$0.00	$3,163.65
		06/01/2016	0	$264,612.36	$0.00	$0.00	$264,612.36
		07/01/2016	0	-$268,631.65	$0.00	$0.00	-$268,631.65
		08/01/2016	0	$2,228.93	$0.00	$0.00	$2,228.93
		09/01/2016	0	-$1,542.56	$0.00	$0.00	-$1,542.56
		10/01/2016	0	-$4,698.86	$0.00	$0.00	-$4,698.86
		11/01/2016	0	$0.00	-$335.40	$0.00	-$335.40
		12/01/2016	0	-$18.43	$0.00	$0.00	-$18.43
	Open Acc EPO Total		0	$65,492.55	-$335.40	$0.00	$65,157.15
	Pharmacy	11/01/2015	0	$13,895.64	$0.00	$0.00	$13,895.64
		12/01/2015	0	$109.94	$0.00	$0.00	$109.94
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$538.13	$0.00	$0.00	$538.13
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00

	Pharmacy Total		0	$14,543.71	$0.00	$0.00	$14,543.71
Control - SFX - ACCT Total			0	$83,065.91	-$335.40	$0.00	$82,730.51
866349 - 010 - 002	Indemnity Vision	11/01/2015	0	$516.00	$0.00	$0.00	$516.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$516.00	$0.00	$0.00	$516.00
	Open Acc EPO	11/01/2015	0	$17,506.10	$0.00	$0.00	$17,506.10
		12/01/2015	0	$940.67	$0.00	$0.00	$940.67
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$481.30	$0.00	$0.00	$481.30
		03/01/2016	0	$19.22	$0.00	$0.00	$19.22
		04/01/2016	0	$180.21	$0.00	$0.00	$180.21
		05/01/2016	0	-$1,874.87	$0.00	$0.00	-$1,874.87
		06/01/2016	0	-$2,408.30	$0.00	$0.00	-$2,408.30
		07/01/2016	0	-$949.80	$0.00	$0.00	-$949.80
		08/01/2016	0	$140.61	$0.00	$0.00	$140.61
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	-$42.15	$0.00	$0.00	-$42.15
	Open Acc EPO Total		0	$13,992.99	$0.00	$0.00	$13,992.99
	Pharmacy	11/01/2015	0	$4,686.51	$0.00	$0.00	$4,686.51
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$88.92	$0.00	$0.00	$88.92
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$4,775.43	$0.00	$0.00	$4,775.43
Control - SFX - ACCT Total			0	$19,284.42	$0.00	$0.00	$19,284.42
866349 - 010 - 997	Pharmacy	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	-$14,989.06	$0.00	$0.00	-$14,989.06
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	-$14,989.06	$0.00	$0.00	-$14,989.06
Control - SFX - ACCT Total			0	-$14,989.06	$0.00	$0.00	-$14,989.06
866349 - 011 - 101	(5) Managed Behavioral Health	11/01/2015	0	$5,876.32	$0.00	$0.00	$5,876.32
		12/01/2015	0	$1,098.47	$0.00	$0.00	$1,098.47
		01/01/2016	0	$4,385.11	$0.00	$0.00	$4,385.11
		02/01/2016	0	$11,683.07	$0.00	$0.00	$11,683.07

		03/01/2016	0	$3,387.98	$0.00	$0.00	$3,387.98
		04/01/2016	0	$8,602.66	$0.00	$0.00	$8,602.66
		05/01/2016	0	$3,763.47	$0.00	$0.00	$3,763.47
		06/01/2016	0	$17,583.01	$0.00	$0.00	$17,583.01
		07/01/2016	0	$4,237.94	$0.00	$0.00	$4,237.94
		08/01/2016	0	$8,728.88	$0.00	$0.00	$8,728.88
		09/01/2016	0	$3,572.35	$0.00	$0.00	$3,572.35
		10/01/2016	0	$8,031.37	$0.00	$0.00	$8,031.37
		11/01/2016	0	$6,569.08	$0.00	$0.00	$6,569.08
		12/01/2016	0	$1,215.48	$270.00	$0.00	$1,485.48
	(5) Managed Behavioral Health Total		0	$88,735.19	$270.00	$0.00	$89,005.19
	Indemnity Vision	11/01/2015	0	$29,108.59	$0.00	$0.00	$29,108.59
		12/01/2015	0	$18,535.81	$0.00	$0.00	$18,535.81
		01/01/2016	0	$10,741.25	$0.00	$0.00	$10,741.25
		02/01/2016	0	$26,463.84	$0.00	$0.00	$26,463.84
		03/01/2016	0	$20,781.51	$0.00	$0.00	$20,781.51
		04/01/2016	0	$10,872.39	$0.00	$0.00	$10,872.39
		05/01/2016	0	$14,052.26	$0.00	$0.00	$14,052.26
		06/01/2016	0	$12,164.14	$0.00	$0.00	$12,164.14
		07/01/2016	0	$17,858.59	$0.00	$0.00	$17,858.59
		08/01/2016	0	$24,892.16	$0.00	$0.00	$24,892.16
		09/01/2016	0	$18,036.59	$0.00	$0.00	$18,036.59
		10/01/2016	0	$25,113.91	$0.00	$0.00	$25,113.91
		11/01/2016	0	$22,258.26	$0.00	$0.00	$22,258.26
		12/01/2016	0	$25,588.97	$0.00	$0.00	$25,588.97
	Indemnity Vision Total		0	$276,468.27	$0.00	$0.00	$276,468.27
	Open Acc EPO	11/01/2015	1,007	$273,470.76	$0.00	$0.00	$273,470.76
		12/01/2015	1,007	$297,955.15	$0.00	$0.00	$297,955.15
		01/01/2016	1,017	$254,109.77	$0.00	$0.00	$254,109.77
		02/01/2016	1,020	$420,909.36	$0.00	$0.00	$420,909.36
		03/01/2016	1,018	$594,053.83	$0.00	$0.00	$594,053.83
		04/01/2016	1,028	$621,693.99	$5,239.48	$0.00	$626,933.47
		05/01/2016	1,028	$663,494.61	$8,639.19	$0.00	$672,133.80
		06/01/2016	1,040	$466,159.66	-$486.33	$0.00	$465,673.33
		07/01/2016	1,044	$417,519.78	$0.00	$0.00	$417,519.78
		08/01/2016	1,095	$955,653.75	$0.00	$0.00	$955,653.75
		09/01/2016	1,112	$515,897.67	$1,777.36	$0.00	$517,675.03
		10/01/2016	1,116	$743,994.77	$49,673.39	$0.00	$793,668.16
		11/01/2016	1,123	$1,008,368.10	$51,745.66	$0.00	$1,060,113.76
		12/01/2016	1,123	$536,279.61	$148,772.92	$0.00	$685,052.53
	Open Acc EPO Total		14,778	$7,769,560.81	$265,361.67	$0.00	$8,034,922.48
	Pharmacy	11/01/2015	1,007	$177,981.75	$0.00	$0.00	$177,981.75
		12/01/2015	1,007	$157,559.43	$0.00	$0.00	$157,559.43
		01/01/2016	1,017	$202,560.08	$0.00	$0.00	$202,560.08
		02/01/2016	1,020	$202,110.57	$0.00	$0.00	$202,110.57
		03/01/2016	1,018	$245,069.67	$0.00	$0.00	$245,069.67
		04/01/2016	1,028	$224,169.26	$245.32	$0.00	$224,414.58
		05/01/2016	1,028	$162,683.09	$77.50	$0.00	$162,760.59
		06/01/2016	1,040	$242,355.94	$162.86	$0.00	$242,518.80
		07/01/2016	1,044	$197,082.97	$0.00	$0.00	$197,082.97
		08/01/2016	1,095	$209,849.31	-$154.03	$0.00	$209,695.28
		09/01/2016	1,112	$231,795.02	$0.00	$0.00	$231,795.02
		10/01/2016	1,116	$202,264.70	$747.78	$0.00	$203,012.48
		11/01/2016	1,123	$207,666.06	$1,168.05	$0.00	$208,834.11
		12/01/2016	1,123	$275,582.70	$804.99	$0.00	$276,387.69
	Pharmacy Total		14,778	$2,938,730.55	$3,052.47	$0.00	$2,941,783.02
Control - SFX - ACCT Total			29,556	$11,073,494.82	$268,684.14	$0.00	$11,342,178.96
866349 - 011 - 102	(5) Managed Behavioral Health	11/01/2015	0	$265.01	$0.00	$0.00	$265.01
		12/01/2015	0	$9,897.70	$0.00	$0.00	$9,897.70
		01/01/2016	0	$8,483.50	$0.00	$0.00	$8,483.50
		02/01/2016	0	$84.87	$0.00	$0.00	$84.87
		03/01/2016	0	$877.12	$0.00	$0.00	$877.12
		04/01/2016	0	$1,253.34	$0.00	$0.00	$1,253.34
		05/01/2016	0	$30,887.25	$0.00	$0.00	$30,887.25
		06/01/2016	0	$3,308.74	$0.00	$0.00	$3,308.74
		07/01/2016	0	$957.24	$0.00	$0.00	$957.24
		08/01/2016	0	-$4,218.39	$0.00	$0.00	-$4,218.39

		09/01/2016	1	$7,909.74	$0.00	$0.00	$7,909.74
		10/01/2016	0	$172.00	$0.00	$0.00	$172.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$16,150.00	$0.00	$0.00	$16,150.00
	(5) Managed Behavioral Health Total		0	$76,028.12	$0.00	$0.00	$76,028.12
	Indemnity Vision	11/01/2015	0	$1,924.60	$0.00	$0.00	$1,924.60
		12/01/2015	0	$1,036.00	$0.00	$0.00	$1,036.00
		01/01/2016	0	$810.00	$0.00	$0.00	$810.00
		02/01/2016	0	$1,436.00	$0.00	$0.00	$1,436.00
		03/01/2016	0	$49.60	$0.00	$0.00	$49.60
		04/01/2016	0	$300.00	$0.00	$0.00	$300.00
		05/01/2016	0	$750.00	$0.00	$0.00	$750.00
		06/01/2016	0	$590.30	$0.00	$0.00	$590.30
		07/01/2016	0	$295.00	$0.00	$0.00	$295.00
		08/01/2016	0	$551.75	$0.00	$0.00	$551.75
		09/01/2016	0	$1,159.96	$0.00	$0.00	$1,159.96
		10/01/2016	0	$426.75	$0.00	$0.00	$426.75
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$9,329.96	$0.00	$0.00	$9,329.96
	Open Acc EPO	11/01/2015	53	$55,969.57	$0.00	$0.00	$55,969.57
		12/01/2015	51	$39,706.71	$0.00	$0.00	$39,706.71
		01/01/2016	51	$40,656.61	$0.00	$0.00	$40,656.61
		02/01/2016	51	$44,357.37	$0.00	$0.00	$44,357.37
		03/01/2016	49	$33,630.96	$0.00	$0.00	$33,630.96
		04/01/2016	49	$85,681.25	$0.00	$0.00	$85,681.25
		05/01/2016	50	$36,725.72	$0.00	$0.00	$36,725.72
		06/01/2016	50	$31,856.88	$0.00	$0.00	$31,856.88
		07/01/2016	49	$68,849.87	$0.00	$0.00	$68,849.87
		08/01/2016	2	$88,991.80	$0.00	$0.00	$88,991.80
		09/01/2016	1	$64,144.58	$0.00	$0.00	$64,144.58
		10/01/2016	1	$37,064.06	$0.00	$0.00	$37,064.06
		11/01/2016	1	$742.44	$0.00	$0.00	$742.44
		12/01/2016	1	$283.59	$0.00	$0.00	$283.59
	Open Acc EPO Total		459	$628,661.41	$0.00	$0.00	$628,661.41
	Pharmacy	11/01/2015	53	$16,950.60	$0.00	$0.00	$16,950.60
		12/01/2015	51	$17,297.60	$0.00	$0.00	$17,297.60
		01/01/2016	51	$22,287.24	$0.00	$0.00	$22,287.24
		02/01/2016	51	$18,070.85	$0.00	$0.00	$18,070.85
		03/01/2016	49	$33,328.29	$0.00	$0.00	$33,328.29
		04/01/2016	49	$31,386.33	$0.00	$0.00	$31,386.33
		05/01/2016	50	$19,625.87	$0.00	$0.00	$19,625.87
		06/01/2016	50	$29,397.19	$0.00	$0.00	$29,397.19
		07/01/2016	49	$46,504.77	$0.00	$0.00	$46,504.77
		08/01/2016	2	$15,892.50	$0.00	$0.00	$15,892.50
		09/01/2016	1	$37,936.65	$0.00	$0.00	$37,936.65
		10/01/2016	1	$18,249.52	$0.00	$0.00	$18,249.52
		11/01/2016	1	-$12,894.57	$0.00	$0.00	-$12,894.57
		12/01/2016	1	$857.45	$0.00	$0.00	$857.45
	Pharmacy Total		459	$294,890.29	$0.00	$0.00	$294,890.29
Control - SFX - ACCT Total			918	$1,008,909.78	$0.00	$0.00	$1,008,909.78
866349 - 011 - 103	Indemnity Vision	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$300.00	$0.00	$0.00	$300.00
	Indemnity Vision Total		0	$300.00	$0.00	$0.00	$300.00

	Open Acc EPO	11/01/2015	1	$240.00	$0.00	$0.00	$240.00
		12/01/2015	1	$0.50	$0.00	$0.00	$0.50
		01/01/2016	1	$38.87	$0.00	$0.00	$38.87
		02/01/2016	2	$1.00	$0.00	$0.00	$1.00
		03/01/2016	2	$1.00	$0.00	$0.00	$1.00
		04/01/2016	2	$289.66	$0.00	$0.00	$289.66
		05/01/2016	2	$265.22	$0.00	$0.00	$265.22
		06/01/2016	2	$1.20	$0.00	$0.00	$1.20
		07/01/2016	3	$17.70	$0.00	$0.00	$17.70
		08/01/2016	4	$534.79	$0.00	$0.00	$534.79
		09/01/2016	5	$5,966.97	$0.00	$0.00	$5,966.97
		10/01/2016	5	$5,361.02	$0.00	$0.00	$5,361.02
		11/01/2016	5	$3,855.56	$0.00	$0.00	$3,855.56
		12/01/2016	5	$4,494.40	$0.00	$0.00	$4,494.40
	Open Acc EPO Total		39	$21,067.89	$0.00	$0.00	$21,067.89
	Pharmacy	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	1	$0.00	$0.00	$0.00	$0.00
		01/01/2016	1	$0.00	$0.00	$0.00	$0.00
		02/01/2016	2	$0.00	$0.00	$0.00	$0.00
		03/01/2016	2	$109.54	$0.00	$0.00	$109.54
		04/01/2016	2	$160.56	$0.00	$0.00	$160.56
		05/01/2016	2	$412.61	$0.00	$0.00	$412.61
		06/01/2016	2	$0.00	$0.00	$0.00	$0.00
		07/01/2016	3	$0.00	$0.00	$0.00	$0.00
		08/01/2016	4	$409.08	$0.00	$0.00	$409.08
		09/01/2016	5	$1,380.50	$0.00	$0.00	$1,380.50
		10/01/2016	5	$1,902.10	$0.00	$0.00	$1,902.10
		11/01/2016	5	$2,360.64	$0.00	$0.00	$2,360.64
		12/01/2016	5	$1,611.09	$0.00	$0.00	$1,611.09
	Pharmacy Total		39	$8,346.12	$0.00	$0.00	$8,346.12
Control - SFX - ACCT Total			78	$29,714.01	$0.00	$0.00	$29,714.01
866349 - 012 - 201	(5) Managed Behavioral Health	11/01/2015	0	$1,035.30	$0.00	$0.00	$1,035.30
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.80	$0.00	$0.00	$0.80
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$1,036.10	$0.00	$0.00	$1,036.10
	Indemnity Vision	11/01/2015	0	$693.03	$0.00	$0.00	$693.03
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$9.00	$0.00	$0.00	$9.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$128.00	$0.00	$0.00	$128.00
	Indemnity Vision Total		0	$830.03	$0.00	$0.00	$830.03
	Open Acc POS	11/01/2015	0	$46,849.97	$0.00	$0.00	$46,849.97
		12/01/2015	0	$47,018.76	$0.00	$0.00	$47,018.76
		01/01/2016	0	$2,196.71	$0.00	$0.00	$2,196.71
		02/01/2016	0	-$54,975.60	$0.00	$0.00	-$54,975.60
		03/01/2016	0	-$2,965.52	$0.00	$0.00	-$2,965.52
		04/01/2016	0	$1,049.33	$0.00	$0.00	$1,049.33

		05/01/2016	0	-$488.22	$0.00	$0.00	-$488.22
		06/01/2016	0	$164.80	$0.00	$0.00	$164.80
		07/01/2016	0	$187.48	$0.00	$0.00	$187.48
		08/01/2016	0	$164.27	$0.00	$0.00	$164.27
		09/01/2016	0	$69.02	$0.00	$0.00	$69.02
		10/01/2016	0	$278.79	$0.00	$0.00	$278.79
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$25.68	$0.00	$0.00	$25.68
	Open Acc POS Total		0	$39,575.47	$0.00	$0.00	$39,575.47
	Pharmacy	11/01/2015	0	$21,977.40	$0.00	$0.00	$21,977.40
		12/01/2015	0	-$18.90	$0.00	$0.00	-$18.90
		01/01/2016	0	$890.90	$0.00	$0.00	$890.90
		02/01/2016	0	$1,020.11	$0.00	$0.00	$1,020.11
		03/01/2016	0	$449.42	$0.00	$0.00	$449.42
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$1,206.82	$0.00	$0.00	$1,206.82
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$25,525.75	$0.00	$0.00	$25,525.75
Control - SFX - ACCT Total			0	$66,967.35	$0.00	$0.00	$66,967.35
866349 - 012 - 202	Indemnity Vision	11/01/2015	0	$215.00	$0.00	$0.00	$215.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$215.00	$0.00	$0.00	$215.00
	Open Acc POS	11/01/2015	0	$3,546.37	$0.00	$0.00	$3,546.37
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	-$296.68	$0.00	$0.00	-$296.68
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$39.71	$0.00	$0.00	$39.71
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$338.01	$0.00	$0.00	$338.01
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	$3,627.41	$0.00	$0.00	$3,627.41
	Pharmacy	11/01/2015	0	$505.58	$0.00	$0.00	$505.58
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$505.58	$0.00	$0.00	$505.58
Control - SFX - ACCT Total			0	$4,347.99	$0.00	$0.00	$4,347.99

866349 - 012 - 203	Open Acc POS	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	-$11.56	$0.00	$0.00	-$11.56
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	-$11.56	$0.00	$0.00	-$11.56
	Pharmacy	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$5.60	$0.00	$0.00	$5.60
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$5.60	$0.00	$0.00	$5.60
Control - SFX - ACCT Total			0	-$5.96	$0.00	$0.00	-$5.96
866349 - 013 - 301	(5) Managed Behavioral Health	11/01/2015	0	$1,164.72	$0.00	$0.00	$1,164.72
		12/01/2015	0	$3,595.75	$0.00	$0.00	$3,595.75
		01/01/2016	0	$1,021.79	$0.00	$0.00	$1,021.79
		02/01/2016	0	$1,380.76	$0.00	$0.00	$1,380.76
		03/01/2016	0	$914.99	$0.00	$0.00	$914.99
		04/01/2016	0	$4,127.78	$0.00	$0.00	$4,127.78
		05/01/2016	0	$13,781.55	$0.00	$0.00	$13,781.55
		06/01/2016	0	$8,840.63	$0.00	$0.00	$8,840.63
		07/01/2016	0	$21,287.86	$0.00	$0.00	$21,287.86
		08/01/2016	0	$5,644.65	$0.00	$0.00	$5,644.65
		09/01/2016	0	$18,982.25	$0.00	$0.00	$18,982.25
		10/01/2016	0	$1,073.09	$0.00	$0.00	$1,073.09
		11/01/2016	0	$722.35	$0.00	$0.00	$722.35
		12/01/2016	0	$613.72	$0.00	$0.00	$613.72
	(5) Managed Behavioral Health Total		0	$83,151.89	$0.00	$0.00	$83,151.89
	Indemnity Vision	11/01/2015	0	$5,488.03	$0.00	$0.00	$5,488.03
		12/01/2015	0	$5,138.31	$0.00	$0.00	$5,138.31
		01/01/2016	0	$2,027.25	$0.00	$0.00	$2,027.25
		02/01/2016	0	$11,778.68	$0.00	$0.00	$11,778.68
		03/01/2016	0	$6,380.38	$0.00	$0.00	$6,380.38
		04/01/2016	0	$3,472.00	$0.00	$0.00	$3,472.00
		05/01/2016	0	$2,841.05	$0.00	$0.00	$2,841.05
		06/01/2016	0	$4,912.78	$0.00	$0.00	$4,912.78
		07/01/2016	0	$3,044.88	$0.00	$0.00	$3,044.88
		08/01/2016	0	$9,795.19	$0.00	$0.00	$9,795.19
		09/01/2016	0	$2,624.25	$0.00	$0.00	$2,624.25
		10/01/2016	0	$10,795.39	$0.00	$0.00	$10,795.39
		11/01/2016	0	$8,225.04	$0.00	$0.00	$8,225.04
		12/01/2016	0	$6,319.65	$0.00	$0.00	$6,319.65
	Indemnity Vision Total		0	$82,842.88	$0.00	$0.00	$82,842.88
	Open Acc POS	11/01/2015	283	$158,853.73	$0.00	$0.00	$158,853.73
		12/01/2015	284	$255,147.16	$0.00	$0.00	$255,147.16
		01/01/2016	285	$227,692.58	$0.00	$0.00	$227,692.58
		02/01/2016	286	$788,811.83	$5,759.89	$0.00	$794,571.72
		03/01/2016	285	$447,477.61	$6,563.40	$0.00	$454,041.01
		04/01/2016	287	$286,180.72	$1,226.55	$0.00	$287,407.27

		05/01/2016	281	$280,221.19	$38.04	$0.00	$280,259.23
		06/01/2016	281	$189,368.67	$63.05	$0.00	$189,431.72
		07/01/2016	283	$208,217.19	$63.05	$0.00	$208,280.24
		08/01/2016	318	$290,828.50	$194.49	$0.00	$291,022.99
		09/01/2016	318	$310,807.85	$94,560.29	$0.00	$405,368.14
		10/01/2016	324	$232,620.20	$10,179.91	$0.00	$242,800.11
		11/01/2016	328	$246,413.32	$1,897.50	$0.00	$248,310.82
		12/01/2016	328	$309,230.83	$411.98	$0.00	$309,642.81
	Open Acc POS Total		4,174	$4,231,871.38	$120,958.15	$0.00	$4,352,829.53
	Pharmacy	11/01/2015	283	$72,215.65	$0.00	$0.00	$72,215.65
		12/01/2015	284	$85,287.25	$0.00	$0.00	$85,287.25
		01/01/2016	285	$120,037.63	$0.00	$0.00	$120,037.63
		02/01/2016	286	$84,731.62	$214.86	$0.00	$84,946.48
		03/01/2016	285	$126,681.54	$711.57	$0.00	$127,393.11
		04/01/2016	287	$128,005.60	$576.39	$0.00	$128,581.99
		05/01/2016	284	$75,526.93	$227.62	$0.00	$75,754.55
		06/01/2016	281	$128,090.91	$576.39	$0.00	$128,667.30
		07/01/2016	283	$87,073.13	$576.39	$0.00	$87,649.52
		08/01/2016	318	$87,024.05	$225.88	$0.00	$87,249.93
		09/01/2016	318	$75,100.56	$231.08	$0.00	$75,331.64
		10/01/2016	324	$108,317.16	$373.68	$0.00	$108,690.84
		11/01/2016	328	$98,443.26	$1,378.33	$0.00	$99,821.59
		12/01/2016	328	$119,440.18	$1,593.17	$0.00	$121,033.35
	Pharmacy Total		4,174	$1,395,975.47	$6,685.36	$0.00	$1,402,660.83
Control - SFX - ACCT Total			8,348	$5,793,841.62	$127,643.51	$0.00	$5,921,485.13
866349 - 013 - 302	(5) Managed Behavioral Health	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$54.17	$0.00	$0.00	$54.17
		03/01/2016	0	$227.42	$0.00	$0.00	$227.42
		04/01/2016	0	$161.66	$0.00	$0.00	$161.66
		05/01/2016	0	$24.00	$0.00	$0.00	$24.00
		06/01/2016	0	$24.00	$0.00	$0.00	$24.00
		07/01/2016	0	$69.00	$0.00	$0.00	$69.00
		08/01/2016	0	$69.00	$0.00	$0.00	$69.00
		09/01/2016	0	$132.62	$0.00	$0.00	$132.62
		10/01/2016	0	$138.00	$0.00	$0.00	$138.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$899.87	$0.00	$0.00	$899.87
	Indemnity Vision	11/01/2015	0	$1,188.00	$0.00	$0.00	$1,188.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$300.00	$0.00	$0.00	$300.00
		02/01/2016	0	$600.00	$0.00	$0.00	$600.00
		03/01/2016	0	$1,036.00	$0.00	$0.00	$1,036.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$300.00	$0.00	$0.00	$300.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$234.70	$0.00	$0.00	$234.70
		08/01/2016	0	$300.00	$0.00	$0.00	$300.00
		09/01/2016	0	$300.00	$0.00	$0.00	$300.00
		10/01/2016	0	$600.00	$0.00	$0.00	$600.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$4,858.70	$0.00	$0.00	$4,858.70
	Open Acc POS	11/01/2015	36	$19,071.18	$0.00	$0.00	$19,071.18
		12/01/2015	35	$52,365.91	$0.00	$0.00	$52,365.91
		01/01/2016	35	$5,140.67	$0.00	$0.00	$5,140.67
		02/01/2016	35	$5,412.46	$0.00	$0.00	$5,412.46
		03/01/2016	35	$12,344.78	$0.00	$0.00	$12,344.78
		04/01/2016	35	$11,964.67	$0.00	$0.00	$11,964.67
		05/01/2016	37	$7,884.82	$0.00	$0.00	$7,884.82
		06/01/2016	38	$13,562.56	$0.00	$0.00	$13,562.56
		07/01/2016	39	$30,508.16	$0.00	$0.00	$30,508.16
		08/01/2016	2	$7,062.69	$0.00	$0.00	$7,062.69
		09/01/2016	1	$8,155.21	$0.00	$0.00	$8,155.21
		10/01/2016	0	$4,786.52	$0.00	$0.00	$4,786.52

		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	-$97.84	$0.00	$0.00	-$97.84
	Open Acc POS Total		328	$178,161.79	$0.00	$0.00	$178,161.79
	Pharmacy	11/01/2015	36	$18,828.11	$0.00	$0.00	$18,828.11
		12/01/2015	35	$13,003.30	$0.00	$0.00	$13,003.30
		01/01/2016	35	$28,397.35	$0.00	$0.00	$28,397.35
		02/01/2016	35	$19,777.22	$0.00	$0.00	$19,777.22
		03/01/2016	35	$19,277.74	$0.00	$0.00	$19,277.74
		04/01/2016	35	$21,313.16	$0.00	$0.00	$21,313.16
		05/01/2016	37	$23,670.27	$0.00	$0.00	$23,670.27
		06/01/2016	38	$23,067.96	$0.00	$0.00	$23,067.96
		07/01/2016	39	$17,874.64	$0.00	$0.00	$17,874.64
		08/01/2016	2	$23,380.31	$0.00	$0.00	$23,380.31
		09/01/2016	1	$19,501.65	$0.00	$0.00	$19,501.65
		10/01/2016	0	$12,205.25	$0.00	$0.00	$12,205.25
		11/01/2016	0	-$160.99	$0.00	$0.00	-$160.99
		12/01/2016	0	$269.15	$0.00	$0.00	$269.15
	Pharmacy Total		328	$240,405.12	$0.00	$0.00	$240,405.12
Control - SFX - ACCT Total			656	$424,325.48	$0.00	$0.00	$424,325.48
866349 - 013 - 303	Open Acc POS	11/01/2015	1	$156.45	$0.00	$0.00	$156.45
		12/01/2015	1	$114.15	$0.00	$0.00	$114.15
		01/01/2016	0	$2,041.89	$0.00	$0.00	$2,041.89
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	1	$154.67	$0.00	$0.00	$154.67
		09/01/2016	1	$58,210.58	$0.00	$0.00	$58,210.58
		10/01/2016	1	$2,435.69	$0.00	$0.00	$2,435.69
		11/01/2016	1	$7,062.95	$0.00	$0.00	$7,062.95
		12/01/2016	1	$27,188.00	$0.00	$0.00	$27,188.00
	Open Acc POS Total		7	$97,364.38	$0.00	$0.00	$97,364.38
	Pharmacy	11/01/2015	1	$221.58	$0.00	$0.00	$221.58
		12/01/2015	1	$896.61	$0.00	$0.00	$896.61
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$60.00	$0.00	$0.00	$60.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	1	$0.00	$0.00	$0.00	$0.00
		09/01/2016	1	$666.18	$0.00	$0.00	$666.18
		10/01/2016	1	$623.17	$0.00	$0.00	$623.17
		11/01/2016	1	$21.17	$0.00	$0.00	$21.17
		12/01/2016	1	$611.38	$0.00	$0.00	$611.38
	Pharmacy Total		7	$3,100.09	$0.00	$0.00	$3,100.09
Control - SFX - ACCT Total			14	$100,464.47	$0.00	$0.00	$100,464.47
866349 - 020 - 401	PPO Dental	11/01/2015	900	$68,088.96	$0.00	$0.00	$68,088.96
		12/01/2015	900	$71,191.68	$0.00	$0.00	$71,191.68
		01/01/2016	905	$69,409.33	$0.00	$0.00	$69,409.33
		02/01/2016	908	$65,772.02	$0.00	$0.00	$65,772.02
		03/01/2016	907	$55,268.75	$0.00	$0.00	$55,268.75
		04/01/2016	910	$6,626.10	$0.00	$0.00	$6,626.10
		05/01/2016	907	$168,090.36	$0.00	$0.00	$168,090.36
		06/01/2016	913	$53,514.79	$0.00	$0.00	$53,514.79
		07/01/2016	914	$59,838.61	$0.00	$0.00	$59,838.61
		08/01/2016	973	$75,453.11	$0.00	$0.00	$75,453.11
		09/01/2016	978	$50,551.28	$0.00	$0.00	$50,551.28
		10/01/2016	983	$59,971.58	$0.00	$0.00	$59,971.58
		11/01/2016	988	$63,431.12	$0.00	$0.00	$63,431.12
		12/01/2016	988	$54,110.64	$0.00	$0.00	$54,110.64
	PPO Dental Total		13,074	$921,318.33	$0.00	$0.00	$921,318.33
Control - SFX - ACCT Total			13,074	$921,318.33	$0.00	$0.00	$921,318.33
866349 - 020 - 402	PPO Dental	11/01/2015	67	$5,661.57	$0.00	$0.00	$5,661.57
		12/01/2015	65	$4,826.30	$0.00	$0.00	$4,826.30
		01/01/2016	65	$2,226.74	$0.00	$0.00	$2,226.74
		02/01/2016	64	$2,588.92	$0.00	$0.00	$2,588.92
		03/01/2016	61	$2,976.81	$0.00	$0.00	$2,976.81
		04/01/2016	61	$793.80	$0.00	$0.00	$793.80

		05/01/2016	44	$8,886.77	$0.00	$0.00	$8,886.77
		06/01/2016	66	$3,616.46	$0.00	$0.00	$3,616.46
		07/01/2016	67	$1,932.90	$0.00	$0.00	$1,932.90
		08/01/2016	3	$2,032.40	$0.00	$0.00	$2,032.40
		09/01/2016	1	$4,255.47	$0.00	$0.00	$4,255.47
		10/01/2016	0	$734.00	$0.00	$0.00	$734.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	PPO Dental Total		584	$40,532.14	$0.00	$0.00	$40,532.14
Control - SFX - ACCT Total			584	$40,532.14	$0.00	$0.00	$40,532.14
866349 - 020 - 403	PPO Dental	11/01/2015	0	$0.00	$0.00	$0.00	$0.00
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	1	$0.00	$0.00	$0.00	$0.00
		03/01/2016	1	$0.00	$0.00	$0.00	$0.00
		04/01/2016	1	$0.00	$0.00	$0.00	$0.00
		05/01/2016	1	$0.00	$0.00	$0.00	$0.00
		06/01/2016	1	$0.00	$0.00	$0.00	$0.00
		07/01/2016	1	$0.00	$0.00	$0.00	$0.00
		08/01/2016	1	$0.00	$0.00	$0.00	$0.00
		09/01/2016	2	$544.00	$0.00	$0.00	$544.00
		10/01/2016	2	$251.00	$0.00	$0.00	$251.00
		11/01/2016	2	$120.00	$0.00	$0.00	$120.00
		12/01/2016	2	$0.00	$0.00	$0.00	$0.00
	PPO Dental Total		15	$915.00	$0.00	$0.00	$915.00
Control - SFX - ACCT Total			15	$915.00	$0.00	$0.00	$915.00
866349 - 021 - 501	PPO Dental	11/01/2015	311	$11,395.10	$0.00	$0.00	$11,395.10
		12/01/2015	311	$9,997.60	$0.00	$0.00	$9,997.60
		01/01/2016	310	$8,449.80	$0.00	$0.00	$8,449.80
		02/01/2016	310	$12,013.10	$0.00	$0.00	$12,013.10
		03/01/2016	305	$5,587.60	$0.00	$0.00	$5,587.60
		04/01/2016	312	$76.00	$0.00	$0.00	$76.00
		05/01/2016	311	$29,257.90	$0.00	$0.00	$29,257.90
		06/01/2016	310	$8,355.80	$0.00	$0.00	$8,355.80
		07/01/2016	314	$8,987.90	$0.00	$0.00	$8,987.90
		08/01/2016	322	$9,682.68	$0.00	$0.00	$9,682.68
		09/01/2016	332	$7,670.70	$0.00	$0.00	$7,670.70
		10/01/2016	336	$9,303.60	$0.00	$0.00	$9,303.60
		11/01/2016	338	$10,573.60	$0.00	$0.00	$10,573.60
		12/01/2016	338	$9,299.40	$0.00	$0.00	$9,299.40
	PPO Dental Total		4,460	$140,650.78	$0.00	$0.00	$140,650.78
Control - SFX - ACCT Total			4,460	$140,650.78	$0.00	$0.00	$140,650.78
866349 - 021 - 502	PPO Dental	11/01/2015	6	$74.40	$0.00	$0.00	$74.40
		12/01/2015	6	$67.00	$0.00	$0.00	$67.00
		01/01/2016	6	$861.00	$0.00	$0.00	$861.00
		02/01/2016	7	$120.00	$0.00	$0.00	$120.00
		03/01/2016	7	$158.00	$0.00	$0.00	$158.00
		04/01/2016	7	$0.00	$0.00	$0.00	$0.00
		05/01/2016	7	$310.60	$0.00	$0.00	$310.60
		06/01/2016	7	$0.00	$0.00	$0.00	$0.00
		07/01/2016	8	$318.00	$0.00	$0.00	$318.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$543.50	$0.00	$0.00	$543.50
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	PPO Dental Total		61	$2,452.50	$0.00	$0.00	$2,452.50
Control - SFX - ACCT Total			61	$2,452.50	$0.00	$0.00	$2,452.50
866349 - 022 - 601	Open Acc EPO	11/01/2015	0	$6,200.80	$0.00	$0.00	$6,200.80
		12/01/2015	0	$14.11	$0.00	$0.00	$14.11
		01/01/2016	0	$39.19	$0.00	$0.00	$39.19
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc EPO Total		0	$6,254.10	$0.00	$0.00	$6,254.10

	Pharmacy	11/01/2015	0	$287.02	$0.00	$0.00	$287.02
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$287.02	$0.00	$0.00	$287.02
Control - SFX - ACCT Total			0	$6,541.12	$0.00	$0.00	$6,541.12
866349 - 022 - 602	(5) Managed Behavioral Health	11/01/2015	0	$86.40	$0.00	$0.00	$86.40
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	(5) Managed Behavioral Health Total		0	$86.40	$0.00	$0.00	$86.40
	Open Acc POS	11/01/2015	0	$565.84	$0.00	$0.00	$565.84
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	$565.84	$0.00	$0.00	$565.84
	Pharmacy	11/01/2015	0	$88.27	$0.00	$0.00	$88.27
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$3,385.55	$0.00	$0.00	$3,385.55
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$3,473.82	$0.00	$0.00	$3,473.82
Control - SFX - ACCT Total			0	$4,126.06	$0.00	$0.00	$4,126.06
866349 - 022 - 603	Indemnity Vision	11/01/2015	0	$708.51	$0.00	$0.00	$708.51
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$0.00	$0.00	$0.00	$0.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00

		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Indemnity Vision Total		0	$708.51	$0.00	$0.00	$708.51
	Open Acc POS	11/01/2015	0	$1,089.00	$0.00	$0.00	$1,089.00
		12/01/2015	0	$7.44	$0.00	$0.00	$7.44
		01/01/2016	0	$157.86	$0.00	$0.00	$157.86
		02/01/2016	0	-$62.00	$0.00	$0.00	-$62.00
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	-$23.35	$0.00	$0.00	-$23.35
		10/01/2016	0	$0.00	$0.00	$0.00	$0.00
		11/01/2016	0	$234.79	$0.00	$0.00	$234.79
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Open Acc POS Total		0	$1,403.74	$0.00	$0.00	$1,403.74
	Pharmacy	11/01/2015	0	$660.99	$0.00	$0.00	$660.99
		12/01/2015	0	$0.00	$0.00	$0.00	$0.00
		01/01/2016	0	$0.00	$0.00	$0.00	$0.00
		02/01/2016	0	$26.82	$0.00	$0.00	$26.82
		03/01/2016	0	$0.00	$0.00	$0.00	$0.00
		04/01/2016	0	$0.00	$0.00	$0.00	$0.00
		05/01/2016	0	$0.00	$0.00	$0.00	$0.00
		06/01/2016	0	$0.00	$0.00	$0.00	$0.00
		07/01/2016	0	$0.00	$0.00	$0.00	$0.00
		08/01/2016	0	$0.00	$0.00	$0.00	$0.00
		09/01/2016	0	$0.00	$0.00	$0.00	$0.00
		10/01/2016	0	$7,013.79	$0.00	$0.00	$7,013.79
		11/01/2016	0	$0.00	$0.00	$0.00	$0.00
		12/01/2016	0	$0.00	$0.00	$0.00	$0.00
	Pharmacy Total		0	$7,701.60	$0.00	$0.00	$7,701.60
Control - SFX - ACCT Total			0	$9,813.85	$0.00	$0.00	$9,813.85
Grand Total				**$19,715,770.61**	**$395,992.25**	**$0.00**	**$20,111,762.86**

Williamson County
2017 Vision RFP Attachment

Please complete this workbook in its entirety

Due date:	2pm	3/10/2016

BIDS MUST BE submitted in the format requested and included for that purpose in this packet. Each bid shall be placed in a separate sealed envelope and marked clearly on the outside as shown below. **FACSIMILE TRANSMITTALS or E-MAIL SHALL NOT BE ACCEPTED!**

You must submit 3 Flash Drives and 5 Binded Copies RFP BID# _____

Vendor Name

Please note that you must complete rate information in the following requested format in order for your quote to be considered.

COMPLETE THIS TAB FOR EACH PLAN QUOTED.

Proposed Vision Rates

Are retirees included in fully insured rates? Please Select

Quote rates in the following tier structure(s): 4 Tier

	EE Counts	Proposed FI Vision Base Rates
Employee Only	0	
Employee + Spouse	0	
Employee + Child(ren)	0	
Employee + Family	0	
Estimated Monthly Premiums		$0
Estimated Annual Premiums		$0

Assumptions

Rate Guarantee	
Participation Requirements	
Commissions	Net
Other	

VISION QUESTIONNAIRE	
Vendor Name	

The following questionnaire must be completed.

Vision vendors are required to respond to all requests for information contained in this questionnaire. All responses must be provided on a diskette and respond in a brief, bulleted format. This questionnaire will be scored; therefore, it is necessary that you provide concise answers. Your responses to the questions should be based on your current proven capabilities. Should there be instances where certain questions are not applicable to your organization or its operations, please so indicate. If you are selected to administer the Client's employee benefit plans, your responses to the questionnaire will be considered part of your contractual responsibilities. You are also requested to return the indicated exhibits as part of your proposal.

Answers should be summarized in short format and not exceed the allotted space within the cell(s) provided. DO NOT add extra rows/columns--work within the allotted space. Additional information in carrier format may be submitted along with the "Attachments" spreadsheet if a carrier would like to include "more detailed" information.

	Organizational Strength	Response
1	How many clients do you currently have inforce for Vision on a national level?	
2	How many clients do you currently have inforce for Vision in the state of Texas?	
3	How many clients do you currently have inforce for Vision that are public entities?	
	General	**Response**
4	Location of Claim Payment Operations	
	Account Management	**Response**
6	Will the Client have a dedicated Account Manager?	Please Select
7	If so, what is their location and standard hours?	
	Customer Service	**Response**
8	Please provide your customer service hours, days of operation, time zone.	
9	How are calls "after hours" of operation handled?	Please Select
10	Is your customer service unit bilingual?	Please Select
11	Is your customer service unit outsourced?	Please Select

VISION QUESTIONNAIRE	
Vendor Name	
12 Does your company provide a customized 1-800 number to handle questions related to product offerings during the enrollment period?	Please Select
System Processes and Technology	**Response**
13 Explain how you process and verify the eligibility information.	
14 Identify any information you would require in a paper format.	
15 Do you have online enrollment/eligibility capabilities?	Please Select
16 What is the standard turnaround time for change / addition / deletion eligibility file uploads?	Please Select
17 How can eligibility data be transferred from the employer to your organization?	Please Select
Providers/Networks	**Response**
18 How often are website directories updated?	Please Select
Implementation Process	**Response**
19 What initial information is required from the employer for implementation?	Add Attachment
20 Will the assigned account manager be available for open enrollment meetings?	Please Select
21 What is the standard turnaround time for new group processing?	Please Select
22 Do you provide ID cards?	Please Select
23 If so, what is your turn around time to provide ID cards?	Please Select
24 Do you agree to allow the Client to pre-approve any communication to employees that would reach a significant portion of the Client's population? Individualized communications are excluded.	Please Select
Claims Payment	**Response**
25 What is your standard turnaround time for out-of-network claims payment?	

VISION QUESTIONNAIRE	
Vendor Name	
Reporting	**Response**
26 Please provide a sample reporting package.	Add Attachment
27 Is reporting available on a monthly basis?	Please Select
28 If yes, are there any additional cost?	Please Select
Legal Concerns	**Response**
29 Does your organization have any ownership interest, equity interest, or other financial interest in any vision provider included in your network?	Please Select
30 Please include a sample contract for vision services and a copy of the SPD/booklet the employees will receive.	Add Attachment

Vendor Name

Please note that you must complete plan design information in the following requested format in order for your quote to be considered. Enter only those plan design elements that are included in your quoted rates. *Please confirm that you can duplicate and administer the current plan design. If not, please indicate differences on Vison-Deviations/Variations.*

Proposed Vision Plan Design

	In-Network	Out-of-Network Reimbursement
Exam with Dilation as Necessary		
Materials Copay		
Standard Plastic Lenses		
Single Vision		
Bifocal		
Trifocal		
Lenticular		
Frames		
Lens Options		
UV Coating		
Tint		
Standard Scratch-Resistance		
Standard Polycarbonate		
Standard Progressive		
Standard Anti-Reflective		
Other Add-ons and Services		
Contact Lens Fitting Exam (Total Cost)		
Conventional		
Disposables		
Medically Necessary		
Laser Correction		
Lasik or PRK Form		

US Laser Network		
Frequency		
Examination		
Frame		
Lenses or Contact Lenses		
Additional Benefit Information Does your plan offer discounts on members out of pocket expenses when they exceed their plan allowances?	Please Select	
Does your plan offer discounts on purchases after the benefits have been used, i.e. additional pair purchases?	Please Select	

Vendor Name

For any benefits you cannot duplicate or administer, per the inforce SPD, please indicate on this tab. Please clearly note the differences.

Proposed Vision -- Deviations/Variations

Question	Deviation/Explanation
1	
2	
3	
4	
5	

Vendor Name Please Select Yes No

Please note that you must complete the disruption analysis in the following requested formats in order for your quote to be considered.

Vision

Provider	Provider Address	City	ST	ZIP	Tax ID	Provider ID	Number of Claimants	Number of Services	Number of Visits	Paid Amount	Provider Specialty	Provider Type	In Network?(Y/N)
Professional													
EyeMed Vision Care	4000 Luxottica Place	Mason	OH	45040	311656473	726586809	1137	3921	1321	329782	Optometrist	OP	Y
Mark Sturm	901-C Hwy. 80	San Marcos	TX	78666	452611063	990374809	133	295	147	20082.41	Optometrist	OP	Y
EyeMed Vision Care	4000 Luxottica Place	Mason	OH	45040	311656473	726586809	341	357	355	14868	Optometrist	OP	Y
Donna McCain	1401 Williams Drive	Georgetown	TX	78628	550886585	955951809	109	291	115	14135.01	Optometrist	OP	Y
Jason C. McCain	1401 Williams Drive	Georgetown	TX	78628	550886585	965527709	99	282	108	13982.12	Optometrist	OP	Y
Stephen D Schaefer	310 West Locust Street	Davenport	IA	52803	550886585	437735809	74	275	78	10288.08	Optometrist	OP	Y
James R. Hannigan	4932 Overton Ridge Boulevard	Fort Worth	TX	76132	202519993	575542009	23	96	29	8238.41	Optometrist	OP	Y
Keith Dennis	3107 S Ih-35	Round Rock	TX	78664	710988771	717386609	55	138	64	7371.49	Optometrist	OP	Y
James R. Hannigan	4932 Overton Ridge Boulevard	Fort Worth	TX	76132	202519993	575542009	36	81	39	4960.26	Optometrist	OP	Y
Jeffrey S. Wineinger	202 Walton Way	Cedar Park	TX	78613	261227832	790795209	11	35	13	4513.66	Optometrist	OP	Y
Dennis McCarty	302 South Bell Blvd.	Cedar Park	TX	78613	261616951	722440509	13	47	13	4275	Optometrist	OP	Y
Kelly P. Phan	18700 Limestone Commercial Drive	Pflugerville	TX	78660	451648433	916845609	24	48	24	3775.53	Optometrist	OP	Y
David M Quinlivan	107-A Wagon Wheel Trail	Georgetown	TX	78628	262850504	506654109	8	19	9	2610	Optometrist	OP	Y
Sarah C. Johle	401 Exchange Blvd.	Hutto	TX	78634	263862145	979832109	16	60	19	2196.84	Optometrist	OP	Y
David M Quinlivan	107-A Wagon Wheel Trail	Georgetown	TX	78628	262850504	506654109	16	28	20	2037.33	Optometrist	OP	Y
Sarah C. Johle	401 Exchange Blvd.	Hutto	TX	78634	263862145	979832109	16	35	16	1996.67	Optometrist	OP	N
Claudia Buser	1701 Red Bud Lane	Round Rock	TX	78664	760770009	767584509	14	43	21	1913.48	Optometrist	OP	Y
Kimberly L. Wample	202 Walton Way	Cedar Park	TX	78613	261227832	921522109	4	22	5	1826	Optometrist	OP	N
Paige E Quinlivan	107-A Wagon Wheel Trail	Georgetown	TX	78628	262850504	566965509	8	14	10	1780	Optometrist	OP	N
Jason A. Prescott	1395 South US Highway 183	Leander	TX	78641	270864352	946822309	5	29	7	1638.33	Optometrist	OP	N
Nathan Garcia	1512 Town Center Drive	Pflugerville	TX	78660	200382267	716192009	4	14	4	1524.99	Optometrist	OP	N
Eye Lasik Austin	6500 North Moore Expressway	Austin	TX	78731	140805140	769396509	1	4	1	1500	Optometrist	OP	N
Dennis McCarty	302 South Bell Blvd.	Cedar Park	TX	78613	261616951	722440509	10	24	12	1355.85	Optometrist	OP	Y
Kimberly L. Wample	202 Walton Way	Cedar Park	TX	78613	261227832	921522109	6	20	6	1200.9	Optometrist	OP	Y
Leander Eye Care P	1395 South US Hwy. 183	Leander	TX	78641	270864352	931852409	6	18	6	1177.24	Optometrist	OP	N
Vanessa Tran Minnic	2800 East Whitestone Blvd.	Cedar Park	TX	78613	200021570	772939609	9	36	9	1170.28	Optometrist	OP	Y
Michael P. Mooney	4815 West Brakes	Austin	TX	78759	412169211	740900509	4	14	4	1120	Optometrist	OP	N
Hutto Family Eye Car	401 Exchange Blvd.	Hutto	TX	78634	263862145	994544509	8	16	8	1105.98	Optometrist	OP	N
Paige E Quinlivan	107-A Wagon Wheel Trail	Georgetown	TX	78628	262850504	566965509	7	25	14	1094.51	Optometrist	OP	Y
Mary McMains Beck	6291 State Route 30	Greensburg	PA	15601	461407648	950838309	1	49	23	1000.66	Optometrist	OP	Y
Christopher E. Eugen	1101C Bar Ranch Trail	Cedar Park	TX	78613	264467065	936332609	7	18	7	997.32	Optometrist	OP	N
Jeffrey S. Wineinger	202 Walton Way	Cedar Park	TX	78613	261227832	790795209	7	14	7	912.58	Optometrist	OP	Y
Vanessa Tran Minnic	2800 East Whitestone Blvd.	Cedar Park	TX	78613	200021570	772939609	3	10	3	900	Optometrist	OP	N
Christopher E. Eugen	1101C Bar Ranch Trail	Cedar Park	TX	78613	311656473	936332609	7	18	9	836.88	Optometrist	OP	Y
Virginia Kekahuna	2901 Capital of Texas Highway	Austin	TX	78746	263862145	500490409	7	13	7	785.92	Optometrist	OP	Y
Nathan Garcia	1512 Town Center Drive	Pflugerville	TX	78660	200382267	716192009	6	12	6	785.79	Optometrist	OP	Y
Jodie West	800 Crystal Falls Pkwy.	Leander	TX	78641	800117058	705487009	6	14	8	782.01	Optometrist	OP	Y
Oliver K Lou	2071 Cypress Creek Road	Cedar Park	TX	78613	352161798	775682309	5	12	6	764.43	Optometrist	OP	Y
Nancy E. Guenthner	7700 Cat Hollow Drive	Round Rock	TX	78681	270847125	925360409	5	10	5	732.84	Optometrist	OP	Y
Susan Shauger	3419 El Salido Pkwy.	Cedar Park	TX	78613	742738858	732389209	3	15	10	729.52	Optometrist	OP	Y
Thao C. Lien	9705 Research Boulevard	Austin	TX	78759	459650322	968528809	7	14	7	720.64	Optometrist	OP	Y
Brett W. Hamilton	1 Chisholm Trail	Round Rock	TX	78681	900258499	719049509	6	11	6	664.58	Optometrist	OP	Y
Hutto Family Eye Car	401 Exchange Blvd.	Hutto	TX	78634	263862145	994544509	6	11	6	661.06	Optometrist	OP	Y
Barbara A Coldiron	3742 Far West Blvd.	Austin	TX	78731	742335727	431921109	1	8	2	650.14	Optometrist	OP	N
Virginia Kekahuna	2901 Capital of Texas Highway	Austin	TX	78746	263862145	500490409	4	8	4	648	Optometrist	OP	N
James Dale Ladd	1119 North St. Louis Street	Batesville	AR	72501	731624480	462242209	2	5	2	600	Optometrist	OP	N
Kimberlee M. Slaughte	12233 Highway 620 North	Austin	TX	78750	742738858	772279009	5	13	5	585.11	Optometrist	OP	Y
Briana Michelle Larso	10601 Peacon Park Blvd.	Austin	TX	78750	262079554	980906509	1	32	5	542.17	Optometrist	OP	N
Grace Salone	1102 South Austin Avenue	Georgetown	TX	78626	461604510	954341209	10	13	12	516.34	Optometrist	OP	Y
Catherine Albrecht	9900 W Parmer Ln	Austin	TX	78717	742922962	513181709	2	10	3	500	Optometrist	OP	N

Vendor Name

Please note that you must this information in the following requested formats in order for your quote to be considered. Enter only the networks that are included in your quoted rates.

COMPLETE THIS TAB FOR EACH PLAN QUOTED.

Vision Network Discounts

Please provide your organization's self reported discounts within the client's area for:

Optometrists	
Ophthalmologists	

Geo Access Results

Please provide full detailed reports for the medical GEO access within your formal proposal.

Measurement	Optometrists	Ophthalmologists
# of Employees / Zip Codes Evaluated		
Providers		
# of Providers		
# of Locations		
X Providers within X Miles	**2 / 10**	**2 / 15**
% of Employee WITH access		
# of Employees WITH access		
% of Employee WITHOUT access		
# of Employees WITHOUT access		
Average distance to 2 providers for employees WITH desired access		
Average distance to 2 providers for employees WITHOUT desired access		

PHARMACY QUESTIONNAIRE		
Vendor Name		

The following questionnaire must be completed.

PBM carriers are required to respond to all requests for information contained in this questionnaire. All responses must be provided in a brief, bulleted format. This questionnaire will be scored; therefore, it is necessary that you provide concise answers. Your responses to the questions should be based on your current proven capabilities. Should there be instances where certain questions are not applicable to your organization or its operations, please indicate this. If you are selected to administer this plan, your responses to the questionnaire will be considered part of your contractual responsibilities. You are also requested to return the indicated exhibits as part of your proposal.

Answers should be summarized in short format and not exceed the allotted space within the cell(s) provided. DO NOT add extra rows/columns--work within the allotted space. Additional information in carrier format may be submitted along with the "Attachments" spreadsheet if a carrier would like to include more detailed information.

RX Transparency		Response
1	The client is soliciting a Transparent RX Pricing model but is also interested in Traditional Models as well. Do you have the ability to provide both?	Please Select
PBM Revenue	**Pass Through of 100% of ALL Pharmaceutical Manufacturer Revenue, or Traditional Model**	**Response**
2	The PBM agrees to pass through to the client 100% of any and all formulary rebates, market-share rebates, and other rebate revenue that the client's utilization enables the PBM to earn.	Please Select
3	The PBM agrees to pass through to the client 100% of any and all rebate administrative fees/credits that the client's utilization enables the PBM to earn.	Please Select
4	The PBM agrees to pass through to the client 100% of any and all data aggregation payments or data sale revenue that the client's utilization enables the PBM to earn, or to allow the client to opt-out of these programs.	Please Select
5	The PBM agrees to pass through to the client 100% of any and all pharmaceutical manufacturer revenue associated with compliance and adherence programs that the client's utilization enables the PBM to earn, or to allow client to opt-out of these programs.	Please Select
6	The PBM agrees to completely disclose to the County any other revenue received directly or indirectly from pharmaceutical manufacturers that can not be attributed to specific County utilization. The PBM agrees that this disclosure will occur quarterly.	Please Select

PHARMACY QUESTIONNAIRE		
Vendor Name		

The following questionnaire must be completed.

Specialty Pharmacy Transparency (Required)		**Response**
7	The PBM agrees to pass through to the client any and all pharmaceutical manufacturer revenue that the client's specialty pharmacy utilization enables the PBM to earn.	Please Select
8	The PBM agrees to charge a client no more than the acquisition cost of drugs at the specialty mail order pharmacy, plus a dispensing fee. Any retail claims for specialty pharmacy shall be adjudicated under the same logic as the traditional retail pricing agreed upon in the Retail Network certification requirements. This protocol does not include any commitments as it pertains to specialty products dispensed and billed under the medical plan or home infusion benefit.	Please Select
9	The PBM agrees to provide dose optimization and consolidation programs, where appropriate.	Please Select
10	The PBM agrees to provide case management for critical disease states (as designated by mutual agreement between the client and the PBM), and will agree not to build the cost of these programs into drug ingredient cost.	Please Select
Organizational Strength		**Response**
11	How many clients do you currently have inforce in the state of Texas?	Please Select
12	Do you have a specialized team that works with public entity employers?	Please Select
13	How many clients do you currently have in Texas that are public entities?	
Implementation Process		**Response**
14	Will you have an onsite representative available for annual open enrollment meetings as requested by the client?	Please Select
15	Will you peform a pre-implementation claims audit of the system and share the results with the client prior to a pharmacy claim paying on 1/1/2018?	Please Select
16	Can you load prior prescription medication by member into your system? Please explain!	
Claims Administration		**Response**
17	Please attach a sample of your Administrative Services Agreement.	Please Select
18	Describe how your systems are integrated, specifically related to enrollment, medical/referral/authorization, provider, contracts and claims.	
19	Describe how you will actively management the pharmacy claims for this client. Our goal is that the PBM will provide a proactive approach to high cost drugs and highly utilized drugs with generic alternatives. This approach should include sending an email or setting up a call with the client to discuss the options available.	
20	Will the client have a dedicated claims analyst that the client's HR team can contact with questions?	Please Select
21	Do you agree to send a monthly claims file to the consultant and a 3rd party? If so, please include this cost on the Pricing Spreadsheet	Please Select

PHARMACY QUESTIONNAIRE		
Vendor Name		

The following questionnaire must be completed.

22	Are you able to send a monthly claims file to the medical carrier for the purposes of Care management and integrating the Rx claims in the maximum out of pocket maximum?	Please Select
23	The PBM agrees to notify the client of any drug, including speciality drugs over $5,000 per script within ONE BUSINESS WEEK of being dispensed. The PBM will contact the client notifying them of the type of drug, alternative options, if it is an FDA approved drug and if any outreach to the individual has occured. The overall goal is to ensure that there is active management of the client's pharmacy claims	Please Select
Reporting		**Response**
24	Please include samples of standard management/financial reports.	Please Select
25	What is the standard distribution frequency for each report provided?	Please Select
26	Do you agree to send a monthly Executive summary to the client? This should at least include: Rolling trend, top 10 drugs by spend, top 10 drugs by utilization, maintenance drug fill rates, and generic utilization.	Please Select
27	Please attach a sample of your monthly Executive summary report.	Please Select
28	Do you agree to send standard reports, to include enrollment, utilization and large claims, on a monthly basis to the client and to the consultant?	Please Select
29	Do you agree to have a quarterly meeting with the client and provide actionable information based on the claims activity?	Please Select
30	Do you agree to provide disease specific fill rates on medications?	Please Select
31	What is the process for requesting ad hoc reports?	
32	Is there a fee involved?	Please Select
33	If so, what is the fee?	
34	What is the standard turn around time?	
General		**Response**
35	Do you agree to allow the client to send a weekly ACH transfer or a check for the claims?	Please Select
36	Do you require the customer to have an imprest balance? If yes, what is the the required amount for The County?	Please Select
37	Do you have a mail order program?	Please Select
38	Who is your mail order program through?	
39	Describe how your specialty drug program works and how you are able to keep down the increasing costs to the client.	
40	Are you able to accommodate a plan design that allows 90 day retail at any pharmacy location to include specialty drugs?	Please Select
41	Are you able to set up your plan with zero dollar logic? For example, we are looking for a plan that will adjudicate a claim at a lower price than the plan's copay IF the cost of that drug is less than the actual plan copay.	Please Select
42	What is the name of your primary network?	

PHARMACY QUESTIONNAIRE		
Vendor Name		

The following questionnaire must be completed.

43	How many MAC lists do you utilize?	
44	Please attach a copy of MAC list(s) proposed for this client.	Please Select
45	Will the client receive 100% of the rebates?	Please Select
46	Does your formulary limit drugs that will be covered?	Please Select
47	How often do you change your formulary?	Please Select
48	Are you able to administer limited network Rx plans?	Please Select
49	If so, is there an additional cost?	Please Select
50	What are the potential estimated savings by implementing a limited network for this client?	
51	Confirm that you have reviewed the Pharmacy SPD and can administer all benefits, programs, limits and exclusions as stipulated in the document. (**Note - If you cannot accommodate a benefit, program, limit or exclusion please list it out specifically on the Deviations-Variations tab.)**	Please Select
52	Do you have any benefits, programs, limits or exclusions that you cannot accommodate and will be adding to the Deviations-Variations tab?	Please Select
53	Please fill out and include in your RFP response the Pricing Terms (e.g. discounts, dispensing fees, rebates, etc). This can be a separate Excel document that you submit with your RFP response.	Please Select
Clinical Programs		**Response**
Please describe your approach to the programs below, and indicate potential cost savings to the client. Note - Please see the tab labeled " PBM - Clinical Programs" to see the programs currently in place for the County		
54	Quantity Level Limits	
	Annual Potential client savings	
55	Quantity Per Duration Limits	
	Annual Potential client savings	
56	Step Therapy Program	
	Annual Potential client savings	
57	Medication Adherence Notification Program	
	Annual Potential client savings	
58	Mandatory Generic program	
	Annual Potential client savings	
59	Therapeutic Interchange	
	Annual Potential client savings	
60	OTC Switch Program	
	Annual Potential client savings	
61	Retrospective DUR	

PHARMACY QUESTIONNAIRE		
Vendor Name		

The following questionnaire must be completed.

	Annual Potential client savings	
62	Concurrent DUR	
	Annual Potential client savings	
63	Prior Authorization	
	Annual Potential client savings	
64	Disease Management Programs	
	Annual Potential client savings	
65	Additional Client Recommendations	
	Annual Potential client savings	
Plan Management & Consumer Engagement		**Response**
66	The PBM agrees to allow customization or modification of the client's formulary or preferred drug list (PDL) at the client's discretion (with the understanding that such modifications may impact minimum rebate pricing guarantees).	Please Select
67	The PBM agrees to meet with the client on a quarterly basis and provide reporting on Rx trends, fill rates, cost saving opportunities and updates on the care management.	Please Select
Comprehensive Audit & Disclosure Rights		**Response**
68	The PBM agrees to grant the client full rights to audit their pharmacy claims utilization data, contracts and arrangements with retail network pharmacies, contracts and arrangements with pharmaceutical manufacturers, PBM revenue streams tied to client spend, and clinical criteria for utilization management programs.	Please Select
69	The PBM agrees not to limit the client's selection of an auditor to a list of specific firms. However, language specifying "mutually agreeable" selection of an audit firm is permissible.	Please Select
70	The PBM agrees to allow a client to self-audit (conduct an audit without using a third-party audit firm) as long as there is an established "Business Controls" area within the specific Groups organization, and there is no clear conflict of interest inherent in a self-audit.	Please Select
71	The PBM agrees to provide complete claims data files to the client or their designated consultant or third-party provider upon the client's request, including all financial data fields (Undiscounted AWP, Discounted Ingredient Cost, Billed Amount, Dispensing Fee and, if available, POS Rebates and Wholesale Acquisition Cost).	Please Select
Other Relevant Contracting Considerations		**Response**
72	Does the PBM agree to create the required Pharmacy SPD?	Please Select

PHARMACY QUESTIONNAIRE		
Vendor Name		

The following questionnaire must be completed.

73	The PBM agrees that the financial guarantees that the PBM provide to the client will each function on an independent basis, and that the PBM will not use an overage from one guarantee (i.e. generic mail order discount) to offset a shortfall from another guarantee (i.e. brand mail order discount).	Please Select

Rebates paid to County

Claim Date	Amount
3/11/2016	$115,457.42
6/14/2016	$104,634.88
9/14/2016	$177,981.75
12/20/2016	$137,496.40
	$535,570.45

Vendor Name

Please note that you must complete fee information in the following requested format in order for your quote to be considered. Enter only those elements that are included in your quoted fees.

Pricing - Annualized	Year 1
Projected Paid Claims	
Electronic Reporting – Full Access at Highest Level	
Outbound Data Feeds- up to 2 Third Parties	
Set-up Charges	
Additional Fees - Describe	
Rate Guarantee	

Clinical Savings Programs- Cost per program annualized	Year 1
Quantity Limits	
Step Therapy Program	
Therapeutic Interchange	
Medication Adherance with Dr. Notification	
Mandatory Generic Program	
OTC Switch Program	
Retrospective DUR	
Concurrent DUR	
Prior Authorization	
Disease Management Programs	
Additional Client Recommendations	

Contractual Components		
Retail		**Year 1**
Brand Name Formulary:	AWP -	
Brand Name Non-Formulary:	AWP -	
Brand Dispensing Fee		
Generic:	MAC Pricing or AWP -	
Generic Dispensing Fee		
Admin Fee		
Confirm if AWP is pre or post		Please Select
Narrow Retail Network (if available)		**Year 1**
Brand Name Formulary:	AWP -	
Brand Name Non-Formulary:	AWP -	
Brand Dispensing Fee		
Generic:	MAC Pricing or AWP -	

Generic Dispensing Fee	
Admin Fee	
Confirm if AWP is pre or post	Please Select
Average Cost Guarantees	
Discounts (Avg 12 Month)	**Year 1**
Retail Brand	
Retail Generic	
Mail Brand (1 to 999 days)	
Mail Generic (1 to 999 days)	
Dispense Fee (Avg 12 Month)	**Year 1**
Retail Brand	
Retail Generic	
Mail Brand (1 to 999 days)	
Mail Generic (1 to 999 days)	
Mail Order	
Brand Name Formulary: AWP -	
Brand Name Non-Formulary: AWP -	
Brand Dispensing Fee	
Generic: MAC Pricing or AWP -	
Generic Dispensing Fee	
Minimum Rebate Guarantees	**Year 1**
Total Projected Rebates (based on Williamson County claims)	

Clinical Programs

		Are these programs included in your quote? Yes/No?
Maintenance Choice®	A unique 90-day plan design that provides both savings and a seamless member experience. With Maintenance Choice, members have the opportunity to choose how they fill their prescriptions – at Vendor/pharmacy or by mail –at the same low copay, while clients receive mail pricing regardless of where members fill.	Please Select
Pharmacy Advisor Support	Provides tailored messages to meet the needs of plan members with chronic conditions at key points in therapy. Promotes optimal adherence, closes gaps in medication therapy and simplifies refills and renewals.	Please Select
Dispense as Written (DAW) Penalties	Plan design that applies a cost penalty when a non-generic brand medication is dispensed by request rather than available generic equivalents.	Please Select
Retrospective Safety Review	Reviews claims within 72 hours of adjudication to identify potential medication safety concerns.	Please Select
Quantity Limits	Establishes a maximum quantity allowed over a period of time for medications with potential for overuse and misuse.	Please Select
Targeted Generic Alternative Mailings	Direct-to-member communications to inform them about generic alternatives for select single-source, non-preferred brands.	Please Select
Exclusive Specialty	By opting into utilizing Vendor Caremark Specialty Pharmacy exclusively, clients can better control utilization, spend, and clinical program quality and oversight, resulting in improved outcomes for specialty patients. In keeping with our mission of helping people on their path to better health, oral HIV, hepatitis B and transplant medications are now part of the new standard offering.	Please Select
Specialty Guideline Management	An opt-in program that supports patient safety and helps ensure appropriate use of specialty medications.	Please Select

RX Disruption By Scripts

Provider Name	City	Zip	In Network? (Y/N)
Seton Medical Center Williamson	Round Rock	78665	Y
Cedar Park Regional Medical Center	Cedar Park	78613	Y
Seton Medical Center	Austin	78705	Y
North Austin Medical Center - HCA Affili	Austin	78758	Y
Round Rock Medical Center - HCA Affiliat	Round Rock	78681	Y
Dell Children's Medical Center of Centra	Austin	78723	Y
St. David's Medical Center	Austin	78705	Y
St. David's Medical Center	Austin	78705	N
Baylor Scott & White Medical Center - Te	Temple	76508	Y
Baylor Scott & White Medical Center - Ro	Round Rock	78665	Y
St. David's Georgetown Hospital - HCA Af	Georgetown	78628	Y
Seton Highland Lakes	Burnet	78611	Y
Little River Healthcare	Rockdale	76567	Y
University Medical Center at Brackenridg	Austin	78701	Y
Williamson Surgery Center	Round Rock	78665	Y
Austin Endoscopy Center I	Austin	78757	Y
St. David's Georgetown Hospital - HCA Af	Georgetown	78628	N
Hendrick Medical Center	Abilene	79601	N
Seton Northwest Hospital	Austin	78759	Y
Baylor Scott & White Medical Center-Tayl	Taylor	76574	Y
Cook Children's Medical Center	Fort Worth	76104	Y
Christus Spohn Hospital Shoreline	Corpus Christi	78404	Y
Harborview Medical Center	Seattle	98104	Y
Round Rock Medical Center - HCA Affiliat	Round Rock	78681	N
Heart Hospital of Austin	Austin	78756	Y
Texas Orthopedic Surgery Center L.P., L.	Austin	78759	Y
Newman Memorial Hospital	Shattuck	73858	N
Georgetown Behavioral Health Institute,	Georgetown	78626	Y
Northwest Hills Surgical Hospital	Austin	78731	Y
Temple VAMC	Temple	76504	Y
Seton Medical Center Harker Heights	Harker Heights	76548	Y

Provider Name	City	Zip	In Network? (Y/N)
University Behavioral Health	Denton	76201	N
St. David's South Austin Medical Center	Austin	78704	N
Spring Valley Medical Center	Las Vegas	89118	N
Healthsouth Rehabilitation Hospital of R	Round Rock	78681	Y
Sundown Ranch, Inc.	Canton	75103	Y
Newman Memorial Hospital	Shattuck	73858	Y
Texas Non-Profit Hospice Alliance	Fort Worth	76107	Y
St. David's South Austin Medical Center	Austin	78704	Y
Houston Methodist Hospital	Houston	77030	Y
Strictly Pediatrics Surgery Center	Austin	78723	Y
Seton Medical Center Hays	Kyle	78640	Y
Texan Surgery Center	Austin	78731	Y
Five Star ER, LLC	Round Rock	78681	N
Methodist Hospital - HCA Affiliate	San Antonio	78229	Y
Baylor Scott & White Medical Center - Ro	Round Rock	78665	N
Seton Shoal Creek Hospital	Austin	78731	Y
Baylor Scott & White Medical Center-Tayl	Taylor	76574	N
EHI Surgery Center Austin, PLLC	Austin	78727	N
Georgetown Behavioral Health Institute,	Georgetown	78626	N

Rx Disruption by Spend

Claim Fill Date	Drug ID (NDC)	Brand/Generic Code - Claim	Retail/Mail/Speciality Pharmacy
9/1/2016	57894006103	BRND	Speciality Pharmacy
10/19/2016	57894006103	BRND	Speciality Pharmacy
12/14/2016	57894006103	BRND	Speciality Pharmacy
6/2/2016	57894006103	BRND	Speciality Pharmacy
2/2/2016	57894006103	BRND	Speciality Pharmacy
3/9/2016	57894006103	BRND	Speciality Pharmacy
3/28/2016	57894006103	BRND	Speciality Pharmacy
3/3/2016	59088034300	BRND	Retail Pharmacy
7/28/2016	00074433902	BRND	Speciality Pharmacy
1/23/2016	00074433902	BRND	Speciality Pharmacy
2/29/2016	00074433902	BRND	Speciality Pharmacy
3/24/2016	**00074433902**	**BRND**	**Speciality Pharmacy**
4/25/2016	00074433902	BRND	Speciality Pharmacy
6/9/2016	00074433902	BRND	Speciality Pharmacy
8/2/2016	66887000301	BRND	Speciality Pharmacy
10/6/2016	66887000301	BRND	Speciality Pharmacy
3/7/2016	68682010430	GNRC	Mail Order Pharmacy
5/30/2016	68682010430	GNRC	Mail Order Pharmacy
6/13/2016	00078060715	BRND	Speciality Pharmacy
6/21/2016	00078060715	BRND	Speciality Pharmacy
7/14/2016	00078060715	BRND	Speciality Pharmacy
8/15/2016	00078060715	BRND	Speciality Pharmacy
9/12/2016	00078060715	BRND	Speciality Pharmacy
9/22/2016	00078060715	BRND	Speciality Pharmacy
10/11/2016	**00078060715**	**BRND**	**Speciality Pharmacy**
11/10/2016	00078060715	BRND	Speciality Pharmacy
12/14/2016	00078060715	BRND	Speciality Pharmacy
2/16/2016	00078060715	BRND	Speciality Pharmacy
2/19/2016	00078060715	BRND	Speciality Pharmacy
3/15/2016	00078060715	BRND	Speciality Pharmacy
4/7/2016	00078060715	BRND	Speciality Pharmacy
4/13/2016	00078060715	BRND	Speciality Pharmacy
5/4/2016	00078060715	BRND	Speciality Pharmacy
5/16/2016	00078060715	BRND	Speciality Pharmacy
1/7/2016	00078060715	BRND	Speciality Pharmacy
1/8/2016	00078060715	BRND	Speciality Pharmacy
6/2/2016	59627033304	BRND	Speciality Pharmacy
7/6/2016	**59627033304**	**BRND**	**Speciality Pharmacy**
8/1/2016	59627033304	BRND	Speciality Pharmacy
8/29/2016	59627033304	BRND	Speciality Pharmacy
9/23/2016	59627033304	BRND	Speciality Pharmacy
11/22/2016	68180033909	GNRC	Retail Pharmacy
2/9/2016	00075291201	BRND	Retail Pharmacy
1/14/2016	59627033304	BRND	Speciality Pharmacy
2/8/2016	59627033304	BRND	Speciality Pharmacy
3/7/2016	59627033304	BRND	Speciality Pharmacy
4/8/2016	59627033304	BRND	Speciality Pharmacy
5/10/2016	59627033304	BRND	Speciality Pharmacy

Claim Fill Date	Drug ID (NDC)	Brand/Generic Code - Claim	Retail/Mail/Speciality Pharmacy
1/15/2016	68546032512	BRND	Speciality Pharmacy

Question and Answers for Bid #1702-144 - Third Party Administrator for Self-Funded or Fully Insured Benefits

Overall Bid Questions
There are no questions associated with this bid.

Commissioners Court - Regular Session **48.**

Meeting Date: 03/07/2017

Authorize Purchasing Agent to advertise RFQ 1702-146 Architectural and Engineering Services

Submitted For: Randy Barker **Submitted By:** Teri Jeffries, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action to authorize the Purchasing Agent to advertise and receive qualifications from firms to provide architectural, engineering, design and construction administration services for the proposed Williamson County Juvenile Justice Center Expansion. RFQ 1702-146.

Background

Estimated budget for this project is $1,200,000.00. Bid packet is attached for your review.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Bid Packet RFQ1702-146

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/01/2017 03:44 PM
Form Started By: Teri Jeffries		Started On: 03/01/2017 01:12 PM
Final Approval Date: 03/01/2017		

Solicitation 1702-146

Juvenile Justice Center Expansion Architectural/Engineering Services

Bid Designation: Public

Williamson County, Texas

Bid 1702-146
Juvenile Justice Center Expansion Architectural/Engineering Services

Bid Number	1702-146
Bid Title	Juvenile Justice Center Expansion Architectural/Engineering Services
Bid Start Date	In Held
Bid End Date	Apr 6, 2017 10:00:00 AM CDT
Question & Answer End Date	Apr 3, 2017 12:00:00 PM CDT
Bid Contact	Teri Jeffries Senior Purchasing Specialist 512-**943**-1553 Teri.jeffries@wilco.org
Contract Duration	**2 years**
Contract Renewal	Not Applicable
Prices Good for	**Not Applicable**
Pre-Bid Conference	**Mar 22, 2017 9:00:00 AM CDT** **Attendance is mandatory** **Location: Williamson County Juvenile Justice Center, located at 200 Wilco Way, Georgetown, Texas 78626** **This is a MANDATORY meeting. Failure to attend will prohibit your firm from submitting a qualifying proposal.**
Bid Comments	**Summary of Scope of Work** **Williamson County is seeking qualifications from experienced firms to provide professional architectural/engineering design and construction administration services for the proposed Williamson County Juvenile Justice Center Expansion Project (JJCE). The anticipated plan is to add 48 (forty-eight) secure bedrooms and associated recreational, classroom and administrative spaces.** **Please carefully read the attached Professional Services Agreement for required terms, conditions and insurance.** **NOTE: There is a Mandatory Pre-Qualification submittal meeting, Wednesday, March 22rd at 9:00am, failure to attend will prohibit your ability to be qualified to submit a proposal of qualifications.**

Item Response Form

Item	**1702-146--01-01 -** Add all documents to this line item.
Quantity	**1 each**

Prices are not requested for this item.

Delivery Location **Williamson County, Texas**

Purchasing Department
901 S. Austin Avenue
Georgetown TX 78626
Qty 1

Description

Please add all required documents and proposal to this line item.

PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

WILLIAMSON COUNTY PURCHASING DEPARTMENT
SOLICIATION 1702-146
Juvenile Justice Center Expansion Architectural/Engineering Services

PROPOSALS MUST BE RECEIVED ON OR BEFORE:
Apr 6, 2017 10:00:00 AM CDT

PROPOSAL WILL BE PUBLICLY OPENED:
Apr 6, 2017 10:00:00 AM CDT

Notice is hereby given that sealed Proposals for the above-mentioned goods and/or services will be accepted by the Williamson County Purchasing Department. Williamson County uses BidSync to distribute and receive proposals. Specifications for this RFP may be obtained by registering at www.bidsync.com.

Williamson County prefers and requests electronic submittal of this Proposal.

All electronic proposal must be submitted via: www.bidsync.com

Electronic proposals are requested, however paper proposals will currently still be received, until further notice and may be mailed or delivered to the address listed below.

Respondents are strongly encouraged to carefully read this entire RFP.

All interested Respondents are invited to submit a Proposal in accordance with the Instructions and General Requirements, Proposal Format, Proposal Specifications, and Definitions, Terms and Conditions stated in this RFP.

Please note that a complete package must be submitted choosing one of the above two methods. Split packages submitted will be considered "unresponsive" and will not be accepted or evaluated.

Williamson County will not accept any Proposals received after the submittal deadline, and shall return such Proposals unopened to the Respondent.

General Information:

- If mailed or delivered in person, Proposal and Proposal addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the Public Announcement and General Information listed above for this RFP, to:

  Williamson County Purchasing Department
  Attn: **PROPOSAL NAME AND NUMBER**
  901 South Austin Avenue
  Georgetown, Texas 78626

  - Respondents should list the Proposal Number, Proposal Name, Name and Address of Respondent, and the Date of the Proposal opening on the outside of the box or envelope and note "Sealed Proposal Enclosed."
  - Respondent should submit one (1) original.
  - Williamson County will NOT be responsible for unmarked or improperly marked envelopes.
  - Williamson County will not accept any responsibility for Proposals being delivered by third party carriers.
  - Facsimile transmittals will NOT be accepted.

- Proposals will be opened publicly in a manner; however, to avoid public disclosure of contents, only the names of Respondents and pricing will be read aloud.

- All submitted questions with their answers will be posted and updated on www.bidsync.com.

- It is the Respondent's responsibility to review all documents in BidSync, including any Addenda that may have been added after the document packet was originally released and posted.

  - Any Addenda and/or other information relevant to the RFP will be posted on www.bidsync.com.

  - The Williamson County Purchasing Department takes no responsibility to ensure any interested Respondent has obtained any outstanding addenda or additional information.

WILLIAMSON COUNTY
PURCHASING DEPARTMENT
901 South Austin Avenue
GEORGETOWN, TEXAS 78626

https://www.bidsync.com

REQUEST FOR QUALIFICATIONS (RFQ)

PROFESSIONAL ARCHITECTURAL/ENGINEERING DESIGN SERVICES FOR THE WILLIAMSON COUNTY JUVENILE JUSTICE CENTER EXPANSION

RFQ#1702-146

RFQ SUBMITTALS TO BE RECEIVED ON OR BEFORE:
10:00am CST, Thursday, April 6, 2017

Special Note:

This RFQ includes a Mandatory Pre-Qualification submission meeting To be held Wednesday, March 22, 2017 at 9:00 am CST At the Williamson County Juvenile Justice Center located at 200 WILCO Way, Georgetown, Texas

1. **General Statement of Request**

Williamson County is seeking qualifications from experienced firms to provide professional Architectural/Engineering (also referred to herein as "A/E") design services and construction administration services for the proposed **Williamson County Juvenile Justice Center Expansion(JJCE)**. At a minimum the technical areas of services required are: architectural, structural engineering, mechanical engineering and electrical engineering professional services.

Statements of Qualifications (SOQs) shall be submitted to Williamson County Purchasing Department, 901 S. Austin Avenue, Georgetown, TX 78626 by **10:00AM CST on Thursday, April 6, 2017.** Preferred method of submittal is through Bid Sync, electronic submittal.

For purposes of this RFQ, Architect/Engineer or A/E means a person registered as an architect pursuant to Chapter 1051 of the Texas Occupations Code, and/or a person licensed as a professional engineer pursuant to Chapter 1001 of the Texas Occupations Code, or a firm retained by Williamson County to provide professional architectural and/or engineering services

and exercising responsibility for the design services for the JJCE, and performing certain contract administration responsibilities during the construction phase of the project.
All Studies, Reports, Plans, and Specifications must be prepared, signed, stamped, and sealed in accordance with the State of Texas rules and regulations regarding applicable professional practice.

2. Project Description

Williamson County intends to add 48 secure bedrooms and associated recreational, classroom and administrative space to the Juvenile Justice Center facility.

Competitive sealed proposal is anticipated to Williamson County's preferred delivery method for the construction of this project. However, Williamson County reserves the right to review and select any other delivery method allowed by law for the construction of the JJCE.

3. Scope of Services

The Scope of Services is anticipated to be divided into the following four phases:

- Programming and Schematic Phase
- Design Phase
- Proposal/Qualification or Negotiation Phase
- Construction Administration Phase

The phases are further outlined as follows:

3.1 Programming and Schematic Phase:

The Programing Phase is scheduled to not exceed two months from the date of execution of the contract.

In coordination with the County's Construction Manager, A/E shall

1. Meet with County staff involved in the project to determine needs of the building program.
2. Prepare Schematic floor plans for review and approval by county.
3. Outline proposed mechanical, electrical, structural, data and plumbing systems.

3.2 Design Phase:

The Design Phase is scheduled to not exceed three months from the date of the County's written approval of the Schematic.

1. Prepare Design Documents, including plans, specifications and estimates, to fix and describe the size and character of the project, including but not limited to architectural, structural, mechanical, electrical, and any specialty systems and materials. Cost estimates shall include, at a minimum, all site work, building construction, equipment and utilities necessary to provide a functional facility.
2. Make presentations to County staff and elected officials.
3. Obtain any necessary approvals from review and permitting authorities (local planning & building department).

3.3 Proposal/Qualification or Negotiation Phase

1. Prepare Qualification package.
2. Oversee Pre-Bid/Proposal Meeting & prepare addendums (as needed).
3. Review proposals/bids and provide written recommendation(s) to staff.
4. Oversee Pre-Construction Meeting.

5. Prepare addenda; review prior approval requests.
6. Make recommendations on Bids/Proposals received.

3.4 Construction Administration Phase

A/E shall:

1. Attend pre-construction conferences.
2. Shop drawing and submittal review.
3. Provide site observations/inspections to ensure Contractor is performing in compliance with plans and specifications.
4. Answer Contractor's RFI's to resolve field/design issues.
5. Review Contractor's Applications for Payment and recommend for approval.
6. Provide substantial and final completion inspections and prepare punch lists.
7. Review, approve, and provide a final report of inspections.
8. Provide independent estimates on Proposed Change Orders. Williamson County will negotiate Change Orders with the Contractor and the A/E will provide support.
9. Review "as-built" drawings and edit for accuracy.

4. Basic Understanding

Selected A/E shall represent Williamson County as their agent in any required approvals processes, presentations, or meetings, and promote Williamson County's best interests. A/E is responsible for submitting and presenting a minimum of one progress package when the design is essentially fifty percent complete. A/E shall assist Construction Manager in obtaining all necessary permits. During construction, A/E will participate in weekly project reviews with Williamson County, as well as perform standard construction administration services.

5. Mandatory Pre-RFQ Meeting

All respondents submitting to this RFQ must attend in-person the Pre-RFQ Meeting at **9:00am CST on March 22, 2017,** at the proposed Williamson County Juvenile Justice Center located at 200 WILCO Way, Georgetown, Texas. At that time, respondents will be able to find out more about the project and ask any questions in reference to the project and/or RFQ. **No phone conference attendance will be allowed.**

A sign in form will be provided **before** the meeting begins to document attendance; it is Williamson County's recommendation for interested firms to arrive 10 minutes early so there will be sufficient time to sign the attendance form. It is the responsibility of the attendee to sign in legibly in order to be eligible to respond to the RFQ.

If a respondent submits to the RFQ, but does not attend the Pre-RFQ Meeting and sign in, their submittal will not be accepted for evaluation.

5. Evaluation Criteria

Each Statement of Qualification (SOQ) received in response to this Request for Qualifications will be subject to the same review and assessment process. SOQs will be evaluated on the basis of the technical capability and experience presented in the SOQ.

Please note that the County shall weigh the experience of the individuals proposed to work on this project significantly greater than the experience of the firm as a whole. All respondents submitting qualifications shall be evaluated on the following four points (A-D).

A. Architect's proposed staff experience/qualifications (30 points)

1. Experience/Qualifications with similar facility components
2. Experience in Central Texas or similar conditions.

B. Structural Experience/Qualifications (15 points)
1. Experience/Qualifications with similar facility components
2. Experience in Central Texas or similar conditions

C. HVAC and Electrical Experience (15 points)
1. Experience/Qualifications with similar facility components
2. Experience in Central Texas

D. Project Manager Experience/Qualifications (15 points) (The project manager is the individual that will be at all meetings with the County staff and is in daily responsible charge of the project).
1. Experience/Qualifications with similar facility components
2 Experience in Central Texas or similar conditions.

6. Selection Process

Respondents are advised that the selection committee, at its option, may recommend a contract strictly on the basis of the initial SOQs and/or may have interviews with some or all of the respondents to determine its final recommendation. Interviews, if held, are tentatively scheduled for May 4, 2017 with notification of firms to be interviewed on or before April 20, 2017. The selection committee will present its recommendation to the Williamson County Commissioners Court for approval.

7. Compensation Information & Fees

Fee negotiations will be initiated once the top respondent is selected. If negotiations for acceptable fees are not successful, another respondent will be selected and negotiations will be initiated with the second respondent. The contract award will be made by the Williamson County Commissioners Court.

8. Proposal Format and Due Date

Open format is acceptable. Please be succinct and respond to each criteria listed in the Evaluation Criteria section of the RFQ. Please respond in the order the evaluation criteria is listed in the RFQ.

At a minimum, the SOQ should contain:

1. An organizational chart listing all firms to be used. Identify the individuals within each firm that will perform tasks and identify which tasks they will perform. A listing of an individual shall be considered as a commitment that that individual will be made available to perform the tasks indicated on this project. For staffing purposes, assume the notice to proceed will be issued in approximately June 2017.

2. Resumes of team members proposed for these services. Include position, education level, professional credentials, qualifications and related experience.

3. Examples of similar projects designed by the staff proposed not by the firm.

SOQs must be received in the Williamson County Purchasing Department located at 901 South Austin Avenue, Georgetown, Texas 78626 or electronically through bidsync.com.

If hard copies are submitted, submit seven (7) individually bound copies of the respondent's/team's response (1 original and 6 copies), and one PDF file of the SOQ on USB flash drive. The response should be marked "original" or "copy".

All non-electronic responses submitted must be submitted in a sealed envelope or box. The Request for Qualifications (RFQ) name, number, and recognition date should be clearly marked on the outside. If an overnight delivery service is used, the RFQ name, number, and recognition date should be clearly marked on the outside of the delivery service envelope. RFQ responses are to be addressed to **Williamson County Purchasing Department, Attn: Teri Jeffries, RFQ1702-146, Professional Architectural/Engineering Design Services for the Williamson County Juvenile Justice Center Expansion located at 200 WILCO Way, Georgetown, Texas.**

Statements of Qualifications (SOQs) are to meet the following requirements:

- The maximum length is fifteen (15) pages (single sided), inclusive of any cover letter but not including resumes. The cover letter should include the name of the respondent's contact person for this project, their mailing address, email address and telephone number.
- There is no limit to the number of resumes submitted but resumes shall not exceed four single sided pages in length.
- Minimum font size for text is 12-pitch except on exhibits where a minimum font size of 8 is permissible.

9. Type of Contract

When the evaluation process is completed and the successful Respondent is determined, award of contract will be made. The successful Respondent shall be required to execute a formal contract/agreement at Williamson County's offices in Georgetown, Texas within ten (10) days after being notified in writing of the selection, subject to County approvals. Williamson County's required form of Agreement for Architectural and/or Engineering Services may be obtained by going to http://www.bidsync.com or by requesting a copy from the Williamson County Purchasing Department by email at purchase@wilco.org. The only anticipated changes to the Agreement for Architectural and/or Engineering Services will be to include additional exhibits, to fill in blanks to identify the successful respondent, and add terms relating to the compensation, or to revise the Agreement for Architectural and/or Engineering Services to accommodate corrections, changes in the scope of services, or changes pursuant to addenda issued. Because the signed Agreement for Architectural and/or Engineering Services will be substantively and substantially derived from the said agreement, all respondents are urged to seek independent legal counsel as to any questions about the terms, conditions or provisions contained in the said Agreement for Architectural and/or Engineering Services ***before*** submitting a response to this RFQ. Again, the Agreement for Architectural and/or Engineering Services contains important legal provisions and is considered part and parcel of this RFQ. Failure or refusal to sign aforesaid agreement shall be grounds for Williamson County to revoke any selection of the respondent, forfeit of such respondent's bid security, if applicable, and force the selection of another respondent.

10. Questions Concerning this RFQ

All questions concerning this RFQ shall be input into http://www.bidsync.com. For further assistance, all communications shall be directed to Teri Jeffries, at teri.jeffries@wilco.org . Please reference the RFQ number on the email subject line.

Questions will be accepted **until 12:00pm CST on April 3, 2017**.

11. Late Submissions

Qualifications received after the submission deadline will not be opened and will be considered void and unacceptable. Williamson County is not responsible for lateness of mail, courier service, etc.

12. Respondent's Acceptance

By submitting a response to this RFQ, the respondent certifies that it has fully read and understands the terms, conditions and statements of this Request for Qualifications and has knowledge of the scope and quality of the services to be furnished and intends to adhere to the provisions described herein.

13. Texas Public Information Act

Williamson County considers all information, documentation and other materials submitted in response to this solicitation to be of a non-confidential and/or non-proprietary nature and therefore shall be subject to public disclosure under the Texas Public Information Act (Texas Government Code, Chapter 552.001, et seq.) after a contract is awarded.

Respondents are hereby notified that Williamson County strictly adheres to all statutes, court decisions, and opinions of the Texas Attorney General with respect to disclosure of RFQ information.

14. Commitment

Respondent understands and agrees that this RFQ is issued predicated on anticipated requirements for Williamson County and that Williamson County has made no representation, written or oral, that any such requirements be furnished under a contract arising from this RFQ. Respondent acknowledges and understands that the Commissioners Court of Williamson County, Texas, reserves the right to refuse to award a contract for any or all services covered in this RFQ. Furthermore, Respondent recognizes and understands that any cost borne by the Respondent which arises from Respondent's performance hereunder shall be at the sole risk and responsibility of Respondent.

Williamson County Purchasing

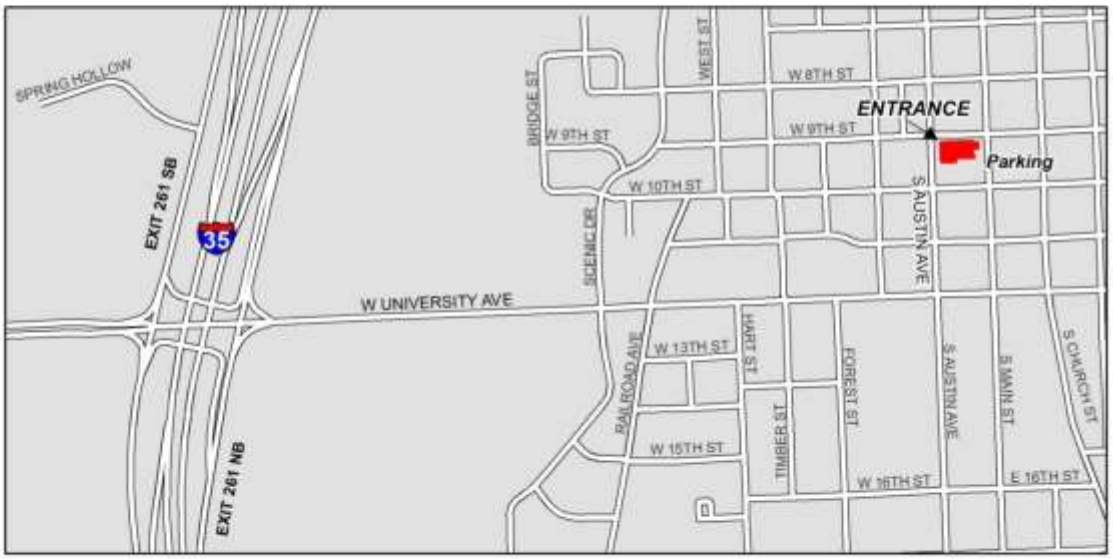
Address:

901 S Austin Ave
Georgetown, TX 78626



Directions:
From South (Austin, Round Rock)
Take IH-35 Northbound
Exit 261
Take EXIT 261 toward TX-29/Burnet.
Take the 1st right onto W University Ave/TX-29
Turn left onto S Austin Ave
901 S AUSTIN AVE is on the right

From North (Jarrell, Georgetown)
Take IH-35 Southbound
Exit 261
Turn left onto TX-29/W University Ave
Turn left onto S Austin Ave
901 S AUSTIN AVE is on the right



1. Submittal Format and Delivery of Statements of Qualifications

Williamson County uses BidSync to distribute and receive bids, proposals and Statements of Qualifications. Statements of Qualifications can be submitted electronically through BidSync or by hard copy. Refer to www.bidsync.com for further information.

If mailed or delivered in person, Statements of Qualifications and Statements of Qualifications addenda are to be delivered in sealed envelope on or before the submittal deadline, as noted in the 'Public Announcement and General Information' listed above for this RFQ, to:
Williamson County Purchasing Department
Attn: **RFQ NAME AND NUMBER**
901 South Austin Avenue
Georgetown, Texas 78626

Williamson County will not accept any Statements of Qualifications received after the submittal deadline, and shall return such Statements of Qualifications unopened to the Respondent.
Williamson County will not accept any responsibility for Statements of Qualifications being delivered by third party carriers.
Statements of Qualifications will be opened publicly in a manner to avoid public disclosure of contents; however, names of Respondents will be read aloud.

2. General Information

2.1 Additional Information

The County reserves the right to request further information or documentation, and to discuss an RFQ for any purpose in order to answer questions or to seek clarification on any aspect of the submission.

2.2 Respondent's Acceptance

By submitting a response to this RFQ, the firm/team certifies that it has fully read and understands the request for qualifications and has knowledge of the scope and quality of the services to be furnished and intends to adhere to the provisions described herein.

2.3 Texas Public Information Act

Williamson County considers all information, documentation and other materials requested to be submitted in response to this solicitation to be of a non-confidential and/or non-proprietary nature and therefore shall be subject to public disclosure under the Texas Public Information Act (Texas Government Code, Chapter 552.001, et seq.) after a contract is awarded.

Respondents are hereby notified that Williamson County strictly adheres to all statutes, court decisions, and opinions of the Texas Attorney General with respect to disclosure of RFQ information.

2.4 Commitment

Respondent understands and agrees that this RFQ is issued predicated on anticipated requirements for Williamson County and that Williamson County has made no representation, written or oral, that any such requirements be furnished under a Contract arising from this RFQ. Furthermore, Respondent recognizes and understands that any cost borne by the Respondent which arises from Respondent's performance hereunder shall be at the sole risk and responsibility of Respondent.

2.5 Williamson County Conflict of Interest Statement

On Tuesday November 6, 2007, the Williamson County Commissioners Court approved the following: All bids, proposals, and requests for qualifications under consideration by Williamson County for contract award, shall contain a signed affidavit acknowledging the responders awareness of Section 176.006 of the Texas Local Government Code as it relates to conflicts of interest.

2.6 Certificate of Interested Parties Texas Ethics Commission (Form 1295)

As of January 1, 2016, Respondents are responsible for complying with the Texas Government Code Section 2252.908. **The law states that Williamson County may not enter into certain contracts with a Respondent unless the Respondent submits a disclosure of interested parties to Williamson County at the time the Respondent submits the signed contract to Williamson County.**

The disclosure requirement applies to any contract of Williamson County entered into on or after January 1, 2016 that either:

1. requires an action or vote by the Commissioners Court (all contracts that fall under the jurisdiction of Commissioners Court approval such as contracts resulting from an IFB, RFP, RFQ etc. excluding but not limited to certain Juvenile Services contracts, contracts funded with Sheriff's seized funds monies etc.) before the contract may be signed
2. has a value of at least $1 million.

Note: Since the majority of contracts with Williamson County require approval by the Commissioners Court, this form will most likely be required to be supplied.

On January 1, 2016, the Texas Ethics Commission made available on its website a new filing application that must be used to file Form 1295.

Information regarding how to use the filing application is available on the Texas Ethics Commission website at the following link:

https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

A Respondent must:

1. use the online application to process the required information on Form 1295
2. print a copy of the form which will contain a unique certification number
3. an authorized agent of the Respondent must sign the printed copy of the form
4. and have the form **notarized**
5. the completed Form 1295 and certification of filing must be filed (scanning and emailing form is sufficient) with Williamson County at the time the signed contract is submitted for Commissioners Court approval.

   After Commissioners Court award of the contract, Williamson County must:
   (1) notify the commission, using the commission's filing application, of the receipt of the filed Form 1295 and certification of filing not later than the 30th day after the date the contract binds all parties to the contract. The commission will post the completed Form 1295 to its website within seven business days after receiving notice from Williamson County.

AGREEMENT FOR ARCHITECTURAL,
ENGINEERING AND CONSTRUCTION MANAGEMENT SERVICES
For Williamson County Juvenile
Justice Center Expansion Project

THIS AGREEMENT FOR ARCHITECTURAL, ENGINEERING AND CONSTRUCTION MANAGEMENT SERVICES ("Agreement") is made and entered into by and between **Williamson County,** a body corporate and politic under the laws of the State of Texas, hereinafter "Owner," Williamson County," or "County," and _____, hereinafter "A/E."

R E C I T A L S

WHEREAS, County intends to expand the Juvenile Justice Center to add 48 (forty-eight) secure bedrooms and associated recreational, classroom and administrative spaces (Additional items may be included);

WHEREAS, A/E represents that it is qualified and desires to perform the services as provided within the specifications; and

NOW THEREFORE, the County and A/E, in consideration of the mutual covenants and conditions, set forth in all referenced documents herein, do mutually agree as follows:

TABLE OF ARTICLES

1 INITIAL INFORMATION
2 A/E's RESPONSIBILITIES
3 SCOPE OF A/E's BASIC SERVICES
4 ADDITIONAL SERVICES
5 OWNER'S RESPONSIBILITIES
6 COST OF THE WORK
7 COPYRIGHTS AND LICENSES
8 CLAIMS AND DISPUTES
9 TERMINATION OR SUSPENSION
10 MISCELLANEOUS PROVISIONS
11 COMPENSATION
12 SPECIAL TERMS AND CONDITIONS
13 SCOPE OF THE AGREEMENT

ARTICLE 1 INITIAL PROJECT INFORMATION

§ 1.1 This Agreement is based on the Initial Project Information set forth in this Article 1 or in Exhibit A, if any.

§ 1.2 The Owner's anticipated dates for commencement of construction and Substantial Completion of the Work are set forth below:

.1 Commencement of construction date: _____

.2 Substantial Completion date: _____

§ 1.3 The Owner and A/E may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the A/E shall appropriately adjust the schedule, the A/E's services and the A/E's compensation.

§ 1.4 The Services covered by this Agreement are subject to an Owner-approved budget. In the absence of an express provision to the contrary in this Agreement, the A/E shall perform the required services in a manner that will render a Cost of the Work (as defined herein) that does not exceed the most current Owner-approved budget.

§ 1.5 A/E represents that it is financially solvent, able to pay its debts as they become due, and possesses sufficient working capital to complete the Services and perform its obligation under this Agreement and under the Contract Documents. A/E further represents and acknowledges that: (a) it is a sophisticated business entity that possesses the required level of experience and expertise in business administration, construction, and contract administration of projects of similar or like size, complexity, and nature as the above-described Project; (b) the Owner is relying on A/E's representation herein that it possesses sufficient skill, knowledge, experience, and ability to fully perform the Services and its obligations under this Agreement; (c) the A/E will assign to this Project qualified individual architects or engineers, as required, and experienced personnel to manage those professionals, as needed, to ensure the quality of performance required herein; and (d) the Basic Services Fee stated in this Agreement is adequate compensation for the timely completion of the Basic Services.

§ 1.6 Limit of Appropriation. Prior to the execution of this Agreement, A/E has been advised by Owner—and A/E clearly understands and agrees, such understanding and agreement being of the absolute essence to this Agreement—that Owner shall have available the total maximum sum of $_____ specifically allocated to fully discharge any and all liabilities, including construction costs, which may be incurred by Owner in bringing the Project to an absolute conclusion, resulting in a complete, fully furnished, fully equipped and fully usable facility, and that the total of any and all basic construction costs, costs of providing the required furnishing and equipment, all fees and compensation of any sort to the A/E and consultants, and any and all costs for any and all things or purposes inuring under or out of this Agreement, irrespective of the nature thereof, shall not exceed said specifically allocated sum, notwithstanding any word, statement or thing contained in or inferred from the preceding provision of this

Agreement which might in any light by any person be interpreted to the contrary. A/E does further understand and agree—said understanding and agreement also being of the absolute essence of this Agreement—that the total maximum compensation that A/E may become entitled to hereunder and the total maximum sum, including any amounts for reimbursable expenses, that County shall become liable to pay to A/E hereunder shall not under any conditions, circumstances or interpretations thereof exceed the sum of $_____.

ARTICLE 2 A/E's RESPONSIBILITIES

§ 2.1 The A/E shall provide the professional services as set forth in this Agreement. The A/E will provide all professional services necessary for the complete design and construction documentation for the Project. The A/E agrees that the Basic Services Fee, stated in Article 11, represents adequate and sufficient compensation for the timely provision of all professional Basic Services (including those of its consulting structural, mechanical, electrical, plumbing, and civil or other consulting engineers, if any) necessary to completely design the Project and prepare Construction Documents that fully indicate the requirements for construction of the Work, whether or not those Services are individually listed or referred to in this Agreement, the only exceptions being: (1) the cost of those services that are provided by third parties and that are expressly designated herein as being the "Owner's responsibility" or "Owner-provided;" and (2) the cost of those engineering or consulting services that become necessary as a result of an Owner-directed change in Project scope affecting the A/E (and that are subject of a written agreement for Additional Services).

§ 2.2 The A/E shall perform its services consistent with the professional skill and care ordinarily provided by architects, or engineers (as the case may be) practicing in the same or similar locality under the same or similar circumstances. The A/E shall perform its services expeditiously in accordance with the schedule developed hereunder.

§ 2.2.1 The A/E agrees that its design, Construction Documents, and Services shall conform to all federal, state, and local statutes and regulations governing its Services, the Project and the Work. The A/E agrees that this duty is non-delegable—and the A/E, by signing drawings or preparing Construction Documents to submit to governmental entities for purposes of obtaining building and other governmental permits or approvals, shall be deemed to certify that it has taken reasonable measures to ascertain what codes apply to the Project and has applied them accordingly. Nothing in this Agreement shall be construed to eliminate or diminish the A/E's responsibility for compliance of its design, its Construction Documents, and its Services provided with local, state, and federal statutes and regulations including but not limited to those that relate to the ADA or accessibility for the physically-challenged.

§ 2.3 The A/E shall identify a representative authorized to act on behalf of the A/E with respect to the Project. Once approved by Owner, the A/E's designated representative shall not be changed without the Owner's written approval.

§ 2.4 Except with the Owner's knowledge and consent, the A/E shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the A/E's professional judgment with respect to this Project.

§ 2.5 Insurance. The A/E shall maintain all forms of insurance required below, or by the laws in the State of Texas. In addition to professional liability insurance, the A/E shall also maintain insurance coverage for comprehensive general liability, automobile liability, and workers' compensation by a carrier satisfactory to the Owner, which carrier shall be licensed to provide such coverage in the State of Texas, on forms and in amounts that are satisfactory to the Owner. The A/E shall ensure that all of A/E's subconsultants engaged or employed by the A/E carry and maintain similar insurance covering their respective portions of the Services. The A/E and its subconsultants shall submit proof of such insurance to the Owner before the submittal of the first invoice to the Owner, at the anniversary date(s) of the submittal, and at any time when a material change in coverage, carriers, or underwriters occurs. The Owner may require that the proof of coverage be in the form of a true and accurate copy of the policies of insurance, themselves. The maintenance of such coverage shall be a condition precedent to Owner's obligation to pay under this Agreement. The insurance policies shall incorporate a provision requiring written notice to the Owner at least 30 days prior to any cancellation, or non-renewal.

.1 General Liability

Each Occurrence	$1,000,000
General Aggregate (other than Prod/Comp Ops Liability)	$2,000,000
Products/Completed Operations Aggregate	$2,000,000
Person & Advertising Injury Liability	$1,000,000
Medical	$1,000

- Williamson County shall be named as Additional Insured(s)
- Waiver of Subrogation shall apply in favor of Williamson County
- 30-day notice of cancellation

.2 Automobile Liability

Any one accident or Loss	$1,000,000

- Such coverage shall apply to Owned, Hired, and Non-Owned Automobiles
- Williamson County shall be named as Additional Insured(s)
- Waiver of Subrogation shall apply in favor of Williamson County
- 30 days' notice of cancellation

.3 Workers' Compensation

Workers' Compensation	State Statutory Limits
Employer's Liability	
Bodily Injury by Accident	$1,000,000 each accident
Bodily Injury by Disease	$1,000,000 policy limit
Bodily Injury by Disease	$1,000,000 each employee

- A Waiver of Subrogation shall apply in favor of Williamson County
- 30 Days' Notice of Cancellation

.4 Professional Liability

Each Claim	$2,000,000
General Aggregate	$2,000,000

- Any deductibles or self-insured retentions over $75,000 must be declared and approved in writing by Williamson County in advance.

ARTICLE 3 SCOPE OF A/E'S BASIC SERVICES

§ 3.1 The A/E shall provide those Basic Services described in Article 3, and 2.1, including the usual and customary structural, mechanical, and electrical engineering services, unless specifically provided elsewhere.

§ 3.1.1 The A/E shall manage the A/E's services, consult with the Owner, research applicable design criteria, attend Project meetings, communicate with members of the Project team and report progress to the Owner. A/E shall also participate in any public hearings requested by Owner and/or the Williamson County Commissioners Court, in accordance with the requirements, policies, and general practices of Williamson County.

§ 3.1.2 The A/E shall coordinate its services with those services provided by the Owner and the Owner's consultants. The A/E shall be entitled to rely on the accuracy and completeness of services and information furnished by the Owner and the Owner's consultants when that information is transmitted by the Owner to the A/E and is designated by Owner to be reliable. The A/E shall provide prompt written notice to the Owner if the A/E becomes aware of any error, omission or inconsistency in such services or information.

§ 3.1.3 As soon as practicable after the date of this Agreement, the A/E shall submit for the Owner's approval a schedule for the performance of the A/E's services. The schedule initially shall include anticipated dates for the commencement of construction and for Substantial Completion of the Work as set forth in the Initial Information. The schedule shall include allowances for periods of time required for the Owner's review, for the performance of the Owner's consultants, and for approval of submissions by authorities having jurisdiction over the Project. Once approved by the Owner, time limits established by the schedule shall not, except for reasonable cause, be exceeded by the A/E. With the Owner's approval, the A/E shall adjust the schedule, if necessary as the Project proceeds until the commencement of construction.

§ 3.1.4 The A/E shall, at appropriate times, contact the governmental authorities required to approve the Construction Documents and the entities providing utility services to the Project. In designing the Project, the A/E shall prepare designs and documents in accordance with applicable design requirements imposed by such governmental authorities and by such entities providing utility services.

§ 3.1.5 The A/E shall assist the Owner in connection with the Owner's responsibility for filing documents required for the approval of governmental authorities having jurisdiction over the Project.

§ 3.2 SCHEMATIC DESIGN PHASE SERVICES

§ 3.2.1 The A/E shall review the program and other information furnished by the Owner, and shall review laws, codes, and regulations applicable to the A/E's services.

§ 3.2.2 The A/E shall prepare a preliminary evaluation of the Owner's program, schedule, budget for the Cost of the Work, Project site, and the proposed procurement or delivery method and other Initial Information, each in terms of the other, to ascertain the requirements of the Project. The A/E shall notify the Owner of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

§ 3.2.3 The A/E shall present its preliminary evaluation to the Owner and shall discuss with the Owner alternative approaches to design and construction of the Project, including the feasibility of incorporating environmentally responsible design approaches.

§ 3.2.4 Based on the Project's requirements, the A/E shall prepare and present for the Owner's approval a preliminary design illustrating the scale and relationship of the Project components.

§ 3.2.5 Based on the Owner's approval of the preliminary design, the A/E shall prepare Schematic Design Documents for the Owner's approval. The Schematic Design Documents shall consist of drawings and other documents including a site plan, if appropriate, and preliminary building plans, sections and elevations; and may, if requested by the Owner, include some combination of study models, perspective sketches, or digital modeling. Preliminary selections of major building systems and construction materials shall be noted on the drawings or described in writing.

§ 3.2.5.1 The A/E shall consider environmentally responsible design alternatives, such as material choices and building orientation, together with other considerations based on program and aesthetics, in developing a design that is consistent with the Owner's program, schedule and budget for the Cost of the Work.

§ 3.2.5.2 The A/E shall consider the value of alternative materials, building systems and equipment, together with other considerations based on program and aesthetics in developing a design for the Project that is consistent with the Owner's program, schedule and budget for the Cost of the Work.

§ 3.2.6 The A/E shall submit to the Owner an estimate of the Cost of the Work. A/E shall provide for the Owner's approval a written itemized estimate of the Cost of the Work based upon the Schematic Design package produced by the A/E, with cost project to the schedule date of completion of the Bidding and Negotiation Phase of Services. If that estimate does not conform to the initial Owner-approved budget, and any Owner-approved amendments thereto, the A/E shall provide a written statement to the Owner describing the specific reasons for the deviation and suggesting alternative designs or changes that can be made to the design in order to bring the Cost of the Work within the then-current Owner budget.

§ 3.2.7 The A/E shall submit the Schematic Design Documents to the Owner, and request the Owner's approval.

§ 3.3 DESIGN DEVELOPMENT PHASE SERVICES

§ 3.3.1 Based on the Owner's approval of the Schematic Design Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the A/E shall prepare Design Development Documents for the Owner's approval. The

Design Development Documents shall illustrate and describe the development of the approved Schematic Design Documents and shall consist of drawings and other documents including plans, sections, elevations, typical construction details, and diagrammatic layouts of building systems to fix and describe the size and character of the Project as to architectural, structural, mechanical and electrical systems, and such other elements as may be appropriate. The Design Development Documents shall also include outline specifications that identify major materials and systems and establish in general their quality levels.

§ 3.3.2 A/E shall provide for the Owner's approval a written itemized estimate of the Cost of the Work based upon the Design Development package produced by the A/E, with cost project to the schedule date of completion of the Bidding and Negotiation Phase of Services. If that estimate does not conform to the initial Owner-approved budget, and any Owner-approved amendments thereto, the A/E shall provide a written statement to the Owner describing the specific reasons for the deviation and suggesting alternative designs or changes that can be made to the design in order to bring the Cost of the Work within the then-current Owner budget.

§ 3.3.3 The A/E shall submit the Design Development documents to the Owner, including the estimate required under §3.3.2 above, and request the Owner's approval.

§ 3.4 CONSTRUCTION DOCUMENTS PHASE SERVICES

§ 3.4.1 Based on the Owner's approval of the Design Development Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the A/E shall prepare Construction Documents for the Owner's approval. The Construction Documents shall indicate in detail the materials, systems, and other requirements for construction of the Work.

§ 3.4.2 The A/E shall prepare Construction Documents that conform to the requirements of applicable laws, codes, ordinances, regulations, and other requirements of governmental authorities having jurisdiction over the Project.

§ 3.4.3 During the development of the Construction Documents, the A/E shall assist the Owner in the development and preparation of (1) bidding and procurement information that describes the time, place and conditions of bidding, including bidding or proposal forms; (2) the form of agreement between the Owner and Contractor; and (3) the Conditions of the Contract for Construction (General, Supplementary and other Conditions). The A/E shall also compile a project manual that includes the Conditions of the Contract for Construction and Specifications and may include bidding requirements and sample forms. **A/E acknowledges and agrees that the Conditions of the Contract for Construction (General, Supplementary and other Conditions) must be suitable for use with the form of agreement between the Owner and Contractor that Williamson County desires to use for the Project and, to the extent the terms of the Conditions of the Contract for Construction and the terms of the County's preferred agreement between the Owner and Contractor conflict or do not align with one another, A/E must resolve all issues contained in the Conditions of the Contract for Construction so the Contract Documents complement one another.**

§ 3.4.4 Upon 75% completion of the Construction Documents, the A/E shall provide for the Owner's approval a written, itemized estimate of the Cost of the Work with cost project to the schedule date of completion of the Bidding and Negotiation Phase of Services. If that estimate does not conform to the initial Owner-approved budget, and any Owner-approved amendments thereto, the A/E shall provide a written statement to the Owner describing the specific reasons for the deviation and suggesting alternative designs or changes that can be made to the design in order to bring the Cost of the Work within the then-current Owner budget.

§ 3.4.5 The A/E shall submit the Construction Documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, take any action required under Section 6.5, and request the Owner's approval.

§ 3.5 BIDDING OR NEGOTIATION PHASE SERVICES

§ 3.5.1 GENERAL

The A/E shall assist the Owner in establishing a list of prospective contractors. Following the Owner's approval of the Construction Documents, the A/E shall assist the Owner in (1) obtaining either competitive bids or negotiated proposals; (2) confirming responsiveness of bids or proposals; (3) determining the successful bid or proposal, if any; and, (4) awarding and preparing contracts for construction.

§ 3.5.2 COMPETITIVE BIDDING

§ 3.5.2.1 Bidding Documents shall consist of bidding requirements and proposed Contract Documents.

§ 3.5.2.2 The A/E shall assist the Owner and the Williamson County Purchasing Department in bidding the Project by

- **.1** procuring the reproduction of Bidding Documents for distribution to prospective bidders;
- **.2** distributing the Bidding Documents to prospective bidders, requesting their return upon completion of the bidding process, and maintaining a log of distribution and retrieval and of the amounts of deposits, if any, received from and returned to prospective bidders;
- **.3** organizing and conducting a pre-bid conference for prospective bidders;
- **.4** preparing responses to questions from prospective bidders and providing clarifications and interpretations of the Bidding Documents to all prospective bidders in the form of addenda; and
- **.5** organizing and conducting the opening of the bids, and subsequently documenting and distributing the bidding results, as directed by the Owner.

§ 3.5.2.3 The A/E shall consider requests for substitutions, if the Bidding Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective bidders.

§ 3.5.3 NEGOTIATED PROPOSALS

§ 3.5.3.1 Proposal Documents shall consist of proposal requirements and proposed Contract Documents.

§ 3.5.3.2 The A/E shall assist the Owner and the Williamson County Purchasing Department in obtaining proposals by

.1 procuring the reproduction of Proposal Documents for distribution to prospective contractors, and requesting their return upon completion of the negotiation process;

.2 organizing and participating in selection interviews with prospective contractors; and

.3 participating in negotiations with prospective contractors, and subsequently preparing a summary report of the negotiation results, as directed by the Owner.

§ 3.5.3.3 The A/E shall consider requests for substitutions, if the Proposal Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective contractors.

§ 3.6 CONSTRUCTION PHASE SERVICES

§ 3.6.1 GENERAL

§ 3.6.1.1 The A/E shall provide administration of the Contract between the Owner and the Contractor as set forth below and in the Uniform General Conditions for Williamson County.

§ 3.6.1.2 The A/E shall advise and consult with the Owner during the Construction Phase Services. The A/E shall have authority to act on behalf of the Owner only to the extent provided in this Agreement. The A/E shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, nor shall the A/E be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The A/E shall be responsible for the A/E's negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Contractor or of any other persons or entities performing portions of the Work.

§ 3.6.1.3 The A/E's responsibility to provide Construction Phase Services commences with the award of the Contract for Construction and terminates on the date the A/E issues the final Certificate for Payment.

§ 3.6.2 EVALUATIONS OF THE WORK

§ 3.6.2.1 The A/E shall visit the site at intervals appropriate to the stage of construction to become familiar with the progress and quality of the portion of the Work completed, and to determine if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the A/E shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the A/E shall keep the Owner informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

§ 3.6.2.2 The A/E has the authority to reject Work that does not conform to the Contract Documents and to notify Owner that A/E is rejecting such Work as not conforming to the

requirements of the Contract Documents. Whenever the A/E considers it necessary or advisable, the A/E shall have the authority to require inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is fabricated, installed or completed. However, neither this authority of the A/E nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the A/E to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees or other persons or entities performing portions of the Work.

§ 3.6.2.3 The A/E shall interpret and advise the Owner of that interpretation on matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The A/E's response to such requests shall be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 3.6.2.4 Interpretations by the A/E shall be consistent with the requirements indicated in or reasonably inferable from the Contract Documents and shall be in writing or in the form of drawings. When approved by Owner in advance, the A/E's decisions on matters relating to aesthetic effect shall be final if consistent with the intent expressed in the Contract Documents.

§ 3.6.2.5 Unless otherwise provided, the A/E shall render initial decisions on Claims between the Owner and Contractor as provided in the Contract Documents or as requested by Owner.

§ 3.6.3 CERTIFICATES FOR PAYMENT TO CONTRACTOR

§ 3.6.3.1 The A/E shall review and certify the amounts due the Contractor and shall issue certificates in such amounts. The A/E's certification for payment shall constitute a representation to the Owner, based on the A/E's evaluation of the Work as provided in Section 3.6.2 and on the data comprising the Contractor's Application for Payment, that, to the best of the A/E's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject (1) to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, (2) to results of subsequent tests and inspections, (3) to correction of minor deviations from the Contract Documents prior to completion, and (4) to specific qualifications expressed by the A/E.

§ 3.6.3.2 The issuance of a Certificate for Payment shall not be a representation that the A/E has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 3.6.3.3 The A/E shall maintain a record of the Applications and Certificates for Payment.

§ 3.6.4 SUBMITTALS

§ 3.6.4.1 The A/E shall review the Contractor's submittal schedule and shall not unreasonably delay or withhold approval. The A/E's action in reviewing submittals shall be taken in accordance with the approved submittal schedule or, in the absence of an approved submittal schedule, with

reasonable promptness while allowing sufficient time in the A/E's professional judgment to permit adequate review.

§ 3.6.4.2 The A/E shall review and approve or take other appropriate action upon the Contractor's submittals (including Shop Drawings, Product Data and Samples, etc.) as necessary to ascertain their conformance with the requirements for the Work as indicated in the Contract Documents. The A/E's review shall not be conducted for the purposes of confirming dimensions or quantities in those submittals except to the extent that the Contractor has requested the assistance of the A/E to determine certain dimensions because those indicated in the Construction Documents conflict with existing field conditions or because the dimensions in the Construction Documents contain erroneous, inconsistent, or incomplete information or dimensions for which clarification is needed and can be supplied by the A/E. The A/E's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the A/E, of any construction means, methods, techniques, sequences or procedures.

§ 3.6.4.3 If the Contract Documents specifically require the Contractor to provide professional design services or certifications by a design professional related to systems, materials or equipment, the A/E shall specify the appropriate performance and design criteria that such services must satisfy. The A/E shall review shop drawings and other submittals related to the Work designed or certified by the design professional retained by the Contractor that bear such professional's seal and signature when submitted to the A/E.

§ 3.6.4.4 The A/E shall review and respond to requests for information about the Contract Documents. The A/E shall set forth in the Contract Documents the requirements for requests for information. Requests for information shall include, at a minimum, a detailed written statement that indicates the specific Drawings or Specifications in need of clarification and the nature of the clarification requested. The A/E's response to such requests shall be made in writing within any time limits agreed upon, or otherwise with reasonable promptness. If appropriate, the A/E shall prepare and issue supplemental Drawings and Specifications in response to requests for information.

§ 3.6.4.5 The A/E shall maintain a record of submittals and copies of submittals supplied by the Contractor in accordance with the requirements of the Contract Documents.

§ 3.6.5 CHANGES IN THE WORK

§ 3.6.5.1 Subject to the approval of the Owner, the A/E may authorize minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. All authorizations for minor changes in the Work shall be in writing, or confirmed by the A/E in writing within 24 hours of authorization of the change. The A/E shall, immediately upon authorizing a minor change in the Work, provide written notice to the Owner thereof, describing the change, and confirming that the change will not affect the Contract Time or the Contract Sum. The A/E shall prepare Change Orders and Construction Change Directives for the Owner's approval and execution in accordance with the Contract Documents.

§ 3.6.5.2 The A/E shall maintain records relative to changes in the Work.

§ 3.6.6 PROJECT COMPLETION

§ 3.6.6.1 The A/E shall conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion; receive from the Contractor and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract Documents and assembled by the Contractor; and issue a final Certificate for Payment based upon a final inspection indicating the Work complies with the requirements of the Contract Documents.

§ 3.6.6.2 The A/E's inspections shall be conducted with the Owner to check conformance of the Work with the requirements of the Contract Documents and to verify the accuracy and completeness of the list submitted by the Contractor of Work to be completed or corrected.

§ 3.6.6.3 When the Work is found to be substantially complete, the A/E shall advise the Owner about the balance of the Contract Sum remaining to be paid the Contractor, including the amount to be retained from the Contract Sum, if any, for final completion or correction of the Work.

§ 3.6.6.4 The A/E shall forward to the Owner the following information received from the Contractor: (1) consent of surety or sureties, if any, to reduction in or partial release of retainage or the making of final payment; (2) affidavits, receipts, releases and waivers of liens or bonds indemnifying the Owner against liens; and (3) any other documentation required of the Contractor under the Contract Documents.

§ 3.6.6.5 Upon request of the Owner, and prior to the expiration of one year from the date of Substantial Completion, the A/E shall, without additional compensation, conduct a meeting with the Owner to review the facility operations and performance.

ARTICLE 4 ADDITIONAL SERVICES

§ 4.1 The Owner may request Additional Services of the A/E. Additional Services will be requested by the Owner, and confirmed in writing. Should the Owner request services that the A/E believes to be outside the scope of Basic Services, the A/E shall, before performing those services, inform the Owner in writing of the A/E's belief that the services requested are Additional Services and shall provide an estimate in writing to the Owner of the probable total of the Additional Services fees to be incurred in performing the services requested. **The A/E shall not proceed to provide Additional Services until the A/E receives the Owner's written authorization following Owner's receipt of the probable total of the Additional Services fees to be incurred in performing the services requested.**

§ 4.2 Additional Services may be provided after execution of this Agreement, without invalidating the Agreement. Except for services required due to the fault of the A/E, any Additional Services provided in accordance with this Section 4.2 shall entitle the A/E to compensation pursuant to Section 11.3 and an appropriate adjustment in the A/E's schedule. Upon recognizing the need to perform Additional Services, the A/E shall notify the Owner with reasonable promptness and explain the facts and circumstances giving rise to the need. **The A/E shall not proceed to provide Additional Services until the A/E receives the Owner's written authorization.**

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 Unless otherwise provided for under this Agreement, the Owner shall provide information in a timely manner regarding requirements for and limitations on the Project, including a written program which shall set forth the Owner's objectives, schedule, constraints and criteria, including space requirements and relationships, flexibility, expandability, special equipment, systems and site requirements. A/E and Owner acknowledge that the information provided is subject to change, but that the Basic Services Fees indicated herein take that change into account.

§ 5.2 The Owner shall establish and periodically update the Owner's budget for the Project, including (1) the budget for the Cost of the Work as defined in Section 6.1; (2) the Owner's other costs; and, (3) reasonable contingencies related to all of these costs. If the Owner significantly increases or decreases the Owner's budget for the Cost of the Work, the Owner shall notify the A/E. The A/E shall prepare designs and Construction Documents so that the Project can be built within the Owner's budget for the Project.

§ 5.3 With respect to any action, decision or determination which is to be taken or made by Owner with respect to the Project, the Owner shall identify a representative authorized to take such action or make such decision or determination or the Owner's representative shall notify A/E in writing of an individual or governing body (i.e. Williamson County Commissioners Court) responsible for and capable of taking such action, decision or determination and shall forward any communications and documentation to such individual or governing body for response or action. Owner may change the designated representative upon written notice to the A/E; and the Owner may modify the scope of authority of the designated representative in like manner. The Owner shall render decisions and approve the A/E's submittals in a timely manner in order to avoid unreasonable delay in the orderly and sequential progress of the A/E's services. The Owner's representative shall not have any right to modify, amend or terminate this Agreement or issue authority to A/E to perform Additional Services unless otherwise granted such authority by the Williamson County Commissioners Court.

§ 5.4 Where necessary for the A/E's performance of the Services, the Owner shall furnish surveys to describe physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands; adjacent drainage; rights-of-way, restrictions, easements, encroachments, deed restrictions, boundaries and contours of the site; locations, dimensions and necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths.

§ 5.5 The Owner shall furnish services of geotechnical engineers, which may include but are not limited to test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, ground corrosion tests and resistivity tests, including necessary operations for anticipating subsoil conditions, with written reports and appropriate recommendations.

§ 5.6 The A/E shall coordinate its Services and those of its subconsultants with the services provided by the Owner or Owner's separate consultants, if any.

§ 5.7 The Owner shall furnish tests, inspections and reports required by law or the Contract Documents, such as structural, mechanical, and chemical tests, tests for air and water pollution, and tests for hazardous materials, where needed for performance of the Work and where the need is not the result of the A/E's negligence or failure to perform.

§ 5.8 The Owner shall furnish all legal, insurance and accounting services, including auditing services, that may be reasonably necessary at any time for the Project to meet the Owner's needs and interests, where needed for performance of the Work and where the need is not the result, in whole or in part, of the A/E's negligence or failure to perform.

§ 5.9 The Owner shall provide prompt written notice to the A/E if the Owner becomes aware of any fault or defect in the Project, including errors, omissions or inconsistencies in the A/E's Instruments of Service, provided nothing in this Agreement shall be construed as to require the Owner to determine the adequacy, accuracy, or sufficiency of the design, the Construction Documents, or the A/E's services.

§ 5.10 The A/E shall coordinate the A/E's duties and responsibilities set forth in the Contract for Construction with the A/E's services set forth in this Agreement. The A/E shall perform in a manner consistent with the obligations of the A/E as stated in this Agreement and in the Contract Documents. The Owner shall provide the A/E a copy of the executed agreement between the Owner and Contractor, including the General Conditions of the Contract for Construction.

§ 5.11 The Owner shall provide the A/E access to the Project site prior to commencement of the Work and shall obligate the Contractor to provide the A/E access to the Work wherever it is in preparation or progress.

ARTICLE 6 COST OF THE WORK

§ 6.1 For purposes of this Agreement, the Cost of the Work shall be the total cost to the Owner to construct all elements of the Project designed or specified by the A/E and shall include contractors' general conditions costs, overhead and profit. The Cost of the Work does not include the compensation of the A/E, the costs of the land, rights-of-way, financing, contingencies for changes in the Work or other costs.

§ 6.2 The Owner's budget for the Cost of the Work may be adjusted throughout the Project. Evaluations of the Owner's budget for the Cost of the Work, the preliminary estimate of the Cost of the Work and updated estimates of the Cost of the Work prepared by the A/E, represent the A/E's judgment as a design professional familiar with the construction industry. It is recognized, however, that neither the A/E nor the Owner has control over the cost of labor, materials or equipment; the Contractor's methods of determining bid prices; or competitive bidding, market or negotiating conditions.

§ 6.3 In preparing estimates of the Cost of Work, the A/E shall be permitted to include contingencies for design, bidding and price escalation; to determine what materials, equipment,

component systems and types of construction are to be included in the Contract Documents; to make reasonable adjustments in the program and scope of the Project; and to include in the Contract Documents alternate bids as may be necessary to adjust the estimated Cost of the Work to meet the Owner's budget for the Cost of the Work. The A/E's estimate of the Cost of the Work shall be based on current area, volume or similar conceptual estimating techniques.

§ 6.4 The A/E's estimate of the Cost of the Work shall be projected to the scheduled date of completion of the Bidding and Negotiation Phase of Services.

§ 6.5 If at any time the A/E's estimate of the Cost of the Work exceeds the Owner's budget for the Cost of the Work, the A/E shall make appropriate recommendations to the Owner to adjust the Project's size, quality or budget for the Cost of the Work, and the Owner shall cooperate with the A/E in making such adjustments.

§ 6.6 If the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services is exceeded by the lowest bona fide bid or negotiated proposal for reasons not related to the fault of the A/E, the Owner shall at the Owner's sole discretion:

.1 give written approval of an increase in the budget for the Cost of the Work;
.2 authorize rebidding or renegotiating of the Project within a reasonable time;
.3 terminate in accordance with this Agreement;
.4 in consultation with the A/E, revise the Project program, scope, or quality as required to reduce the Cost of the Work;
.5 instruct the A/E to modify its design and the Construction Documents so that the Cost of the Work fall within the Owner's budget; or
.6 implement any other mutually acceptable alternative.

§ 6.7 If the Owner chooses to proceed under Section 6.6.5, the A/E, without additional compensation, shall modify the Construction Documents as necessary to comply with the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services, or the budget as adjusted under Section 6.6.1.

ARTICLE 7 COPYRIGHTS AND LICENSES

§ 7.1 The A/E and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project.

§ 7.2 The A/E hereby assigns to the Owner, without reservation, all copyrights in all Project-related documents, models, photographs and other expression created by the A/E. Among those documents are certain "Instruments of Service" including the design drawings and the Construction Documents. The Owner's obligation to pay the A/E is expressly conditioned upon the A/E obtaining a valid assignment of copyrights from its subconsultants in terms similar to those that obligate the A/E to the Owner as express in this Article 7, which copyrights the A/E, in turn, hereby assigns to Owner. The Owner, in return, hereby grants to A/E and its subconsultants a revocable, nonexclusive license to reproduce the documents for purposes relating directly to the A/E's performance of its obligations under this Agreement, to the A/E's archival records, and for the A/E's reproduction of drawings and photographs in the A/E's marketing materials, provided

that the Project-related contents of those materials are approved as requested in Section 7.3 of this Agreement. This nonexclusive license shall terminate automatically upon the occurrence of either a breach of this Agreement by the A/E or upon termination of this Agreement. This nonexclusive license granted in this Agreement to the A/E may be sub-licensed to the A/E's subconsultants (with the same limitations). Subject to the foregoing, this nonexclusive license shall terminate automatically upon A/E's assignment of this nonexclusive license to another or its attempt to do so.

§ 7.3 The A/E shall obtain similar nonexclusive licenses from the A/E's consultants consistent with this Agreement.

§ 7.3.1 To the extent that liability arises from misuse of the Instruments of Service by the Owner or another architect or engineer, the A/E shall not be responsible for that misuse.

§ 7.4 Except for the licenses granted in this Article 7, no other license or right shall be deemed granted or implied under this Agreement. No other Project-related data, expression, or documents may be reproduced by the A/E or its consultants for any other purpose without the express written permission of the Owner.

§ 7.5 If the Owner subsequently reproduces Project-related documents or creates a derivative work based upon Project-related documents created by the A/E, the Owner shall (where permitted or required by law) remove or completely obliterate the original professional's seal, logo, and other indications on the documents of the identity of the A/E or its consultants.

§ 7.6 The A/E shall maintain the confidentiality of all Project documents and information and shall not publish or in any way disseminate or distribute any Project-related documents, including, but not limited to, correspondence, estimates, drawings, specifications, photographs, or any other material relating to the Project without the express written authorization of the Owner.

§ 7.7 Contact with the news media, citizens of Williamson County or governmental agencies shall be the responsibility of the Owner. Under no circumstances shall the A/E release any material or information developed in the performance of its services hereunder without the express written permission of Owner.

§ 7.8 No license is granted by this Agreement or otherwise allowing A/E or its consultants to reproduce, distribute, modify, display or otherwise use Owner-related marks, logos, and graphics. The Parties agree that marks, logos, and graphics related to Owner are valuable intellectual property and that misuse or misappropriation of them will damage the Owner.

ARTICLE 8 CLAIMS AND DISPUTES

§ 8.1 GENERAL

§ 8.1.1 The Owner and A/E shall commence all claims and causes of action, whether in contract, tort, or otherwise, against the other arising out of or related to this Agreement within the period specified by applicable law. The Owner and A/E waive all claims and causes of action not commenced in accordance with this Agreement.

§ 8.1.2 To the extent damages are covered by proceeds received by the claimant from property insurance, the Owner and A/E waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as set forth in the Uniform General Conditions for Williamson County. The Owner or the A/E, as appropriate, shall require of the contractors, consultants, agents and employees of any of them similar waivers in favor of the other parties enumerated herein.

§ 8.1.3 The County Judge or his/her designee and/or agent as designated by the County Judge (individually or collectively the "County Judge") shall decide any and all questions which may arise as to the interpretation of this Agreement and all questions as to the acceptable fulfillment of this Agreement by the A/E. It is mutually agreed by both parties that the County Judge shall act as referee in all questions arising under the terms of this Agreement between the parties hereto. Nothing contained in this section shall be construed to authorize the County Judge to alter, vary or amend any of the terms or provisions of this Agreement.

§ 8.2 MEDIATION

§ 8.2.1 The Owner and A/E shall endeavor to resolve claims, disputes and other matters in question between them by mediation. A request for mediation shall be made in writing, delivered to the other party to the Agreement.

§ 8.2.2 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in Williamson County, Texas, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 8.2.3 All disputes not resolved through mediation shall be resolved through litigation in Williamson County, Texas. However, nothing in this Agreement shall be deemed to waive, modify or amend any legal defense available at law or in equity to Owner, its past or present officers, employees, or agents or employees, nor to create any legal rights or claim on behalf of any third party. Owner does not waive, modify, or alter to any extent whatsoever the availability of the defense of governmental immunity under the laws of the State of Texas and of the United States.

ARTICLE 9 TERMINATION OR SUSPENSION

§ 9.1 The A/E shall give the Owner 21 days' written notice of the A/E's intention to terminate or suspend the Services under this Agreement. The notice shall detail the A/E's specific reason(s) for its intended termination or suspension and shall state with specificity the means by which the Owner may cure the alleged reason.

§ 9.2 If the Owner fails to make payments to the A/E that are otherwise due hereunder, the A/E shall give the Owner 14 days' advanced written notice of its intention to suspend Services. If the Owner fails to either pay or justify its lack of payment in accordance with the terms of this Agreement, A/E may give notice of suspension and suspend the Services five (5) days thereafter. Services shall otherwise be performed continually and expeditiously, including during the pendency of disputes.

§ 9.3 If the Owner suspends the Project for more than 90 cumulative days for reasons other than the fault of the A/E, the A/E may terminate this Agreement by giving not less than seven days' written notice.

§ 9.4. This Agreement may be terminated by the Owner, with or without cause, for the Owner's convenience upon not less than seven (7) days' written notice to the A/E. Should the Owner terminate this Agreement for cause, but that cause be subsequently found to be insufficient to support termination, the termination shall be deemed one of convenience.

§ 9.5 In the event of termination not the fault of the A/E, the A/E shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 This Agreement shall be performable in Williamson County, Texas. Each party to this Agreement hereby agrees and acknowledges that venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this Agreement shall lie exclusively in Williamson County, Texas. Furthermore, this Agreement shall be governed by and construed in accordance with the laws of the State of Texas, excluding, however, its choice of law rules.

§ 10.2 Terms in this Agreement shall have the same meaning as those in Uniform General Conditions for Williamson County, unless a contrary definition is set forth here or inferable herefrom.

§ 10.3 The Owner and A/E, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Agreement. The Services to be provided by the A/E are deemed to be personal in nature and the A/E may not assign its interest or obligations under this Agreement without the written consent of the Owner.

§ 10.4 If the Owner requests the A/E to execute certificates, the proposed language of such certificates shall be submitted to the A/E for review. If the Owner requests the A/E to execute consents, the A/E shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to the A/E for review. The A/E shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of this Agreement.

§ 10.5 Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or A/E.

§ 10.6 Unless otherwise required in this Agreement, the A/E shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site, unless the hazardous materials or toxic substances were brought to the Project pursuant to the terms of the Contract Documents. Should the A/E become aware of the presence of hazardous materials or toxic substances on the Project site, it shall immediately report that presence to the Owner.

§ 10.7 The A/E shall have the right to include photographic or artistic representations of the design of the Project among the A/E's promotional and professional materials. The A/E shall be given access to the completed Project, when approved by Owner, to make such representations. However, the A/E's materials shall not include the Owner's confidential or proprietary information if the Owner has previously advised the A/E in writing of the specific information considered by the Owner to be confidential or proprietary.

§ 10.8 If the A/E or Owner receives information specifically designated by the other party as "confidential" or "business proprietary," the receiving party shall keep such information strictly confidential and shall not disclose it to any other person except to (1) its employees, (2) those who need to know the content of such information in order to perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of confidential information. However, to the extent, if any, that any provision in this Agreement is in conflict with Tex. Gov't Code 552.001 et seq., as amended (the "Public Information Act"), the same shall be of no force or effect. Furthermore, it is expressly understood and agreed that County, its officers and employees may request advice, decisions and opinions of the Attorney General of the State of Texas in regard to the application of the Public Information Act to any items or data furnished to County as to whether or not the same are available to the public. It is further understood that County's officers and employees shall have the right to rely on the advice, decisions and opinions of the Attorney General, and that County, its officers and employees shall have no liability or obligation to any party hereto for the disclosure to the public, or to any person or persons, of any items or data furnished to County by a party hereto, in reliance of any advice, decision or opinion of the Attorney General of the State of Texas.

ARTICLE 11 COMPENSATION

§ 11.1 For the A/E's Basic Services, the Owner shall compensate the A/E as follows:

_____

§ 11.2 For Additional Services designated in Section 4.1, the Owner shall compensate the A/E as follows:

A lump sum amount to be agreed upon, in advance, between Owner and A/E. Alternatively, if approved by Owner, in advance and in writing, A/E's Additional Services shall be based on the hourly rate provided herein below as Exhibit B.

§ 11.3 For Additional Services that may arise during the course of the Project, including those under Section 4.2, the Owner shall compensate the A/E as follows:

A lump sum amount to be agreed upon, in advance, between Owner and A/E. Alternatively, if approved by Owner, in advance and in writing, A/E's Additional Services shall be based on the hourly rate provided herein below as Exhibit B.

§ 11.4 Compensation for Additional Services of the A/E's consultants when not included in Section 11.2 or 11.3, shall be the actual amount invoiced to the A/E, or as otherwise stated below.

§ 11.5 Where compensation for Basic Services is based on a stipulated sum or percentage of the Cost of the Work, the compensation for each phase of services shall be as follows:

Schematic Design Phase		percent (		%)
Design Development Phase		percent (		%)
Construction Documents Phase		percent (		%)
Bidding or Negotiation Phase		percent (		%)
Construction Phase		percent (		%)
Total Basic Compensation	one hundred	percent (	100	%)

§ 11.6 When compensation is based on a percentage of the Cost of the Work and any portions of the Project are deleted or otherwise not constructed, compensation for those portions of the Project shall be payable to the extent services are performed on those portions, in accordance with the schedule set forth in Section 11.5 based on (1) the lowest bona fide bid or negotiated proposal falling within the Owner's budget, or (2) if no such bid or proposal is received, the most recent estimate of the Cost of the Work approved by the Owner for such portions of the Project. The A/E shall be entitled to compensation in accordance with this Agreement for all services performed by the A/E in accordance with this Agreement whether or not the Construction Phase is commenced.

§ 11.7 The hourly billing rates for Additional Services performed by the A/E and the A/E's consultants, if any, are set forth in the attached Exhibit B.

(If applicable, attach an exhibit of hourly billing rates.)

§ 11.8 COMPENSATION FOR REIMBURSABLE EXPENSES

§ 11.8.1 A/E shall be reimbursed for actual non-labor and subcontract expenses incurred directly related to the Project and in the performance of the services under this Agreement strictly in accordance with the Williamson County Vendor Reimbursement Policy, which attached hereto as Exhibit D and is incorporated herein by reference. Reimbursable Expenses are in addition to compensation for Basic and Additional Services.

§ 11.8.2 Invoices requesting reimbursement for costs and expenditures related to the Project (reimbursables) must be accompanied by copies of the provider's invoice and otherwise fully comply with the Williamson County Vendor Reimbursement Policy. The copies of the provider's invoice must evidence the actual costs billed to A/E without mark-up.

§ 11.9 A/E acknowledges that it has reviewed the Williamson County Vendor Reimbursement Policy in advance of executing this Agreement and that A/E hereby agrees to comply with the terms of same.

§ 11.10 PAYMENTS TO THE A/E

§ 11.10.1 Unless otherwise agreed, payments for services shall be made monthly in proportion to services performed. On or about the last day of each calendar month during the performance of the A/E's Services, the A/E shall submit a sworn statement to the Owner's designated representative, along with timesheets detailing hours worked, receipts detailing expenses incurred, and other support documentation, in a form acceptable to Owner's Auditor, setting forth the Services provided under this Agreement during such calendar month, the compensation due, plus any amounts requested by A/E for Additional Services. In the event that A/E's request includes charges based upon hourly billing rates or other rates based upon the amount of time worked by an individual(s), whether employees of A/E or A/E's subconsultants, the charges shall be accompanied by an affidavit signed by an officer or principal of the A/E certifying that the work was performed, it was authorized by Owner, and that all information contained in the invoice is true and correct.

§ 11.10.2. Owner's designated representative shall review the A/E's invoices within twenty-one (21) days of receipt and approve them, or request modifications consistent with this Agreement. Once Owner approves the A/E's invoice, Owner shall pay same within thirty (30) days after the Williamson County Auditor receives the approved invoice.

§ 11.10.3 Owner's payment for goods and services is governed by Chapter 2251 of the Texas Government Code. Interest charges for any overdue payments shall be paid by Owner in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

In the event that an error appears in an invoice/application for payment submitted by A/E, Owner shall notify A/E of the error not later than the twenty first (21st) day after the date Owner receives the invoice/application for payment. If the error is resolved in favor of A/E, A/E shall be entitled to receive interest on the unpaid balance of the invoice/application for payment submitted by A/E beginning on the date that the payment for the invoice/application for payment became overdue. If the error is resolved in favor of the County, A/E shall submit a corrected invoice/application for payment that must be paid in accordance within the time set forth above. The unpaid balance accrues interest as provided by Chapter 2251 of the Texas Government Code if the corrected invoice/application for payment is not paid by the appropriate date.

§ 11.10.4 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be submitted to the Owner's designated representative when payment is requested.

§ 11.10.5 Right to Audit. A/E agrees to maintain, for a period of seven years, detailed records identifying each individual performing the services, the date or dates the services were performed, the applicable hourly rates, the total amount billed for each individual and the total amount billed for all persons, and provide such other details as may be requested by the County Auditor for

verification purposes. A/E agrees that Owner or its duly authorized representatives shall, until the expiration of three years after final payment under this Agreement, have access to and the right to examine and photocopy any and all books, documents, papers and records of A/E which are directly pertinent to the services to be performed under this Agreement for the purposes of making audits, examinations, excerpts, and transcriptions. A/E agrees that Owner shall have access during normal working hours to all necessary A/E facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. County shall give A/E reasonable advance notice of intended audits.

ARTICLE 12 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Agreement are as follows:

§ 12.1 The A/E shall provide prompt written notice to the Owner if the A/E becomes aware of any defect or omission in the design of the Project or in the Construction Documents, including but not limited to errors, omissions, or inconsistencies in the A/E's Instruments of Service.

§ 12.2 A/E AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM AN ACT OR OMISSION, NEGLIGENCE, OR INTENTIONAL TORT COMMITTED BY A/E, A/E'S EMPLOYEES, AGENTS, OR ANY OTHER PERSON OR ENTITY UNDER CONTRACT WITH A/E INCLUDING, WITHOUT LIMITATION, A/E'S SUBCONSULTANTS, OR ANY OTHER ENTITY OVER WHICH A/E EXERCISES CONTROL.

§ 12.3 A/E FURTHER AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, JUDGMENTS, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM A/E'S FAILURE TO PAY A/E'S EMPLOYEES, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, IN CONNECTION WITH ANY OF THE WORK PERFORMED OR TO BE PERFORMED UNDER THIS CONTRACT BY A/E.

§ 12.4 A/E FURTHER AGREES TO INDEMNIFY AND HOLD THE COUNTY HARMLESS FROM ANY AND ALL LIABILITIES, LOSSES, PENALTIES, CLAIMS, LAWSUITS, DAMAGES, COSTS AND EXPENSES, INCLUDING, BUT NOT LIMITED TO, ATTORNEYS' FEES, ("LOSSES") TO THE EXTENT SUCH LOSSES ARE CAUSED BY OR RESULTS FROM THE INFRINGEMENT OF ANY INTELLECTUAL PROPERTY ARISING OUT OF THE USE OF ANY PLANS, DESIGN, DRAWINGS, OR SPECIFICATIONS FURNISHED BY A/E IN THE PERFORMANCE OF THIS CONTRACT.

§ 12.5 THE LIMITS OF INSURANCE REQUIRED IN THIS CONTRACT AND/OR THE CONTRACT DOCUMENTS SHALL NOT LIMIT A/E'S OBLIGATIONS UNDER THIS SECTION. THE TERMS AND CONDITIONS CONTAINED IN THIS SECTION SHALL SURVIVE THE TERMINATION OF THE CONTRACT AND/OR CONTRACT DOCUMENTS OR THE SUSPENSION OF THE WORK HEREUNDER. TO THE EXTENT THAT ANY LIABILITIES, PENALTIES, DEMANDS, CLAIMS, LAWSUITS, LOSSES, DAMAGES, COSTS AND EXPENSES ARE CAUSED IN PART BY THE ACTS OF THE COUNTY OR THIRD PARTIES FOR WHOM A/E

IS NOT LEGALLY LIABLE, A/E'S OBLIGATIONS SHALL BE IN PROPORTION TO A/E'S FAULT. THE OBLIGATIONS HEREIN SHALL ALSO EXTEND TO ANY ACTIONS BY THE COUNTY TO ENFORCE THIS INDEMNITY OBLIGATION.

§ 12.6 IN THE EVENT THAT CONTRACTORS INITIATE LITIGATION AGAINST THE COUNTY IN WHICH THE CONTRACTOR ALLEGES DAMAGES AS A RESULT OF ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS OF A/E, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH A/E EXERCISES CONTROL, INCLUDING, BUT NOT LIMITED TO, DEFECTS, ERRORS, OR OMISSIONS, THEN THE COUNTY SHALL HAVE THE RIGHT TO JOIN A/E IN ANY SUCH PROCEEDINGS AT THE COUNTY'S COST. A/E SHALL ALSO HOLD THE COUNTY HARMLESS AND INDEMNIFY THE COUNTY TO THE EXTENT THAT A/E, ANY OF ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH A/E EXERCISES CONTROL, CAUSED SUCH DAMAGES TO CONTRACTOR, INCLUDING ANY AND ALL COSTS AND ATTORNEYS' FEES INCURRED BY THE COUNTY IN CONNECTION WITH THE DEFENSE OF ANY CLAIMS WHERE A/E, ITS EMPLOYEES, AGENTS, SUBCONTRACTORS, SUBCONSULTANTS, OR SUPPLIERS, OR OTHER ENTITIES OVER WHICH A/E EXERCISES CONTROL, ARE ADJUDICATED AT FAULT.

§ 12.7 Not Used.

§ 12.7.1 Not Used.

§ 12.8 The Parties agree that during the performance of the services under this Agreement they will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Parties will take affirmative steps to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship.

§ 12.9 The Texas Board of Architectural Examiners, P.O. Box 12337, Austin, Texas 78711-2337 or 333 Guadalupe, Suite 2-350, Austin, Texas 78701-3942, 512/305-9000, www.tbae.state.tx.us, has jurisdiction over individuals licensed under the Architect's Registration Law, Texas Civil Statutes, Article 249a. To the extent applicable, the responsible engineer shall sign, seal and date all appropriate engineering submissions to County and shall at all times comply with the Texas Engineering Practice Act and the rules of the State Board of Registration for Professional Engineers.

ARTICLE 13 SCOPE OF THE AGREEMENT

§ 13.1 This Agreement represents the entire and integrated agreement between the Owner and the A/E and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and A/E, unless such amendment by unilateral action of the Owner is expressly provided for in this Agreement. Individual handwritten modifications of this Agreement shall be of no effect unless each such modification is initialed by Owner and A/E.

§ 13.2 This Agreement is comprised of the following documents listed below:

.1 This Agreement for Architectural and/or Engineering Services;
.2 Exhibit A: Initial Project Information, if any;
.3 Exhibit B: Hourly Rates, if any;
.4 Exhibit C: Production Schedule, if any;
.5 Exhibit D: Williamson County Vendor Reimbursement Policy
.6 Other documents:

(List other documents, if any, and additional scopes of service, if any, forming part of the Agreement.)

§ 13.3 This Agreement is not effective until signed by the Owner and A/E. The Owner executes this Agreement by and through the County Judge acting pursuant to Order of the Commissioners Court of Williamson County, Texas, so authorizing. The A/E's duly authorized representative acknowledges by his/her signature below that he/she has read and understands the above paragraphs and that A/E has the obligation to ensure compliance with this Agreement by itself and its employees, agents, and representatives.

This Agreement shall be effective as of the date of the last party's execution of this Agreement.

WILLIAMSON COUNTY, TEXAS (Owner)

By: _____
Dan A. Gattis,
Williamson County Judge

Date Signed: _____ _____, 20___

_____ **(A/E)**
(Name of Firm/Entity)

By: _____
(Signature)

Printed Name: _____

Title: _____

Date Signed: _____ _____, 20___

Exhibit A
Initial Project Information

Professional architectural/engineering design and construction administration services for the Williamson County Juvenile Justice Center Expansion Project (JJCE). The anticipated plan is to add 48 (forty-eight) secure bedrooms and associated recreational, classroom and administrative spaces; however, changes and/or additional services may be incorporated.

Exhibit B
Hourly Rates

Exhibit C
Production Schedule

Exhibit D

Williamson County
Vendor Reimbursement Policy

The purpose of this Williamson County Vendor Reimbursement Policy ("Policy") is to provide clear guidelines to vendors on Williamson County's expectations and requirements regarding allowable reimbursable expenditures and required backup. The Policy will also minimize conflicts related to invoice payments and define non-reimbursable items. This Policy is considered a guideline and is not a contract.

This Policy may be altered, deleted or amended, at any time and without prior notice to vendors, by action of the Williamson County Commissioners Court. Unenforceable provisions of this Policy, as imposed by applicable law, regulations, or judicial decisions, shall be deemed to be deleted. Any revisions to this Policy will be distributed to all current vendors doing business with the County.

1. Invoices and Affidavits

1.1 Invoices must adequately describe the goods or services provided to County and include all required backup (i.e. reimbursable expenses, mileage log, timesheets, receipts detailing expenses incurred etc.) that is in a form acceptable to the Williamson County Auditor. Invoices that do not adequately describe the goods or services provided to County or contain backup that is satisfactory to the Williamson County Auditor will be returned to vendor for revisions and the provision above relating to invoice errors resolved in favor of the County shall control as to the required actions of vendor and when such invoice must be paid by the County.

1.2 In the event an invoice includes charges based upon hourly billing rates for services or any other rates based upon the amount of time worked by an individual or individuals in performing services, whether the charges are being billed directly to the County or whether they are the basis of invoices from subcontractors for which the vendor seeks reimbursement from the County, the charges shall be accompanied by an affidavit signed by an officer or principal of the vendor certifying that the work was performed, it was authorized by the County and that all information contained in the invoice that is being submitted is true and correct.

1.3 Upon County's request, vendor must submit all bills paid affidavits wherein vendor must swear and affirm that vendor has paid each of its subcontractors, laborers, suppliers and material in full for all labor and materials provided to vendor for or in connection with services and work performed for County and, further, vendor must swear and affirm that vendor is not aware of any unpaid bills, claims, demands, or causes of action by any of its subcontractors, laborers, suppliers, or material for or in connection with the furnishing of labor or materials, or both, for services and work performed for County.

2. Travel Reimbursement

2.1 The County will only cover costs associated with travel on vendors outside a 50 mile radius from Williamson County, Texas.

2.2 The County will only cover costs associated with travel as documented work for County. If a vendor is also doing business for another client, the travel costs must be split in proportion to the amount of work actually performed for County and the other client. The only allowable travel expense will be for the specific days worked for Williamson County.

2.3 No advance payments will be made to vendor for travel expenditures. The travel expenditure may only be reimbursed after the expenditure/trip has already occurred and vendor has provided the Williamson County Auditor with all necessary and required backup.

2.4 Vendors must submit all travel reimbursement requests on each employee in full. Specifically, a travel reimbursement request must include all related travel reimbursement expenses relating to a particular trip for which vendor seeks reimbursement. Partial travel reimbursement requests will not be accepted (i.e. vendor should not submit hotel and mileage one month then the next month submit rental car and airfare). If the travel reimbursement appears incomplete, the invoice will be sent back to the vendor to be submitted when all information is ready to submit in full.

2.5 Reimbursement for transportation costs will be at the most reasonable means of transportation (i.e.: airline costs will be reimbursed for coach rate, rental car costs will only be reimbursed if rental car travel was most reasonable means of travel as compared to travel by air).

2.6 The County will not be responsible for, nor will the County reimburse additional charges due to personal preference or personal convenience of individual traveling.

2.7 The County will not reimburse airfare costs if airfare costs were higher than costs of mileage reimbursement.

2.8 Additional expenses associated with travel that is extended to save costs (i.e. Saturday night stay) may be reimbursed if costs of airfare would be less than the cost of additional expenses (lodging, meals, car rental, mileage) if the trip had not been extended. Documentation satisfactory to the Williamson County Auditor will be required to justify expenditure.

2.9 County will only reimburse travel expense to necessary personnel of the vendor (i.e. no spouse, friends or family members).

2.10 Except as otherwise set forth herein, a vendor must provide a paid receipt for all expenses. If a receipt cannot be obtained, a written sworn statement of the expense from the vendor may be substituted for the receipt.

2.11 Sales tax for meals and hotel stays are the only sales taxes that will be reimbursed. Sales tax on goods purchased will not be reimbursed. A sales tax exemption form is available from the Williamson County Auditor's Office upon request.

2.12 The County will not pay for any late charges on reimbursable items. It is the responsibility of the vendor to pay the invoice first and seek reimbursement from the County.

3. Meals

3.1 Meal reimbursements are limited to a maximum of $50.00 per day on overnight travel. On day travel (travel that does not require an overnight stay), meal reimbursements are limited to a maximum of $20.00 per day. The travel must be outside the Williamson County, Texas line by a 50 mile radius.

3.2 Receipts are required on meal reimbursement amounts up to the maximum per day amount stated for overnight or day travel. If receipts are not presented, the vendor can request per diem (per diem limits refer to 3.2). However, a vendor cannot combine per diem and meal receipts. Only one method shall be allowed.

3.3 Meals are reimbursable only for vendors who do not have the necessary personnel located within a 50 mile radius of Williamson County, Texas that are capable of carrying the vendor's obligations to County. Meals will not be reimbursed to vendors who are located within a 50 mile radius of Williamson County, Texas.

3.4 County will not reimburse for alcoholic beverages.

3.5 Tips are reimbursable but must be reasonable to limitation of meal allowance

3.6 No meals purchased for entertainment purposes will be allowed.

3.7 Meal reimbursement must be substantiated with a hotel receipt.

4. Lodging

4.1 Hotel accommodations require an itemized hotel folio as a receipt. The lodging receipt should include name of the motel/hotel, number of occupant(s), goods or services for each individual charge (room rental, food, tax, etc.) and the name of the occupant(s). Credit card receipts or any other form of receipt are not acceptable.

4.2 Vendors will be reimbursed for a single room rate charge plus any applicable tax. If a single room is not available, the vendor must provide documentation to prove that a single room was not available in order to justify the expense over and above the single room rate. A vendor may also be required to provide additional documentation if a particular room rate appears to be excessive.

4.3 Personal telephone charges, whether local or long distance, will not be reimbursed.

5. Airfare

5.1 The County will only reimburse up to a coach price fare for air travel.

5.2 The County will exclude any additional charges due to personal preference or personal convenience of the individual traveling (i.e. early bird check in, seat preference charges, airline upgrades, etc. will not be an allowable reimbursement)

5.3 Air travel expenses must be supported with receipt copy of an airline ticket or an itinerary with actual ticket price paid. If tickets are purchased through a website, vendor must submit a copy of the webpage showing the ticket price if no paper ticket was issued.

5.4 Cancellation and/or change flight fees may be reimbursed by the County but vendor must provide the Williamson County Auditor with documentation in writing from a County department head providing authorization for the change.

5.5 The County will not reimburse vendor for tickets purchased with frequent flyer miles.

6. Car Rental

6.1 Vendors that must travel may rent a car at their destination when it is less expensive than other transportation such as taxis, airport shuttles or public transportation such as buses or subways.

6.2 Cars rented must be economy or mid-size. Luxury vehicle rentals will not be reimbursed. Any rental costs over and above the cost of a mid-size rental will be adjusted.

6.3 Vendors will be reimbursed for rental cars if the rental car cost would have been less than the mileage reimbursement cost (based on the distance from vendor's point of origin to Williamson County, Texas) had the vendor driven vendor's car.

6.4 Vendors must return a car rental with appropriate fuel levels as required by rental agreement to avoid the car rental company from adding fuel charges.

6.5 Rental agreement and credit card receipt must be provided to County as back up for the request for reimbursement.

6.6 Insurance purchased when renting vehicle may also be reimbursed.

6.7 Car Rental optional extras such as GPS, roadside assistance, and administrative fees on Tolls will not be reimbursed.

7. Personal Car Usage

7.1 Personal vehicle usage will be reimbursed in an amount equal to the standard mileage rate allowed by the IRS.

7.2 Per code of Federal Regulations, Title 26, Subtitle A, Chapter 1, Subchapter B, Part IX, Section 274(d), all expense reimbursement requests must include the following:

7.2.1.1 Date
7.2.1.2 Destination
7.2.1.3 Purpose
7.2.1.4 Name of traveler(s)
7.2.1.5 Correspondence that verifies business purpose of the expense

7.3 The mileage for a personal vehicle must document the date, location of travel to/from, number of miles traveled and purpose of trip.

7.4 Mileage will be reimbursed on the basis of the most commonly used route.

7.5 Reimbursement for mileage shall not exceed the cost of a round trip coach airfare.

7.6 Reimbursement for mileage shall be prohibited between place of residence and usual place of work.

7.7 Mileage should be calculated from employee's regular place of work or their residence, whichever is the shorter distance when traveling to a meeting or traveling to Williamson County, Texas for vendors who are located outside of Williamson County, Texas by at least a 50 mile radius.

7.8 When more than one person travels in same vehicle, only one person may claim mileage reimbursement.

7.9 Tolls, if reasonable, are reimbursable. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement (administrative fees on Tolls will not be reimbursed).

7.10 Parking fees, if reasonable are reimbursable for meetings and hotel stays. For vendors who contract with a third party for visitor parking at vendor's place of business, Williamson County will not reimburse a vendor based on a percentage of its contracted visitor parking fees. Rather, Williamson County will reimburse Vendor for visitor parking on an individual basis for each time a visitor uses Vendor's visitor parking. Receipts are required for reimbursement. If a receipt is not obtainable, then written documentation of expense must be submitted for reimbursement.

7.11 Operating and maintenance expenses as well as other personal expenses, such as parking tickets, traffic violations, and car repairs and collision damage are not reimbursable.

8. Other Expenses

8.1 Taxi fare, bus tickets, conference registrations, parking, etc. must have a proper original receipt.

9. Repayment of Nonreimbursable Expense.

Vendors must, upon demand, immediately repay County for all inappropriately reimbursed expenses whenever an audit or subsequent review of any expense reimbursement documentation finds that such expense was reimbursed contrary to these guidelines and this Policy. Williamson County reserves the right to retain any amounts that are due or that become due to a vendor in order to collect any inappropriately reimbursed expenses that a vendor was paid.

10. Non-Reimbursable Expenses

In addition to the non-reimbursable items set forth above in this Policy, the following is a non-exhaustive list of expenses that will not be reimbursed by Williamson County:

10.1 Alcoholic beverages/tobacco products
10.2 Personal phone calls
10.3 Laundry service
10.4 Valet service (excludes hotel valet)
10.5 Movie rentals
10.6 Damage to personal items
10.7 Flowers/plants
10.8 Greeting cards
10.9 Fines and/or penalties
10.10 Entertainment, personal clothing, personal sundries and services
10.11 Transportation/mileage to places of entertainment or similar personal activities
10.12 Upgrades to airfare, hotel and/or car rental

10.13 Airport parking above the most affordable rate available
10.14 Excessive weight baggage fees or cost associated with more than two airline bags
10.15 Auto repairs
10.16 Babysitter fees, kennel costs, pet or house-sitting fees
10.17 Saunas, massages or exercise facilities
10.18 Credit card delinquency fees or service fees
10.19 Doctor bills, prescription and other medical services
10.20 Hand tools
10.21 Safety Equipment (hard hats, safety vests, etc.)
10.22 Office Supplies
10.23 Lifetime memberships to any association
10.24 Donations to other entities
10.25 Any items that could be construed as campaigning
10.26 Community outreach items exceeding $2 per item
10.27 Sales tax on goods purchased
10.28 Any other expenses which Williamson County deems, in its sole discretion, to be inappropriate or unnecessary expenditures.

Proposal References

List the last three (3) companies or governmental agencies, where the same or similar goods and/or services as contained in this RFP package, were recently provided by Respondent.

Reference 1

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 2

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

Reference 3

Client Name: Location:

Contact Name: Title:

Phone: E-mail

Contract Date To: Contract Date From: Contract Value: $

Scope of Work:

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 **Name of person doing business with local governmental entity.**

2 ☐ **Check this box if you are filing an update to a previously filed questionnaire.**

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3 **Describe each affiliation or business relationship with an employee or contractor of the local governmental entity who makes recommendations to a local government officer of the local governmental entity with respect to expenditure of money.**

4 **Describe each affiliation or business relationship with a person who is a local government officer and who appoints or employs a local government officer of the local governmental entity that is the subject of this questionnaire.**

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

Form CIQ
Page 2

5 **Name of local government officer with whom filer has affiliation or business relationship.**
(Complete this section only if the answer to A, B, or C is YES.)

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

☐ Yes ☐ No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?

☐ Yes ☐ No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

☐ Yes ☐ No

D. Describe each affiliation or business relationship.

6. Describe any other affiliation or business relationship that might cause conflict of interest:

7

Signature of person doing business with the governmental entity	Date

Signature not required if completing in BIDSYNC electronically.

DEBARMENT AND LICENSING CERTIFICATION

STATE OF TEXAS §
§
COUNTY OF WILLIAMSON §

I, the undersigned, being duly sworn or under penalty of perjury under the laws of the United States and the State of Texas, certifies that Firm named herein below and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any federal department or agency:
(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state or local) transaction or contract under a public transaction; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
(c) Are not presently indicted for or otherwise criminally or civilly charged by a federal, state or local governmental entity with commission of any of the offenses enumerated in paragraph (1)(b) of this certification;
(d) Have not within a three-year period preceding this application/proposal had one or more public (federal, state or local) transactions terminated for cause or default;
(e) Are registered and licensed in the State of Texas to perform the professional services which are necessary for the project; and
(f) Have not been disciplined or issued a formal reprimand by any State agency for professional accreditation within the past three years.

Name of Firm

Signature of Certifying Official | Title of Certifying Official

Printed Name of Certifying Official | Date

Where the Firm is unable to certify to any of the statements in this certification, such Firm shall attach an explanation to this certification.

SUBSCRIBED and sworn to before me the undersigned authority by

on this the day of , 20 , on behalf of said Firm.

Notary Public in and for the State of Texas

My commission expires:

SIGNATURE AND NOTARY NOT REQUIRED IF COMPLETING IN BIDSYNC ELECTRONICALLY.

DISCLOSURE OF LOBBYING ACTIVITIES

INSTRUCTIONS FOR COMPLETION OF FORM SF-LLL

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required within 30 days of each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Use the SF-LLL-A Continuation Sheet for additional information if the space on the form is inadequate. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, state and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the sub-awardee, e.g., the first sub-awardee of the prime is the first tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee", then enter the full name, address, city, state and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 [e.g., Request for Proposal (RFP) number: Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency]. Include prefixes, e.g., RFP-DE-90-001.

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10(a) Enter the full name, address, city, state and zip code of the lobbying entity engaged by the reporting entity identified in item 4 to influence the covered Federal action.

10(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

11. Enter the amount of compensation paid or reasonably expected to be paid by the reporting entity (item 4) to the lobbying entity (item 10). Indicate whether the payment has been made (actual) or will be made (Planned). Check all boxes that apply. If this is a material change report, enter the cumulative amount of payment made or planned to be made.

12. Check the appropriate box(es). Check all boxes that apply. If payment is made through an in-kind contribution, specify the nature and value of the in-kind payment.

13. Check the appropriate box(es). Check all boxes that apply. If other, specify nature.

14. Provide a specific and detailed description of the services that the lobbyist has performed, or will be expected to perform, and the date(s) of any services rendered. Include all preparatory and related activity, not just time spent in actual contact with Federal officials. Identify the Federal official(s) or employee(s) contacted or the officer(s), employee(s), or Member(s) of Congress that were contacted.

15. Check whether or not a SF-LLL-A Continuation Sheet(s) is attached.

16. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

Public reporting burden for this collection of information is estimated to average 30 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, D.C. 20503.

Question and Answers for Bid #1702-146 - Juvenile Justice Center Expansion Architectural/Engineering Services

Overall Bid Questions
There are no questions associated with this bid.

Commissioners Court - Regular Session **49.**

Meeting Date: 03/07/2017

Request to reject proposals received on RFP 1701-135

Submitted For: Randy Barker **Submitted By:** Teri Jeffries, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on rejecting proposals received from RFP 1701-135 for roof improvements to the Jail and Justice Center. Approval to advertise was granted by the Court on January 24, 2017, Item No. 38.

Background

Two proposals were received from the solicitation; however, neither were responsive. Additionally, both were substantially over budget.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 09:34 AM
Form Started By: Teri Jeffries		Started On: 03/02/2017 07:38 AM
Final Approval Date: 03/02/2017		

Commissioners Court - Regular Session **50.**

Meeting Date: 03/07/2017

Force Simulator Training and Equipment

Submitted By: Jayme Jasso, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on approving the Services Contract between Ti Training LE, LLC and Williamson County Sheriff's Office for the Training and Equipment Regarding the Use of Force Simulator, not to exceed the amount of $30,750.00.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

Force Simulator

Force Simulator 1

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:41 AM
Form Started By: Jayme Jasso		Started On: 03/02/2017 10:07 AM
Final Approval Date: 03/02/2017		

THE STATE OF TEXAS §

COUNTY OF WILLIAMSON §

SERVICES CONTRACT FOR TRAINING & EQUIPMENT REGARDING USE OF FORCE SIMULATOR (Williamson County Sheriff's Office)

THIS SERVICES CONTRACT (hereinafter "Contract") is made and entered into by and between **Williamson County, Texas** (hereinafter "The County"), a political subdivision of the State of Texas, acting herein by and through its governing body, and **Ti Training LE LLC**, (hereinafter "Service Provider"). The County agrees to engage Service Provider as an independent contractor, to assist in providing certain operational services pursuant to the following terms, conditions, and restrictions:

I.

Goods and Services: Service Provider shall provide goods and services *as an independent contractor* pursuant to terms and policies of the Williamson County Commissioners Court. Service Provider expressly acknowledges that he, she or it is not an employee of The County. The services include, but are not limited to the following items in order to complete the project:

A. As described in the attached Proposal/Quotation, dated February 8, 2017 and marked Exhibit "A," which is incorporated herein as if copied in full.

Should The County choose to add services in addition to those described in Exhibit "A", such additional services shall be described in a separate written amendment to this Contract wherein the additional services shall be described and the parties shall set forth the amount of compensation to be paid by The County for the additional services. Service Provider shall not begin any additional services and The County shall not be obligated to pay for any additional services unless a written amendment to this Contract has been signed by both parties.

II.

Effective Date and Term: This contract shall be in full force and effect when signed by all parties and shall continue for a reasonable time period for the specific project

and shall terminate upon project completion or when terminated pursuant to paragraph X below.

III.

Consideration and Compensation: Service Provider will be compensated based on a fixed sum for the specific project herein. **The not-to-exceed amount under this agreement is $30,750.00, unless amended by a change order and approved by the Williamson County Commissioners Court.** Payment for goods and services shall be governed by Chapter 2251 of the Texas Government Code. An invoice shall be deemed overdue the 31st day after the later of (1) the date The County receives the goods under the contract; (2) the date the performance of the service under the contract is completed; or (3) the date the Williamson County Auditor receives an invoice for the goods or services. Interest charges for any overdue payments shall be paid by The County in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of The County's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

IV.

Insurance: Service Provider shall provide and maintain, until the services covered in this Contract is completed and accepted by The County, the minimum insurance coverage in the minimum amounts as described below. Coverage shall be written on an occurrence basis by companies authorized and admitted to do business in the State of Texas and rated A- or better by A.M. Best Company or otherwise acceptable to The County and name The County as an additional insured.

Type of Coverage	**Limits of Liability**
a. Worker's Compensation	Statutory
b. Employer's Liability	
Bodily Injury by Accident	$500,000 Ea. Accident
Bodily Injury by Disease	$500,000 Ea. Employee
Bodily Injury by Disease	$500,000 Policy Limit

c. Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE	PER PERSON	PER OCCURRENCE
Comprehensive General Liability (*including premises, completed operations and contractual*)	$ 500,000	$ 500,000
Aggregate policy limits:		$1,000,000

Service Provider, as an independent contractor, meets the qualifications of an "Independent Contractor" under Texas Worker's Compensation Act, Texas Labor Code, Section 406.141, and must provide its employees, agents and sub-subcontractors worker's compensation coverage. Contactor shall not be entitled to worker's compensation coverage or any other type of insurance coverage held by The County.

Upon execution of this Contract, Service Provider shall provide The County with insurance certificates evidencing compliance with the insurance requirements of this Contract.

V.

Entire Contract & Incorporated Documents: This Contract constitutes the entire Contract between the parties and may not be modified or amended other than by a written instrument executed by both parties. Documents expressly incorporated (as if copied in full) into this Contract include the following:

A. As described in the attached Proposal/Quotation, dated February 8, 2017 and marked Exhibit "A," which is incorporated herein as if copied in full; and

B. Any required insurance certificates evidencing required coverages.

The County reserves the right and discretion (pursuant to public policy and Texas Constitutional principles) to determine applicable provisions where there is any conflict between this Contract and any of the above-referenced contract documents/exhibits or incorporated documents.

VI.

No Agency Relationship & Indemnification: It is understood and agreed that Service Provider shall not in any sense be considered a partner or joint venturer with The County, nor shall Service Provider hold himself out as an agent or official representative of The County unless expressly authorized to do so by a majority of the Williamson County Commissioners Court. Service Provider shall be considered an independent contractor for the purpose of this Contract and shall in no manner incur any expense or liability on behalf of The County other than what may be expressly allowed under this Contract. The County will not be liable for any loss, cost, expense or damage, whether

indirect, incidental, punitive, exemplary, consequential of any kind whatsoever for any acts by Service Provider or failure to act relating to the services being provided.

VII.

INDEMNIFICATION - EMPLOYEE PERSONAL INJURY CLAIMS: TO THE FULLEST EXTENT PERMITTED BY LAW, THE SERVICE PROVIDER SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF THE COUNTY'S CHOOSING), AND HOLD HARMLESS THE COUNTY, AND THE COUNTY'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") AND SHALL ASSUME ENTIRE RESPONSIBILITY AND LIABILITY (OTHER THAN AS A RESULT OF INDEMNITEES' GROSS NEGLIGENCE) FOR ANY CLAIM OR ACTION BASED ON OR ARISING OUT OF THE PERSONAL INJURY, OR DEATH, OF ANY EMPLOYEE OF THE SERVICE PROVIDER, OR OF ANY SUBCONTRACTOR, OR OF ANY OTHER ENTITY FOR WHOSE ACTS THEY MAY BE LIABLE, WHICH OCCURRED OR WAS ALLEGED TO HAVE OCCURRED ON THE WORK SITE OR IN CONNECTION WITH THE PERFORMANCE OF THE WORK. SERVICE PROVIDER HEREBY INDEMNIFIES THE INDEMNITEES EVEN TO THE EXTENT THAT SUCH PERSONAL INJURY WAS CAUSED OR ALLEGED TO HAVE BEEN CAUSED BY THE SOLE, COMPARATIVE OR CONCURRENT NEGLIGENCE OF THE STRICT LIABILITY OF ANY INDEMNIFIED PARTY. THIS INDEMNIFICATION SHALL NOT BE LIMITED TO DAMAGES, COMPENSATION, OR BENEFITS PAYABLE UNDER INSURANCE POLICIES, WORKERS COMPENSATION ACTS, DISABILITY BENEFITS ACTS, OR OTHER EMPLOYEES BENEFIT ACTS.

INDEMNIFICATION - OTHER THAN EMPLOYEE PERSONAL INJURY CLAIMS: TO THE FULLEST EXTENT PERMITTED BY LAW, SERVICE PROVIDER SHALL INDEMNIFY, DEFEND (WITH COUNSEL OF THE COUNTY'S CHOOSING), AND HOLD HARMLESS THE COUNTY, AND THE COUNTY'S EMPLOYEES, AGENTS, REPRESENTATIVES, PARTNERS, OFFICERS, AND DIRECTORS (COLLECTIVELY, THE "INDEMNITEES") FROM AND AGAINST CLAIMS, DAMAGES, LOSSES AND EXPENSES, INCLUDING BUT NOT LIMITED TO ATTORNEYS' FEES, ARISING OUT OF OR ALLEGED TO BE RESULTING FROM THE PERFORMANCE OF THIS AGREEMENT OR THE WORK DESCRIBED HEREIN, TO THE EXTENT CAUSED BY THE NEGLIGENCE, ACTS, ERRORS, OR OMISSIONS OF SERVICE PROVIDER OR ITS SUBCONTRACTORS, ANYONE EMPLOYED BY THEM OR ANYONE FOR WHOSE ACTS THEY MAY BE LIABLE, REGARDLESS OF WHETHER OR NOT SUCH CLAIM, DAMAGE, LOSS OR EXPENSE IS CAUSED IN WHOLE OR IN PART BY A PARTY INDEMNIFIED HEREUNDER.

VIII.

No Waiver of Sovereign Immunity or Powers: Nothing in this Contract will be deemed to constitute a waiver of sovereign immunity or powers of The County, the Williamson County Commissioners Court, or the Williamson County Judge.

IX.

Compliance With All Laws: Service Provider agrees and will comply with any and all local, state or federal requirements with respect to the services rendered.

X.

Termination: This Contract may be terminated at any time at the option of either party, without future or prospective liability for performance upon giving thirty (30) days written notice thereof.

XI.

Venue and Applicable Law: Venue of this Contract shall be Williamson County, Texas, and the laws of the State of Texas shall govern all terms and conditions.

XII.

Severability: In case any one or more of the provisions contained in this Contract shall for any reason be held to be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision in this Contract and this Contract shall be construed as if such invalid, illegal, or unenforceable provision had never been contained in it.

XIII.

Right to Audit: Service Provider agrees that The County or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Contract, have access to and the right to examine and photocopy any and all books, documents, papers and records of Service Provider which are directly pertinent to the services to be performed under this Contract for the purposes of making audits, examinations, excerpts, and transcriptions. Service Provider agrees that The County shall have access during normal working hours to all necessary Service Provider facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. The County shall give Service Provider reasonable advance notice of intended audits.

XIV.

Confidentiality: Service Provider expressly agrees that he or she will not use any incidental confidential information that may be obtained while working in a governmental setting for his or her own benefit, and agrees that he or she will not enter any unauthorized areas or access confidential information and he or she will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all

times.

XV.

Good Faith Clause: Service Provider agrees to act in good faith in the performance of this Contract.

XVI.

No Assignment: Service Provider may not assign this Contract.

XVII.

Confidentiality: Service Provider expressly agrees that he or she will not use any incidental confidential information that may be obtained while working in a governmental setting for his or her own benefit, and agrees that he or she will not enter any unauthorized areas or access confidential information and he or she will not disclose any information to unauthorized third parties, and will take care to guard the security of the information at all times.

XVIII.

County Judge or Presiding Officer Authorized to Sign Contract: The presiding officer of The County's governing body who is authorized to execute this instrument by order duly recorded may execute this Contract on behalf of The County.

WITNESS that this Contract shall be effective as of the date of the last party's execution below.

WILLIAMSON COUNTY:

_____
Authorized Signature

_____
Printed Name

Date: _____, 2017

SERVICE PROVIDER:

Authorized Signature

Humberto Perez
Printed Name

Date: Feb 24, 2017

Exhibit "A"
Proposal/Quotation dated February 8, 2017
(incorporated herein as if copied in full)



Training Lab Use of Force Training Simulator
Proposal for:

February 8, 2017

Williamson County Sheriff's Department

Commander James David
(512) 943-1300 Ext 1322
Jdavid@wilco.org

Ti Training Corp.

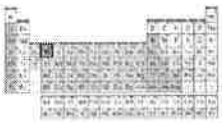
Ti Training Corp.
4680 Table Mountain Drive Suite 170
Golden, CO 80403

Humberto Perez
Humberto@Titraining.com
1.800.634.1936 X 310
562-324-1532 Cell
303-414-3556 Fax

"The Strongest Element in Training"

Ti **Training Corp.**

The Strongest Element in Training



CONTRACTOR INFORMATION

FULL LEGAL FIRM/COMPANY NAME: Ti Training LE LLC.

BUSINESS MAILING/ STREET ADDRESS: 4680 Table Mountain Drive #170 Golden, CO. 80403

BUSINESS TELEPHONE NUMBER: 303-414-3555

BUSINESS FAX NUMBER: 303-414-3556

COUNTY: Jefferson MINORITY OWNED: NO

NATURE OF BUSINESS: Design, Mfg., Sales and Maintenance of LE Simulators

PRINCIAPALS:

NAME: Gregory Otte TITLE: President

NAME: Joe Mason TITLE: Vice President

NAME: Kila Otte TITLE: Director of Sales

YEARS EST: 2006

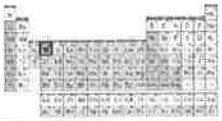
FEDERAL TAX ID # 46-4301759

CCR# X9HJR5

DUNS # 7806 80802

Ti **Training Corp.**

The Strongest Element in Training



1) TL-100 Training Lab STANDARD FEATURES: Turn Key System

- Ti Training Scenario Library 800+ pre-loaded
- Ti New Scenarios (10-12 every 3 months) for life of system
- Ti Scenario Creation Software (Allows for Custom Scenarios)
- Ti Exclusive Certified TASER Courses and Scenarios
- Ti Windows 10 Professional Operating platform
- Ti System is Self-Calibrating under any lighting conditions
- Ti 17" Laptop Portable Configuration with Travel Case
- Ti HD 3D Video Projector (16:9 aspect Ratio)
- Ti Portable Speaker System
- Ti Exclusive Scenario and "On-the-Fly" 3-D Audio
- Ti Up to 12 Independently Detected Devices (e.g. 12 Separate Shooters)
- Ti PiP - Recording and Playback of Trainee – Audio and Video (Camera)
- Ti Customized Record Keeping and Report Generation
- Ti Advanced Debrief- (All of Your Teaching Tools Can Be Used in Scenario Debrief)
- Ti Lowlight Simulator includes 1 Flashlight with Filter
- Ti Baton Branching
- Ti 1- TRS-G17 Glock 17 Gen 3 Handgun Recoil Kit with 1 Magazine
- Ti Report Generation w/ Template Designer
- Ti All necessary cables, connections, software.
- Ti Onsite Training and Installation (Included)
- Ti 12 Month Warranty – Extended System Warranties Available

TL-100 Base Price: **$40,600**

Suggested Add-On Options

1- TRS-G19 Glock 19 Gen 3 Handgun Recoil Kit with 1 Mag	$2,900
2-TL-MAG Additional Handgun Magazines ($300ea)	$600
1-TRS-AR15 Rifle Recoil Kit with 1 Magazine	$2,900
Add-On Total	**$6,400**
Sub Total	$47,000
Trade In-Discount	**$-16,250**
TOTAL	**$30,750**

Shipping: There is no additional charge for shipping. Shipping is FOB destination.

Terms:
FOB: Destination
Delivery: 30-45 days
Warranty: 12 Months from delivery. Extended Warranty available for 5% of total purchase price. (4 Year Extended Plan with System Upgrade available for $10,500)
Partial Shipment and/or Partial Invoices are accepted. Please note otherwise.
All Trade-In Simulator Equipment will be shipped at expense of Ti Training.

Ti Training Corp.

The Strongest Element in Training



Training Lab™ Master Instructor Initial Certification Course (3 Days)

Ti Training Corp.'s course of simulation instruction is designed to train selected students in the set-up, function, operation, and maintenance of the Training Lab™ and Training Room™ interactive simulation systems, manufactured by Ti Training Corp. These systems utilize the latest advances video, laser, RF and programming technology to provide an intuitive, easy to maintain training tools. These tools are designed to aid in teaching Public Safety Personnel to effectively and safely perform their duties. This course begins with classroom theory and progresses to "hands on", proficiency based exercises. We at Ti Training Corp recognize that even the most advanced technology is useless in the hands of someone who cannot effectively operate and maintain that technology.

In addition to setup, operation and troubleshooting of the simulator, this course includes an Instructor development block entitled "Effective Simulation Training." Developed in conjunction with an accredited college and backed by scientific research, this portion of the course contains the latest training techniques and methodologies for providing effective training in a simulated environment. Some of the components of this section of the course are listed below for reference:

Need and Justification for Simulation Based Training
Training Area Set Up
Training Objectives
Training Evolution Lesson Planning
Scenario Implementation
Effective Debriefing and Documentation of the Training
Successful completion of the entire course of instruction provided by Ti Training Corp. certifies the attendees as "Master Simulation Instructors." As such they can not only provide training to members of your agency but they are also able to certify others within your agency as "Simulation Instructors."

Ti "Mile High" Support

- 24 Hours a day, 7 days a week, 365 days a year Hot Line Technical Support via telephone
- On-line Remote Maintenance
- Diagnostics, Repair Parts and Labor 100% covered at the Ti Repair Facility in Colorado
- Free Software Updates
- Unlimited Credits to a Instructor Operation / Technical Course offered monthly, based on availability, *Golden, Colorado*
- Loaner system while yours is in repair.

Ti "Mile High" Warranty Upgrade Package (OPTION for $10,500)

This package includes 4 Years Additional Coverage that starts after the initial 1 year included in the base system package. Anytime within the 5th year of ownership of your Training Lab you can trade it in for a NEW Training Lab for no additional charge! This insures that your training technology is never out of date, always operational and includes the latest in advanced features

Commissioners Court - Regular Session **51.**

Meeting Date: 03/07/2017

Safenet KeySecure SOW for Williamson County

Submitted By: Brenda Fuller, Purchasing

Department: Purchasing

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on approving Safenet KeySecure Statement of Work for Williamson County for installation consulting services of 12 ProtectFile licenses for a fixed price.

Background

This is a Scope of Work for disk encryption that is the detailed work description for a previously-approved purchase. The purchase of the software and services was approved by the Commissioner's Court on 12/20/16 (item 54), but the detailed SOW was not created until after the purchase. This is simply approval of signing that SOW, and moving forward with completion of the project.

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

SOW Agreement

1295 form

Form Review

Inbox	Reviewed By	Date
Purchasing (Originator)	Randy Barker	03/02/2017 10:33 AM
County Judge Exec Asst.	Wendy Coco	03/02/2017 11:09 AM
Form Started By: Brenda Fuller		Started On: 03/02/2017 10:15 AM
Final Approval Date: 03/02/2017		

Professional Services Agreement

Date:	12/08/2016	Return signed PSA with Purchase Order to:
Company:	Dell for Williamson County	**SafeNet, Inc.** **Attn: Michel Escalant** **Michel.Escalant@gemalto.com** **Phone:(301) 605-5729**
Address:		
Customer Name:		
Customer Phone:		
Customer eMail:		

Description of Services	[ ] See Statement of Work attached
Fixed price Professional Services Agreement for installation of a 12 ProtectFile licenses See SOW page 2	
Location of engagement	Onsite
Estimated start date	Upon Customer engagement

Pricing – fixed price agreement		[ ] See Statement of Work attached
Resource / Part#	Qty	Total
Key Secure ProtectFile License Installation Consulting Services, fixed price Part number# A7972810	158	$13,746.00
	SUB-TOTAL	$13,746.00
	Estimated expenses (invoice at actual)	N/A
	TOTAL	$13,746.00

In the absence of an executed professional services agreement between the parties, this Service Agreement, and performance of the professional services hereunder, is subject to all of the terms and conditions contained within SafeNet's Professional Services Terms and Conditions attached hereto as Exhibit A ("SafeNet Standard PS Terms") which are incorporated herein by reference.

CUSTOMER NAME HERE:	SafeNet, Inc.:
By: _____	By: Hazem Adel
Printed: _____	Printed: Hazem Adel
Title: _____	Title: Professional Services Director

Statement of Work

PROJECT SCOPE

- Review the Customer's file encryption requirements
- Review the Customer's security policies and procedures for file encryption
- Define the ProtectFile deployment configuration
- Schedule the ProtectFile installation and define the configuration tasks for the engagement
- Demonstrate encryption of files/folders
- Demonstrate encryption of file shares
- Demonstrate separation of duties
- Provide knowledge transfer of best practices in the scope of the services delivered
- Obtain services acceptance sign-off from the Customer
- Production go-live activities are not included in this services package
- Discuss applicability of other SafeNet services such as: training, research and development, data migration and key rotation optimization, security accreditation assistance, operational documentation, gap analysis, review of security policies and procedures, consultation on developing a 3 to 5 year plan, production implementation

PROJECT SCOPE EXCLUSIONS

The Professional Services described in this Service Agreement specifically do NOT include the following:

- Host physical configuration or operating system installation
- Installation of host software, such as operating systems or other software required to interact with the Customer management environment
- Any client software or storage configurations
- Execution of performance and/or stress tests
- Configuration of the network and/or VLAN's
- Installation and configuration of additional software
- Scripting or automating operational tasks for the KeySecure appliance

DELIVERABLES

- Review and validation of initial scope
- Implementation plan (if required)
- Verification test plan (if required)
- Build and configuration document
- Verification testing results
- Knowledge Transfer (KT)

PROFESSIONAL SERVICES PERFORMANCE CONDITIONS

- SafeNet will not be responsible for the loss or corruption of any Customer data or for any system outage.
- Except as may be purchased under a separate SafeNet support or service offering, SafeNet will not be responsible for any application or host system access that encompasses coding, *scripting, application analysis, system performance, troubleshooting, or applications logins outside of the services described in this Service Agreement.
- This Service Agreement applies to professional services only. Any and all hardware and software requested or needed by the Customer in relation to the professional services described in this Service Agreement, will be the sole responsibility of Customer to procure and prepare for SafeNet's performance of the professional services and will be purchased under its own written agreement.
- SafeNet reserves the right to subcontract any or all portions of the services that SafeNet is obligated to perform under this Service Agreement.

*Note: SafeNet has no obligation to provide support or maintenance in relation to customized scripts created in the performance of Services under this service agreement. Any and all future activity for trouble shooting, addition, or changes requested after Customer's acceptance of the services must be requested in writing by Customer and will be billed at SafeNet's then-current time and materials rate

CUSTOMER RESPONSIBILITIES

The performance of the SafeNet professional services described in this Service Agreement depends upon the Customer complying with the responsibilities set forth below.

- The Customer will ensure that all appropriate data backup is performed.
- All environment and operational requirements must be met prior to implementation.
- Security passes or other necessary documentation must be provided to SafeNet representatives who are performing professional services, permitting them to enter and exit the Customer's premises with laptop personal computers and any other materials needed to perform the professional services for the duration of this engagement.
- SafeNet representatives must be provided adequate access to necessary office space, equipment, telephones with external access, and a secure line for Internet access for the duration of this engagement.
- If the performance of this engagement requires electronic or network transfer of data, the Customer will provision and enable any network components or services required to facilitate the transfer.
- The Customer will assign necessary system administrators or staff members to be available for the duration of the engagement.
- The Customer will ensure that all documentation and information provided to SafeNet staff is accurate, complete, and up to date.
- The Customer is responsible for all network connectivity, performance, and configuration issues.
- The Customer will make appropriate system maintenance windows available for SafeNet (or authorized agents) as needed and requested by SafeNet to prepare for the engagement.

PROJECT DURATION

- The anticipated engagement start date is within two (2) weeks of the date that Customer's purchase order is accepted by SafeNet or upon another start date mutually agreed upon between the parties.
- Unless otherwise specified or agreed upon by SafeNet, the professional services described in this Service Agreement will be delivered on consecutive business days during normal business hours (8:00 a.m. to 6:00 p.m. Customer local time, weekdays). (Outside of the Middle East, weekdays are considered to be Monday through Friday, excluding local holidays.)
- Upon completion of the engagement, Customer will receive a Certificate of Completion for signature. If not signed within 5 business days from Customer's receipt, work will be deemed accepted, unless Customer submits a written notification of a service performance issue within 5 business days upon completion of the engagement.
- Non-business hours for the performance of T&M Services will correspond to weekends and week days after 6:00 p.m. and before 8:00 a.m. local Customer time; and will be subject to a daily service fee of $2,700.
- Invoices shall be paid within 30 days of date of receipt.

PROJECT SCOPE EXCLUSIONS OR CHANGES

Any additions or changes to the project scope described in this Service Agreement must be mutually agreed upon in writing in a separate statement of work entered into between the parties.

FEE DESCRIPTION AND PAYMENT

- SafeNet requires a minimum two (2) weeks lead time to commence this engagement
- Prior to SafeNet performance of any professional services, SafeNet requires an executed purchase order from the Customer, acceptable to SafeNet. Invoices are issued upon SafeNet receipt and approval of the Customer's purchase order.
- Customer authorizes SafeNet to invoice for and shall pay additional amounts related to the performance outside normal business hours or consecutive days.
- Customer will pay invoices Net 30 from the date of the SafeNet invoice.

EXHIBIT A

1. SERVICES. SafeNet shall perform for Customer the services listed on the first page hereof ("Services"), and Customer shall pay SafeNet for the Services as indicated. The manner and means by which SafeNet chooses to complete the Services are in SafeNet's sole discretion and control. The Deliverables described in this Agreement will be deemed accepted upon delivery. The Services, the Deliverables and the methods and technology used by SafeNet to produce the Deliverables, described in section 3 below, are not works made for hire, and SafeNet, subject to the provisions of Section 3, shall retain all intellectual property rights to the Deliverables. The sale of any SafeNet products or licenses, and the fees therefore, shall be the subject of a separate agreement or agreements between SafeNet and Customer.

2. INVOICING AND EXPENSES. Unless otherwise agreed in the Agreement or the applicable Statement of Work, SafeNet will invoice Customer monthly for Services performed and expenses incurred. Amounts payable to SafeNet under this Agreement are payable in full without deduction (net of applicable taxes, costs and expenses) and Customer shall pay all such applicable taxes, costs and expenses (exclusive of taxes on SafeNet's net income) All amounts are in U.S. Dollars unless specified otherwise. Unless otherwise agreed in the Agreement, Customer shall reimburse SafeNet for all reasonable expenses incurred in the performance of the Services including, but not limited to, travel and living expenses. Customer shall also reimburse SafeNet for any other expenses incurred at the request of Customer, as well as additional amounts related to the performance of Services outside normal business hours or consecutive days. **Texas Prompt Payment Act Compliance**: Payment for goods and services shall be governed by Chapter 2251 of the Texas Government Code. An invoice shall be deemed overdue the 31st day after the later of (1) the date licensee receives the goods under the contract; (2) the date the performance of the service under the contract is completed; or (3) the date the Williamson County Auditor receives an invoice for the goods or services. Interest charges for any overdue payments shall be paid by licensee in accordance with Texas Government Code Section 2251.025. More specifically, the rate of interest that shall accrue on a late payment is the rate in effect on September 1 of licensee's fiscal year in which the payment becomes due. The said rate in effect on September 1 shall be equal to the sum of one percent (1%); and (2) the prime rate published in the Wall Street Journal on the first day of July of the preceding fiscal year that does not fall on a Saturday or Sunday.

3. USE OF WORK PRODUCT.

3.1 Customer obtains a non-exclusive, non-transferable, and perpetual right to use the work product delivered to Customer under this Agreement ("Deliverables") for the purpose outlined in the Agreement or applicable Statement of Work Customer shall not sell, license, publish, distribute, lease, rent or otherwise transfer the Deliverables or perform, display or otherwise use the Deliverables in the operation of a service bureau or for the benefit of third parties except as otherwise expressly provided herein.

3.2 Subject to Section 3.1, Customer shall not reverse engineer, decompile, disassemble or apply any process, technique, or procedure or make any attempt to ascertain or derive the source code to any product or other data, materials, items and technology owned by SafeNet, Inc. or its affiliated companies or its or their licensors (collectively, the "Third Party Owners"), including, without limitation, the Deliverables.

4. CONFIDENTIAL INFORMATION. SafeNet and Customer acknowledge that each party may have access to certain of the other party's confidential and proprietary information in connection with the performance of the Services (the "Information"). Each party will take all reasonable precautions necessary to safeguard the confidentiality of the other party's Information, including those taken by such party to protect its own confidential information of a similar nature. Each party will use the other party's Information solely to fulfill the purposes of this Agreement. Neither party will have any confidentiality obligation with respect to any portion of the other party's Information that (i) it independently develops without reference to the Information, (ii) it lawfully obtains from a third party under no obligation of confidentiality or (iii) becomes available to the public other than as a result of its act or omission.

6. ASSIGNED PERSONNEL. Neither SafeNet nor its employees, agents, contractors, consultants, or representatives are or shall be deemed employees of Customer. SafeNet reserves the right to determine, replace or assign any of its employees, agents, contractors, consultants or representatives designated to perform the Services. During the term of this Agreement and for twelve (12) months afterward, Customer will not, except by general advertisement or with written consent, solicit for employment or employ SafeNet's employees associated with this Agreement.

7. LIMITED WARRANTY. SafeNet warrants to Customer that the Services to be provided under this Agreement will be performed by qualified personnel, subject to such supervision and reasonable instructions as may be provided or imposed by Customer, and will be of a quality reasonably expected of such qualified personnel. SafeNet's sole liability and Customer's sole remedy under this limited warranty shall be to re-perform or correct any non-conforming Services to the extent due to errors on the part of SafeNet, provided Customer notifies SafeNet of such non-conformance within ten (10) days after the completion of such Service or any defined portion or segment thereof. SAFENET MAKES NO OTHER WARRANTIES, CONDITIONS OR REPRESENTATIONS, WRITTEN OR ORAL, EXPRESS OR IMPLIED, IN FACT OR IN LAW, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES, CONDITIONS OR REPRESENTATIONS OF DESIGN, SATISFACTORY QUALITY, FITNESS FOR ANY SPECIFIC OR GENERAL PURPOSE, TITLE OR NON-INFRINGEMENT, ALL OF WHICH ARE, TO THE EXTENT PERMISSIBLE BY LAW, HEREBY EXPRESSLY EXCLUDED AND DISCLAIMED.

8. LIMITATION OF LIABILITY. NEITHER SAFENET NOR ANY EMPLOYEE, AGENT OFFICER, DIRECTOR, CONTRACTOR, CONSULTANT OR REPRESENTATIVE SHALL BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, EXEMPLARY, CONSEQUENTIAL LOSSES OR OTHER DAMAGES, WHETHER OR NOT THE POSSIBILITY OF SUCH LOSSES OR DAMAGES HAS BEEN DISCLOSED IN ADVANCE OR COULD HAVE BEEN REASONABLY FORESEEN BY SAFENET. SAFENET'S LIABILITY, IF ANY, FOR ANY CLAIM OR LOSS ARISING OUT OF, OR CONNECTED WITH, THE SERVICES, INCLUDING BREACH OF CONTRACT, WARRANTY, OR NEGLIGENCE, MAY NOT BE BROUGHT MORE THAN ONE (1) YEAR AFTER THE CAUSE OF ACTION ARISES, SHALL BE LIMITED SOLELY TO CUSTOMER, AND SHALL NOT EXCEED THE AMOUNTS PAID TO SAFENET BY CUSTOMER FOR SUCH SERVICES.

9. ESTIMATES. Except as otherwise specified in this Agreement or a particular Statement of Work, any estimates given by SafeNet including time of completion and costs are given in good faith, but are not to be construed as a guaranty or warranty by SafeNet, and no such estimate shall be deemed to change this Agreement into a fixed price contract. If a fixed price has been specified and agreed upon, SafeNet requires a minimum two (2) weeks lead time to commence the Services. If Customer requires the Services to be scheduled with less than two (2) weeks notice, Customer shall pay SafeNet actual expenses resulting from higher travel fees should they occur. If Customer reschedules the onsite engagement dates after SafeNet has booked travel, Customer shall pay SafeNet for any cancellation or change fees.

10. **GENERAL.** The first page of this agreement and the Terms constitute the entire agreement (the "Agreement") between SafeNet and Customer and supersede all other agreements, proposals, purchase orders, or representations, whether written or oral, relating to the subject matter. The terms and conditions of any purchase order or other instrument issued by Customer that are in addition to or inconsistent with this Agreement are null and void and are not binding on SafeNet. Any alterations, modifications or waivers must be in writing and signed by both parties. The waiver of any right in one instance shall not affect any rights or remedies in another instance. The laws of the State of Texas shall govern this Agreement, and any disputes regarding the Services shall be subject to the exclusive jurisdiction of courts sitting in the Williamson County, Texas. In the event Customer fails to pay any fee or cost to SafeNet when due (time being of the essence with respect to such payments), SafeNet shall be entitled to its costs of collection, including reasonable attorneys' fees. Any suit or arbitration action filed in an attempt to avoid payment of fees shall be deemed an action to collect fees for purposes of this Section. If, for any fiscal year, funds are not appropriated or defunded for Customer's obligations under this Agreement and such non-appropriation or defunding for this Agreement is memorialized in a Budget Order entered by the Williamson County Commissioners Court, this Agreement shall become void and Customer shall promptly give notice to SafeNet, Inc. of the non-appropriation of funds or defunding.

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2017-173593

Date Filed:
03/01/2017

Date Acknowledged:
03/02/2017

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

Safenet Inc. (Gemalto)
Austin, TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

Williamson Country Technology Services

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

000000
Key Management Encryption project with Dell/ESG

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party. [X]

6 AFFIDAVIT

I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

_____
Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20_____, to certify which, witness my hand and seal of office.

_____ _____ _____
Signature of officer administering oath | Printed name of officer administering oath | Title of officer administering oath

Commissioners Court - Regular Session **52.**

Meeting Date: 03/07/2017

Sheriff's Office Budget Amendment 03-07/2017

Submitted For: Melanie Denny **Submitted By:** Angela Schmidt, County Auditor

Department: County Auditor

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge additional revenues for the County Sheriff:

Background

To recognize insurance proceeds and the associated expenditures related to the total loss of a county vehicle. In conjunction with county funds, the proceeds will be used to replace unit SB1416.

Fiscal Impact

From/To	Acct No.	Description	Amount
	0100.0000.364100	Insurance Reimbursements	$18,150.00

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Angela Schmidt		Started On: 02/27/2017 11:39 AM
Final Approval Date: 02/27/2017		

Commissioners Court - Regular Session **53.**

Meeting Date: 03/07/2017

Sheriff's Office Budget Amendment 03-07/2017

Submitted For: Melanie Denny **Submitted By:** Angela Schmidt, County Auditor

Department: County Auditor

Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss, consider and take appropriate action on an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge the additional expenditures for the County Sheriff:

Background

To recognize insurance proceeds and the associated expenditures related to the total loss of a county vehicle. In conjunction with county funds, the proceeds will be used to replace unit SB1416.

Fiscal Impact

From/To	Acct No.	Description	Amount
	0100.0560.005700	Vehicles > $5,000	$18,150.00

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	02/27/2017 03:40 PM
Form Started By: Angela Schmidt		Started On: 02/27/2017 11:43 AM
Final Approval Date: 02/27/2017		

Commissioners Court - Regular Session **54.**

Meeting Date: 03/07/2017

Economic Development

Submitted For: Charlie Crossfield **Submitted By:** Charlie Crossfield, Road Bond

Department: Road Bond

Agenda Category: Executive Session

Information

Agenda Item

Discussion regarding economic development negotiations pursuant to Texas Government Code, Section 551.087:
a) Business prospect(s) that may locate or expand within Williamson County.
b) Discuss Pearson Road District.
c) Discuss North Woods Road District.
d) Project Columbus Balbo

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 10:22 AM
Form Started By: Charlie Crossfield		Started On: 03/02/2017 09:52 AM
Final Approval Date: 03/02/2017		

Commissioners Court - Regular Session **55.**

Meeting Date: 03/07/2017

Executive Session

Submitted For: Charlie Crossfield **Submitted By:** Charlie Crossfield, Road Bond

Department: Road Bond

Agenda Category: Executive Session

Information

Agenda Item

Discuss real estate matters (EXECUTIVE SESSION as per VTCA Govt. Code sec. 551.072 Deliberation Regarding Real Estate Property if deliberation in an open meeting would have a detrimental effect on the position of the governmental body in negotiations with third person.)

A. Real Estate Owned by Third Parties

1. Preliminary discussions relating to proposed or potential purchase or lease of property owned by third parties

a) Discuss the acquisition of real property for right-of-way for Mays St. Extension

b) Discuss the acquisition of real property for SW 183 and SH 29 Loop.

c) Discuss the acquisition of real property for CR 176 at RM 2243

d) Discuss the acquisition of real property with endangered species for mitigation purposes.

e) Discuss the acquisition of real property: CR 101

f) Discuss the acquisition of real property: CR 111

g) Discuss the acquisition of real property for CR 278 at Bagdad Rd.

h) Discuss the acquisition of real property for proposed CR 110 project. (All sections)

i) Discuss the acquisition of real property for County Facilities.

j) Discuss the acquisition of real property on CR 305.

k) Discuss the acquisition of Easement interests for the Brushy Creek Trail Project.

l) Discuss acquisition of property located at NEC of Toll 130 and Gattis School Rd.

m) Discuss the acquisition of a drainage easement for CR 108.

n) Discuss easement acquisitions from San Gabriel River Ranch Subdivision.

o) Discuss the acquisition of real property for CR 258.

p) Discuss the acquisition of real property for Lakeline Blvd.

q) Discuss the acquisition of a drainage easement for Pearson Ranch Rd.

r) Discuss the acquisition of real property for Hairy Man Rd.

s) Discuss the acquisition of real property for SW Bypass.

B. Property or Real Estate owned by Williamson County

1). Preliminary discussions relating to proposed or potential sale or lease of property owned by the County

a) Discuss County owned real estate containing underground water rights and interests.

b) Discuss possible sale of 183 A excess right of way

c) Discuss proposed sale of real estate of Blue Springs Blvd

d) Discuss transfer of right of way for Westinghouse Rd. to the City of Georgetown.

e) Discuss wastewater easements in Berry Springs Park

f) Discuss Development Agreement with Ashby Capital Investments, LLC

g) Discuss sale of County property on Ronald Reagan Blvd.

h) Discuss abandonment of County property on CR 123.

C. Consider intervention in lawsuit regarding de-listing of Bone Cave harvestman.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount

Attachments

No file(s) attached.

Form Review

Inbox	Reviewed By	Date
County Judge Exec Asst.	Wendy Coco	03/02/2017 10:22 AM
Form Started By: Charlie Crossfield		Started On: 03/02/2017 09:51 AM
Final Approval Date: 03/02/2017		