# NOTICE TO THE PUBLIC WILLIAMSON COUNTY COMMISSIONER'S COURT APRIL 18TH, 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 5-10 )

- **5.** Discuss, consider and take appropriate action on approving compensation changes, position titles changes, position grade changes and any corresponding line item transfers.
- biscuss, consider and take appropriate action on authorizing the disposal of various county assets through auction including (25) Chairs, (2) Desks, (1) Table, (1) Box of VHS movies, (1) Tower fan, (1) Fridge, (1) Filing cabinet, (1) Outdoor plastic bench, (1) Power supply, (4) Widescreen privacy filters, (1) Christmas tree, (3) Printers, (1) Number roll pull system, (1) Catalog rack, (6) Wall Pictures, (1) Radio, (1) Shelf, (1) Below desk keyboard holder, (4) Keyboards, (2) Mice, (3) Calculators, (1) Open/close sign, Misc. wires and cables, (2) Metal lock boxes, (1) Docking station, (1) Foot rest, (1) vacuum, (1) DVD Burner, (1) Picnic table, (1) Microwave, (1) TV, (1) Floor mat, (5) phones,(1) 2009 Chevy 1500 X-Cab, (1) 2006 Ford Crown-Vic. (see attached lists) pursuant to Tx. Local Gov't code 263.152.
- 7. Discuss, consider and take appropriate action on authorizing the disposal of (1) Dell 21in monitor, through inter-departmental transfer (see attached sheet) 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 destruction including (7) Boxes of security tapes and (2) Mattresses (see attached sheet) pursuant to Tx. Local Gov't code 263.152.

- **9.** Discuss, consider and take any appropriate action regarding approval and receipt of Vehicle Reimbursement Agreement with City National Bank (Refill ATMs in Eastern WILCO).
- 10. Consider acknowledgement or acceptance and record into the minutes the revised Amendment Two to Interlocal Cooperation Agreement for Austin Regional Intelligence Center (ARIC) and for sustainment funding agreement with ARIC under authority of Williamson County Sheriff's Office to update information for current administration.

# **REGULAR AGENDA**

- **11.** Receive and acknowledge the April 2017 Construction Summary Report for the Road Bond and Pass Through Financing Programs.
- **12.** Discuss, consider and take appropriate action on the Department of Infrastructure projects and issues update.
- 13. Discuss, consider and take appropriate action on a contract amendment no. 1 for Neenah Avenue Widening road project between Williamson County and Stantec Consulting Services, Inc. relating to the 2013 Road Bond Program.
- **14.** Discuss, consider and take appropriate action on an Encroachment Agreement with Oncor Electric Delivery Company, LLC (Oncor) to allow for a detention pond to encroach upon Oncor's easement at the North Campus Facility Project.
- **15.** Discuss, consider and take appropriate action on approving 2013 Road Bond Budget Transfer per Mike Weaver, Road Bond Manager, to move \$200,000 from 2013 Road Non-Departmental (P290) to Baqdad Road @ CR 278 (P438).
- **16.** Discuss, consider and take appropriate action on a real estate contract with TRIBAR for ROW needed near CR 258.
- **17.** Discuss, consider and take appropriate action on a real estate contract with Paul J. Anderson for right of way needed on CR 101 (Parcel 15).
- **18.** Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive sealed bids for Crack Seal under IFB # 1704-156.
- 19. Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive bids for Milling & Overlay Ronald Regan Blvd From FM 3405 To RM 2338 under IFB # 1704-157.
- 20. Discuss, consider and take appropriate action on awarding IFB # 1702-147 Cul-De-Sac Fog Seal to the lowest and best bidder, Alpha Paving Industries LLC, as recommended by the Road and Bridge Department and authorizing the County Judge to sign the attached Agreement.
- **21.** Discuss, consider and take appropriate action on awarding RFP 1612-131 for Payroll Services for Existing Temporary Labor for Elections, to the best proposer, Evins Personnel Consultants, Inc.
- **22.** Discuss, consider and take appropriate action on approving the additional Terms & Conditions between Sungard Public Sector and Williamson County ITS for Sungard Public Sector add-ons.

- Discuss, consider, and take appropriate action on rejecting the only proposal received for RFP# 1701-139, Renovations to 355 Texas Avenue Facility in Round Rock, Texas and authorize Purchasing Agent to advertise and receive proposals for RFP# 1704-153, Renovations to 355 Texas Avenue Facility in Round Rock, TX.
- 24. Discuss, consider and take appropriate action on an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve budget amendment acknowledging additional revenues for Animal Shelter Donations:

## **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0546.0000.367404 Animal Shel		\$20,278.17
	0546.0000.367440 Jane's Fund Donations		\$18,090.69
	0546.0000.367441	ASPCA Donations	\$0.00
	0546.0000.367442	Play Yard Donation	\$140.00
	0546.0000.367443	Heart Worm Trmt Donations	\$6,791.78
	0546.0000.367445	Sit Team Donations	\$405.00
	0546.0000.370150	Sale of Pet Care Products	\$543.31

25. Discuss, consider and take appropriate action on an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve budget amendment acknowledging additional expenditures for the use of Animal Shelter Donations:

# **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0546.0546.003510	Purchase for Resale	\$543.31
	0546.0546.003670	Use of Donations	\$20,278.17
	0546.0546.004100	Professional Services	\$18,090.69
	0546.0546.004109	Special Needs	\$0.00
	0546.0546.004232	Training	\$405.00
	0546.0546.004509	Facility Enhancements	\$140.00
	0546.0546.004975	Animal Medical Care	\$6,791.78

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

## **Fiscal Impact**

From/To	Acct No.	Description	Amount	
	0100.0000.367403	Park Donations	\$271.80	

27. 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 expenditures for Park Donations:

# **Fiscal Impact**

From/To	Acct No.	Description	Amount	
	0100.0510.003670	Use of Donations	\$271.80	

28. Consider an order declaring an emergency and grave necessity due to unforeseeable circumstances and approve a budget amendment for the Williamson County EMS share of the FY 16 Capital Area Trauma Advisory Council (CATRAC) Trauma System Funds.

# **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0100.0000.333220	Payment from Other Entities	\$25523.18

29. 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 expenditures for EMS.

## **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0100.0540.004232	Training, Conf. & Seminars	\$4400.00
	0100.0540.003311	0100.0540.003311 Uniforms	
	0100.0540.005000	Capital Outlay	\$12779.61
	0100.0540.004350	Printed Mat. & Binding	\$1097.98
	0100.0540.003010	Computer Equipment	\$2313.85
	0100.0540.003001	Small Equip & Tools	\$755.74

### **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)."

- **30.** 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
  - e) Mega Site

- 31. 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.
  - I) 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.
  - g) Discuss the acquisition of real property for US 183.
  - r) Discuss the acquisition of real property for Hairy Man Rd.
  - s) Discuss the acquisition of real property for SW Bypass.
  - t) Discuss the acquisition of real property for Crossroad Acres.
  - 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.
- **32.** 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
- I) 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) SOAH Docket No. 473-16-4342; PUC Docket No. 45866 –Application of LCRA Transmission Services Corporation to Amend its Certificate of Convenience and Necessity for the Proposed Leander to Round Rock 138-KV Transmission Line Project
- 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
- 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).
- 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)

- **35.** Discuss and take appropriate action concerning economic development.
- **36.** Discuss and take appropriate action concerning real estate.

- **37.** 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 419<sup>th</sup> 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
  - I) 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) SOAH Docket No. 473-16-4342; PUC Docket No. 45866 –Application of LCRA Transmission Services Corporation to Amend its Certificate of Convenience and Necessity for the Proposed Leander to Round Rock 138-KV Transmission Line Project
  - g) 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
- 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.

		Dan A. Gattis, Cou	unty Judge
This notice of meeting was posted in the locked box located on the sou	ıth side of the	Williamson County Co	ourthouse,
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 schedu	uled time of sa	aid meeting.	

39.

Comments from Commissioners.

**Commissioners Court - Regular Session** 

**Meeting Date:** 04/18/2017

Compensation Items

**Submitted For:** Tara Raymore

**Department: Human Resources** 

Agenda Category: Consent

## Information

Submitted By:

# 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 documentation for details.

# **Fiscal Impact**

From/To	Acct No.	Description	Amount

## **Attachments**

# Comp Item

# Form Review

### Inbox

Human Resources (Originator) County Judge Exec Asst. Form Started By: Kristy Sutton

Final Approval Date: 04/12/2017

**Reviewed By** Date

Tammy Fennell 04/12/2017 09:02 AM Wendy Coco 04/12/2017 09:48 AM

Started On: 04/11/2017 09:26 AM

5.

Kristy Sutton, Human Resources

Department	PCN		Budget Amount	*Requested Amount	Change Amount	% Change	Reason for Change	Available Funds	Earliest Oracle Effective Date
Road and Bridge	1557	Vacant	\$32,500.00	\$33,500.00	\$1,000.00	3.08%	Salary increase vacant position	Unallocated	4/7/2017
Road and Bridge	1564	Vacant	\$32,500.00	\$33,500.00	\$1,000.00	3.08%	Salary increase vacant position	Unallocated	4/7/2017
Road and Bridge	1555	Vacant	\$33,500.00	N/A	N/A	N/A	Title, Grade change; Operator II (B.19) to Operator I (B.17)	N/A	4/7/2017
							Salary increase to vacant position; from C2.1 to C2.14 to accommodate		
Corrections	0344	Vacant	\$41,582.32	\$51,944.88	\$10,362.56	24.92%	tenure	Unallocated	4/7/2017
Fleet Services	0918	14044	\$63,379.16	\$66,548.12	\$3,168.96	5.00%	Merit	Unallocated	4/7/2017

<sup>\*</sup>Amount may vary slightly due to Oracle rounding

# **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017

**Asset Transfer** 

Submitted By: Jayme Jasso, Purchasing

**Department:** Purchasing **Agenda Category:** Consent

#### Information

6.

# Agenda Item

Discuss, consider and take appropriate action on authorizing the disposal of various county assets through auction including (25) Chairs, (2) Desks, (1) Table, (1) Box of VHS movies, (1) Tower fan, (1) Fridge, (1) Filing cabinet, (1) Outdoor plastic bench, (1) Power supply, (4) Widescreen privacy filters, (1) Christmas tree, (3) Printers, (1) Number roll pull system, (1) Catalog rack, (6) Wall Pictures, (1) Radio, (1) Shelf, (1) Below desk keyboard holder, (4) Keyboards, (2) Mice, (3) Calculators, (1) Open/close sign, Misc. wires and cables, (2) Metal lock boxes, (1) Docking station, (1) Foot rest, (1) vacuum, (1) DVD Burner, (1) Picnic table, (1) Microwave, (1) TV, (1) Floor mat, (5) phones, (1) 2009 Chevy 1500 X-Cab, (1) 2006 Ford Crown-Vic. (see attached lists) pursuant to Tx. Local Gov't code 263.152.

## **Background**

# **Fiscal Impact**

From/To	Acct No	Description	Amount
110111/10	710011101		7 tillouit

#### **Attachments**

Asset Auction

Asset Auction 1
Asset Auction 2

### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Jayme Jasso Started On: 04/11/2017 10:29 AM

Final Approval Date: 04/12/2017

# **Williamson County**

**Print Form** 

# Asset Status Change Form

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

C DONATION to a non-county entity

SALE at the earliest auction \*

C DESTRUCTION due to Public Health / Safety

 $\ensuremath{\text{C}}$  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)
12	Gray Hon Rolling Chairs	n/a	n/a	Working
1	wood desk table attachment	n/a	n/a	Working
1	brown wood and metal folding table	n/a	n/a	Working
1 box	various VHS movies	n/a	n/a	Working
				Working

1 box	various VHS movies	n/a	n/a	Working	*	
				Working		
	involved:					
FROM (	Transferor Department): Williamson County Juvenile De	etention				
Transfe	ror - Elected Official/Department Head/					
	zed Staff:  HN J. SELCZAN	Contact Person:  Whisti Roberts  Print Name				
$\Rightarrow$	Print Name  Print Name  512 · 943 · 3252  Signature  Date Phone Number					
TO (Tran	sferee Department/Auction/Trade-in/Donee):	TION				
Transfe Authori	ree - Elected Official/Department Head/ zed Staff OR Donee - Representative: (If being differ Sale or Trade-in, no signature is necessary.)	Contact Person: RECE	IVED			
Print Na	me	Print Name	.,,			
		APR - 3	<b>2017</b>			
Signatur	re D	Phone Number  AUDITOR'S  WILLIAMSON CO	OFFICE	4.0		
* If the ab asset(s). A	pove asset(s) is (are) listed for sale at auction and no bid. A list of the (these) asset(s) to be donated or disposed of	s are made, the Purchasing Director may	dispose of o	r donate this (the	ese) II.	
		nty Auditor's Offi	ice			

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	

# **Williamson County**

Print Form

# **Asset Status Change Form**

The follo	owing asset(s) is(are) considered for: (selec	ct one)			
1	FER bet ween county departments		ONATION to a non-county	entity	
	at the earliest auction *		ESTRUCTION due to Public		
	E-IN for new assets of similar type for the county	⊂ S₁	ALE to a government entity ne county at fair market val	/ / civil or charita	able organization in
Asset	List:				
Quantity	Description (year, make, model, etc.)	(se	Manufacturer ID# rial, service tag, or VIN)	County Tag#	Condition of Asset (Working, Non- Working)
1	black tower fa	n/a		n/a	Non-Working
1	mini refrigerator	n/a		n/a	Non-Working
1	2 drawer lateral filing cabinet	n/a		n/a	Non-Working
1	maroon 2 seater outdoor plastic bench	n/a		n/a	Non-Working
1	APC power supply	4B0938P0251	0	n/a	Non-Working
Print Nar	h J. / Fin	Prin	tact Person: Wish Robert t Name 512 943 325 ne Number		
Transfer	sferee Department/Auction/Trade-in/Donee): ree - Elected Official/Department Head/ zed Staff OR Donee - Representative: (If beir	Avenod			
	for Sale or Trade-in, no signature is necessary.)	•	tact Person:		
Print Nar	me	Prin	t Name	CEIVED	
Signatur	e	Date Pho	ne Number	- 3 2017	
				OR'S OFFICE	

# **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 _	

# **Williamson County**

**Print Form** 

# Asset Status Change Form

The follo	owing asset(s) is(are) considered for: (select o	ne)				
C TRANS	FER bet ween county departments		C DONATION to a	non-county entit	ty	
	at the earliest auction *		C DESTRUCTION	due to Public Hea	lth / Safety	
← TRADE	E-IN for new assets of similar type for the county		SALE to a gover	nment entity / civ ir market value	vil or charita	able organization in
Asset I	List:					
Quantity	Description (year, make, model, etc.)		Manufacture (serial, service ta		County Tag#	Condition of Assets (Working, Non- Working)
1	Office Chair					Working
4	Fellows 22" widescreen privacy filters					Working
1	6FT Christmas Tree					Working
Authoriz	March 29,	, 2017	Contact Person: Margie Sanchez Print Name +1 (512) 238-2145 Phone Number			
TO (Trans	sferee Department/Auction/Trade-in/Donee):	cno	h			
Authoriz	ree - Elected Official/Department Head/ red Staff OR Donee - Representative: (If being for Sale or Trade-in, no signature is necessary.)		Contact Persor	n:		
Print Nar	me		Print Name	RECEIV	ED	
Signatur	e	Date	Phone Number	APR - 4 2	017	
* If the abo asset(s). A	ove asset(s) is (are) listed for sale at auction and no bio list of the (these) asset(s) to be donated or disposed (	ids are I	made, the Purchasi oe sent to the Audi	nu Birectersneys	dispose of c	or donate this (these) nation or disposal.
	Forward to Cou	unt	y Audito	r's Offi	ce	
This Chan	ge Status was approved as agenda item # in	n Comm	nissioner's Court or			

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

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

# **Williamson County**

Print Form

# Asset Status Change Form

C TRANS	FER bet ween county departments	ODONATION to a non-county entity				
SALE a	t the earliest auction *	O DESTRUCTION du	ue to Public Hea	lth / Safety		
() TRADE	E-IN for new assets of similar type for the county	SALE to a govern the county at fair	SALE to a government entity / civil or charitable organization in the county at fair market value			
Asset I	List:					
Quantity	Description (year, make, model, etc.)	Manufacturer (serial, service tag,		County Tag#	Condition of Assets (Working, Non- Working)	
1	Hewlett Packard Laser Jet 4050N printer s	erial #USBC089530		100020	Working	
1	number pull system w/ rolls of numbers				Working	
1	catalog rack				Working	
6	various wall pictures				Working	
1	AM/FM cassette radio				Working	
Transfere Authoriz	riferee Department/Auction/Trade-in/Donee):  Auction Procee - Elected Official/Department Head/ ed Staff OR Donee - Representative: (If being	Print Name  5(2, 23) Pate Phone Number	8 2145		,	
approved 1	for Sale or Trade-in, no signature is necessary.)	Contact Person:				
Print Nam	ne	Print Name	RECEIV	/ED		
Signature	e Da	Phone Number	APR - 4	2017		
* If the aboasset(s). A I	ove asset(s) is (are) listed for sale at auction and no bids list of the (these) asset(s) to be donated or disposed of	are made, the Purchasing will be sent to the Audito	AUDITOR'S C All'ISCRIPTOR'S P's Office with a	FFICE Ispose of o date of dor	gonate this (these) nation or disposal.	
	Forward to Cou	nty Audito	r's Offic	ce		
This Chang	ge Status was approved as agenda item # in C	ommissioner's Court on				
If for Sale, 1	the asset(s) was(were) delivered to warehouse on	by				

# **Williamson County**Asset Status Change Form

Print Form

The follo	owing asset(s) is(are) considered for: (select or	ne)			
○ TRANS	SFER bet ween county departments		ODONATION to a non-county enti	ty	
SALE a	at the earliest auction *		ODESTRUCTION due to Public Hea	lth / Safety	
C TRADE	E-IN for new assets of similar type for the county		SALE to a government entity / cives the county at fair market value	vil or charita	ble organization in
Asset I	List:				
Quantity	Description (year, make, model, etc.)		Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non- Working)
1	15 1/2" by 20" shelf				Working
1	below desk keyboard holder				Working
3	HP keyboards				Working
2	HP mouse				Working
1	Victor 1460-3 calculator	60867	01933		Working
Transfer Authoriz		Date	Phone Number  Contact Person:		
	, , , , , , , , , , , , , , , , , , , ,				
Print Nan	me		Print Name RECEI	VED	
Signature	e [	Date	Phone Number	2017	
* If the abo asset(s). A	ove asset(s) is (are) listed for sale at auction and no bic list of the (these) asset(s) to be donated or disposed o	ds are of will	made, the Purchasing Director may be sent to the Auditor's Office With a WILLIAMS ON CO	dispose of o	r donate this (these)
	Forward to Cou	ınt	y Auditor's Offic	ce	
This Chan	ge Status was approved as agenda item # in	Comr	nissioner's Court on		
If for Sale,	the asset(s) was(were) delivered to warehouse on		by		

# **Williamson County**Asset Status Change Form

Print Form

The foll	owing asset(s) is(are) considered for: (select or	ne)			
C TRANS	SFER bet ween county departments	ODONATION to a non-county enti	ty		
● SALE a	at the earliest auction *	ODESTRUCTION due to Public Health / Safety			
	E-IN for new assets of similar type for the county	SALE to a government entity / cirthe county at fair market value	vil or charita	able organization in	
Asset	List:				
Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non- Working)	
1	Victor 1460-4 calculator	12K00389		Non-Working	
1	Open/Close sign with message area / letters included			Working	
	Misc. cables/wires/cords			Working	
2	lockable metal boxes w/keys 10 1/2" L x 4 1/2" w x 3" d			Working	
1	Canon MP21D calculator	61086772		Working	
Transfer Authoriz	e sferee Department/Auction/Trade-in/Donee):  ee - Elected Official/Department Head/ sed Staff OR Donee - Representative: (If being for Sale or Trade-in, no signature is necessary.)	Print Name  Stanch  Print Name  Stanch  Print Name  Stanch  Phone Number  Contact Person:			
.,-,-		contact reison.			
Print Nan	me	Print Name			
Signature	e D	Phone Number RECEN	/ED		
	ove asset(s) is (are) listed for sale at auction and no bid list of the (these) asset(s) to be donated or disposed o	f will be sent to the Auditor's Office with a <b>AUDITOR'S O</b>	date of do	nation or disposal.	
	Forward to Cou	nty Auditor's Office	NTY, TEXA	AS	
This Chang	ge Status was approved as agenda item # in 0	Commissioner's Court on			
If for Sale,	the asset(s) was(were) delivered to warehouse on	by			

# **Williamson County**

**Print Form** 

# Asset Status Change Form

	/\ssct State	as change i oni	•		
The follow	wing asset(s) is(are) considered for: (select on	e)			
← TRANSFI	ER bet ween county departments	C DONATION to a non-o	ounty enti	ty	
<b>ⓒ</b> SALE at t	the earliest auction *	C DESTRUCTION due to	Public Hea	lth / Safety	
← TRADE-II	N for new assets of similar type for the county	C SALE to a government entity / civil or charitable organization in the county at fair market value			
Asset Li	st:				
Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or V	N)	County Tag#	Condition of Assets (Working, Non- Working)
S	See attached list				
Parties in FROM (Tra	nsferor Department): Sheriff's Department (560)				
Transferor Authorize	r - Elected Official/Department Head/ d Staff:	Contact Person:			
Chief Tim Ry	yle	Starla Hall			
Print Name	12-13-K 1/3/1-	Print Name			
Signature	(19/1)	+1 (512) 943-5270 ate Phone Number			
	ree Department/Auction/Trade-in/Donee):Auc-	rion			
Authorized	e - Elected Official/Department Head/ d Staff OR Donee - Representative: (If being r Sale or Trade-in, no signature is necessary.)	Contact Person:			
		B	ECE	VED	
Print Name		Print Name		4 1	
Signature	Da	Phone Number	APR - 4	2017	
	e asset(s) is (are) listed for sale at auction and no bids t of the (these) asset(s) to be donated or disposed of	are made, the Purchasing Dire		ispose of or	
his Change	Forward to Coul	-	Offic	ce	

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 _	

1 – Docking Station condition: unknown

1 – Foot Rest

1 – Vacuum Cleaner condition: unknown

1 – Computer keyboard

1 – DVD Burner Serial #RQDVS302554 condition: unknown

1 – Picnic Table

1 – Brown Desk condition:non-working

1 - Gray Office Chair condition:non-working

1 – Blue Office Chair

1 – Microwave condition: unknown

1 – Small TV condition: unknown

2 - Brown guest chairs

8 – Maroon Chairs that form a bench with corner table

1 - Floor Mat

# **Williamson County**

**Print Form** 

# **Asset Status Change Form**

							$\overline{}$
The f	ollowing	asset(s)	is(are)	considered	for:	(select one	(؛

TRANSFER bet ween county departments

C DONATION to a non-county entity

SALE at the earliest auction \*

C DESTRUCTION due to Public Health / Safety

TRADE-IN for new assets of similar type for the county

C 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	Avaya 6408D+	01FTG0028987		
1	Avaya 6408D+	98SP70606011		
1	Avaya 6408D+	98A762303485		
1	Avaya 6211	028125102581		
1	Avaya 6211	028125102583		

1	Avaya 6408D+	8SP70606011
1	Avaya 6408D+	8A762303485
1	Avaya 6211	128125102581
1	Avaya 6211	28125102583
	involved: Transferor Department): JP 4	
1	ror - Elected Official/Department Head/ ized Staff:	Contact Person:
Judy S. H	lobbs	Jessica Schmidt
Print Na		Print Name
(	A Holder	+1 (512) 352-4159
Signatu	re /	Phone Number
Transfer Authoriz	ree - Elected Official/Department Head/ zed Staff OR Donee - Representative: (If being	
approved	for Sale or Trade-in, no signature is necessary.)	Contact Person: RECEIVED
Print Na	me	Print Name APR - 7 2017
Signatur	re D	Phone Number AUDITOR'S OFFICE WILLIAMSON COUNTY, TEXAS
		are made, the Purchasing Director may dispose of or donate this (these) will be sent to the Auditor's Office with a date of donation or disposal.
	Forward to Cou	nty Auditor's Office
This Chan	nge Status was approved as agenda item # in C	ommissioner's Court on

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	

Dell 5330dn Laser Printer

Dello 5330dn Laser Printer

Signature

# Williamson County

**Print Form** 

Non-Working

Non-Working

# **Asset Status Change Form**

		g		
The following	ng asset(s) is(are) considered for: (select o	one)		
← TRANSFER	bet ween county departments	C DONATION to a non-county e	entity	
SALE at the	e earliest auction *	C DESTRUCTION due to Public F	Health / Safety	
← TRADE-IN for new assets of similar type for the county		C SALE to a government entity the county at fair market valu	/ civil or charita e	ble organization in
Asset List	:			
Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Asse (Working, Non- Working)

Service Tag JCRT3P1

Service Tag 529VP31

# Parties involved: FROM (Transferor Department): JP 4 Transferor - Elected Official/Department Head/ Authorized Staff: **Contact Person:** Jessica Schmidt Judy S. Hobbs **Print Name Print Name** Hofules +1 (512) 352-2161 Date 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.) **Contact Person:** RECEIVED **Print Name Print Name** APR - 7 2017

\* 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.

Date Phone Number

**AUDITOR'S OFFICE** 

# **Forward to County Auditor's Office**

This Change Status was approved as agenda item #	in Commissioner's Court on	<del></del>
If for Sale, the asset(s) was(were) delivered to warehouse on	by	

# **Court Document**



# Vehicle Status Change

# **Human Resources**

County VIN/Serial #:		Department:	
2FAFP71W16X142584		540 - EMS	
Equipment Number (D	Door Number):		
EA0623			
License Plate:	Year:	Make:	Model:
115-6647	2006	Ford	Crown-Victori
Reason for Status Chai	nge:		
	actual mileage 134,033		
Not mechanically see			
·	Receiving Department se	ection)	
Other: Explain belo		ction	
P			
Explanation:			
i:0#.f membership ml	knipstein@wilco.org2017	'-04-04T08:15:39	2017-04-04
•	knipstein@wilco.org2017 tment Head/Authorized S		2017-04-04 Date:
Elected Official/Depar	tment Head/Authorized S	Staff Signature	Date:
Elected Official/Depar	tment Head/Authorized S		Date:
Elected Official/Depar Vehicle Status Change	tment Head/Authorized S	Staff Signature	Date:
Elected Official/Depar Vehicle Status Change	tment Head/Authorized Se/Title Determination - To	Staff Signature  o be completed by <b>Fleet Serv</b>	Date:
Elected Official/Depar Vehicle Status Change Method of Status char	tment Head/Authorized Se/Title Determination - To	Staff Signature  o be completed by <b>Fleet Serv</b>	Date:
Vehicle Status Change  Method of Status change  Sale at the earliest Salvage for parts Trade-in for new as	tment Head/Authorized Se/Title Determination - To	Staff Signature  to be completed by <b>Fleet Serv</b> considered for: (select one)	Date:
Elected Official/Depart Vehicle Status Change Method of Status char Sale at the earliest Salvage for parts Trade-in for new as Transfer	tment Head/Authorized Se/Title Determination - To enge: This vehicle is to be cauction	Staff Signature  to be completed by <b>Fleet Serv</b> considered for: (select one)	Date:
Elected Official/Depar  Vehicle Status Change  Method of Status char  Sale at the earliest  Salvage for parts  Trade-in for new as  Transfer  Sale to insurance	tment Head/Authorized Se/Title Determination - To nge: This vehicle is to be cauction sets of same general type	Staff Signature to be completed by <b>Fleet Serv</b> considered for: (select one) the for the county	Date: ices Manager
Elected Official/Depar  Vehicle Status Change  Method of Status char  Sale at the earliest  Salvage for parts  Trade-in for new as  Transfer  Sale to insurance  SALE to a government	tment Head/Authorized Se/Title Determination - To nge: This vehicle is to be cauction sets of same general type	Staff Signature  to be completed by <b>Fleet Serv</b> considered for: (select one)	Date: ices Manager
Elected Official/Depart Vehicle Status Change Method of Status char Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government at fair market value	tment Head/Authorized Se/Title Determination - To nge: This vehicle is to be cauction sets of same general type	Staff Signature to be completed by <b>Fleet Serv</b> considered for: (select one) the for the county	Date: ices Manager
Elected Official/Depar  Vehicle Status Change  Method of Status char  Sale at the earliest  Salvage for parts  Trade-in for new as  Transfer  Sale to insurance  SALE to a government at fair market value  Other	tment Head/Authorized Se/Title Determination - To enge: This vehicle is to be co auction sets of same general type ent entity/civil or charital	Staff Signature to be completed by <b>Fleet Serv</b> considered for: (select one) the for the county tole organization in the county	Date: ices Manager
Vehicle Status Change  Method of Status char  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government at fair market value Other i:0#.f membership ke	tment Head/Authorized Se/Title Determination - To nge: This vehicle is to be co auction sets of same general type ent entity/civil or charitals vin.teller@wilco.org2017	Staff Signature to be completed by <b>Fleet Serv</b> considered for: (select one) the for the county tole organization in the county	Date: ices Manager  2017-04-04
Elected Official/Depar  Vehicle Status Change  Method of Status char  Sale at the earliest  Salvage for parts  Trade-in for new as  Transfer  Sale to insurance  SALE to a government at fair market value  Other	tment Head/Authorized Se/Title Determination - To nge: This vehicle is to be co auction sets of same general type ent entity/civil or charitals vin.teller@wilco.org2017	Staff Signature to be completed by <b>Fleet Serv</b> considered for: (select one) the for the county tole organization in the county	Date: ices Manager
Elected Official/Depar Vehicle Status Change  Method of Status char Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government fair market value Other i:0#.f membership ke Authorized Fleet Staff	tment Head/Authorized Se/Title Determination - To nge: This vehicle is to be co auction sets of same general type ent entity/civil or charitals vin.teller@wilco.org2017	Staff Signature to be completed by <b>Fleet Serv</b> considered for: (select one) the for the county tole organization in the county the county	Date: ices Manager  2017-04-04
Elected Official/Depar Vehicle Status Change  Method of Status char Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government at fair market value Other i:0#.f membership ke Authorized Fleet Staff	tment Head/Authorized Se/Title Determination - Tonge: This vehicle is to be cauction  sets of same general type ent entity/civil or charital vin.teller@wilco.org2017 Digital Signature	Staff Signature to be completed by Fleet Server.  Considered for: (select one)  The for the county  Tole organization in the county  Tole-04-04T12:38:35	Date: ices Manager  2017-04-04
Elected Official/Depar  Vehicle Status Change  Method of Status char  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government at fair market value Other i:0#.f membership ke Authorized Fleet Staff  To be completed by Hu All applicable accident	tment Head/Authorized Start Head/Authorized Start Head/Authorized Start Head/Authorized Start Head Head/Authorized Start Head Head Head Head Head Head Head Head	Staff Signature to be completed by Fleet Serventsconsidered for: (select one) the for the county tole organization in the county tole-04-04T12:38:35  @wilco.org): the servents and there is no	Date: ices Manager  2017-04-04
Vehicle Status Change  Method of Status char  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government at fair market value Other i:0#.f membership ke Authorized Fleet Staff  To be completed by Hu All applicable accident litigation pending on t	tment Head/Authorized Start Indian Process  Title Determination - Tourse: This vehicle is to be concern auction  sets of same general type ent entity/civil or charitate vin.teller@wilco.org2017 Digital Signature  uman Resources (hr_risk) to paperwork has been reconcern.	Staff Signature to be completed by Fleet Server.  Considered for: (select one)  e for the county  ole organization in the county  7-04-04T12:38:35  @wilco.org):  detected and there is no red for retirement.	Date: ices Manager  2017-04-04

1 of 2 4/10/2017 3:12 PM

Title Approved for: Salvage Title Non-repairable Title No change needed; current title is still valid
<ul> <li>No change needed; current title is still valid</li> </ul>
i:0#.f membership angela.schmidt@wilco.org 2017-04-07T14:29:45 2017-04-07
Date
Authorized Employee Digital Signature
Human Resources
Created by Williamson County Technology Services

2 of 2

# **Court Document**



# Vehicle Status Change

# **Human Resources**

County VIN/Serial #:		Department:	
1GCEC19019Z296743		210 - Unified Road Sys	tems
Equipment Number ([	Door Number):		
UB0946			
License Plate:	Year:	Make:	Model:
1090302	2009	CHEVROLET	1500 X-C
<ul><li>Not mechanically s</li></ul>	actual mileage 119002 ound: Explain below Receiving Department se	ection)	
	ey@wilco.org2017-03-28		2017-03-28
Elected Official/Depar	tment Head/Authorized		Date:
Elected Official/Depar Vehicle Status Change Method of Status char Sale at the earliest	tment Head/Authorized c/Title Determination - To the rege: This vehicle is to be	Staff Signature	Date:
Vehicle Status Change  Method of Status chan  Sale at the earliest Salvage for parts Trade-in for new as Transfer	tment Head/Authorized c/Title Determination - To the rege: This vehicle is to be	Staff Signature o be completed by <b>Fleet Services</b> considered for: (select one)	Date:
Vehicle Status Change  Method of Status change  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government of the salvage o	tment Head/Authorized characteristics and the second set of same general types.	Staff Signature o be completed by <b>Fleet Services</b> considered for: (select one)	Date:
Vehicle Status Change  Method of Status char  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government of the salvage of	tment Head/Authorized the Title Determination - Tinge: This vehicle is to be auction sets of same general typeent entity/civil or charital	Staff Signature to be completed by <b>Fleet Services</b> considered for: (select one)  e for the county  tole organization in the county	Date:
Vehicle Status Change  Method of Status change  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government fair market value Other i:0#.f membership ke	tment Head/Authorized  c/Title Determination - Tonge: This vehicle is to be auction  sets of same general type  ent entity/civil or charital  vin.teller@wilco.org2017	Staff Signature to be completed by <b>Fleet Services</b> considered for: (select one)  e for the county  tole organization in the county	Date: Manager
Elected Official/Depar  Vehicle Status Change  Method of Status char  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government fair market value Other i:0#.f membership ke	tment Head/Authorized  c/Title Determination - Tonge: This vehicle is to be auction  sets of same general type  ent entity/civil or charital  vin.teller@wilco.org2017	Staff Signature to be completed by <b>Fleet Services</b> considered for: (select one)  e for the county  tole organization in the county  7-04-04T15:54:41	Date: Manager  2017-04-04
Elected Official/Depar  Vehicle Status Change  Method of Status change  Sale at the earliest  Salvage for parts  Trade-in for new as  Transfer  Sale to insurance  SALE to a government at fair market value  Other  i:0#.f membership ke  Authorized Fleet Staff  To be completed by Hu  All applicable accident	tment Head/Authorized to /Title Determination - Tonge: This vehicle is to be auction sets of same general type ent entity/civil or charital vin.teller@wilco.org2017. Digital Signature	Staff Signature to be completed by Fleet Services considered for: (select one)  e for the county  ole organization in the county  7-04-04T15:54:41  @wilco.org): ceived and there is no	Date: Manager  2017-04-04
Method of Status Change  Method of Status Change  Sale at the earliest Salvage for parts Trade-in for new as Transfer Sale to insurance SALE to a government fair market value Other i:0#.f membership ke Authorized Fleet Staff  To be completed by Hu All applicable accident litigation pending on te	tment Head/Authorized  c/Title Determination - Tonge: This vehicle is to be eauction  sets of same general type  ent entity/civil or charital  vin.teller@wilco.org2017  Digital Signature  uman Resources (hr_risk t paperwork has been rechis unit. It has been clean	Staff Signature to be completed by Fleet Services considered for: (select one)  e for the county  ole organization in the county  7-04-04T15:54:41  @wilco.org): ceived and there is no	Date: Manager  2017-04-04

1 of 2 4/10/2017 3:06 PM

Check box indicates the Vehicle Transfer has been reviewed and approved:	1	
Title Approved for: Salvage Title Non-repairable Title No change needed; current title is still valid		
i:0#.f membership angela.schmidt@wilco.org 2017-04-07T14:26:12	2017-04-07	
	Date	
Authorized Employee Digital Signature		
Human Resources		
Created by Williamson County Technology S	ervices	
, , , , , , , , , , , , , , , , , , , ,		

2 of 2

# **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017

Asset Transfer 4-18-2017

Submitted By: Jayme Jasso, Purchasing

**Department:** Purchasing **Agenda Category:** Consent

## Information

7.

# Agenda Item

Discuss, consider and take appropriate action on authorizing the disposal of (1) Dell 21in monitor, through inter-departmental transfer (see attached sheet) pursuant to Tx. Local Gov't Code 263.152.

# **Background**

# **Fiscal Impact**

From/To	Acct No.	Description	Amount

# **Attachments**

# Asset Transfer

Final Approval Date: 04/12/2017

## Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Jayme Jasso Started On: 04/11/2017 10:44 AM

# **Williamson County**

**Print Form** 

# Asset Status Change Form

			_			
The follo	owing asset(s) is(are) considered for: (select	one)				
	FER bet ween county departments		C DONATION to a non-county	entity		
<ul><li>← SALE at the earliest auction *</li><li>← TRADE-IN for new assets of similar type for the county</li></ul>			C DESTRUCTION due to Public Health / Safety  SALE to a government entity / civil or charitable organization in the county at fair market value			
Quantity	Description (year, make, model, etc.)		Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non- Working)	
1	Dell 21" Flat Screen Monitor	CN-O	TYXD9-74445-O8C-BTHL	NA	Working	
Parties i	nvolved:					
	ransferor Department): 583 Emergency Services					
	or - Elected Official/Department Head/				-	
	ed Staff:		Contact Person:			
John Snee	ed		John Sneed			
Print/Nan			Print Name			
( )	n sweed 4-	3-17	512 - 864 - 8210 Phone Number			
Signature		Date	Phone Number	Account of the country of the countr		
			D . #0	RECE	IVED	
	feree Department/Auction/Trade-in/Donee): Com	mission	er Pct #2			
	ee - Elected Official/Department Head/ ed Staff OR Donee - Representative: (If being	ı		APR - 4	2017	
	for Sale or Trade-in, no signature is necessary.)		<b>Contact Person:</b>			
Commissi	oner Long		Tammy Smith WI	AUDITOR'S LLIAMSON CO	OFFICE	
Print Nan			Print Name		ONTI, TEXAS	
	( Fores		5/2-260C	) - C/2	80	
Signature		Date	Phone Number			
If the abo sset(s). A	ove asset(s) is (are) listed for sale at auction and no blist of the (these) asset(s) to be donated or disposed	bids are d of will	made, the Purchasing Director r be sent to the Auditor's Office w	may dispose of o vith a date of dor	r donate this (these) nation or disposal.	
	Forward to Co	unt	y Auditor's Of	ffice		
hic Chan			missioner's Court on			

This Change Status was approved as agenda item #	in Commissioner's Court on	<del></del>
If for Sale, the asset(s) was(were) delivered to warehouse on	by	

# **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017 Asset Destruction 4-18-2017

Submitted By: Jayme Jasso, Purchasing

**Department:** Purchasing **Agenda Category:** Consent

## Information

8.

# Agenda Item

Discuss, consider and take appropriate action on authorizing the disposal of various county assets through destruction including (7) Boxes of security tapes and (2) Mattresses (see attached sheet) pursuant to Tx. Local Gov't code 263.152.

# **Background**

## **Fiscal Impact**

From/To	Acct No.	Description	Amount

## Attachments

# **Asset Destruction**

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Jayme Jasso Started On: 04/11/2017 10:52 AM Final Approval Date: 04/12/2017

# **Williamson County**

**Print Form** 

# Asset Status Change Form

	owing asset(s) is(are) considered for: (select o	nie)	C CONATION:			
← TRANSFER bet ween county departments			C DONATION to a non-county			
,	t the earliest auction *		© DESTRUCTION due to Public	•		
( TRADE	-IN for new assets of similar type for the county		C SALE to a government entity the county at fair market val	/ / civil or charita ue	able organizatio	on in
Asset l	List:					
Quantity	Description (year, make, model, etc.)		Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of (Working, N Working	Von-
7	boxes of VHS security tapes	n/a		n/a	Non-Working	*
2	Green Vinyl Mattresses	n/a		n/a	Non-Working	_
					Working	
					Working	
					Working	-
Signatur	h J / Ju		Print Name  512.943.3  Phone Number	V5Z		
Transfer Authoriz	ree - Elected Official/Department Head/ zed Staff OR Donee - Representative: (If being for Sale or Trade-in, no signature is necessary.)		Contact Person:	CEIVE	)	
Print Nar	me		Print Name	R - 3 2017		
Signature Date		Phone Number  AUDITOR'S OFFICE  WILLIAMSON COUNTY, TEXAS				
* If the abasset(s). A	ove asset(s) is (are) listed for sale at auction and no b list of the (these) asset(s) to be donated or disposed	oids are I of will	made, the Purchasing Director i be sent to the Auditor's Office w	nay dispose of o	or donate this (t nation or dispo	:hese) sal.
	Forward to Co	unt	y Auditor's Of	ffice		

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**

**Meeting Date:** 04/18/2017

Vehicle Reimbursement Agreement for County Sheriff

Submitted For: Robert Chody Submitted By: Starla Hall, Sheriff

**Department:** Sheriff **Agenda Category:** Consent

#### Information

9.

# Agenda Item

Discuss, consider and take any appropriate action regarding approval and receipt of Vehicle Reimbursement Agreement with City National Bank (Refill ATMs in Eastern WILCO).

# **Background**

This agreement gives permission for City National Bank to contract County Deputies in a private capacity and the County to invoice them for deputies' vehicle usage. We are updating our agreements since Sheriff Chody took office on January 1st.

# **Fiscal Impact**

From/To	Acct No.	Description	Amount

# **Attachments**

# City National Bank

## Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Starla Hall Started On: 04/11/2017 06:49 PM

Final Approval Date: 04/12/2017

STATE OF TEXAS	§	VEHICLE REIMBURSEMENT
	§	AGREEMENT WITH
	§	NON-GOVERNMENTAL
	§	ORGANIZATION
	§	REGARDING OFF-DUTY
COUNTY OF WILLIAMSON	8	CONTRACTING OF COUNTY DEPUTIES

This Vehicle Reimbursement Agreement with Non-Governmental Organization Regarding Off-Duty Contracting of County Deputies (hereinafter, the "AGREEMENT") is entered into by and between the company/organization set forth on the signature page below (hereinafter, "NON-GOVERNMENTAL ORGANIZATION") in the State of Texas, and Williamson County, Texas (hereinafter, "COUNTY") a political subdivision of the State of Texas, and the Williamson County Law Enforcement Agency set forth on the signature page below (hereinafter, "LEA").

For and in consideration of the permission given by COUNTY for the NON-GOVERNMENTAL ORGANIZATION to contract in a private capacity DEPUTIES of the LEA (hereinafter "DEPUTIES"), while DEPUTIES are not on duty with and for the COUNTY, it is hereby agreed as follows:

- 1. It is mutually agreed that while the DEPUTIES are working for the NON-GOVERNMENTAL ORGANIZATION, the DEPUTIES' primary responsibility is the enforcement of Federal and State laws and COUNTY Ordinances or Regulations to protect life and property and to keep the peace. The DEPUTIES are not allowed to enforce NON-GOVERNMENTAL ORGANIZATION policies or rules. DEPUTIES are at all times subject to the rules and policies of the LEA. NON-GOVERNMENTAL ORGANIZATION expressly acknowledges and agrees that such DEPUTIES are at all times independent contractors of the NON-GOVERNMENTAL ORGANIZATION when contracted by the NON-GOVERNMENTAL ORGANIZATION.
- 2. It is understood by the NON-GOVERNMENTAL ORGANIZATION that the COUNTY shall retain the right to withdraw at any time its permission for the DEPUTIES to work in a private capacity (including the right to terminate this agreement at any time). If the permission of the COUNTY is withdrawn, the NON-GOVERNMENTAL ORGANIZATION agrees to terminate its contracting relationships with DEPUTIES. The NON-GOVERNMENTAL ORGANIZATION, as part of this AGREEMENT, binds itself to release and hold harmless the COUNTY from any liability or claim for damages in the event such permission is withdrawn by the COUNTY.
- 3. Prior to the beginning of DEPUTIES contracting with the NON-GOVERNMENTAL ORGANIZATION, the NON-GOVERNMENTAL ORGANIZATION shall obtain a comprehensive general liability insurance policy

from a company authorized to do business in the State of Texas with minimum amounts of Ten Thousand Dollars (\$10,000) per occurrence for property damage, One Hundred Thousand Dollars (\$100,000) per person, and Three Hundred Thousand Dollars (\$300,000) per occurrence for personal injury. COUNTY SHALL BE NAMED AS AN ADDITIONAL INSURED UNDER THIS COVERAGE.

- 4. The term of this AGREEMENT shall begin on the 20\_\_\_ and shall terminate on September 30, 20\_\_. Any extension of this AGREEMENT must be set forth in writing and signed by both parties.
- 5. State law requires that law enforcement personnel conducting "off-duty" work must be both "full time" and "entitled" to fringe benefits. Tex. Occup. Code Sec. 1702.322(A) & (B)(i). Thus, part-time deputies and "reserve" officers may not conduct "off-duty" work.<sup>1</sup>
- 6. The COUNTY agrees that each of the DEPUTIES will be properly insured with automobile liability insurance while operating the patrol vehicle in accordance with Section 612.005(b) of the Texas Government Code, and any other applicable laws.
- 7. COUNTY agrees to invoice NON-GOVERNMENTAL ORGANIZATION for the reimbursement amounts for deputy vehicle usage at the rate of \$12.00 per hour per vehicle (to cover NON-GOVERNMENTAL ORGANIZATION's fair share of costs for fuel, maintenance, and yearly premiums on automobile insurance).
- 8. NON-GOVERNMENTAL ORGANIZATION agrees to log and maintain all times that vehicles are allotted to off-duty work, whether actually used or parked, for each vehicle used by DEPUTIES on a monthly basis. NON-GOVERNMENTAL ORGANIZATION shall provide such vehicle time records to COUNTY and LEA no later than the last day of the end of each month in which vehicle usage occurs. COUNTY will invoice based on the total usage and rate, as set forth in Paragraph 7, and NON-GOVERNMENTAL ORGANIZATION will pay such invoice within ten (10) days of the invoice date. Reporting must be submitted to:

**LEA:** At the address set forth on signature page below.

COUNTY: Williamson County Auditor's Office

Attn: Finance Director 710 Main Street, Suite 301 Georgetown, Texas 78626

9. NON-GOVERNMENTAL ORGANIZATION agrees that it shall pay deputies directly and file 1099 forms with the Internal Revenue Service.

<sup>&</sup>lt;sup>1</sup> It is the commissioners court that sets what compensation (and benefits) deputies are entitled to, which affects eligibility for off-duty work. Tex. Local Gov't Code § 152.011.

- 10. 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.
- 11. Nothing in this AGREEMENT 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, 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.

NON-GOVERNMENTAL ORGANIZATION:
Name of Organization: City National BANK
Signature: Steven Hovan VAICNB
Printed Name: STEVEN KOVAR
Title: Vice President
Date: $3/27$ , 20/7

WILLIAMSON COUNTY LAW ENFORCEMENT AGENCY:

Name of Office: <u>S</u>	veriff
Printed Name of Offici	al: Robert Chody
Signature of Official:	A S
Date: April	7 ,2017
1	
Address of Office:	508 S. Rock St.  Georgetown TX 78626

# WILLIAMSON COUNTY COMMISSIONERS COURT:

y:		
Dan A. Gattis,		

Williamson County Judge &
Presiding Officer, Williamson County Commissioners Court
710 Main Street, Suite 105
Georgetown, Texas 78626

**Commissioners Court - Regular Session** 

**Meeting Date:** 04/18/2017

Austin Regional Intelligence Center Interlocal Cooperation Agreement for County Sheriff

Submitted For: Robert Chody Submitted By: Starla Hall, Sheriff

**Department:** Sheriff **Agenda Category:** Consent

#### Information

## Agenda Item

Consider acknowledgement or acceptance and record into the minutes the revised Amendment Two to Interlocal Cooperation Agreement for Austin Regional Intelligence Center (ARIC) and for sustainment funding agreement with ARIC under authority of Williamson County Sheriff's Office to update information for current administration.

## **Background**

The Austin Regional Intelligence Center (ARIC) is a collaborative effort of public safety agencies in surrounding counties to work together to provide resources, expertise and information to the Center. ARIC focuses on regional public safety data analysis. The mission of ARIC is to maximize the ability to detect, prevent, apprehend, and respond to criminal and terrorist activity. Williamson County Sheriff's Office has been an original partner since 2010. During the fall of 2012 each of the original partner agencies governing bodies approved a second interlocal cooperation agreement that established funding mechanism to sustain the operation of ARIC known as the ARIC Sustainment Funding Agreement. The two purposes of this Amendment Two are to add the New Partner Agencies to the ARIC Sustainment Funding Agreement and to authorize the City of Austin to enter into separate collateral agreements with non-governmental entities, as necessary, to provide these non-governmental entities with obligations and benefits equivalent to Partner Agencies. The annual operating costs shall be shared based on the participation levels of each Partner Agency and the number of sworn personnel in each agency that will use the services provided by this agreement. In the past our cost has been previously paid from the County Sheriff Asset Forfeiture Fund and now this funding has been approved to be paid from the Sheriff's General Fund (0100-0560-004100) budget beginning this fiscal year. Our responsibility is \$26,325.00. This agreement allows for free training of our deputies which we have taken advantage of.

# **Fiscal Impact**

From/To	Acct No.	Description	Amount

### **Attachments**

Original ARIC ILA

Original ARIC Sustainment Funding ILA

New Amendment Two ARIC ILA

New Amendment Two ARIC Sustainment Funding

Amendment One ARIC ILA

Amendment One ARIC Sustainment Funding

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 11:34 AM

Form Started By: Starla Hall Started On: 04/12/2017 09:32 AM

Final Approval Date: 04/12/2017

10.

# INTERLOCAL COOPERATION AGREEMENT for the AUSTIN REGIONAL INTELLIGENCE CENTER (ARIC)

This Interlocal Cooperation Agreement (the Agreement) is made and entered by and between the City of Austin, Austin Independent School District Police Department, Georgetown Police Department, Hays County Sheriff's Office, Pflugerville Police Department, Round Rock Police Department, San Marcos Police Department, Travis County Sheriff's Office, University of Texas Police Department, and Williamson County Sheriff's Office (collectively referred to as the "Partner Agencies") for the establishment and operation of the Austin Regional Intelligence Center (ARIC or Center).

## DEFINITIONS

Information includes any data about people, organizations, events, incidents, or objects, regardless of the medium in which it exists.

Intelligence is the product of an analytical process that provides an integrated perspective to disparate information about crime, crime trends, crime and security threats, and conditions associated with criminality.

Law includes any applicable local, state, tribal, territorial, or federal statute, ordinance, regulation, executive order, policy, or court rule, decision, or order, as construed by appropriate local, state, tribal, territorial, or federal officials or agencies.

Need to Know is established when, as a result of jurisdictional, organizational, or operational necessities, access to sensitive information or intelligence is necessary for the conduct of an individual's official duties as part of an organization that has a right to know the information in the performance of a law enforcement, homeland security, or counter-terrorism activity, such as to further an investigation or meet another law enforcement requirement.

Right to Know is established when, based on having legal authority or responsibility, or pursuant to an authorized agreement, an agency or organization is authorized to access sensitive information and intelligence in the performance of a law enforcement, homeland security, or counter-terrorism activity.

## I. AUTHORITY

Authority for entering into this Agreement is found in the Interlocal Cooperation Act, Texas Government Code Chapter 791. This Agreement is not intended, and should not be construed, to create any right or benefit, substantive or procedural, enforceable at

law or otherwise by any third party against the parties, the United States, or the officers, employees, agents, or other associated personnel thereof.

#### II. PURPOSE

This Agreement establishes and outlines the intent of the Partner Agencies to centralize effort and co-locate. The intent of the ARIC is to be an all-crimes information analysis center that uses a collaborative approach to identify, prevent, disrupt and respond to criminal threats to the safety and security of the Austin-Round Rock metropolitan area.

Further, the Agreement establishes a framework for the organization of the ARIC and to address crime-related issues that are common to the Partner Agencies. The Agreement is to set out a common understanding of the policies and procedures that the ARIC will follow, in providing criminal intelligence and coordination of law enforcement service to the citizens in the Austin-Round Rock metropolitan area. Nothing in this Agreement should be construed to supersede previous agreements entered into between the Partner Agencies or between Partner Agencies and other agencies. The ARIC will not operate to the exclusion of any existing intelligence programs of the Partner Agencies.

#### III. MISSION

The Mission of the ARIC is to provide a centralized, comprehensive, multiagency criminal information and intelligence sharing network to enhance the operational effectiveness and efficiency of the law enforcement agencies involved in order to better protect the public. ARIC will provide real-time actionable criminal intelligence by utilizing technology to identify trends and patterns in criminal activity. The ARIC will facilitate the collection, integration, evaluation, analysis and dissemination of criminal information and intelligence through established procedures for law enforcement and homeland security.

# IV. GOVERNANCE AND OVERSIGHT

Primary responsibility for the operation of the ARIC is assigned to the Austin Police Department (APD). The Center's governance shall consist of an Executive Board, Operational Management Team, Center Director, and Privacy Officer, each described below.

A. The Executive Board shall be comprised of the heads of the five major Law Enforcement entities in the Austin-Round Rock metropolitan area, or their designee(s), and chaired by the APD police chief or designee. The Executive Board shall meet as needed and agreed upon by Board members. This Board shall:

a. Resolve conflicts or disputes that might arise related to policy or mission;

b. Establish protocol concerning the treatment of violations of this

Agreement;

 c. Control the dissemination of any information produced by ARIC including specific alerts and bulletins to agencies inside and outside the region;

d. Resolve disputes between Partner Agencies arising from the operation

and activity of the ARIC; and

e. Review and update the ARIC Privacy Policy annually based upon recommendations by the Privacy Policy Advisory Committee (described below), and changes in applicable law;

- f. Shall provide an annual report to Partner Agencies on the status and efficacy of the Privacy Policy and ARIC based upon internal and external audits conducted and/or coordinated by the ARIC Operational Management Team (described below).
- B. The APD police chief or designee will appoint a Center Director, who will be responsible for the day to day operation of the Center. The Center Director will establish needed procedures, practices and protocols and utilize advanced software, information technology tools. The Center Director will also develop physical security measures to ensure information and intelligence are protected from unauthorized access, modification, theft or sabotage, whether internal or external, or disasters or intrusions by natural or human causes, and that such information and intelligence is only accessed by authorized personnel with the appropriate access and need to know or right to know.
- C. The ARIC Operational Management Team (Management Team) will be responsible for: technology, use of ARIC information and intelligence databases, conducting and/or coordinating internal and external audits, and investigating misuse of the Center's data resources.
- D. ARIC shall have a trained Privacy Officer who is appointed by the Center Director and who assists the Management Team in investigating violations of this policy. The Privacy Officer shall receive and investigate reports of alleged errors in information and intelligence, coordinate error resolution under the Center's redress policy, serve as the liaison for the Information Sharing Environment, and coordinate with other fusion centers in the State of Texas. The Privacy Officer shall coordinate with the Center Director to ensure adherence to enforcement procedures, and that such procedures are adequate. The Privacy Officer shall also review all analytical products to ensure that they provide appropriate privacy, civil rights, and civil liberties protections prior to dissemination or sharing by the center. The Privacy Officer can be contacted through the public ARIC website.

#### V. COLLECTION LIMITATION

- A. ARIC may only seek or retain information that was gathered in a fair and lawful manner, wherein the source is reliable and the content is valid or limitations on confidence are identified and with the knowledge and consent of the individual, if appropriate, and falls into the following categories:
  - (1) Is suspicious activity that has a potential terrorism or criminal nexus and constitutes a SAR or ISE-SAR information under the Information Sharing Environment Functional Standard; or
  - (2) Is relevant to the investigation and prosecution of suspected criminal, including terrorist, activity, the justice system response, and the prevention of crime or is useful in crime analysis or in the administration of justice and public safety (including topical searches of open source information).
- B. Within the Criminal Intelligence System, ARIC shall collect and retain information only where there is reasonable suspicion that a specific individual or organization has committed a criminal offense or is involved in or is planning criminal (including terrorism) conduct or activity that presents a threat to any individual, the community, or the nation and the information is relevant to the criminal (including terrorist) conduct or activity
- C. This policy applies to information or intelligence that identifies any individual or organization as a criminal subject. The ARIC will not seek, collect or retain information about an individual or organization, and originating agencies will not submit such information, solely on the basis of religious, political, or social views or activities; participation in a particular organization or event; or race, ethnicity, citizenship, place of origin, age, disability, gender, or sexual orientation. Further, these factors will not be considered as factors that create suspicion, except if used as part of a specific suspect description.
- D. Information obtained from or through the ARIC can only be used for lawful purposes. A lawful purpose means the request for data is directly linked to a law enforcement agency's active criminal investigation, or is in response to confirmed information that requires intervention to prevent a criminal act or other threat to public safety. All information disseminated from the ARIC related to criminal activity that identifies a criminal subject must be relevant and useful in aiding an authorized and active criminal or background investigation.
- E. The ARIC incorporates the collection, assessment, retention/storage, security, and sharing of SAR and ISE-SAR information into existing processes and systems used to manage other crime related information to protect information and intelligence, as well as privacy and civil liberties. All constitutional protections and individual agency policies and procedures that apply to a law enforcement officer's authority, for example, to stop, detain, identify, search and frisk, will be followed and upheld in the same measure when

gathering SAR information, whether or not the observed behavior is related to criminal activity.

# VI. COMPLIANCE WITH LAWS REGARDING PRIVACY, CIVIL RIGHTS, AND CIVIL LIBERTIES

#### A. Privacy Policy.

The information shared between the parties will be handled in accordance with Austin Regional Intelligence Center Privacy Policy (Privacy Policy) and the "Criminal Intelligence Systems Operating Policies" 28 CFR Part 23, U.S. Executive Order 12291. The Privacy Policy, as accepted by the Department of Homeland Security, shall be adopted by the Executive Board prior to the Center becoming operational.

All personnel assigned to ARIC, Partner Agency personnel, personnel providing information technology services to ARIC, and any other authorized users will comply with the ARIC Privacy Policy. The Privacy Policy shall apply to all information and intelligence the Center gathers or collects, receives, maintains, stores, accesses, discloses, or disseminates to Partner Agencies (including federal Information Sharing Environment participating centers and agencies), and participating justice and public safety agencies, as well as to private entities, and the general public.

## B. Privacy Policy Advisory Committee.

- a. The Privacy Policy Advisory Committee (Committee) shall review the Privacy Policy annually to ensure safeguards, and sanctions are in place to protect personal information, and shall advise the Executive Board of ARIC of its recommendations based upon the purpose and mission statements of ARIC.
- b. The Committee shall annually select from its membership a chair and any additional officers that the board finds appropriate. A person may not serve as the chair for more than two consecutive years. Upon selection of the chair and additional officers, the Committee shall agree upon the meeting schedule and other operational procedures.
- c. The Committee shall include the following, as selected by the governing bodies or their designees:
  - a community advocate, as selected by the City of Austin;
  - a licensed attorney, as selected by Hays County;
  - an information privacy advocate, as selected by the City of Round Rock;
  - a criminal justice expert, as selected by Travis County; and
  - a law enforcement expert, as selected by Williamson County.

- d. The Committee shall provide an annual report to the Partner Agencies that contains any proposed changes to the Privacy Policy along with the results of any discussion and review by the Executive Board regarding such changes.
- e. The Committee shall comply with the Texas Government Code, Chapter 551 (Open Meetings Act) to the extent not otherwise required by Chapter 551 or other state or federal law or rule.

### VII. DUTIES AND PERFORMANCE BY THE CITY OF AUSTIN

- A. The City of Austin (Austin) will serve as the Fiscal Agent for the grants provided in support of the ARIC.
- B. Austin, as the Fiscal Agent, agrees to provide office space, equipment and supplies, to carry out the administrative operation of ARIC. At such time that federal or state grant funding is no longer available, sustainment for ARIC will be the responsibility of remaining Partner Agencies, upon written notice and agreement by each. Additional equipment required by a Partner Agency will be the responsibility of that agency.

# VIII. DUTIES AND PERFORMANCE OF ALL PARTNER AGENCIES

- A. Specific control over an agency's resources and the continued dedication of these resources to ARIC shall be retained by the Partner Agencies, which will be kept fully apprised of all analytical developments by its respective subordinates, as appropriate security clearances permit.
- B. Each Partner Agency will be subject to the personnel rules, regulations, laws and policies applicable to their respective agencies. All Partner Agencies will abide by appropriate security agreements concerning the handling of classified and sensitive material.
- C. Partner Agencies will adopt this Agreement and corresponding policies, and such Agreement and policies will have the same force and effect as the participating agencies' internal policies and procedures.
- D. Individual users of ARIC's information and intelligence remain responsible for the lawful and appropriate use of the information and intelligence provided by ARIC. Failure to abide by the restrictions and use limitations for ARIC data may result in the suspension or termination of individual user privileges, disciplinary sanctions imposed by the user's employing agency, or criminal prosecution. Each individual user and Partner Agency participating in ARIC is required to abide by this privacy policy in providing information and intelligence to ARIC and in the access, use, security, and disclosure of information and intelligence obtained by and through the Center.

- E. Partner Agencies will adopt and comply with internal policies and procedures requiring the agency, its personnel, contractors, and users to:
  - 1. Have and enforce policies for discovering and responding to violations of agency policies and this Agreement, including taking appropriate action when violations are found;
  - Make available to the public the agency's internal policies and procedures regarding privacy, civil rights, and civil liberties;
  - Cooperate with periodic, random audits by representatives of the ARIC and/or other designated individuals; and
  - 4. Designate an individual within the participating agency to receive reports of alleged errors in the information that originated from the participating agency.
- F. If a Partner Agency fails to comply with either the provisions of this agreement or internal policies, or fails to enforce provisions in its local policies and procedures regarding proper collection, use, retention, destruction, sharing, disclosure, or classification of information, as determined by the Executive Board, the Board may:
  - Suspend or discontinue the offending agency's access to ARIC; or
  - Offer to provide an independent review, evaluation, or technical assistance to the Partner Agency to establish compliance.

#### IX. PERSONNEL

#### A. Modification of Personnel.

A Partner Agency wishing to modify its personnel contribution to ARIC shall give 60 days written notice to the Executive Board of such modification.

# B. Personnel Rules and Discipline.

1. A complaint made against any Partner Agency individual assigned to ARIC, while acting within the scope of their ARIC assignment, shall be reported to the Center Director. The Director will immediately report such complaint to the respective agency's direct supervisor of the individual. Such complaints shall be investigated immediately by the Director and reported to the Executive Board for review and possible removal from ARIC.

- 2. A complaint made against any personnel assigned to ARIC outside the scope of their ARIC assignment will be the sole responsibility of the agency employing the member to conduct an investigation. Disciplinary action, if any, is the responsibility of the employing agency. The Partner Agency shall immediately notify the Center Director of any disciplinary action taken to the extent possible by law or contract.
- The Director reserves the right to remove any personnel from ARIC during the course of an investigation into a complaint of personnel misconduct.
- 4. Each Partner Agency will be subject to the personnel rules, regulations, laws and policies applicable to their respective agencies. All Partner Agencies will abide by appropriate security agreements concerning the handling of classified and sensitive material.
- 5. Salaries and overtime of ARIC personnel will be paid by their respective agencies.

#### C. Training.

Each Partner Agency will require training for certain individuals as detailed in the Training Matrix that shall be adopted by the Executive Board prior to ARIC becoming operational.

# X. DIRECTION OF ARIC AND RESOURCE CONTROL

Specific control over an agency's ARIC resources and the continued dedication of these resources to the ARIC shall be retained by the Partner Agencies. The Partner Agencies shall be kept fully apprised of all analytical developments by their respective ARIC-based subordinates, as appropriate security clearances permit. ARIC analysts will provide requesting Partner Agency with link analysis, database searches and coordination of information between local, state, tribal, and federal agencies. The ARIC will also provide Tactical Intelligence support to partners using a tiered approach based on the severity of the crime or incident and its relative impact to the Austin-Round Rock metropolitan area.

#### XI. AUDITING

Consistent with this Agreement and the Privacy Policy, the ARIC Operational Management Team shall establish both internal and external audit functions prior to ARIC becoming operational. The external audit function process will be subject to review by the City of Austin Public Safety Commission. The Commission shall report on its review to the Austin City Council.

# XII. RELATIONSHIP OF PARTIES AND LIABILITY

Nothing in this Agreement shall be deemed to create an employment relationship between any of the Partner Agencies. The Partner Agencies do not waive and intend to assert any available defenses and/or limitations on liability. No Partner Agency shall be considered to be an agent of any other Partner Agency. The Partner Agencies acknowledge that neither party has waived its sovereign immunity by entering into this Agreement.

#### XIII. AMENDMENTS

- A. This Agreement may be modified only by a writing properly executed by each of the Partner Agencies. Neither any representation or promise made after the execution of this Agreement, nor any modification or amendment of this Agreement, shall be binding on the Partner Agencies unless made in writing and properly executed by each of the Partner Agencies.
- B. This Agreement may be amended to include additional partner agencies. A new partner agency must first be agreed upon by a majority of the Executive Board, with final approval by the Chair. Upon approval and amendment by each agency's governing body, the new partner agency must sign on to the same terms of understanding contained in this Agreement and in substantially the same format.

#### XIV. TERM OF AGREEMENT

#### A. Effective Date.

This Agreement shall commence on the date of execution by the last of the parties to sign this Agreement.

#### B. Renewal Term(s).

Subject to continued funding, this Agreement shall renew annually automatically, unless terminated as provided herein.

#### C. Termination.

A party to this Agreement may terminate its involvement in this Agreement upon 60 days written notice to the other parties.

#### XV. ASSIGNMENT

A party to this Agreement may not assign or transfer its interests under this Agreement.

#### XVI. COMPLETE AGREEMENT

This Agreement constitutes the entire Agreement and understanding between the parties and supersedes all previous agreements, understandings, discussions, or representations concerning its subject matter. This Agreement may not be amended in whole or in part except in a written amendment executed by both parties to the Agreement.

#### XVII. SEVERABILITY

If a court of competent jurisdiction determines that a term or provision of this Agreement is void or unenforceable, the remainder of this Agreement remains effective to the extent permitted by law.

#### XVIII. SURVIVAL OF OBLIGATIONS

All provisions of this Agreement that impose continuing obligations on the parties, including but not limited to warranty, indemnification, limitation of liability, and confidentiality, shall survive the expiration or termination of this Agreement.

#### XIX. MISCELLANEOUS

- A. This Agreement is subject to the provisions of any agreement made between the parties to this Agreement and the United States Government relative to the expenditure of federal funds for the development of the ARIC.
- B. Each individual signing this Agreement on behalf of a party warrants that he or she is legally authorized to do so and that the party is legally authorized to perform the obligations undertaken.

#### XX. NOTICE

- A. All notices sent pursuant to this Interlocal Agreement shall be in writing and may be hand delivered, or sent by registered or certified mail, postage prepaid, return receipt requested.
- B. When notices sent are hand delivered, notice shall be deemed effective upon delivery. When notices are mailed by registered or certified mail, notice shall be deemed effective three days after deposit in a U.S. mail box or at a U.S. post office.
- C. Either party may change its address for notice under this Interlocal Agreement by providing a notice of the change in compliance with this paragraph to all other parties.
- D. Notices sent to the parties pursuant to this Interlocal Agreement shall be delivered or sent to:

Austin Police Dept.	Austin I.S.D Police Dept.
USTIN POLICE DEPARTMENT HIEF'S OFFIC≿	111 West 10 th 51
15 E. 8TH ST. USTIN, TX 78701	auth 1x 78703
Georgetown Police Dept.	Hays County Sheriff's Office
Georgetown Police Dazt. <u>Sup Partin Luther King Jr. St.</u> Georgetown, TX 78626	HAYS COUNTY SHERIFF'S OFFICE 130: UHLAND ROAD SAN MARCOS, TX 78666
Pflugerville Police Dept.	Round Rock Police Dept.
leli Epfennia Ln.	
Pflugerville, TX 78660	
P.D. BOX 679 (78491)	· .
San Marcos Police Dept.	Travis County Sheriff's Office
2300 IH-355	
San Mercas TX 78464	Travis County Sheriff's Calca P. O. Box 1748 Austin, TX 78767
University of Texas Police Dept.	Williamson Co. Sheriff's Office
The University of Texas	Sheriff's Office 538 South Rock Street
at Austin Police Dept	Georgatewn, TX 78626
P. O. Box 7787 Austin, Texas 78713-7	
1100011, 16100 / D! 10"!	2

XXI. EFFECTIVE DATE

This Agreement is effective on	, 2010.
CITY OF AUSTIN  By:	Date: 6/14/10
AUSTIN INDEPENDENT SCHOOL DISTRICT	Date: 11-27-10
CITY OF GEORGETOWN  By: MILITIO L. NO	Date: 10-11-10
HAYS COUNTY SHERIFF'S OFFICE  By:	Date: <u>/0 - 20 -/ 0</u>
CITY OF ROUND ROCK  By: Alan M& Gruw, Mayor	Date: <u>August (2, 2010</u>
By: Irmal & William	Date: //-10-10
TRAVIS COUNTY SHERIFF'S OFFICE  By:	Date: 8/11/10

UNIVERSITY OF TEXAS		
By: Nella Itelian	Date:	8-23-10
Debra Y. Stevens  Business Contracts Administrator		
WILLIAMSON COUNTY SHERIFF'S OFFICE		
By: Janu R. Wikan	Date: _	9-14-10

PFLUGERVILLE POLICE DEPARTMENT	
By: Date	12-15-2010
CIN MANAGER	

### INTERLOCAL COOPERATION AGREEMENT FOR SUSTAINMENT FUNDING FOR THE AUSTIN REGIONAL INTELLIGENCE CENTER (ARIC)

This Interlocal Cooperation Agreement (the Agreement) is made and entered by and between the following parties: the City of Austin, Austin Independent School District through its Police Department, City of Georgetown through its Police Department, Hays County through its Sheriff's Office, City of Pflugerville through its Police Department, City of Round Rock through its Police Department, City of San Marcos through its Police Department, Travis County through its Sheriff's Office, University of Texas through its Police Department, and Williamson County through its Sheriff's Office (collectively referred to as the "Partner Agencies") for the purpose of establishing sustainment funding for the Austin Regional Intelligence Center (ARIC or Center).

#### RECITALS

The Austin Regional Intelligence Center (ARIC) is a collaborative effort of ten public safety agencies in Hays, Travis and Williamson Counties. ARIC Partner Agencies work together to provide resources, expertise, and information to the Center. ARIC focuses on regional public safety data analysis. The mission of ARIC is to maximize the ability to detect, prevent, apprehend, and respond to criminal and terrorist activity.

During the summer and fall of 2010, each of the ARIC Partner Agencies' governing bodies approved an Interlocal Cooperation Agreement that established and outlined the intent of the Partner Agencies to centralize efforts and co-locate (Original ARIC Agreement). Further, the Original ARIC Agreement established a framework for the organization of the ARIC. The Original ARIC Agreement set out a common understanding of the policies and procedures that the ARIC currently follows in providing criminal intelligence and coordination of law enforcement service to the citizens in the Austin-Round Rock metropolitan area.

The Original ARIC Agreement assigns the primary responsibility for the operation of the ARIC to the City of Austin through its Police Department (APD). Further, the Original ARIC

R-13-02-14-43

Agreement assigns the City of Austin as the Fiscal Agent for grants provided in support of ARIC, and requires that it provide office space, equipment, and supplies in order to carry out the administrative operation of ARIC. This Agreement recognizes and continues those assignments of duties.

Authority for entering into this Agreement is found in the Interlocal Cooperation Act, Texas Government Code Chapter 791.

#### AGREEMENT

#### 1. <u>Definitions</u>.

- A. <u>Annual Assessment</u> means the proportionate share of the Operating Costs stated in the Budget by all Partner Agencies determined in accordance with that Partner Agency's participation level determined as described in 2.A. and as detailed on Exhibit A of that Fiscal Year's approved Budget.
- B. <u>City</u> means the City of Austin.
- C. Operating Costs are all costs associated with direct purchase of goods and services, including but not limited to computer hardware, computer software, and hardware and software maintenance and replacement. Operating Costs also include technology enhancements necessary to improve the efficiency and effectiveness of ARIC.
- D. <u>Fiscal Year</u> means the fiscal year adopted by the City. The Fiscal Year in effect as of the execution of this Agreement commences on October 1st of each year and ends the following September 30th.
- E. <u>Original ARIC Agreement</u> means the Interlocal Agreement that established the ARIC in calendar year 2010.
- F. <u>Partner Agencies</u> means the entities that are parties to the Original ARIC Agreement and that are parties to this Agreement.
- G. All terms and definitions described in the Original ARIC Agreement have the same meaning in this Agreement and are fully incorporated in it.

#### 2. Budget.

- A. Proportional Cost Allocation. The annual Operating Costs shall be shared based on the participation levels of each Partner Agency. The Partner Agencies have identified the number of sworn personnel in each Partner Agency that are in positions that will use the services provided by this Agreement, as shown in Exhibit A ("Identified Positions"). The formula for the participation level for each Partner Agency is the approved Budget for Operating Costs divided by the total number of Identified Positions in all Partner Agencies. This per Identified Position contribution is multiplied by the number of Identified Positions in a Partner Agency. The Partner Agencies may modify the number of Identified Positions as needed each Fiscal Year. Each Partner Agency's Annual Assessment includes amounts that may be held in reserve in anticipation of future hardware replacements. Costs that are incurred to benefit only one individual Partner Agency shall be paid only by the Partner Agency benefiting from such ARIC enhancements.
- B. <u>Annual Budget</u>. The Director of ARIC shall prepare an annual budget on a Fiscal Year basis and submit this budget to the Operational Management Team. The Operational Management Team shall review and adjust the Budget, as needed, and then submit the Budget to the Executive Board. The Executive Board shall, no later than March 1st of each year, recommend that each Partner Agency approve the Budget and appropriate its Annual Assessment in its budget for its next fiscal year.
- C. <u>Budgeted Expenditures</u>. After the Budget has been approved and funded by the Partner Agencies, the City is authorized to incur costs in accordance with the Budget. Any costs to be incurred in excess of the approved and funded Budget require additional budget approval and funding by all of the Partner Agencies, or re-allocation of existing funds by the Executive Board.
- D. <u>Funding Transfers to City</u>. Once each Partner Agency appropriates its Annual Assessment in its annual budgetary process, the City shall provide timely and accurate invoices as described in this 2. D. under subsection a) to facilitate the transfer of funds by each Partner Agency to City. The City and the Partner Agencies shall each comply with the following procedures to facilitate payment by City to the ARIC vendors and contractors:

- a). <u>Invoice for Annual Assessment</u>. At least 30 days prior to the beginning of each Fiscal Year, the City shall send each Partner Agency an invoice for its Annual Assessment.
- b). Approval of Invoice Amount. Each Partner Agency must notify City in writing within 15 business days after receipt of the invoice for the Annual Assessment if its invoice does not correctly state its Annual Assessment.
- c). <u>Payment Instructions</u>. City must provide payment instructions to each Partner Agency for the transfer of Partner Agency funds to the City.
- d). Partner Agency Funds. Each Partner Agency must pay its Annual Assessment to the City no later than 60 calendar days after receipt of the invoice.

#### 3. ARIC Fund.

- A. The City shall establish a separate fund for ARIC in its accounting records ("ARIC Fund") that is dedicated to the administration of the ARIC. All funds received from Partner Agencies and other ARIC revenues, including income earned from investment of the ARIC Fund, shall be credited to the ARIC Fund. All ARIC obligations shall be debited from the ARIC Fund. The records for the ARIC Fund shall be maintained in compliance with generally accepted accounting principles.
- B. <u>Investment Income</u>. The ARIC Fund is invested by City in the same manner as City invests its excess funds. Any income earned on the funds invested from the ARIC Fund is credited to the ARIC Fund for the benefit of the ARIC, unless otherwise required by law. Any income earned in the current year will be retained and used to fund anticipated and unanticipated costs in subsequent years, as approved by the Operational Management Team and the Executive Board.
- C. <u>Quarterly Statements</u>. Within 30 days after the end of each quarter, City must provide quarterly statements showing the credits to and debits from the ARIC Fund, including any income earned, to each Partner Agency. The quarterly statements must include beginning and ending ARIC Fund balances. Statements for 'year-end' fund status must be provided as soon after year-end closeout as possible but in no event more than 45 days after the end of the Fiscal Year.

- D. <u>Payments</u>. Subject to the availability of sufficient funds in the ARIC Fund, the City shall pay ARIC contractors and vendors in compliance with the Texas Prompt Payment Act.
- E. <u>Reports</u>. The City shall provide each Partner Agency with a monthly report comparing the Budget with the actual expenses incurred in that month and in the current Fiscal Year to date. This report will be provided during the monthly Operational Management Team meeting.
- 4. <u>Funding</u>. The Partner Agencies specifically acknowledge that funding for each Partner Agency's Annual Assessment must go through that Partner Agency's normal budgeting process; and after approval by its governing body, is payable from current revenue available to each funding Partner Agency in compliance with 2. D.
- 5. <u>Failure to Appropriate or Partial Funding</u>. If any Partner Agency fails to appropriate its Annual Assessment by the first day of the Fiscal Year for which the Operating Budget is applicable ("Unfunded Party") or appropriates less than its Annual Assessment for any year, or if any Partner Agency fails to pay all of its Annual Assessment, ("Underfunding Party"), the other Partner Agencies, acting through the Executive Board, may take one or more of the following actions:
  - A. <u>Suspension of Representation</u>. Remove the Unfunded Party from the Operational Management Team and Executive Board, if applicable, and suspend the voting rights for the Unfunded Party.
  - B. <u>Notice of Unfunding</u>. Send the Unfunded Party a notice re-stating the amount due. Each Partner Agency acknowledges that its future right to participate in ARIC is dependent upon fully paying its Annual Assessment each year.
  - C. <u>Budget Revision</u>. Amend the Operating Budget by reducing costs and/or increasing the amounts paid by the other Partner Agencies if the Unfunded Party opts not to continue to participate.
- 6. Relationship of Parties and Liability. Nothing in this Agreement shall be deemed to create an employment relationship between any of the Partner Agencies. The Partner Agencies

do not waive and do intend to assert any available defenses and/or limitations on liability. No Partner Agency shall be considered to be an agent of any other Partner Agency. The Partner Agencies acknowledge that none of the parties has waived its sovereign immunity by entering into this Agreement.

#### 7. Amendments.

- A. This Agreement may be modified only by a writing properly executed by each of the Partner Agencies. Any representation or promise made after the execution of this Agreement and any modification or amendment of this Agreement shall NOT be binding on the Partner Agencies unless made in writing and properly executed by each of the Partner Agencies.
- B. This Agreement may be amended to include one or more additional parties as Partner Agencies. A new Partner Agency must first be agreed upon by a majority of the Executive Board, with final approval by the Chair before an amendment is written. The governing body of the new Partner Agency and the governing body of each current Partner Agency governing body must sign the amendment to this agreement that adds the new Partner Agency and binds the new Partner Agency to all of the terms and conditions contained in this Agreement.

#### 8. Term of Agreement.

- A. <u>Effective Date</u>. This Agreement shall commence on the date of execution by the last of the parties to sign this Agreement. Once effective, the initial term of this Agreement shall terminate on the same date as the then current term of the Original ARIC Agreement.
- B. Renewal Term(s). Subject to continued funding, this Agreement shall renew annually automatically, unless terminated as provided herein. Each additional renewal term shall terminate on the same date as the renewal term of the Original ARIC Agreement that begins on the date of the renewal term of this Agreement.
- C. <u>Termination</u>. A party to this Agreement may terminate its involvement in this Agreement upon 60 days written notice to the other parties.

- 9. <u>Assignment</u>. A party to this Agreement may not assign or transfer its interests or obligations under this Agreement.
- 10. <u>Complete Agreement</u>. This Agreement constitutes the entire Agreement and understanding between the parties and supersedes all previous agreements, understandings, discussions, or representations concerning its subject matter. This agreement does not supersede or otherwise change the terms of the Original ARIC Agreement.
- 11. <u>Severability</u>. If a court of competent jurisdiction determines that a term or provision of this Agreement is void or unenforceable, the remainder of this Agreement remains effective to the extent permitted by law.
- 12. Third Party Beneficiaries. This Agreement is not intended, and should not be construed, to create any right or benefit, substantive or procedural, enforceable at law or otherwise by any third party against the parties, the United States, or the officers, employees, agents, or other associated personnel thereof.

#### 13. Miscellaneous.

- A. This Agreement is subject to the provisions of any agreement made between the parties to this Agreement and the United States Government relative to the expenditure of federal funds for the development of the ARIC.
- B. Each individual signing this Agreement on behalf of a party warrants that he or she is legally authorized to do so and that the party is legally authorized to perform the obligations undertaken.

#### 14. Notice.

A. All notices sent pursuant to this Interlocal Agreement shall be in writing and may be hand delivered, or sent by registered or certified mail, postage prepaid, return receipt requested.

- B. When notices sent are hand delivered, notice shall be deemed effective upon delivery. When notices are mailed by registered or certified mail, notice shall be deemed effective three days after deposit in a U.S. mail box or at a U.S. post office.
- C. Either party may change its address for notice under this Interlocal Agreement by providing a notice of the change in compliance with this paragraph to all other parties.
- D. Notices sent to the parties pursuant to this Interlocal Agreement shall be delivered or sent to the addresses for notice stated in the Original ARIC Agreement unless that address has been changed in compliance with XX. C. of the Original ARIC Agreement and 14. C. of this Agreement

	address has been changed in compliance with XX. C. of the	Original ARIC Agreement and
	14. C. of this Agreement	
15.	<u>Duplicate Originals.</u> This document may be executed in	duplicate originals.
9	CITY OF AUSTIN	
	By: Printed Name: Marc A. Ott Title: City Mananger	Date: 10/5/12_
	AUSTINANDEPENDENT SCHOOL DISTRICT	
	By: Unillast Song	Date: 3/21/13
	Printed Name: Vincent M. Torres	
	Title: Board President	-
	APPROVED AS TO LEGAL FORM	
	CITY OF GEORGETOWN	
	By: 1 60'2 m	Date: 1/23//3
	Printed Name: Parl E. Brendenberg	·
	Title: City Manager	

HAYS COUNTY		
By: SENT COLD, M.D.  Printed Name: BENT COLD, M.D.  Title: 1449 COVATY OUDGE	Date:	3/22/2013
CITY OF ROUND ROCK  By:	Date:	2.14.13
CITY OF SAN MARCOS  By:		4 22 2013
Printed Name: SAMUEL T. BISCOE  Title: COUNTY JUDGE	Date:	10.30-12

By:  Privited Name:  Linda Shaunessy  Business Contracts Administrator  WILLIAMSON COUNTY	Date: Dec. 19, 2012
By:	Date:
Printed Name: Title:	
CITY OF PFLUGERVILLE  By:  Printed Name: BRANDON WADE  Title: CITY MANAGER	_ Date: 2/11/13

# Austin Regional Intelligence Proportional Cost for Partner Agencies

# Fiscal Year 2012-2013

### Exhibit A

	NUMBER of	FY2013
DEPARTMENT	SWORN	CONTRIBUTION
Austin PD	1,718	201,006
Travis County SO	850	99,450
Williamson County SO	222	25,974
Hays County SO	140	16,380
Round Rock PD	152	17,784
San Marcos PD	94	10,998
Pflugerville PD	80	9,360
Georgetown PD	78	9,126
Austin I.S.D. PD	67	7,839
University of Texas PD	66	7,722
AFD - Investigations	14	1,638
TOTAL	3,481	407,277
Contribution per Officer		117

### AMENDMENT TWO TO INTERLOCAL COOPERATION

#### AGREEMENT FOR THE

# AUSTIN REGIONAL INTELLIGENCE CENTER (ARIC)

This Amendment Two to the Interlocal Cooperation Agreement for the Austin Regional Intelligence Center (ARIC) is made and entered by and between the following parties:

City of Austin on behalf of its Police Department,

Austin Independent School District on behalf of its Police Department,

City of Georgetown on behalf of its Police Department,

Hays County through Hays County Sheriff's Office,

City of Pflugerville on behalf of its Police Department,

City of Round Rock on behalf of its Police Department,

City of San Marcos on behalf of its Police Department,

Travis County through Travis County Sheriff's Office,

University of Texas Austin Community College on behalf of its Police Department,

Williamson County through Williamson County Sheriff' Office,

Austin Community College on behalf of its Police Department

Texas State University on behalf of its Police Department,

City of Cedar Park on behalf of its Police Department,

Pflugerville Independent School District on behalf of its Police Department,

City of Kyle through its Police Department, and

City of Buda on behalf of its Police Department.

(Collectively referred to as the "Current Partner Agencies" in this Amendment).

#### And

City of Sunset Valley on behalf of its Police Department,

City of Manor on behalf of its Police Department,

City of Bastrop on behalf of its Police Department.

(Collectively referred to as the "New Partner Agencies" in this Amendment).

Collectively, the Current Partner Agencies and the New Partner Agencies are referred to as "Partner Agencies."

#### RECITALS

ARIC is a collaborative effort of public safety agencies in Hays, Travis and Williamson Counties. Current Partner Agencies work together to provide resources, expertise, and information to the ARIC. ARIC focuses on regional public safety data analysis. The mission of ARIC is to maximize the ability to detect, prevent, apprehend, and respond to criminal and terrorist activity.

During the summer and fall of 2010, each of the original 10 Partner Agencies' governing bodies ("Original Partner Agencies") approved an interlocal cooperation agreement that established and outlined the intent of the Original Partner Agencies to centralize efforts and colocate certain intelligence operations (Original ARIC Agreement). Further, the Original ARIC Agreement established a framework for the organization of the ARIC. The Original ARIC Agreement set out a common understanding of the policies and procedures that the ARIC currently follows in providing criminal intelligence and coordination of law enforcement service to the citizens in the Austin-Round Rock metropolitan area.

During the summer and fall of 2012, each of the Original Partner Agencies' governing bodies approved a second Interlocal Cooperation Agreement that established a funding mechanism to sustain the operations of the ARIC (ARIC Sustainment Funding Agreement).

Section XIII of the Original ARIC Agreement and section seven of the ARIC Sustainment Funding Agreement permit these agreements to be amended to add additional partner agencies. Upon approval of an amendment adding a new partner agency or agencies by the Partner Agencies' governing bodies, each New Partner Agency must execute a Counterpart Original ARIC Agreement and a Counterpart ARIC Sustainment Funding Agreement.

The two purposes of this Amendment Two to the Original ARIC Agreement are to add the New Partner Agencies to the Original ARIC Agreement and to authorize the City of Austin to enter into separate collateral agreements with non-governmental entities, as necessary, to provide these non-governmental entities with obligations and benefits equivalent to Partner Agencies.

Legal authority for amending and entering into these Agreements by the Current Partner Agencies and New Partner Agencies is found in the Interlocal Cooperation Act, Texas Government Code Chapter 791 and the Interagency Cooperation Act, Texas Government Code Chapter 771.

NOW, THEREFORE, the New Partner Agencies agree to adopt and be bound by the Original ARIC Agreement as amended by Amendment One. A copy of the fully executed Original ARIC Agreement is attached to this Amendment, and a single executed counterpart copy of Amendment One, which was executed in multiple counterparts, is also attached to this Amendment.

The Partner Agencies all agree to amend the Original ARIC Agreement as amended by Amendment One as follows:

#### AMENDMENT TO ORIGINAL ARIC AGREEMENT

#### 1.0 LIST OF PARTIES

The list of parties at the beginning of the Original ARIC Agreement is deleted and the following is substituted in its place:

This Interlocal Cooperation Agreement (the Agreement) is made and entered by and between City of Austin on behalf of its Police Department, Austin Independent School District on behalf of its Police Department, City of Georgetown on behalf of its Police Department, Hays County through Hays County Sheriff's Office, City of Pflugerville on behalf of its Police Department, City of Round Rock on behalf of its Police Department, City of San Marcos on behalf of its Police Department, Travis County through Travis County Sheriff's Office, University of Texas on behalf of its Police Department, Williamson County through Williamson County Sheriff's Office, Austin Community College on behalf of its Police Department, Texas State University on behalf of its Police Department, City of Cedar Park on behalf of its Police Department, Pflugerville Independent School District on behalf of its Police Department, City of Kyle on behalf of its Police Department, City of Buda on behalf of its Police Department, City of Sunset Valley on behalf of its Police Department, City of Manor on behalf of its Police Department, and the City of Bastrop on behalf of its Police Department.

#### 2.0 XIII AMENDMENTS

Section XIII (Amendments) of the Original ARIC Agreement is amended by adding subsection C to read as follows:

C. The City of Austin is authorized to enter into separate collateral agreements, as necessary, to allow agencies that are not state agencies, local governments, or other agencies that are authorized to contract with each other under Chapters 771 and 791 of the Government Code (non-governmental agencies) to assume obligations and receive benefits equivalent to Partner Agencies (Partner Equivalent Agencies). To qualify for consideration to become a Partner Equivalent Agency, a nongovernmental agency must utilize a full-service law enforcement component that employs police officers licensed by the State of Texas and vested with full law enforcement powers and responsibilities. Before any non-governmental agency becomes a Partner Equivalent Agency, that nongovernmental agency must first be agreed upon by a majority of the Executive Board, with approval by the Chair. Upon approval by the Executive Board and Chair, the approved non-governmental agency is recommended to the City of Austin City Council which must approve each agreement to create a Partner Equivalent Agency before any approved non-governmental agency seeking to become a Partner Equivalent Agency may be offered that agreement. Such an agreement must include the same terms of understanding contained in the Original ARIC Agreement in substantially the same format as the Original ARIC Agreement. (Partner Equivalent Agency Agreement). To complete the transaction, the approved nongovernmental agency and the City of Austin must execute the Partner Equivalent Agency Agreement.

### 3.0 XX NOTICE

Section XX (Notice) of the Original ARIC Agreement is amended by adding subsection F to read as follows:

F. Notices pursuant to this Interlocal Agreement after this amendment becomes effective, shall also be delivered or sent to:

City of Sunset Valley	City of Manor

	City of Bastrop	
4.0	EFFECTIVE DATE OF TH	IIS AMENDMENT
1.0	10	
1		when it has been approved by the governing body of each
and e	every Partner Agency and execut	ted by their authorized representatives.
CITY	Y OF AUSTIN on behalf of its	POLICE DEPARTMENT
		¥ v
Ву: _	Pull	Date: 2/21/17 istant City Manager
Y	Rey Arellano, Ass	istant City Manager
AUS	TIN INDEPENDENT SCHOO	OL DISTRICT on behalf of its POLICE DEPARTMEN
		D-1
Ву: _	*	Date:
CIT	Y OF GEORGETOWN on bel	half of its POLICE DEPARTMENT
Ť.		Datas
Ву: _		Date:
_	£ _	
HAY	S COUNTY through the HAY	YS COUNTY SHERIFF'S OFFICE
	9 4	•
R <sub>v</sub>		Date:
பy		Date.

# CITY OF ROUND ROCK on behalf of its POLICE DEPARTMENT

Ву:	Date:
<u></u>	
CITY OF SAN MARCOS on b	oehalf of its POLICE DEPARTMENT
	Date:
TRAVIS COUNTY through th	ne TRAVIS COUNTY SHERIFF'S OFFICE
Ву:	Date:
	behalf of its POLICE DEPARTMENT
	Date:
WILLIAMSON COUNTY the	ough the WILLIAMSON COUNTY SHERIFF'S OFFICE
By: R-Chy	Date: <u>4-11-17</u>

# CITY OF PFLUGERVILLE on behalf of its POLICE DEPARTMENT

y:	Date:
USTIN COMMUNITY COLL	LEGE on behalf of its POLICE DEPARTMENT
<i>y</i> .	Date:
EXAS STATE UNIVERSITY	on behalf of its POLICE DEPARTMENT
y:	Date:
	<u> </u>
ITY OF CEDAR PARK on be	ehalf of its POLICE DEPARTMENT
y:	Date:
· .	
	DENT SCHOOL DISTRICT on behalf of its PO
•	
	Date:

# CITY OF KYLE on behalf of its POLICE DEPARTMENT

:	Date:
TY OF BUDA on behalf of its	POLICE DEPARTMENT
T:	Date:
TTV OF SUNSET VALLEY of	n behalf of its POLICE DEPARTMENT
	Date:
CITY OF MANOR on behalf o	f its POLICE DEPARTMENT
By:	Date:
	f of its POLICE DEPARTMENT

# AMENDMENT TWO TO INTERLOCAL COOPERATION AGREEMENT FOR

### SUSTAINMENT FUNDING FOR THE

# AUSTIN REGIONAL INTELLIGENCE CENTER (ARIC)

This Amendment Two to the Interlocal Cooperation Agreement for Sustainment Funding for the Austin Regional Intelligence Center (ARIC) is made and entered by and between the following parties:

City of Austin on behalf of its Police Department,

Austin Independent School District on behalf of its Police Department,

City of Georgetown on behalf of its Police Department,

Hays County through Hays County Sheriff's Office,

City of Pflugerville on behalf of its Police Department,

City of Round Rock on behalf of its Police Department,

City of San Marcos on behalf of its Police Department,

Travis County through Travis County Sheriff's Office,

University of Texas on behalf of its Police Department,

Williamson County through Williamson County Sheriff's Office,

Austin Community College on behalf of its Police Department,

Texas State University on behalf of its Police Department,

City of Cedar Park on behalf of its Police Department,

Pflugerville Independent School District on behalf of its Police Department,

City of Kyle on behalf of its Police Department, and

City of Buda on behalf of its Police Department.

(Collectively referred to as the "Current Partner Agencies" in this Amendment)

And

City of Sunset Valley on behalf of its Police Department,

City of Manor on behalf of its Police Department,

City of Bastrop on behalf of its Police Department.

(Collectively referred to as the "New Partner Agencies" in this Amendment).

Collectively, the Current Partner Agencies and the New Partner Agencies are referred to as "Partner Agencies."

#### RECITALS

The ARIC is a collaborative effort of public safety agencies in Hays, Travis and Williamson Counties. Current Partner Agencies work together to provide resources, expertise, and information to the Center. ARIC focuses on regional public safety data analysis. The mission of ARIC is to maximize the ability to detect, prevent, apprehend, and respond to criminal and terrorist activity.

During the summer and fall of 2010, each of the original 10 Partner Agencies' governing bodies ("Original Partner Agencies") approved an interlocal cooperation agreement that established and outlined the intent of the Original Partner Agencies to centralize efforts and colocate certain intelligence operations (Original ARIC Agreement). Further, the Original ARIC Agreement established a framework for the organization of the ARIC. The Original ARIC Agreement set out a common understanding of the policies and procedures that the ARIC currently follows in providing criminal intelligence and coordination of law enforcement service to the citizens in the Austin-Round Rock metropolitan area.

During the summer and fall of 2012, each of the Original Partner Agencies' governing bodies approved a second interlocal cooperation agreement that established a funding mechanism to sustain the operations of ARIC (ARIC Sustainment Funding Agreement).

Section XIII of the Original ARIC Agreement and section seven of the ARIC Sustainment Funding Agreement permit those agreements to be amended to add additional partner agencies. Upon approval of an amendment adding a new partner agency or agencies by the Partner Agencies' governing bodies, each New Partner Agency must execute a Counterpart Original ARIC Agreement and a Counterpart ARIC Sustainment Funding Agreement.

The two purposes of this Amendment Two to the ARIC Sustainment Funding Agreement are to add the New Partner Agencies to the ARIC Sustainment Funding Agreement and to authorize the City of Austin to enter into separate collateral agreements with non-governmental entities, as necessary, to provide these non-governmental entities with obligations and benefits equivalent to Partner Agencies.

Legal authority for amending and entering into these agreements by the Current Partner Agencies and New Partner Agencies is found in the Interlocal Cooperation Act, Texas Government Code Chapter 791 and the Interagency Cooperation Act, Texas Government Code Chapter 771.

NOW, THEREFORE, the New Partner Agencies agree to adopt and be bound by the ARIC Sustainment Funding Agreement as amended by Amendment One. A copy of the fully executed ARIC Sustainment Funding Agreement is attached to this Amendment, and a single executed counterpart copy of Amendment One, which was executed in multiple counterparts, is also attached to this Amendment.

The Partner Agencies all agree to amend the ARIC Sustainment Funding Agreement as amended by Amendment One as follows:

#### AMENDMENT TO ARIC SUSTAINMENT FUNDING AGREEMENT

#### 1.0 LIST OF PARTIES

The list of parties at the beginning of the ARIC Sustainment Funding Agreement is deleted and the following is substituted in its place:

This Interlocal Cooperation Agreement (the Agreement) is made and entered by and between City of Austin on behalf of its Police Department, Austin Independent School District on behalf of its Police Department, City of Georgetown on behalf of its Police Department, Hays County through Hays County Sheriff's Office, City of Pflugerville on behalf of its Police Department, City of Round Rock on behalf of its Police Department, City of San Marcos on behalf of its Police Department, Travis County through Travis County Sheriff's Office, University of Texas on behalf of its Police Department, Williamson County through Williamson County Sheriff's Office, Austin Community College on behalf of its Police Department, Texas State University

on behalf of its Police Department, City of Cedar Park on behalf of its Police Department, Pflugerville Independent School District on behalf of its Police Department, City of Kyle on behalf of its Police Department, City of Buda on behalf of its Police Department, City of Sunset Valley on behalf of its Police Department, City of Manor on behalf of its Police Department, and the City of Bastrop on behalf of its Police Department.

#### 2.0 AMENDMENT TO SECTION 7

Section 7 of the ARIC Sustainment Funding Agreement is amended by adding subsection C to read as follows:

The City of Austin is authorized to enter into separate collateral agreements, as C. necessary, to allow agencies that are not state agencies, local governments, or other agencies that are authorized to contract with each other under Chapters 771 and 791 of the Government Code (non-governmental agencies) to assume obligations and receive benefits equivalent to Partner Agencies (Partner Equivalent Agencies). To qualify for consideration to become a Partner Equivalent Agency, a non-governmental agency must utilize a full-service law enforcement component that employs police officers licensed by the State of Texas and vested with full law enforcement powers and responsibilities. Before any non-governmental agency becomes a Partner Equivalent Agency, that nongovernmental agency must first be agreed upon by a majority of the Executive Board, with approval by the Chair. Upon approval by the Executive Board and Chair, the approved non-governmental agency is recommended to the City of Austin City Council which must approve each agreement before any approved non-governmental agency seeking to become a Partner Equivalent Agency may be offered an agreement to become Such an agreement must include the same terms of a Partner Equivalent Agency. understanding contained in the ARIC Sustainment Funding Agreement in substantially the same format as the ARIC Sustainment Funding Agreement. (Partner Equivalent Agency Funding Agreement). To complete the transaction, the approved nongovernmental agency and the City of Austin must execute the Partner Equivalent Agency Funding Agreement.

# 3.0 EFFECTIVE DATE OF THIS AMENDMENT.

This Amendment is effective when it has been approved by the governing body of each and every Partner Agency and executed by their authorized representatives.

CITY OF AUSTIN on behalf of its POLICE DEPARTMENT

ву:	full		_ Date: _	2/21/17	
Rey Are	Ilano, Assista	int City Man	1ager		

# AUSTIN INDEPENDENT SCHOOL DISTRICT on behalf of its POLICE DEPARTMENT

Ву:	Date:
	<u> </u>
CITY OF GEORGETOWN on behalf of its PO	LICE DEPARTMENT
By:	Date;
HAYS COUNTY through the HAYS COUNT	Y SHERIFF'S OFFICE
By:	Date:
CITY OF ROUND ROCK on behalf of its POL	ICE DEPARTMENT
By:	Date:

# CITY OF SAN MARCOS on behalf of its POLICE DEPARTMENT

Ву:	Date:
TRAVIS COUNTY through	the TRAVIS COUNTY SHERIFF'S OFFICE
	Date:
	behalf of its POLICE DEPARTMENT
	Date:
	rough the WILLIAMSON COUNTY SHERIFF'S
By: 1 Cy	Date: 4-11-17
CITY OF PFLUGERVILLE	on behalf of its POLICE DEPARTMENT
Ву:	Date:

# AUSTIN COMMUNITY COLLEGE on behalf of its POLICE DEPARTMENT

Ву:	Date:
TEXAS STATE UNIVERSITY on	behalf of its POLICE DEPARTMENT
Ву:	Date:
CITY OF CEDAR PARK on beha	alf of its POLICE DEPARTMENT
Ву:	Date:
	ENT SCHOOL DISTRICT on behalf of its POLICE
By:	Date:
CITY OF KYLE on behalf of its	POLICE DEPARTMENT
By:	Date:

# CITY OF BUDA on behalf of its POLICE DEPARTMENT

Ву:	Date:
CITY OF SUNSET VALLEY	on behalf of its POLICE DEPARTMENT
	Date:
	of its POLICE DEPARTMENT
	Date:
	alf of its POLICE DEPARTMENT

# AMENDMENT ONE TO INTERLOCAL COOPERATION AGREEMENT

### for the

# **AUSTIN REGIONAL INTELLIGENCE CENTER (ARIC)**

This Amendment One to the Interlocal Cooperation Agreement for the Austin Regional Intelligence Center (ARIC) is made and entered by and between the following parties:

City of Austin through its Police Department,

Austin Independent School District through its Police Department,

City of Georgetown through its Police Department,

Hays County through its Sheriff's Office,

City of Pflugerville through its Police Department,

City of Round Rock through its Police Department,

City of San Marcos through its Police Department,

Travis County through its Sheriff's Office,

University of Texas through its Police Department, and

Williamson County through its Sheriff's Office

(collectively referred to as the "Original Partner Agencies" in this Amendment).

And

Austin Community College through its Police Department,

Texas State University through its Police Department,

City of Cedar Park through its Police Department,

Pflugerville Independent School District through its Police Department,

City of Kyle through its Police Department, and

City of Buda through its Police Department.

(collectively referred to as the "New Partner Agencies" in this Amendment).

Collectively, the Original Partner Agencies and the New Partner Agencies are referred to as "Partner Agencies."

# RECITALS

ARIC is a collaborative effort of public safety agencies in Hays, Travis and Williamson Counties. Partner Agencies work together to provide resources, expertise, and information to the

ARIC. ARIC focuses on regional public safety data analysis. The mission of ARIC is to maximize the ability to detect, prevent, apprehend, and respond to criminal and terrorist activity.

During the summer and fall of 2010, each of the Original Partner Agencies' governing bodies approved an interlocal cooperation agreement that established and outlined the intent of the Original Partner Agencies to centralize efforts and co-locate certain intelligence operations (Original ARIC Agreement). Further, the Original ARIC Agreement established a framework for the organization of the ARIC. The Original ARIC Agreement set out a common understanding of the policies and procedures that the ARIC currently follows in providing criminal intelligence and coordination of law enforcement service to the citizens in the Austin-Round Rock metropolitan area.

During the summer and fall of 2012, each of the Original Partner Agencies' governing bodies approved a second Interlocal Cooperation Agreement that established a funding mechanism to sustain the operations of ARIC (ARIC Sustainment Funding Agreement).

Section XIII of the Original ARIC Agreement and section seven of the ARIC Sustainment Funding Agreement permit these agreements to be amended to add additional partner agencies. Upon approval of an amendment adding a new partner agency or agencies by the Partner Agencies' governing bodies, each New Partner Agency must execute a Counterpart Original ARIC Agreement and a Counterpart ARIC Sustainment Funding Agreement.

The purpose of this Amendment One to the Original ARIC Agreement is to add the New Partner Agencies to the Original ARIC Agreement.

Legal authority for amending and entering into these Agreements by the Original Partner Agencies and New Partner Agencies is found in the Interlocal Cooperation Act, Texas Government Code Chapter 791 and the Interagency Cooperation Act, Texas Government Code Chapter 771.

NOW, THEREFORE, the Original Partner Agencies agree to amend the Original ARIC Agreement, and the New Partner Agencies each agree to execute Counterpart Original ARIC Agreements and amend that agreement, as follows:

### AMENDMENT TO ORIGINAL ARIC AGREEMENT

### 1.0 LIST OF PARTIES

The list of parties at the beginning of the Original ARIC Agreement is deleted and the following is substituted in its place:

This Interlocal Cooperation Agreement (the Agreement) is made and entered by and between City of Austin through its Police Department, Austin Independent School District through its Police Department, City of Georgetown through its Police Department, Hays County through its Sheriff's Office, City of Pflugerville through its Police Department, City of Round Rock through its Police Department, City of San Marcos through its Police Department, Travis County through its Sheriff's Office, University of Texas through its Police Department, Williamson County through its Sheriff's Office, Austin Community College through its Police Department, Texas State University through its Police Department, City of Cedar Park through its Police Department, City of Kyle through its Police Department, and the City of Buda through its Police Department.

# 2.0 XX NOTICE

Section XX (Notice) of the Original ARIC Agreement is amended by adding subsection E to read as follows:

E. Notices pursuant to this Interlocal Agreement after this amendment becomes effective, shall also be delivered or sent to:

<b>Austin Community College</b>	Texas State University
City of Cedar Park	City of Buda

Pflugerville I.S.I	D	City of Kyle
3.0 XXII EX	KECUTION OF THIS AGR	EEMENT.
Section XXII, titled "EXAgreement as follows:	ECUTION OF THIS AGREE	MENT" is added to the Original ARIC
Original P	eement and any amendments to Partner Agencies and the New hich shall be considered one a	to this Agreement may be executed by the Partner Agencies in multiple counterparts, and the same agreement.
4.0 EFFECTIVE DA	ATE OF THIS AMENDMEN	NT.
This Amendment is effect every Partner Agency and	ctive when it has been approve d executed by their authorized	ed by the governing body of each and representatives.
Ву:	Dehalf of its POLICE-DEPAI	RTMENT  Dates 5. 7. / 4
AUSTIN INDEPENDE	NT SCHOOL DISTRICT or	n behalf of its POLICE DEPARTMENT
		Date:

# CITY OF GEORGETOWN on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_ Date: \_\_\_\_\_ HAYS COUNTY on behalf of the HAYS COUNTY SHERIFF'S OFFICE By: \_\_\_\_\_\_ Date: \_\_\_\_\_ CITY OF ROUND ROCK on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_ Date: \_\_\_\_\_ CITY OF SAN MARCOS on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_\_ Date: \_\_\_\_\_ TRAVIS COUNTY on behalf of the TRAVIS COUNTY SHERIFF'S OFFICE By: \_\_\_\_\_ Sarah Eckhardt, County Judge

# UNIVERSITY OF TEXAS on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_ Date: \_\_\_\_\_ WILLIAMSON COUNTY on behalf of WILLIAMSON COUNTY SHERIFF'S OFFICE Sheriff Wilne Date: 6-2-2014 CITY OF PFLUGERVILLE on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_\_Date: \_\_\_\_\_ AUSTIN COMMUNITY COLLEGE on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_ Date: \_\_\_\_\_ TEXAS STATE UNIVERSITY on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_ Date: \_\_\_\_\_ CITY OF CEDAR PARK on behalf of its POLICE DEPARTMENT

By: \_\_\_\_\_\_ Date: \_\_\_\_\_

# PFLUGERVILLE INDEPENDENT SCHOOL D DISTRICT on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_\_ Date: \_\_\_\_\_\_ CITY OF KYLE on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_ Date: \_\_\_\_\_\_ CITY OF BUDA on behalf of its POLICE DEPARTMENT

By: \_\_\_\_\_\_ Date: \_\_\_\_\_

. . : . .

# AMENDMENT ONE TO INTERLOCAL COOPERATION AGREEMENT FOR SUSTAINMENT FUNDING FOR THE AUSTIN REGIONAL INTELLIGENCE CENTER (ARIC)

This Amendment One to the Interlocal Cooperation Agreement for Sustainment Funding for the Austin Regional Intelligence Center (ARIC) is made and entered by and between the following parties:

City of Austin,

Austin Independent School District through its Police Department,

City of Georgetown through its Police Department,

Hays County through its Sheriff's Office,

City of Pflugerville through its Police Department,

City of Round Rock through its Police Department,

City of San Marcos through its Police Department,

Travis County through its Sheriff's Office,

University of Texas through its Police Department, and

Williamson County through its Sheriff's Office

(collectively referred to as the "Original Partner Agencies" in this Amendment)

And

Austin Community College through its Police Department,

Texas State University through its Police Department,

City of Cedar Park through its Police Department,

Pflugerville Independent School District through its Police Department,

City of Kyle through its Police Department, and

City of Buda through its Police Department.

(collectively referred to as the "New Partner Agencies" in this Amendment).

Collectively, the Original Partner Agencies and the New Partner Agencies are referred to as "Partner Agencies."

# RECITALS

The ARIC is a collaborative effort of public safety agencies in Hays, Travis and Williamson Counties. Partner Agencies work together to provide resources, expertise, and information to the Center. ARIC focuses on regional public safety data analysis. The mission of ARIC is to maximize the ability to detect, prevent, apprehend, and respond to criminal and terrorist activity.

During the summer and fall of 2010, each of the Original Partner Agencies' governing bodies approved an interlocal cooperation agreement that established and outlined the intent of the Original Partner Agencies to centralize efforts and co-locate certain intelligence operations (Original ARIC Agreement). Further, the Original ARIC Agreement established a framework for the organization of the ARIC. The Original ARIC Agreement set out a common understanding of the policies and procedures that the ARIC currently follows in providing criminal intelligence and coordination of law enforcement service to the citizens in the Austin-Round Rock metropolitan area.

During the summer and fall of 2012, each of the Original Partner Agencies' governing bodies approved a second Interlocal Cooperation Agreement that established a funding mechanism to sustain the operations of ARIC (ARIC Sustainment Funding Agreement).

Section XIII of the Original ARIC Agreement and section seven of the ARIC Sustainment Funding Agreement permit those agreements to be amended to add additional partner agencies. Upon approval of an amendment adding a new partner agency or agencies by the Partner Agencies' governing bodies, each New Partner Agency must execute a Counterpart Original ARIC Agreement and a Counterpart ARIC Sustainment Funding Agreement.

The purpose of this Amendment One to the ARIC Sustainment Funding Agreement is to add the New Partner Agencies to the ARIC Sustainment Funding Agreement.

Legal authority for amending and entering into these agreements by the Original Partner Agencies and New Partner Agencies is found in the Interlocal Cooperation Act, Texas Government Code Chapter 791 and the Interagency Cooperation Act, Texas Government Code Chapter 771.

NOW, THEREFORE, the Original Partner Agencies agree to amend the ARIC Sustainment Funding Agreement, and the New Partner Agencies each agree to execute Counterpart ARIC Sustainment Funding Agreements and amend that agreement as follows:

# AMENDMENT TO ARIC SUSTAINMENT FUNDING AGREEMENT

# 1.0 LIST OF PARTIES

The list of parties at the beginning of the Original ARIC Agreement is deleted and the following is substituted in its place:

This Interlocal Cooperation Agreement (the Agreement) is made and entered by and between City of Austin through its Police Department, Austin Independent School District through its Police Department, City of Georgetown through its Police Department, Hays County through its Sheriff's Office, City of Pflugerville through its Police Department, City of Round Rock through its Police Department, City of San Marcos through its Police Department, Travis County through its Sheriff's Office, University of Texas through its Police Department, Williamson County through its Sheriff's Office, Austin Community College through its Police Department, Texas State University through its Police Department, City of Cedar Park through its Police Department, Pflugerville Independent School District through its Police Department, City of Kyle through its Police Department, and the City of Buda through its Police Department.

# 2.0 EXECUTION OF THIS AGREEMENT

Section 15 of the ARIC Sustainment Funding Agreement, titled "Duplicate Originals," is retitled and amended to read as follows:

# 15. Execution of this Agreement.

This Agreement and any amendments to this Agreement may be executed by the Original Partner Agencies and the New Partner Agencies in multiple counterparts, each of which shall be considered one and the same agreement.

# 3.0 EFFECTIVE DATE OF THIS AMENDMENT.

This Amendment is effective when it has been approved by the governing body of each and every Partner Agency and executed by their authorized representatives.

CITY OF AUSTIN on behalf of its POLICE DEPART	TMENT
By: Austin (City MANAGER	Date: 5. 7. 14
AUSTIN INDEPENDENT SCHOOL DISTRICT on I	pehalf of its POLICE DEPARTMENT
Ву:	_ Date:
CITY OF GEORGETOWN on behalf of its POLICE	DEPARTMENT
By: City Manuer	Date: 6 3 14
HAYS COUNTY on behalf of the HAYS COUNTY S	HERIFF'S OFFICE
Ву:	
	<u>-</u>
CITY OF ROUND ROCK on behalf of its POLICE I	DEPARTMENT
Ву:	

# CITY OF SAN MARCOS on behalf of its POLICE DEPARTMENT

Ву:	Date:
TRAVIS COUNTY on behalf of the TRAVIS COUNT	V CHEDIEE'S OFFICE
By: Sarah Eckhardt, County Judge	
UNIVERSITY OF TEXAS on behalf of its POLICE D	DEPARTMENT
Ву:	_ Date:
WILLIAMSON COUNTY on behalf of WILLIAMSO	ON COUNTY SHERIFF'S OFFICE
Ву:	
CITY OF PFLUGERVILLE on behalf of its POLICE	E DEPARTMENT
Ву:	_ Date:

# By: \_\_\_\_\_\_ Date: \_\_\_\_\_ TEXAS STATE UNIVERSITY on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_ Date: \_\_\_\_\_ CITY OF CEDAR PARK on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_ Date: PFLUGERVILLE INDEPENDENT SCHOOL DISTRICT on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_\_ Date: \_\_\_\_\_ CITY OF KYLE on behalf of its POLICE DEPARTMENT By: \_\_\_\_\_ Date: \_\_\_\_

AUSTIN COMMUNITY COLLEGE on behalf of its POLICE DEPARTMENT

# CITY OF BUDA on behalf of its POLICE DEPARTMENT

By:	Date:			

# **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017

Road Bond and Pass Through Financing Construction Summary Report

Submitted By: Dawn Haggard, Road Bond

**Department:** Road Bond

Agenda Category: Regular Agenda Items

### Information

11.

# Agenda Item

Receive and acknowledge the April 2017 Construction Summary Report for the Road Bond and Pass Through Financing Programs.

# **Background**

# **Fiscal Impact**

From/To	Acct No.	Description	Amount

# **Attachments**

# April 2017 CSR

### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 09:48 AM

Form Started By: Dawn Haggard Started On: 04/12/2017 09:09 AM Final Approval Date: 04/12/2017



# ROAD BOND & PASS THROUGH FINANCING

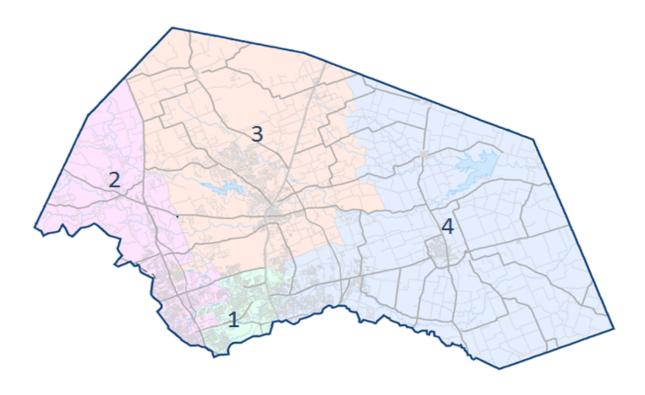
**Construction Summary Report** 

County Judge Dan Gattis

Commissioners Terry Cook Cynthia Long Valerie Covey Larry Madsen **April 2017** 

WWW.ROADBOND.ORG

Volume XVI - Issue No.04



**Presented By:** 



PRIME STRATEGIES, INC.



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# WILLIAMSON COUNTY **ROAD BOND PROGRAM**

# COMPLETED PROJECTS

CONSTRUCTION SUBSTANTIALLY COMPLETE/OPEN TO TRAFFIC - AS OF MARCH 2017

# Precinct 1

- Pond Springs Road (signal) Apr 2002
- McNeil Road, Phase 1 Jan 2005
- McNeil Road, Phase 2 Feb 2007
- RM 620, Phase 1 Jan 2009
- Pond Springs Road Sep 2010
- County Road 174 at Brushy Creek Jun 2011
- O'Connor Drive Extension Apr 2012
- King of Kings Crossing Aug 2012
- RM 620 Safety Improvements Dec 2014

# recinct

- RM 1869 at SH 29 (signal) Aug 2002
  - River Bend Oaks Feb 2003
- **County Road 175 Jun 2003**
- County Road 200 Sep 2003
- Ronald Reagan Blvd, South Ph. 1 Dec 2004
- County Road 214 Feb 2005
- County Road 258 Sep 2006
- San Gabriel Pkwy, Ph. 1 Feb 2007
- Ronald Reagan Blvd North Ph. 1 Mar 2007
- Lakeline Blvd Jul 2007
- Ronald Reagan Blvd South Ph. 2 Feb 2008
- US 183 at CR 274 Feb 2008
- County Road 175 Phase 2A Jan 2010
  US 183 at FM 3405 Traffic Signal Mar 2010
- US 183 at FM 3405 Left Turn Lanes May 2010
- County Road 214 Phase 2A Jan 2011
- San Gabriel Parkway Ph. 2 Oct 2011
- US 183 (PTF) Apr 2012
- SH 29 TWLTL Liberty Hill Dec 2012
- Hero Way Feb 2013
- County Roads 260/266 Apr 2013
- County Road 277 Jul 2014
- Lakeline Blvd at US 183 Nov 2014
- Lakeline Blvd Ph. 2 Apr 2015

# WILLIAMSON COUNTY ROAD BOND PROGRAM

# COMPLETED PROJECTS

CONSTRUCTION SUBSTANTIALLY COMPLETE/OPEN TO TRAFFIC - AS OF MARCH 2017

# Precinct 3

- Cedar Hollow at SH 29 (signal) Aug 2002
- Georgetown Inner Loop Project 2 Aug 2003
- Georgetown Inner Loop Project 1 Jun 2004
- Georgetown Inner Loop East Extension Sep 2004
- County Road 152 Bridge Replacement Sep 2004
- Inner Loop East (CR 151 to Bus 35) Oct 2005
- Ronald Reagan Blvd North, Ph. 2 May 2008
- 12" Water Main Relocation for SH 29 Widening Jun 2008
- SH 29 / CR 104, Ph. 1 Jul 2008
- IH 35 at SH 29 Turnarounds (PTF) Aug 2008
- SE Inner Loop at FM 1460 Nov 2009
- County Road 111 (Westinghouse Road) Jun 2010
- Williams Drive Apr 2011
- County Road 104, Phase 2 May 2011
- RM 2338 (PTF) Jul 2011
- SH 29 at Park Pl and Jack Nicklaus May 2012
- Ronald Reagan Blvd. North Phase 3 Jun 2013
- Ronald Reagan Blvd. North Phase 4 Mar 2014
- Madrid Drive Extension Sep 2014
- CR 245 Sep 2015
- IH 35 Northbound Frontage Road (PTF) Oct 2015
- Ronald Reagan North Phase 4 Fencing Jan 2016
- IH 35 Northbound Frontage Road Driveway (PTF) Mar 2016
- Southwest Bypass Driveways Aug 2016
- RM 2243 at Escalera Right Turn Lane Aug 2016
  - SH 29 at Cedar Hollow Right Turn Lane Aug 2016

# WILLIAMSON COUNTY **ROAD BOND PROGRAM**

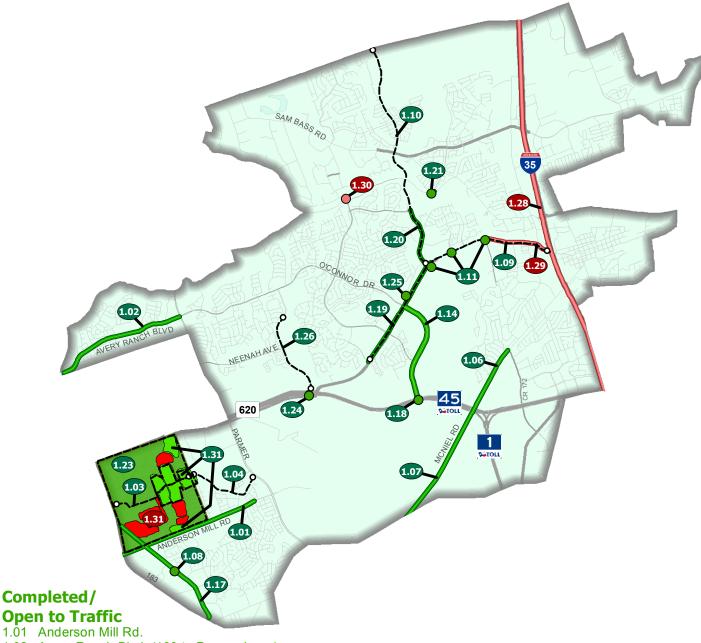
# COMPLETED PROJECTS

CONSTRUCTION SUBSTANTIALLY COMPLETE/OPEN TO TRAFFIC - AS OF MARCH 2017

# Precinct 4

- Bridge Replacements (CR 390, 406 & 427) Nov 2002
- County Road 368 and 369 Nov 2002
- **County Road 412 Aug 2003**
- County Road 300 and 301 Dec 2003
- County Road 424 Bridge Replacement Jan 2004
- Chandler Rd. Extension, Ph. 1 Mar 2005
- County Road 112, Ph. 1 Aug 2005
- **County Road 137 Oct 2005**
- Limmer Loop, Ph. 1A Jul 2006
- Chandler Rd, Ph. 2 Dec 2007 Limmer Loop, Ph. 1B Mar 2008
- Limmer Loop, Ph. 1C Oct 2008
- US 79, Section 5B (PTF) Aug 2010
- Chandler Rd, Ph. 3B Oct 2010
- US 79, Section 5A (PTF) May 2011
- FM1660 at Landfill Rd. Sep 2011
- Second Street Drainage Improvements Dec 2011
- **US 79 Section 3 (PTF) Jul 2012**
- Chandler Rd, Ph. 3A Dec 2012
- Second Street Roadway Improvements Feb 2013
- County Road 138 Jun 2013
- County Road 108 Nov 2013
- County Road 170 Feb 2015
- Multi Site Traffic Signals Jun 2016
- Bill Pickett Trail (East Williamson County Expo Center Access Road) Nov 2016

# 2006 ROAD BOND PROGRAM PROJECTS PRECINCT 1 - COMMISSIONER COOK

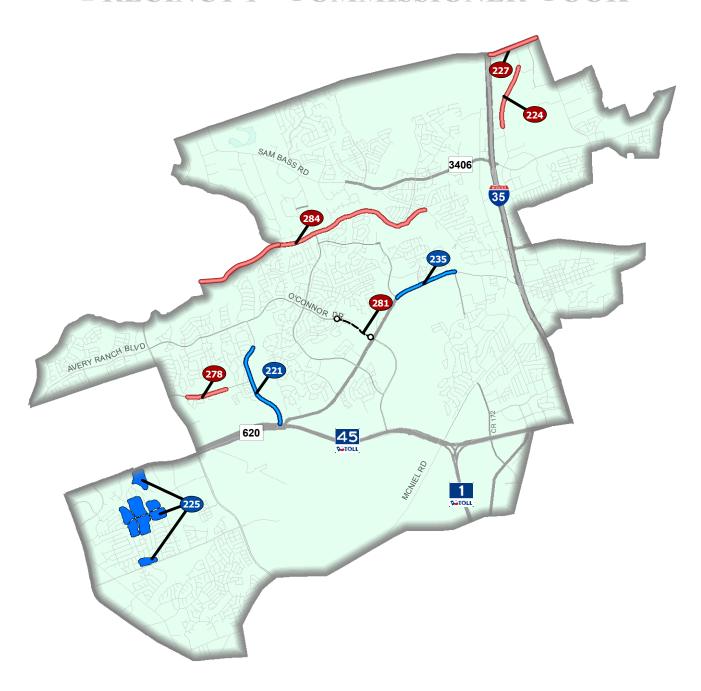


- 1.02 Avery Ranch Blvd. (183 to Parmer Lane)
- 1.03 Lake Creek Drainage Phase 1 •--•
- 1.04 Lake Creek Drainage Phase 2 o--o
- 1.06 McNeil Road Phase 1
- 1.07 McNeil Road Phase 2
- 1.08 Pond Springs at Turtle Rock Signal
- 1.09 RM 620 Feasibility Study •--•
- 1.10 Wyoming Springs North Study •--•
- 1.11 RM 620 Interim Improvements Phase 1
- 1.14 O'Connor Extension
- 1.17 Pond Springs Road
- 1.18 O'Connor Overpass at SH 45
- 1.19 RM 620 (Cornerwood Dr. to Wyoming Springs)
- 1.20 Wyoming Springs (620 to Brightwater Blvd.)
- 1.21 CR 174 (Hairy Man Rd.) Bridge Rail Rehab
- 1.23 Forest North Drainage Study [\_\_\_] 1.25 King of Kings Crossing
- 1.26 Pearson Ranch Road (Design) •--•
- 1.24 Pearson Ranch Underpass at SH 45/ RM 620
- 1.31 Forest North Drainage Improvements Phase 1 (design)

# In Design

- 1.28 IH 35 Operational Analysis
- 1.29 RM 620 (IH 35 to Deep Wood Dr.)
- 1.30 Great Oaks at Brushy Creek
- 1.31 Forest North Drainage Improvements Phase 2

# 2013 ROAD BOND PROGRAM PROJECTS PRECINCT 1 - COMMISSIONER COOK



# **Under Construction/Bidding**

- 221 Pearson Ranch Road
- 225 Forest North Drainage Improvements Phase 1
- 235 RM 620 Phase 2 (Wyoming Springs to Deep Wood Drive)

# In Design

- 224 North Mays Street Extension (La Paloma to Oakmont Dr.)
- 227 University Blvd Widening (IH 35 to Sunrise Rd.)
- 278 Neenah Avenue Widening (Olive Hill Drive to end)
- 281 O'Connor Drive North of RM 620 (Traffic Study) •--•
- 284 Hairy Man Rd/Brushy Creek Rd Safety Improvements (Arrowhead Trail to Sam Bass Road)





# Forest North Drainage Ph 1

(Residential Drainage of the Forest North Subdivision)

Project Length: Residential Neighborhood Roadway Classification: Drainage Improvements

Project Schedule: August 2016 - April 2018 Estimated Construction Cost: \$3.6 Million



# **MARCH 2017 IN REVIEW**

**3/03/2017:** DeNucci continued installing the 30" RCP and storm boxes. The new 8" and 12" water lines were tied in at the Broadmeade/Braeburn Glen intersection. Subcontractor Sisk/Robb removed 8" and 12" asbestos concrete (AC) pipe at the Broadmeade/Braeburn Glen intersection.

**3/10/2017:** Concrete pipe and culvert installations continued in the Braeburn Zone. Subcontractor Sisk/Robb removed 6" and 8" AC pipe at the Woodthorpe/Moorberry and Braeburn Glen/Moorberry intersections.

**3/17/2017:** Concrete pipe and culvert installations continued. The 30" RCP installation at Moorberry/Braeburn intersection was completed and the 30" RCP installation at Woodthorpe/Moorberry intersection began.

**3/24/2017:** Concrete crews began forming and pouring aprons around various area inlets on Braeburn Glen and Moorberry Streets.

**3/31/2017:** Concrete pipe and culvert installations in the Braeburn Zone continued. Concrete crews continued forming and pouring aprons around various area inlets. Forming and pouring concrete driveways began on Braeburn Glen and Moorberry Streets.



Design Engineer: K Friese and Cobb Fendley

Contractor: DeNucci Constructors Construction Observation:

Ryan Rivera, HNTB

Williamson County Road Bond Program





PRIME STRATEGIES, INC.

### Forest North Drainage Ph 1 Project No. 1604-068

Project No.	1604-068					(	Original Contr	act Price =	\$3,556,659.50
Letting	Award	Notice To Proceed	Begin Work	Substantial Completion	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	Total Days
6/9/2016	7/1/2016	8/1/2016	8/11/2016				600	0	600
Invoice	Beginning	Ending	Days	Current	Invoice	Current	Total	% (\$)	% Time
Number	Date	Date	Charged	Invoice	Total	Retainage	Retainage	Used	Used
1	8/11/2016	8/31/2016	21	\$152,734.50	\$152,734.50	\$16,970.50	\$16,970.50	5	4
2	9/1/2016	9/30/2016	30	\$208,685.70	\$361,420.20	\$23,187.30	\$40,157.80	11	9
3	10/1/2016	10/31/2016	31	\$266,921.68	\$628,341.88	\$29,657.96	\$69,815.76	19	14
4	11/1/2016	12/2/2016	32	\$182,471.22	\$810,813.10	\$20,274.58	\$90,090.34	25	19
5	12/3/2016	12/31/2016	29	\$177,314.97	\$988,128.07	\$19,701.67	\$109,792.01	31	24
6	1/1/2017	1/31/2017	31	\$231,302.70	\$1,219,430.77	\$25,700.30	\$135,492.31	38	29
7	2/1/2017	2/28/2017	28	\$304,664.67	\$1,524,095.44	\$33,851.63	\$169,343.94	47	34
Change Order I	Number		Approved			Cost This CO			Total COs
01			3/21/2017			31,806.00			31,806.00

<sup>1</sup>A: Design Error or Omission. Incorrect PS&E . This Change Order revises work along Broadmeade Ave., between Sherbrooke St. and Meadowheath Dr in the Sherbrooke zone. The original plans called for a ditch in this location but, due to the depth of the original planned ditch, which created slopes steeper than 3:1, the ditch was replaced with an underground storm sewer system with inlets. 3F: County Convenience. Additional work desired by the County. New pay items have been added to the contract to reimburse the contractor for removal of trees larger than what was called out in the original contract.

Adjusted Price = \$3,588,465.50





Pearson Ranch Road (Iveans Way to SH 45 ROW)

Project Length: 1.3 Miles Roadway Classification: Minor Arterial

Project Schedule: November 2016 - October 2017 Estimated Construction Cost: \$4.5 Million



# **MARCH 2017 IN REVIEW**

**3/03/2017:** Jimmy Evans remixed lime treated subgrade at the Iveans Way tie-in. Flexbase was placed south of the Neenah intersection north to Elsa England Elementary School (EEES). Flex base was placed north of the Round Rock ISD (RRISD) Bus Garage. The excavation for the water quality detention pond in TxDOT ROW continued.

**3/10/2017:** Flexbase was placed south of the Neenah intersection north to EEES. Lime was placed on the south end of the project.

**3/17/2017:** Lime was remixed for both lanes on the south end of the project. Asphalt was placed at the RRISD Bus Garage and Iveans Way intersection. Subcontractor Greater Austin prepped and poured the curb.

**3/24/2017:** Flexbase was placed on the south end of the project. Excavation continued for the water quality detention pond in the TxDOT ROW.

**3/31/2017:** Manhole adjustments began between the RRISD Bus Garage and the north end of the project. Excavation continued for the water quality detention pond on the TxDOT ROW. Subcontractor Greater Austin continued to prep and pour the curb from the Round Rock Bus Garage to the north.



Design Engineer: Cunningham-Allen Contractor: Jimmy Evans Construction Observation: Seth Turvey, HNTB

Williamson County Road Bond Program





PRIME STRATEGIES, INC.

# Pearson Ranch Road (Iveans Way to RM 620)

roject No. 1607-102						(	Original Contract Price =		\$4,516,178.77
Letting	<u>Award</u>	Notice To Proceed	Begin Work	Substantial Completion	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	<u>Total</u> <u>Days</u>
9/20/2016	10/11/2016	11/18/2016	11/28/2016				330	0	330
Invoice	Beginning	Ending	Days	Current	Invoice	Current	<u>Total</u>	<u>% (\$)</u>	% Time
Number	Date	Date	Charged	Invoice	<u>Total</u>	Retainage	Retainage	Used	Used
1	11/28/2016	11/30/2016	3	\$195,710.04	\$195,710.04	\$21,745.56	\$21,745.56	5	1
2	12/1/2016	12/31/2016	31	\$243,555.13	\$439,265.17	\$27,061.68	\$48,807.24	11	10
3	1/1/2017	1/31/2017	31	\$202,139.71	\$641,404.88	\$22,459.97	\$71,267.21	16	20
4	2/1/2017	2/28/2017	28	\$508,271.85	\$1,149,676.73	\$56,474.65	\$127,741.86	28	28
5	3/1/2017	3/31/2017	31	\$369,038,84	\$1,518,715.57	\$41,004.32	\$168,746.18	37	38





# RM 620 Phase 2

(Wyoming Springs to Deep Wood Drive)

Project Length: .9 Miles

Roadway Classification: Urban Principal Arterial

Project Schedule: January 2017-March 2018 Estimated Construction Cost: \$6.1 Million



# **MARCH 2017 IN REVIEW**

**3/03/2017:** Cox Commercial Construction continued to install storm sewer pipe and box culvert on the south ROW from Oaklands Drive east to Deep Wood. Embankment was placed from Oakwood Drive to the hospital driveway on the south ROW.

**3/10/2017:** Storm sewer pipe and curb inlets installations continued on the south right of way. The placement of embankment continued on the south ROW. Subcontractor Austin Traffic Signals installed poles for temporary signals at Oaklands Drive on the south ROW.

**3/17/2017:** Storm sewer pipe and curb inlets installations continued. Storm Trooper devices were installed. Embankment was placed on the west end of the project on the south ROW.

**3/24/2017:** Storm sewer pipe and curb inlets installations continued. Embankment continued to be placed on the west end of the project.

**3/31/2017:** Storm sewer pipe and curb inlets installations continued on the south ROW. Crews excavated the tie-in on the north side of the roadway to confirm elevation and location of the existing box culvert.





PRIME STRATEGIES, INC.



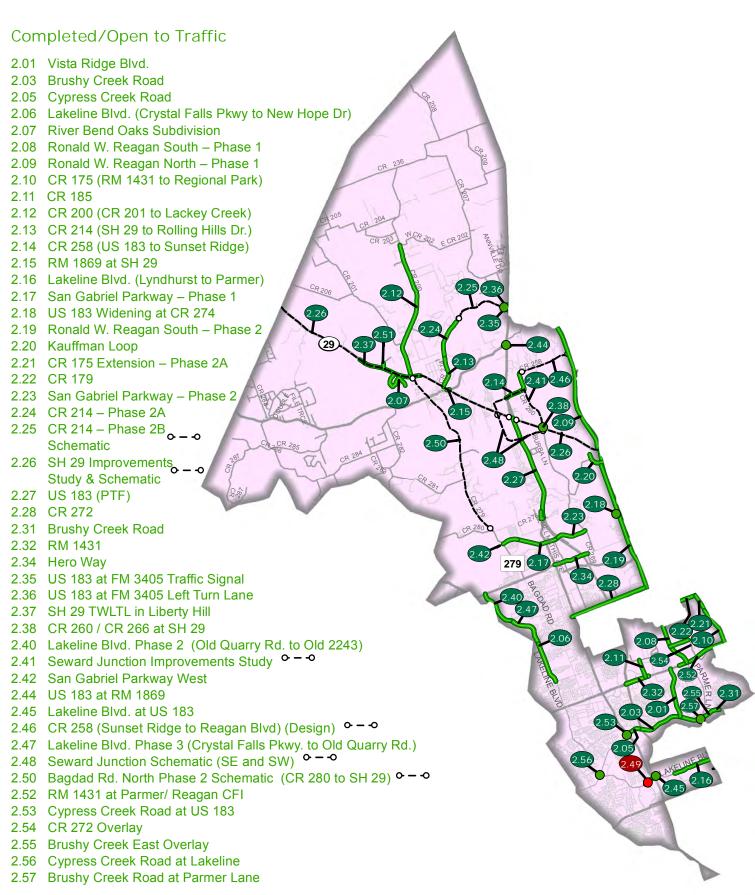
Design Engineer: Halff Associates Contractor: Cox Commercial Construction Construction Observation: Clayton Weber, HNTB

Williamson County Road Bond Program

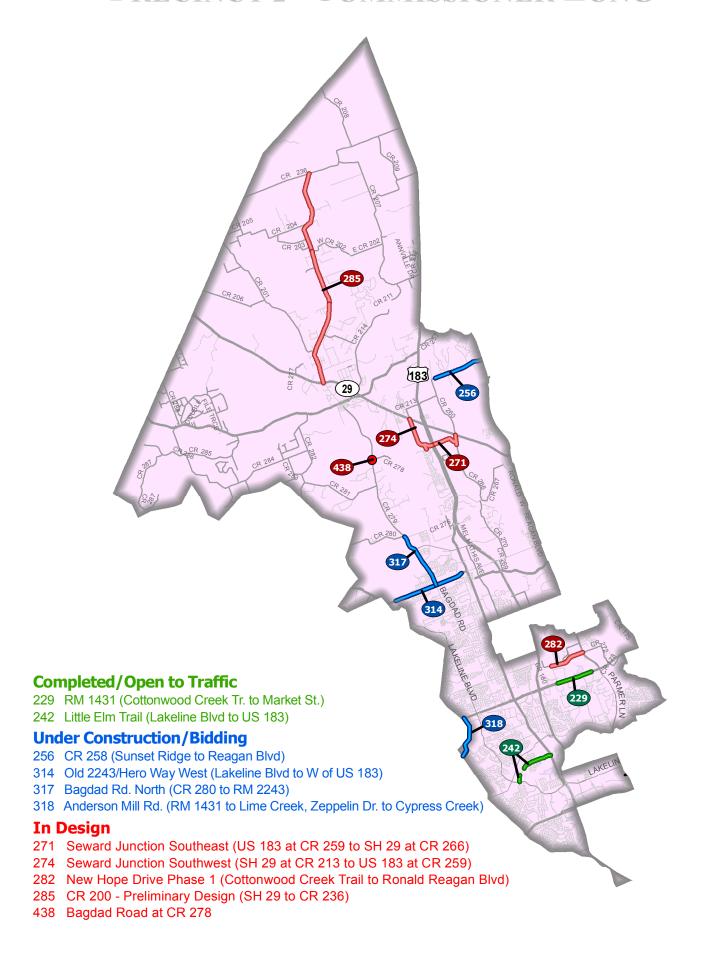
# RM 620 Safety Improvements (Cornerwood to Wyoming Springs)

Project No. 1608-108							Original Cont	\$6,082,225.70	
Letting	Award	Notice To	Begin	Substantially	Work		Total Bid	Days	Total
		Proceed	Work	Complete	Accepted		Days	Added	Days
9/28/2016	11/30/2016	1/3/2017	1/13/2017				425	0	425
	Invoice	Beginning	Ending	Days	Current	Invoice	% (\$)	% Time	
	Number	Date	Date	Charged	Invoice	Total	Used	Used	
	1	1/13/2017	1/31/2017	19	\$459,169.50	\$459,169.50	8	4	
	2	2/1/2017	2/28/2017	28	\$280,194.00	\$739,363.50	12	11	
	3	3/1/2017	3/31/2017	31	\$392,444.00	\$1,131,807.50	19	18	
							Adju	sted Price =	\$6,082,225.70

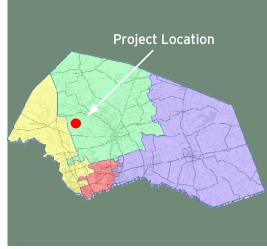
# 2006 ROAD BOND PROGRAM PROJECTS PRECINCT 2 - COMMISSIONER LONG



# 2013 ROAD BOND PROGRAM PROJECTS PRECINCT 2 - COMMISSIONER LONG







# CR 258

(Sunset Ridge to Ronald Reagan Blvd.)

Project Length: 1.75 Miles

Roadway Classification: Suburban Collector

Project Schedule: July 2016 - July 2017 Estimated Construction Cost: \$5.8 Million



# **MARCH 2017 IN REVIEW**

**3/03/2017:** Chasco processed flexbase from the west end of the project to Craigen Ln. Concrete was placed for the riprap and the dissipaters in the downstream channel at Culvert 2. Utility relocations are ongoing (AT&T).

**3/10/2017:** Subcontractor RSI installed the metal beam guard (MBGF) fence at Culvert 1 and 2. Concrete mow strip and safety end treatments were placed at several driveway locations.

**3/17/2017:** Riprap was placed under the MBGF at Culvert 1 and 2. Flexbase continued to be processed and compacted from the east end to west of Crable. M-T Line (AT&T) removed 3 remaining utility poles in conflict.

**3/24/2017:** The French Drain was completed along the south side of the project. The curb at the MBGF for Culverts 1 and 2 was placed. Subcontractor Wheeler placed the prime coat and 2" of Ty C asphalt from the west end of the project to west of Craigen.

**3/31/2017:** Flexbase placement began east of Culvert 2. Subcontractors DIJ and Flasher striped prior to the traffic switch at the west end of the project. Excavation began on the old roadway west of Rock House.



Design Engineer: Civil Engineering Consultants and Cobb Fendley Contractor: Chasco Constructors Construction Observation: Steven Shull, HNTB

Williamson County Road Bond Program





PRIME STRATEGIES, INC.

# CR 258 (Sunset Ridge to Ronald Reagan North)

proposed driveway location.

Project No.	1603-062		agun 1 tor tr	,		C	riginal Contra	act Price =	\$5,808,856.58
<u>Letting</u>	Award	Notice To Proceed	Begin Work	Substantial Completion	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	<u>Total</u> <u>Days</u>
4/20/2016	5/10/2016	7/29/2016	8/8/2016				360	0	360
Invoice	Beginning	Ending	Days	Current	Invoice	Current	Total	<u>% (\$)</u>	% Time
Number	Date	Date	Charged	Invoice	<u>Total</u>	Retainage	Retainage	Used	Used
1	7/1/2016	7/31/2016	0	\$204,692.63	\$204,692.63	\$22,743.63	\$22,743.63	4	0
2	8/8/2016	8/31/2016	24	\$647,625.15	\$852,317.78	\$71,958.35	\$94,701.98	16	7
3	9/1/2016	9/30/2016	30	\$768,046.95	\$1,620,364.73	\$85,338.55	\$180,040.53	30	15
4	10/1/2016	10/31/2016	31	\$523,476.94	\$2,143,841.67	\$58,164.10	\$238,204.63	40	24
5	11/1/2016	11/30/2016	30	\$98,689.54	\$2,242,531.21	\$10,965.50	\$249,170.13	42	32
6	12/1/2016	12/31/2016	31	\$38,127.37	\$2,280,658.58	\$4,236.38	\$253,406.51	43	41
7	1/1/2017	1/31/2017	31	\$636,301.80	\$2,916,960.38	\$70,700.20	\$324,106.71	54	49
8	2/1/2017	2/28/2017	28	\$395,763.89	\$3,312,724.27	\$43,973.76	\$368,080.47	62	57
9	3/1/2017	3/31/2017	31	\$456,281.18	\$3,769,005.45	\$50,697.91	\$418,778.38	70	66
Change Order N	<u>Number</u>		Approved		9	Cost This CO			Total COs
01			10/4/2016			9,660.00			9,660.00
Station 160+50.	. The installation	on of the addition	nal encasemen	t pipe was reques	Order adds an end sted by the Propert at with the propert	y owner for fut	0		
Change Order Number			Approved			Cost This CO			Total COs
		1/31/2017			33,848.00			43,508.00	
•				•	ence. Additional	•	•	_	-
		58 from one 3" I: urface treatment	• 1		to one 2" lift of T	Type C HMAC I	PG 64-22 and one	e 1.5" lift of Ty	pe D HMAC PG
Change Order N	Number		Approved		9	Cost This CO			Total COs
03			2/28/2017			38,765.00			82,273.00
2C: Differing S	ite Conditions (	Unforseeable). 1	New develops	nent (conditions	changing after PS	&E completed).	4B: Third Party	Accommodation	on. Third part
requested work.	. This change of	order reflects mu	ltiple drivewa	y changes includ	ing, extending a d	riveway culvert	to accommodate	a new drivewa	y location,

 Change Order Number
 Approved
 Cost This CO
 Total COs

 04
 3/21/2017
 14,907.69
 97,180.69

relocating a proposed driveway, extending a driveway culvert to save a heritage oak tree, adding a driveway to the project and shortening the guardrail at a

6C: Untimely ROW/Utilities Utilities Not Clear: This Change Order compensates the Contractor for additional costs to locate and avoid impacts to the AT&T line and to ensure uninterrupted service to adjacent properties. Utilities AT&T and PEC were scheduled to be clear by August 31, 2016, but were not clear until February 2017. The Contractor worked to avoid impacts to the existing AT&T line during the installation of the new City of Georgetown water line.

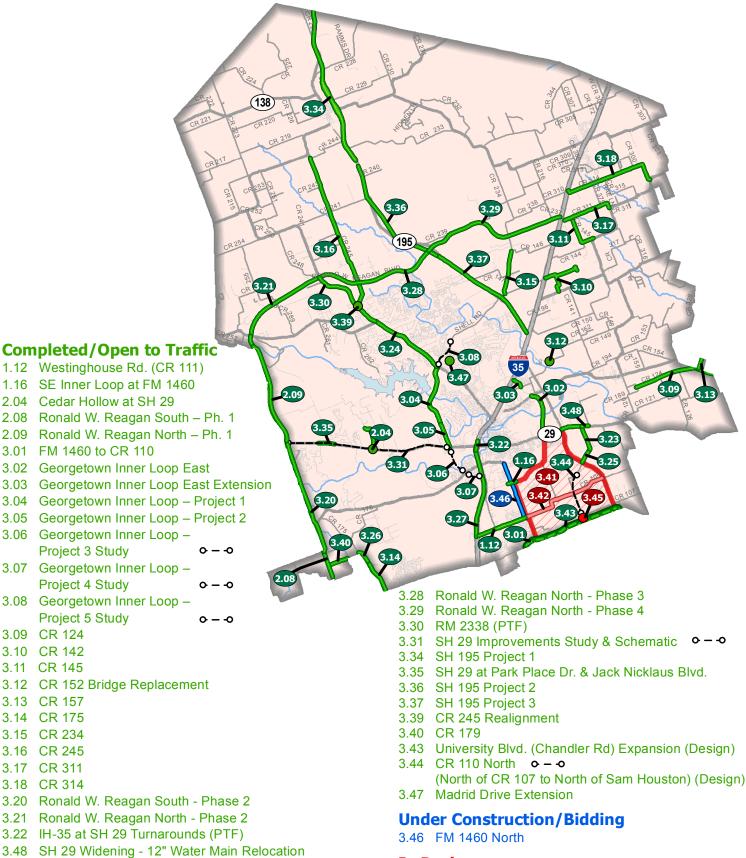
 Change Order Number
 Approved
 Cost This CO
 Total COs

 05
 3/21/2017
 51,199.00
 148,379.69

2J: Differing Site Conditions. (unforeseeable) Other. This change order revises various erosion control measures on the project, including the addition of soil retention blanket to the contract to prevent erosion and help to establish vegetation quicker on the slopes and in the ditches. 3H: County Convenience. Cost savings opportunity discovered during construction. This change order replaces the 12" Gabion mattresses with Flexamat. The use of this product was approved by the County Road and Bridge Department. The 3' x 3' gabions were deleted due to changes at the downstream end of Culvert #2.

Adjusted Price = \$5,957,236.27

## 2006 ROAD BOND PROGRAM PROJECTS PRECINCT 3 - COMMISSIONER COVEY



## In Design

3.23 SH 29/CR 104 - Phase 1

3.24 Williams Drive (RM 2338)

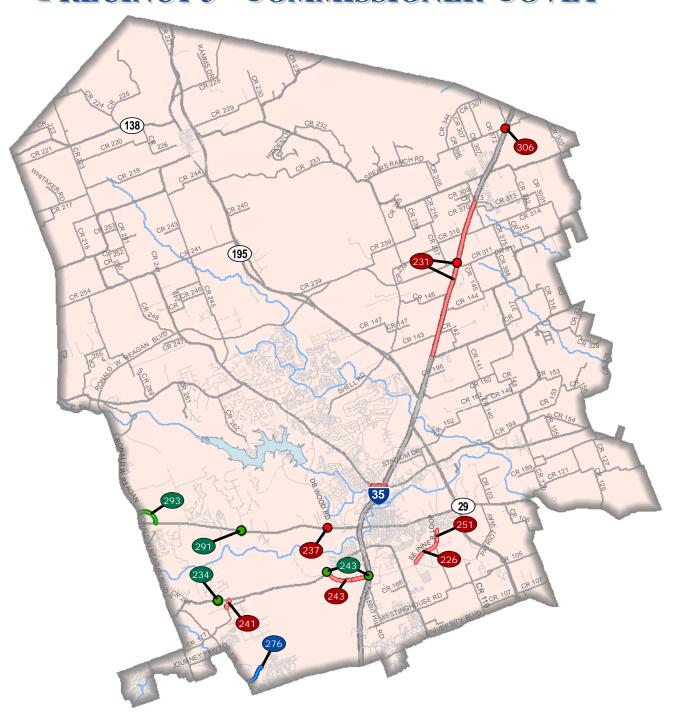
3.26 CR 175 Extension - Phase 2A

3.27 IH 35 Northbound Frontage Rd. and Ramps

3.25 CR 104 - Phase 2

- 3.41 CR 110 / Arterial A Study
- 3.42 CR 111 / CR 105 Westinghouse Rd. (FM 1460 to SH 130)
- 3.45 CR 110 Middle (North of Limmer Loop to CR 107)

## 2013 ROAD BOND PROGRAM PROJECTS PRECINCT 3 - COMMISSIONER COVEY



## Completed/ Open to Traffic

- 234 RM 2243 At Escalera Parkway
- 243 Southwest Bypass Driveways
- 291 SH 29 At Cedar Hollow
- 293 Kauffman Loop Phase 1 (NE quadrant of Reagan at SH 29)

## Under Construction/Bidding

276 Arterial H Extension Phase 1 (CR 175 to Massey Way)

## In Design

- 226 Inner Loop Safety Improvements (Rockride Lane to Wilco Way)
- 231 Ronald Reagan at IH 35 (Bridge Replacement)
- 231 IH 35 Ramp Reversal and Frontage Road Conversion (FM 972 to CR 312)
- 237 DB Wood At SH 29
- 241 CR 176 at RM 2243 (Safety Improvements)
- 243 Southwest Bypass (RM 2243 to IH 35)
- 251 Inner Loop Safety Improvements (Belmont Drive to Rockride Lane)
- 306 CR 305 At IH 35 Design (Bridge Replacement)

CR 245 Realignment Project No. 15IFB102

Project No.	15IFB102						Original Contr	act Price =	\$589,829.11
Letting	<u>Award</u>	Notice To Proceed	Begin Work	Substantially Complete	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	<u>Total</u> <u>Days</u>
2/18/2015	3/11/2015	4/10/2015	4/20/2015	9/26/2015			150	10	160
Invoice	Beginning	Ending	<u>Days</u>	Current	<u>Invoice</u>	Current	<u>Total</u>	<u>% (\$)</u>	% Time
Number	Date	Date	Charged	<u>Invoice</u>	<u>Total</u>	Retainage	Retainage	Used	<u>Used</u>
1	4/20/2015	5/31/2015	42	\$37,176.75	\$37,176.75	\$4,130.7	5 \$4,130.75	7	26
2	6/1/2015	9/26/2015	118	\$418,332.94	\$455,509.69	\$46,481.4	4 \$50,612.19	87	100
3	10/7/2015	6/24/2016	0	\$62,633.56	\$518,143.25	\$6,959.2	8 \$57,571.47	99	100

3/31/2017 Comments - The Contractor is working on the Maintenance Bond wording.

 Change Order Number
 Approved
 Cost This CO
 Total COs

 01
 10/20/2015
 29,428.53
 29,428.53

 Change Order Number
 Approved
 Cost This CO
 Total COs

 02
 2/28/2017
 -35,569.89
 -6,141.36

2E: Differing Site Conditions (unforeseeable). Miscellaneous difference in site conditions (unforeseeable)(Item 9). This Change Order provides the final balancing for the overrun/underrun of Contract quantities on the project as a result of addressing field conditions not accounted for in the original plans. The underruns documented by this Change Order result in a cost savings for the County. This Change Order adds Item 169-2001 (Soil Retention Blanket (Ty 1)(Cl A)) which replaced the 3" Erosion Control Compost due to the unavailability of the compost.

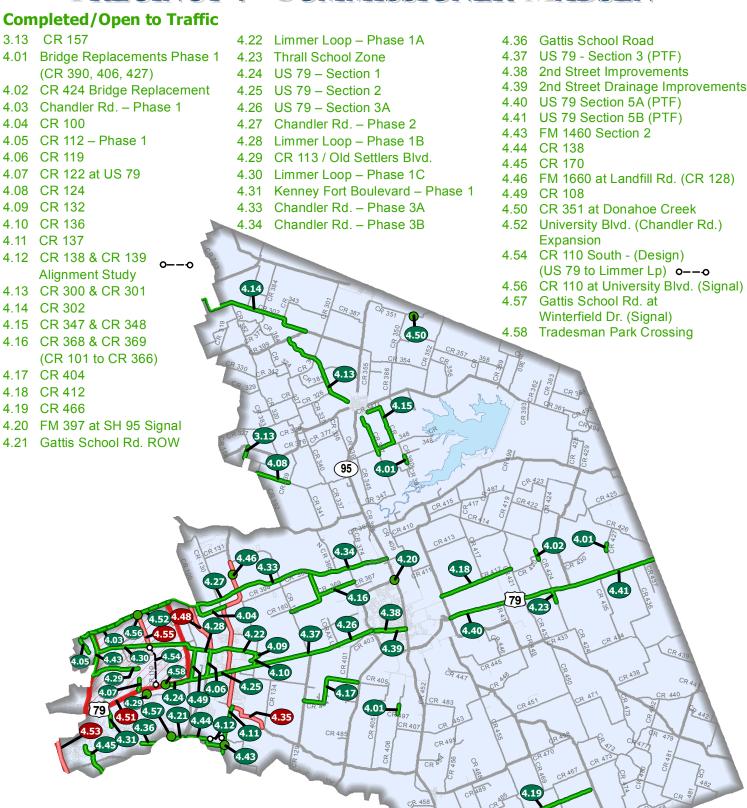
Adjusted Price = \$583,687.75

<sup>4</sup>B: Third Party Accommodation. Third party requested work. This Change Order adds a new Contract item to compensate the Contractor for installing a Pressure Reducing Valve (PRV) on the proposed 6 inch waterline, as required by the City of Georgetown. 2E: Differing Site Conditions (unforeseeable). Miscellaneous difference in site conditions (unforeseeable)(Item 9). The existing waterline was in a different location than shown on the plans, which allowed the Contractor to tie into the line at the new location, reducing the contract quantity of new waterline required to be installed.

## Arterial H Phase 1 (Sam Bass Rd to existing Arterial H)

Project No.	1603-064					-	Original Contr	act Price =	\$3,210,934.80
Letting	Award	Notice To Proceed	Begin Work	Substantial Completion	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	Total Days
		2/17/2017							
4/20/2016	5/16/2016	(Limited)					180	0	180
Invoice	Beginning	Ending	Days	Current	Invoice	Current	<u>Total</u>	<u>% (\$)</u>	% Time
Number	Date	Date	Charged	Invoice	<u>Total</u>	Retainage	Retainage	Used	Used
1	6/1/2016	6/30/2016	0	\$134,198.10	\$134,198.10	\$14,910.90	\$14,910.90	5	0
2	7/1/2016	7/31/2016	0	\$182,746.89	\$316,944.99	\$35,216.11	\$50,127.01	11	0
3	8/1/2016	8/31/2016	0	\$93,893.40	\$410,838.39	\$10,432.60	\$60,559.61	15	0
4	9/1/2016	9/30/2016	0	\$206,817.21	\$617,655.60	\$22,979.69	\$83,539.30	22	0
							Adjus	ted Price =	\$3,210,934.80

## 2006 ROAD BOND PROGRAM PROJECTS PRECINCT 4 - COMMISSIONER MADSEN



4.35 FM 1660 (PTF)

4.48 CR 119

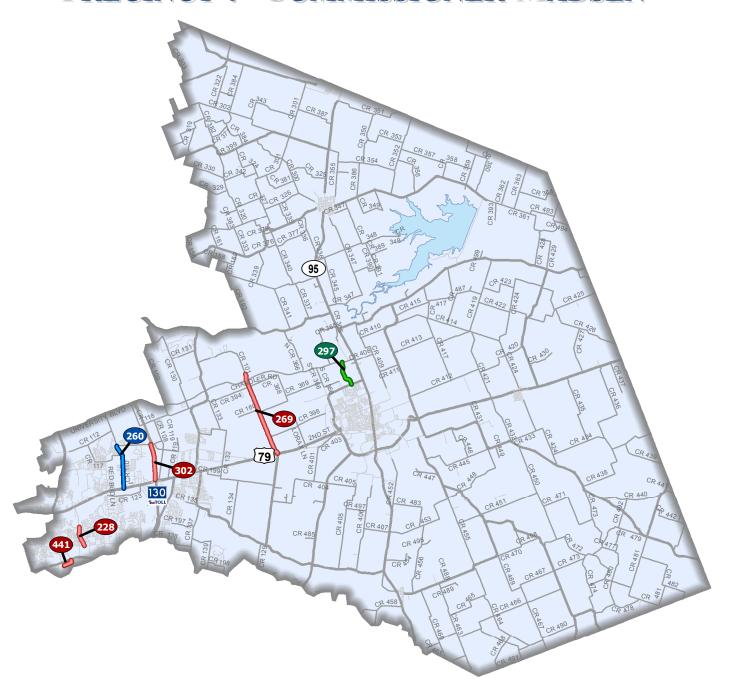
In Design

4.51 CR 110/ Arterial A Study Area

4.53 IH 35 Operational Analysis

4.55 CR 110 Middle (North of Limmer Loop to CR 107)

## 2013 ROAD BOND PROGRAM PROJECTS PRECINCT 4 - COMMISSIONER MADSEN



## **Completed/Open to Traffic**

297 Bill Pickett Trail (Carlos Parker Blvd to Chandler Road)

## **Under Construction/Bidding**

260 CR 110 South (US 79 to Limmer Loop)

## In Design

- 228 Kenney Fort Blvd. Ph. 1 (Forest Creek Blvd. to Gattis School Rd.)
- 269 CR 101 (US 79 to North of Chandler Rd.)
- 302 SH 130 Frontage Roads Phase 3 (SBFR US 79 to Limmer Loop)
- 441 Roundville Lane (A.W. Grimes Blvd. to EBFR of SH 45)

## Multi Site Traffic Signals (CR 110 at Univ, Gattis School Rd at Winterfield)

Project No.	1512-036					(	Original Contra	act Price =	\$328,802.95
Letting	<u>Award</u>	Notice To Proceed	Begin Work	Substantial Completion	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	<u>Total</u> <u>Days</u>
2/3/2016	2/17/2016	3/11/2016	3/21/2016	6/24/2016			90	6	96
Invoice	Beginning	Ending	Days	Current	Invoice	Current	<u>Total</u>	<u>% (\$)</u>	% Time
Number	Date	Date	Charged	Invoice	<u>Total</u>	Retainage	Retainage	<u>Used</u>	Used
1	3/21/2016	4/30/2016	41	\$23,553.00	\$23,553.00	\$2,617.00	\$2,617.00	8	43
2	5/1/2016	5/31/2016	31	\$35,329.50	\$58,882.50	\$3,925.50	\$6,542.50	20	75
3	6/1/2016	6/24/2016	24	\$195,889.50	\$254,772.00	\$21,765.50	\$28,308.00	88	100
4	6/25/2016	9/30/2016	0	\$32,280.08	\$287,052.08	\$3,586.68	\$31,894.68	99	100

3/31/2017 Comments - The Contractor is working on Closeout Documents including as-builts.

 Change Order Number
 Approved
 Cost This CO
 Total COs

 01
 11/29/2016
 -7,856.20
 -7,856.20

2E: Differing Site Conditions (unforeseeable). Miscellaneous difference in site conditions (unforeseeable)(Item 9). This Change Order provides the final balancing for the overrun/underrun of Contract quantities on the project as a result of addressing field conditions not accounted for in the original plans. 2J: Differing Site Conditions (unforeseeable). Other. This change order also adds time to the contract to cover the time it took the electrical service application and installation to be completed at the Gattis School site for Williamson County.

Adjusted Price = \$320,946.75

## Bill Pickett Trail (East Williamson County Access Road) Project No. 1601-045

Project No.	1601-045			<u> </u>		(	Original Contra	act Price =	\$3,806,133.30
Letting	Award	Notice To Proceed	Begin Work	Substantial Completion	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	Total Days
3/16/2016	4/5/2016	5/2/2016	5/12/2016	11/11/2016			100	30	130
Invoice	Beginning	Ending	Days	Current	Invoice	Current	<u>Total</u>	<u>% (\$)</u>	% Time
Number	Date	Date	Charged	Invoice	<u>Total</u>	Retainage	Retainage	Used	Used
1	5/12/2016	5/31/2016	20	\$643,105.80	\$643,105.80	\$71,456.20	\$71,456.20	19	15
2	6/1/2016	6/30/2016	30	\$268,272.41	\$911,378.21	\$29,808.05	\$101,264.25	28	38
3	7/1/2016	7/31/2016	31	\$378,344.61	\$1,289,722.82	\$42,038.29	\$143,302.54	39	62
4	8/1/2016	8/31/2016	31	\$476,356.92	\$1,766,079.74	\$52,928.54	\$196,231.08	53	86
5	9/1/2016	9/30/2016	30	\$463,467.16	\$2,229,546.90	\$51,496.35	\$247,727.43	67	109
6	10/1/2016	10/31/2016	31	\$776,046.85	\$3,005,593.75	\$86,227.43	\$333,954.86	91	133
7	11/1/2016	11/30/2016	30	\$150,073.08	\$3,155,666.83	\$16,674.79	\$350,629.65	95	156
8	12/1/2016	12/31/2016	0	\$11,444.91	\$3,167,111.74	\$1,271.65	\$351,901.30	96	156

3/31/2017 Comments - The Contractor is working on the punchlist items, including vegetation watering and re-seeding various locations.

 Change Order Number
 Approved
 Cost This CO
 Total COs

 01
 6/7/2016
 -85.80
 -85.80

3K: This Change Order adds Select Fill material to be used in lieu of Lime Treated Subgrade. This change requires adjustments to the earthwork quantities and deletes the lime related items from the Contract.

 Change Order Number
 Approved
 Cost This CO
 Total COs

 02
 8/9/2016
 3,305.00
 3,219.20

3H: County Convenience. Cost savings opportunity discovered during construction. This Change Order adds a new contract item to change the Type C SAC A PG 76-22 surface asphalt to Type D SAC B PG 70-22 surface asphalt which provides a cost savings to the County. 1A: Design Error or Omission. Incorrect PS&E. This Change Order adds asphalt quantity for the school driveway to account for a 4" thickness rather than 2" inadvertently included in the plans. 6B: Untimely ROW/Utilities. Right of Way not clear (County responsible for ROW). Thirty days are being added for delays associated in acquiring Right of Way.

 Change Order Number
 Approved
 Cost This CO
 Total COs

 03
 9/6/2016
 -102.204.38
 -98.985.18

3H: County Convenience. Cost savings opportunity discovered during construction. This Change Order removes the Erosion Control Compost (3") called for in the plans and replaces it with new contract items for Fertilizer and Soil Retention Blanket. Vegetation can be established and erosion can be minimized by using fertilizer and soil retention blanket in lieu of the Erosion Control Compost at a substantial cost savings for the County.

 Change Order Number
 Approved
 Cost This CO
 Total COs

 04
 9/20/2016
 -24,873.50
 -123,858.68

3H: County Convenience. Cost savings opportunity discovered during construction. This Change Order replaces the Tier II Asphalt and Type D Grade 5 Sac B Aggregate in the contract with a Hot-Applied Non-Tracking Underseal (TFT-H). This is a substitution for a traditional underseal and eliminates the need for aggregate in the application process.

Adjusted Price = \$3,682,274.62





## County Road 110 South (US 79 to Limmer Loop)

Project Length: 2.25 Miles Roadway Classification: Minor Urban Arterial

Project Schedule: January 2017-June 2018 Estimated Construction Cost: \$11.2 Million



## **MARCH 2017 IN REVIEW**

**3/03/2017:** Chasco Constructors continued water line installation between Parma St and Mozart Ln. AT&T continued tying lines and installing junction pedestals. Oncor's subcontractor Willbros continued placing poles and installing electrical lines.

**3/10/2017:** Water line installation between Parma St and Mozart Ln continued. Two houses within the ROW were removed. Subcontractor Bryant/Frey completed boring under Mozart Ln.

**3/17/2017:** Water line installation continued north of Mozart Ln. Subcontractor Bryant/Frey bored under Limmer Loop. AT&T continued tying in their lines and installing junction pedestals.

**3/24/2017:** An 8" water line was installed across CR 110 at Sophia. Subcontractor Bryant/Frey bored under CR 110 at Sophia.

**3/31/2017:** A 16" water line was installed south of Limmer Loop and an 8" water line was installed at Porano. Subcontractor H-D Drilling bored the encased water line under CR 110 north of Porano. Oncor's subcontractor Willbros continued installing electrical lines. Two poles remain to be installed.



TE STEGIES.



Williamson County Road Bond Program



## CR 110 South (US 79 to Limmer Loop) Project No. 1604-075

Project No.	1604-075	Diffici Ed	( <b>°P</b> )				Original Contra	act Price =	\$11,224,589.02
Letting	Award	Notice To Proceed	Begin Work	Substantial Completion	Work Accepted		Total Bid Days	<u>Days</u> <u>Added</u>	Total Days
9/27/2016	10/17/2016	1/3/2017	1/13/2017				510	0	510
Invoice Number 1	Beginning Date 1/13/2017	Ending Date 3/31/2017	<u>Days</u> <u>Charged</u> 78	<u>Current</u> <u>Invoice</u> \$1,679,979.60	Invoice Total \$1,679,979.60	Current Retainage \$186,664.4	Total Retainage \$186,664.40	% (\$) <u>Used</u> 17	% Time Used 15
							Adjus	ted Price =	\$11,224,589.02

## **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017

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

Submitted For: Robert Daigh Submitted By: Vicky Edwards, Unified Road System

12.

**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 03/29/2017 01:41 PM

Form Started By: Vicky Edwards Started On: 03/29/2017 08:53 AM

Final Approval Date: 03/29/2017

## **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017

Stantec Neenah Avenue Widening Contract Amendment No 1

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 amendment no. 1 for Neenah Avenue Widening road project between Williamson County and Stantec Consulting Services, Inc. relating to the 2013 Road Bond Program.

## **Background**

## **Fiscal Impact**

From/To	Acct No.	Description	Amount

## **Attachments**

Neenah-Stantec-ContractAmendment1

Neenah-Stantec-Supp4WA1

## Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 11:55 AM

Form Started By: Marie Walters
Final Approval Date: 04/12/2017

Started On: 04/12/2017 11:49 AM

13.



## CONTRACT AMENDMENT NO. 1 TO WILLIAMSON COUNTY CONTRACT FOR ENGINEERING SERVICES

## WILLIAMSON COUNTY ROAD BOND PROJECT: Neenah Avenue Widening ("Project")

THIS CONTRACT AMENDMENT NO. 1 to Williamson County Contract for Engineering Services is by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and Stantec Consulting Services Inc. (the "Engineer") and becomes effective as of the date of the last party's execution below.

WHEREAS, the County and the Engineer executed the Williamson County Contract for Engineering Services dated effective January 26, 2015 (the "Contract");

WHEREAS, pursuant to Article 14 of the Contract, the terms of the Contract may be modified by a written fully executed Contract Amendment;

WHEREAS, the "Compensation Cap" under Article 5 of the Contract limits the maximum amount payable under the Contract to \$500,000 and,

WHEREAS, the Rate Schedule in Exhibit D of the Contract are limited to the rates noted in said Exhibit D; and,

WHEREAS, it has become necessary to amend the Contract.

## **AGREEMENT**

NOW, THEREFORE, premises considered, the County and the Engineer agree that the Contract is amended as follows:

- I. The Compensation Cap under Article 5 of the Contract is hereby increased from \$500,000 to \$620,000.
- II. The hourly Rates in the original Exhibit D of the Contract remain in effect.

All other terms of the Contract are unchanged and will remain in full force and effect.

IN WITNESS WHEREOF, the County and the Engineer have executed this Contract Amendment, in duplicate, to be effective as of the date of the last party's execution below.

ENGINEER:	COUNTY:
By: Signature	By:Signature
Todd Janssen, P.E. Printed Name	Printed Name
Senior Principal Title	Title
3 · 2/· /7  Date	Date



## SUPPLEMENTAL WORK AUTHORIZATION NO. 4 TO WORK AUTHORIZATION NO. 1

## WILLIAMSON COUNTY ROAD BOND PROJECT:

This Supplemental Work Authorization No. 4 to Work Authorization No. 1 is made pursuant to the terms and conditions of the Williamson County Contract for Engineering Services, being dated January 26, 2015 ("Contract") and entered into by and between Williamson County, Texas, a political subdivision of the State of Texas, (the "County") and Stantec Consulting Services Inc. (the "Engineer").

WHEREAS, the County and the Engineer executed Work Authorization No. 1 dated effective March 2, 2015 (the "Work Authorization");

WHEREAS, pursuant to Article 14 of the Contract, amendments, changes and modifications to a fully executed Work Authorization shall be made in the form of a Supplemental Work Authorization; and

WHEREAS, it has become necessary to amend, change and modify the Work Authorization.

## AGREEMENT

NOW, THEREFORE, premises considered, the County and the Engineer agree that the Work Authorization shall be amended, changed and modified as follows:

- The Services to be Provided by the County that were set out in the original Attachment "A" of the Work Authorization are hereby amended, changed and modified as shown in the attached revised Attachment "A" (must be attached).
- II. The Services to be Provided by the Engineer that were set out in the original Attachment "B" of the Work Authorization are hereby amended, changed and modified as shown in the attached revised Attachment "B" (must be attached).
- III. The Work Authorization shall become effective January 1, 2017 and shall terminate on October 31, 2017. The Services to be Provided by the Engineer shall be fully completed on or before said date unless extended by an additional Supplemental Work Authorization. The revised Work Schedule is attached hereto as Attachment "C" (must be attached).
- IV. The maximum amount payable for services under the Work Authorization is hereby increased from \$499,998 to \$572,283. The revised Work Schedule is attached hereto as Attachment "D" (must be attached).

Except as otherwise amended by prior or future Supplemental Work Authorizations, all other terms of the Work Authorization are unchanged and will remain in full force and effect.

This Supplemental Work Authorization does not waive the parties' responsibilities and obligations provided under the Contract.

IN WITNESS WHEREOF, the County and the Engineer have executed this Supplemental Work Authorization, in duplicate, to be effective as of the date of the last party's execution below.

ENGINEER:	COUNTY:	
By: A Say	Ву:	
Signature	Signature	
Todd Janssen, P.E.		
Printed Name	Printed Name	
Senior Principal		
11116	Title	
4. 4. 17	Date	
Date	Date	Marie
LIST OF ATTACHMENTS		/ 4/12hn
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 DESIGN SERVICES FOR Neenah Avenue Widening

The County's and City's support will be critical to the project's success. The project will require frequent and responsive communication with various departments within the County and City to obtain definition of project requirements and concurrence with concepts. The County's project manager will serve as STANTEC's point of contact and will be responsible for coordination with other County departments through the duration of the project. A sustained and coordinated effort from both the County and STANTEC is required to make the project successful. STANTEC will rely upon the County to provide previous studies, maps, design plans and specifications, hydraulic models and calculations, as-built records, planned and master planned development, utility information, and environmental assessments prepared within the project area. STANTEC will also rely upon the County to provide access to and accompany the STANTEC Team's staff to the project site, if needed.

The Project will include coordination with multiple utility agencies owning and operating facilities within the existing rights-of-way (ROW). Coordination with these entities will be critical to the success of the project. STANTEC will rely upon the County to ensure the appropriate staffs from these entities are present at the project kickoff meeting in order to establish a point of contact who will make available requested information, review each milestone submittal, provide comments within the allotted time scheduled, attend the comment review meeting, and respond to technical and coordination questions in a timely manner during the life of the project.

The project also includes coordination with various City of Austin departments for the purposes of addressing tree mitigation comments received during the permitting process. The COUNTY will be responsible for all future coordination with the City of Austin departments concerning the development of tree mitigation plans and clearing comments received during the permitting process concerning tree mitigation requirements. The COUNTY shall provide comment responses to STANTEC for inclusion in the comment response document. The COUNTY shall provide to STANTEC a PDF of the complete tree mitigation plans for inclusion in subsequent plan deliverables to the City of Austin.

Page 1 of 1

Attachment A

Neenah Avenue Widening Stantec

# ATTACHMENT B SERVICES TO BE PROVIDED BY THE ENGINEER DESIGN SERVICES FOR Neenah Avenue Widening

## PROJECT DESCRIPTION

## Existing Facility

Neenah Avenue is an existing 40-foot wide 2-lane with shoulders, asphalt roadway from east of Olive Hill Drive eastward to the drive entrance to the St. Dominic Savio School drive entrance located in a right-of-way varying in width from 90-feet to 114-feet wide. The project limits include two (2) tee intersections at Altona Way and Solera Drive. The roadway is curbed and runoff is collected in three (3) storm drain systems which convey runoff to one (1) water quality pond and two (2) combination water quality and detention ponds. The project is located over the Edwards Aquifer Recharge Zone.

## Proposed Facility

The proposed construction will widen Neenah Avenue along the southern side of the roadway to provide a 5-lane section consisting of two (2) 10-foot wide travel lanes in each direction with a center 11-foot wide two-way left turn lane within the existing right-of-way. The project improvements also include extension of a multiple barrel bridge class culvert under Neenah Avenue, improvements to Water Quality/Detention Pond #2, improvements to the swale along the north side of the roadway, and intersection improvements at Altona Way and Solera Drive. A water pollution abatement plan has been approved by TCEQ for the project. The project also includes construction of an 8-foot wide shared use path on each side of the roadway with an extension further east along the south side of the right-of-way to connect to the existing trail end.

Services to be provided by the Engineer:

## OFFSITE POND VERIFICATION SURVEY

- a. Prepare a topographic survey to verify upstream detention ponds were constructed in accordance with their design plans. Survey includes the outfall structure and two cross sections through the pond to review the volume.
- Review the topographic information provided and compare it to the design plans for the ponds to confirm detention pond volume and outflow structures match design plans closely.
- c. Update the hydrology model to reflect the verified detention pond volume and outflow structures.

# 2. REVISED EASEMENTS AND SHARED USE PATH ALIGNMENT

The following design services were excluded from the original design scope but have been required for the project design.

Revisions to easement documents requested by the County

Page 1 of 3

Attachment B

Neenah Ave Widening Stantec

- Revisions to shared use path alignment to remove easements.
- c. Revisions to the signage and pavement marking plans for the transition to the divided roadway section east of the original project limits. The CAD files provided by Williamson County did not reflect the most current pavement marking configuration, and do not match the existing pavement markings in the field. This task is to update the pavement markings and revise the drawings to reflect current field conditions, and updating the transition design.

## 3. ILA DELAYS AND CITY OF AUSTIN PERMITTING

When the original project scope was prepared for this project, it was based on the understanding the preliminary milestone submittals (60%, 90% and 100%) would be reviewed concurrently by the City of Austin and Williamson County. However, delays encountered during the ILA negotiations (beyond our control) prevented the submittals referenced above from being submitted to the City of Austin for full comprehensive review. As a result, the milestone submittals were only partially reviewed by City of Austin's Drainage/Water Quality reviewer and not all required departments. Once the ILA was executed, the plans were submitted to the City of Austin, only after comments on the 100% plans had been addressed and approved by Williamson County.

We are requesting additional fee to cover the effort required to address permitting comments received from the City of Austin, after the 100% plans were prepared. We will incorporate comments from up to three (3) total rounds of review from the City of Austin with these additional services.

## 4. TREE MITIGATION COORDINATION

- a. Creation of Tree Mitigation sheets, notes, and details for the City of Austin Public Works Forrester to provide completed sheets for permitting purposes.
- b. Review of the tree mitigation sheets provided by City's Public Works Forrester, and providing comments and example plans to outline the City requirements for Tree Mitigation Plans.
- Coordinating the location of irrigation meters for the tree mitigation with the City's Public Works Forrester and the County's utility design consultant.
- Incorporating irrigation sleeve mark-ups into the shared use path plan and profile sheets along with additional notes.

Page 2 of 3 Attachment B Neenah Avenue Widening
Stantec

# 5. <u>ADDITIONAL PROJECT MANAGEMENT SERVICES</u>

Additional effort associated with project management activates were incurred on the project due to the schedule extension for design phase services. Also, additional effort was incurred for coordination with the County's Utility Coordinator and Utility Designer.

- Contract administration.
- b. Project invoicing and progress reports.
- c. Coordination with the County's Utility Design consultant to incorporate their construction drawings into the plan set for permitting purposes, coordination of review comments received by the City of Austin for their incorporation into the plans set, bid tab and technical specification, and coordination/comment responses provided during AULCC coordination efforts.

## 6. REIMBURSABLES

 Reproduction, courier, and delivery services will be provided for this project and billed in accordance with our rate schedule.

## 7. <u>DELIVERABLES</u>

a. Preparing the submittal packages for City of Austin including individual letters of transmittal to each reviewer, comment response letters, and multiple copies of the plans and reports. Preparing response to Williamson County comments and uploading electronic copies of deliverables to Project Wise website.

					External Milestone	]	Manual Summary		Inactive Summary	ау	Summary	
			Manual Progress		External Tasks	ry Rollup	Manual Summary Rollup		Inactive Milestone	one •	Milestone	4 4 4
			Progress	u	Finish-only		Duration-only		Inactive Task	***************************************		Project: 201/0403-NeenahAve() Date: Tue 4/4/17
		+	Deadline	1	Start-only		Manual Task		Project Summary			
							Mon 8/21/17	Tue 8/1/17	15 days	lans	Final Approved Plans	
ľ							Mon 7/31/17	Tue 7/4/17	20 days	nts	Address Comments	ļ
ľ							Mon 7/3/17		21 days	10.33	City Review Round 3	
ľ							Fri 6/2/17	Mon 5/15/17	15 days	nts	Address Comments	
							Fri 5/12/17		20 days	vey	Off Site Pond Survey	Į,
-							Fri 3/3/17	Fri 9/30/16	111 days	On Hold Pending Tree Comment Resolution	On Hold Pending	
	₹9/19	*4					Mon 9/19/16	Mon 9/19/16	0 days	City Comments	Receive Round 2 City Comments	
		ľ					Mon 9/19/16	Thu 8/11/16	28 days	nd 2	City Review Round 2	ļ
										8	#1 Plan Revisions	
							Wed 8/10/16			Address Comments and incorporate SWA #2 to WA	Address Comme	ļ
			ľ				Fri 6/10/16	Mon 5/16/16	20 days	nd 1	City Review Round 1	1
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			₹1/19	*4			Tue 1/19/16	Tue 1/19/16	0 days	Submital	Phase Permit_1 Submital	
							Tue 1/19/16	Mon 11/2/15	57 days	ints	Address Comments	Ą
				M			Fri 10/30/15	Wed 10/21/15	8 days		County Review	
				H	ľ		Tue 10/20/15	Tue 9/1/15	36 days	Design Phase	Phase F - 100% Design Phase	.,
					BH-		Thu 8/27/15	Wed 8/19/15	7 days		County Review	Į,
							Tue 8/18/15	Mon 7/6/15	32 days	esign Phase	Phase E - 90% Design Phase	A.
							Tue 6/21/16	Wed 3/30/16	60 days	Prom TCEQ	WPAP Response From TCEQ	
			3/30				Wed 3/30/16	Wed 3/30/16	0 days	omittal	TCEQ WPAP Submittal	,
							Mon 7/27/15	Mon 6/8/15	36 days	Threatened & Endangered Species Report	Threatened & E	*
						- 1	Tue 7/21/15	Mon 6/8/15	32 days	ment (County)	Geologic Assessment (County)	*
						1	Thu 7/2/15	Fri 5/29/15	25 days		County Review	1
			and I		E degree de como	<b>1</b>	Tue 5/12/15	Tue 4/14/15	21 days	Design Phase	Phase D - 60% Design Phase	ļ
						H	Mon 4/13/15	Tue 3/31/15	10 days		County Review	Ā
			<u>.</u>				Fri 6/19/15	Mon 6/8/15	10 days		THC Report	Ţ
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						I	Thu 5/28/15	Mon 3/23/15	49 days	eport	Seotechnical Keport	<b>J</b> .
							Mon 3/30/15	Mon 3/2/15	21 days	Phase 8 - Schematic Design Phase	Friase 8 - Scher	ļ
							Mon 8/31/15	Mon 3/2/15	131 days	Phase A - Design Phase Project Management	Phase A - Desig	
3	V		3	2								
Half 2, 2017	-	Half 2, 2016	-	2	Half 2, 2015	Half 1, 2015	Finish	Start	Duration		Task Name	Task Mode
				dule	ent C Work Sched	Neenah Ave Widening - Attachment C Work Schedule	Neenah A					

## Neenah Ave Widening SWA #4 to WA#1 Exhibit D - Rate Schedule

Scope of Work	#	190	175	225	140	130	110	80		
Task	Sheets	SR PM	PM	PRINCIPAL	CONSULTANT	ASSOCIATE CONSULTANT	SR. TECHNICAL DESIGNER	ADMIN		Fee
1 Offsite Pond Verification Survey			<u> </u>	<u> </u>					\$	8,260.00
a Topographic Survey	1				\$5,500.00				\$	5,500.00
b Pond review and verification		2		1	4		8		\$	1,820.00
c Update hydrology		2			4				\$	940.00
2 Revised Easement and SUP Alignment			<u> </u>						\$	7,020.00
a Revise Easement Documents		2.0	6.0				4.0		\$	1,870.00
b Revise Shared Use Path Alignment for Easements	2	3.0				6.0	12.0		\$	2,670.00
c Update Signage and Pavement Markings East End	2	2.0				6.0	12.0		\$	2,480.00
3 City of Austin Permitting									\$	43,870.00
a Address City of Austin Comments (Additional Effor	t)	37	40			120	60	2.5	\$	36,430.00
b Third Round COA Comments		8.0				16.0	32.0	4.0	\$	7,440.00
4 Tree Mitigation Coordination						U.		410	\$	4,895.00
a Create Tree Mitigation Plans									<del> </del>	7,055.00
i Set up Sheets		1.0					12.0		\$	1,510.00
ii update page number in plan set							2.0		\$	220.00
iii set up detail sheet		0.5				-	4.0		\$	535.00
b Review Sheets Provided and comment to PWF			-						╟┷	333.00
i review sheets and provide comments		2.0		<del>  -</del>	·		-		\$	380.00
ii meet with PWF and provide example plans		4.0		1	0.5		1.0		\$	940.00
iii incorporate tree sheets into plans		2.0		<del>                                     </del>			1.0		Ś	490.00
c Irrigation Meter Coordination		1.0					1.0		\$	190.00
d Incorporate Irrigation Sleeves		1.0					4.0		\$	630.00
5 Additional Project Management					7.0		4.0		Š	3,680.00
a Contract Administration		8.0						4.0	\$	
b Invoicing and Progress Reports	12 C	4.0		<del>-</del>			-	4.0	\$	1,840.00
c Utility Consultant Coordination		4.0		-				4.0	\$	760.00
6 Reimbursable			<u></u> _	<del>                                     </del>					\$	3,000.00
7 Deliverables				<del>                                     </del>				· · · · · · · · · · · · · · · · · · ·		
b Second Round COA Comments	Ü	1.0		<del>                                     </del>		2.0	3.0		\$	1,560.00
c Third Round COA Comments		1.0		<del> </del>		2.0	3.0		\$	780.00
Total Hours		133.5	46.0	24.5	16.5		3.0	44.5		780.00
Total flours		100.0	40.0	1 24.5	10.5	362.0	350.0	14.5	\$	72,285.00

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## **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017

North Campus Facility - Oncor Easement Agreement **Submitted By:** Gina Wrehsnig, Facilities Maintenance

**Department:** Facilities Maintenance **Agenda Category:** Regular Agenda Items

### Information

14.

## Agenda Item

Discuss, consider and take appropriate action on an Encroachment Agreement with Oncor Electric Delivery Company, LLC (Oncor) to allow for a detention pond to encroach upon Oncor's easement at the North Campus Facility Project.

## **Background**

In order to install the detention pond at the North Campus Facility, we have to encroach into Oncor Electric's utility easement.

## **Fiscal Impact**

From/To	Acct No.	Description	Amount

## **Attachments**

## Oncor Easement Agreement

## Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Gina Wrehsnig Started On: 04/11/2017 01:22 PM Final Approval Date: 04/12/2017

### **ENCROACHMENT ON EASEMENT**

WHEREAS, Oncor Electric Delivery Company LLC ("Oncor"), is the owner of a easement in Williamson County, Texas, which is recorded in Volume 688, Page 534, of the Deed Records of Williamson County, Texas ("Easement"); and

WHEREAS, **Williamson County**, ("**User**"), desires permission to construct, operate and maintain a detention pond ("**Encroaching Facility**") within the area or boundaries of the Easement ("**Easement Area**").

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, Oncor and User do hereby agree as follows:

- 1. <u>Location of Encroaching Facility</u>. User may locate the Encroaching Facility in the Easement Area, but only as described and shown on the attached drawing marked **Exhibit "A"** and incorporated herein. User may not relocate the Encroaching Facility within the Easement Area without the consent and approval of Oncor, which consent and approval shall be at Oncor's sole discretion. User acknowledges and agrees that Oncor holds easement rights on the Easement Area; therefore, User shall obtain whatever rights and permission, other than Oncor's, that are necessary.
- 2. Restrictions on Use of Easement Area. User shall use only so much of the Easement Area as may be necessary to construct, maintain, operate and repair the Encroaching Facility. User shall, at its own cost and expense, comply with all applicable laws, including but not limited to existing zoning ordinances, governmental rules and regulations enacted or promulgated by any governmental authority and shall promptly execute and fulfill all orders and requirements imposed by such governmental authorities for the correction, prevention and abatement of nuisances in or upon or connected with said Encroaching Facility. At the conclusion of any construction, User shall remove all debris and other materials from the Easement Area and restore the Easement Area to the same condition it was in prior to the commencement of User's construction thereon or in proximity thereto.

User shall not place trash dumpsters, toxic substances or flammable material in the Easement Area. Further, if the Easement Area has transmission or distribution facilities located thereon, User shall not place upon the Easement Area any improvements, including but not limited to, buildings, light standards, fences (excluding barriers installed around transmission towers), shrubs, trees or signs unless approved in advance in writing by Oncor. Additional general construction limitations on encroachments are described and listed in **Exhibit "B"**, attached hereto and by reference made a part hereof.

3. <u>Maintenance of Encroaching Facility</u>. User, at User's sole expense, shall maintain and operate the Encroaching Facility. Oncor will not be responsible for any costs of construction, reconstruction, operation, maintenance or removal of User's Encroaching Facility.

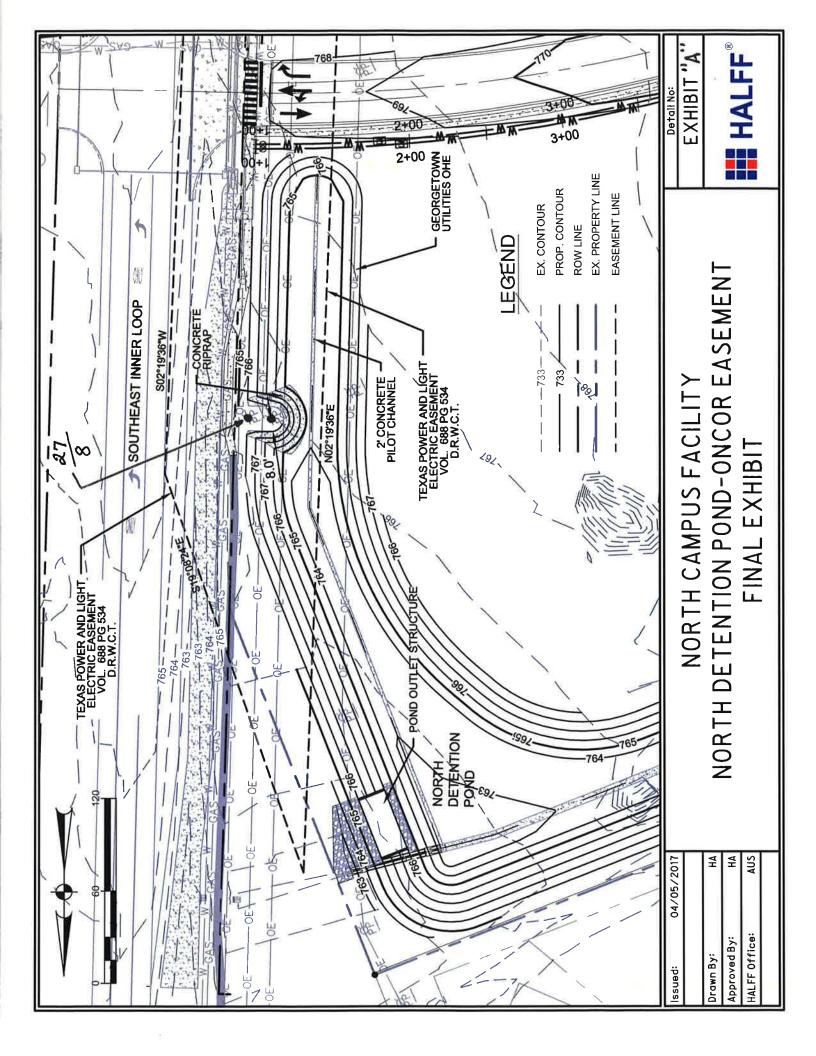
- 4. Risk and Liability. User assumes all risks and liability resulting or arising from or relating to User's use, the existing condition or location, or existing state of maintenance, repair or operation of the Easement Area. It is further agreed that Oncor shall not be liable for any damage to the Encroaching Facility as a result of Oncor's use or enjoyment of its Easement. Any Oncor property damaged or destroyed by User or its agents, employees, invitees, contractors or subcontractors shall be repaired or replaced by Oncor at User's expense and payment is due upon User's receipt of an invoice from Oncor.
- 5. <u>Indemnification</u>. User, to the extent allowable by law, agrees to defend, indemnify and hold harmless Oncor, its officers, agents and employees, from and against any and all claims, demands, causes of action, loss, damage, liabilities, costs and expenses (including attorney's fees and court costs) of any and every kind or character, known or unknown, fixed or contingent, for personal injury (including death), property damage or other harm for which recovery of damages is sought or suffered by any person or persons that may arise out of, or be occasioned by, the negligence, misconduct or omission of User, its officers, agents, associates, employees, contractors, subcontractors, subconsultants entering onto the Easement Area or may arise out of or be occasioned by the use of the Encroaching Facility, except that the indemnity provided for in this paragraph shall not apply to any liability resulting from the sole negligence of Oncor, its officers, agents, or employees or separate contractors, and in the event of joint and concurrent negligence of both Oncor and User, responsibility and indemnity, if any, shall be apportioned comparatively.
- 6. <u>High Voltage Restrictions</u>. Use of draglines or other boom-type equipment in connection with any work to be performed on the Easement Area by User, its employees, agents, invitees, contractors or subcontractors must comply with Chapter 752, Texas Health and Safety Code, the National Electric Safety Code and any other applicable safety or clearance requirements. Notwithstanding anything to the contrary herein, in no event shall any equipment be within fifteen (15) feet of the Oncor 138,000 volt or less power lines or within twenty (20) feet of the Oncor 345,000 volt power lines situated on the aforesaid property. User must obtain Oncor's approval and notify the **Temple Region Transmission Department at 254-770-3919**, 48 hours prior to the use of any boom-type equipment on the Easement Area.
- 7. <u>Default and Termination</u>. It is understood and agreed that, in case of default by User or its agents in any of the terms and conditions herein stated and such default continues for a period of ninety (90) days after Oncor notifies User of such default in writing, Oncor may at its election forthwith terminate this agreement and upon such termination all of User's rights hereunder shall cease and come to an end. This agreement shall also terminate upon the abandonment of the Encroaching Facility.

This agreement shall extend to and be bind not to be interpreted as a waiver of any righ	ing upon User and its successors and assigns, and is ts held by Oncor under its Easement.
Executed this 7 day of Apeil	_, 2017.
	APPROVAL:
	Oncor Electric Delivery Company LLC
	By: L. Patton, Attorney-In-Fact
	ACCEPTANCE:
	Williamson County
	Ву:
	Name:
	Title:

STATE OF TEXAS	§
	§
COUNTY OF TARRANT	§

BEFORE ME, the undersigned authority, on this day personally appeared Dennis L. Patton, as Attorney-In-Fact of Oncor Electric Delivery Company LLC, known to me to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he executed the same for the purposes and consideration therein expressed, in the capacity therein stated and he is authorized to do so.

additionized to do 30.	
GIVEN UNDER MY HAND	O AND SEAL OF OFFICE this day of D. 2017.
JOHN CURTIS SHARP ID #11999607 My Commission Expires November 16, 2020	Notary Public in and for the State of Texas
STATE OF TEXAS	\$ \$ \$
COUNTY OF WILLIAMSON	§
as the of the V s subscribed to the foregoing instrur	d authority, on this day personally appeared/illiamson County, known to me to be the person whose name nent and acknowledged to me that he/she executed the same herein expressed, in the capacity therein stated and he/she is
	O AND SEAL OF OFFICE this day of D. 2017.
	Notary Bublic in and for the State of Toyas
	Notary Public in and for the State of Texas



## CONSTRUCTION LIMITATIONS ON Oncor ELECTRIC DELIVERY COMPANY RIGHT OF WAY EXHIBIT "B"

- 1. You are notified, and should advise your employees, representatives, agents, and contractors, who enter the property that they will be working in the vicinity of high voltage electrical facilities and should take proper precautions, included but not limited to the following stipulations and in compliance, at all times, with Chapter 752, V.T.C.A., Health & Safety Code.
- 2. Blasting is not to be permitted on Oncor right-of-way or under Oncor lines.
- 3. Construction on electric transmission line easements acquired by Oncor after January 1,2003 shall comply with the requirements of Public Utility Commission Substantive Rules §25.101, as amended from time to time.
- 4. Grading will be done in order to leave the right-of-way as near as possible to present condition. Spoil dirt will be removed from the right-of-way and no trash is to be left on right-of-way. Slopes shall be graded so that trucks can go down the right-of-way when required and such that the slopes can be mechanically maintained.
- 5. Equipment and materials will not be stored on the right-of-way during construction without written approval of the Supervisor of Regional Transmission.
- 6. Street or road crossings are to be based on drawings submitted. Any change in alignment or elevation will be resubmitted for approval.
- 7. No signs, lights or guard lights will be permitted on the right-of-way.
- 8. Power line safety equipment operations: hazard assessment and precautions inside the work zone area must be performed and in compliance with OSHA Standard §1926.1408 at all times. Equipment shall not be placed within fifteen (15) feet of the Oncor 138,000 volt or less power lines or within twenty (20) feet of the Oncor 345,000 volt power lines.

- 9. Any pre-approved fencing will not exceed eight (8) feet in height, and if metal in nature, will be grounded, at ten (10) feet intervals, with an appropriate driven ground. Gates should be at least sixteen (16) feet in width to allow Oncor access to the right-of-way.
- 10. No dumpsters will be allowed on Oncor right-of-way or fee owned property.
- 11. Draglines will not be used under the line or on Oncor right-of-way.
- 12. The existing grade shall not be disturbed, excavated or filled within 25 feet of the nearest edge of any tower.
- 13. Right-of-way will be protected from washing and erosion by Oncor approved method before any permits are granted. No discharging of water will be allowed within any portion of the right of way.
- 14. No obstruction shall be installed on the right-of-way that would interfere with access to Oncor structures or prevent mechanical maintenance.
- 15. Before any work is done under Oncor lines or by Oncor structures notify the Region Transmission Department, **254-770-3919**.
- 16. No hazardous materials will be stored on the right of way.
- 17. For purposes of this document, "Hazardous Materials" means and includes those substances, including, without limitation, asbestos-containing material containing more than one percent (1%) asbestos by weight, or the group of organic compounds known as polychlorinated biphenyls, flammable explosives, radioactive materials, chemicals known to cause cancer or reproductive toxicity and includes any items included in the definition of hazardous or toxic waste, materials or substances under any Hazardous Material Law. "Hazardous Material Laws" collectively means and includes any present and future local, state and federal law relating to the environment and environmental conditions including, without limitation, the Resource Conservation and Recovery Act of 1976 ("RCRA"), 42 U.S.C. §6901 et seq., the Comprehensive Environmental Response, Compensation and Liability Act of 1980, ("CERCLA"), 42 U.S.C. §\$9601-9657, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("SARA"), the Hazardous Material Transportation Act, 49 U.S.C. §6901 et seq., the

Federal Water Pollution Control Act, 33 U.S.C. §1251, et seq., the Clean Air Act, 42 U.S.C. §741 et seq., the Clean Water Act, 33 U.S.C. §7401 et seq., the Toxic Substances Control Act, 15 U.S.C. §§2601-2629, the Safe Drinking Water Act, 42 U.S.C. §§300f-330j, and all the regulations, orders, and decrees now or hereafter promulgated thereunder.

- 18. Brush and cut timber will not be piled or stacked on Oncor right-of-way or will not be burned upon or in close proximity to the conductors or towers.
- 19. No structures or obstructions, such as buildings, garages, barns, sheds, guard houses, etc., will be permitted on the right-of-way.
- 20. Landscaping on Oncor right-of-way is permitted when Oncor approves landscaping plans in writing. No lighting or sprinkler systems are allowed on the right-of-way.
- 21. No fire hydrants, mailboxes (individual or group), street lighting on Oncor right-of-way is permitted.

## **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017 2013 Road Bond Budget Transfer

Submitted By: Emmeline Palma, County Auditor

**Department:** County Auditor

Agenda Category: Regular Agenda Items

## Information

## Agenda Item

Discuss, consider and take appropriate action on approving 2013 Road Bond Budget Transfer per Mike Weaver, Road Bond Manager, to move \$200,000 from 2013 Road Non-Departmental (P290) to Bagdad Road @ CR 278 (P438).

## **Background**

## **Fiscal Impact**

From/To	Acct No.	Description	Amount

## **Attachments**

## 2013 Road Bond Budget Transfer

### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Emmeline Palma Final Approval Date: 04/12/2017

Started On: 04/12/2017 08:12 AM

15.

## Memo

To: Tomika Lynce, Williamson County Auditor's Office

Emmeline Palma, Williamson County Auditor's Office Pam Navarrette, Williamson County Auditor's Office

From: Michael J. Weaver

**Date:** April 11, 2017

Re: 2013 Road Bond Budget Transfers

Please make the following budget adjustment for 2013 Road Bond project:

 Move \$200,000.00 from P-290 Unallocated to P-438 Bagdad Road @ CR 278

If you have any questions, please let me know.

Cc: Bob Daigh, Williamson County Sr. Director of Infrastructure Marie Walters, PSI Christen Eschberger, P.E., HNTB **Commissioners Court - Regular Session** 

**Meeting Date:** 04/18/2017

CR 258 Contract

Submitted For: Charlie Crossfield Submitted By: Charlie Crossfield, Road Bond

**Department:** Road Bond

Agenda Category: Regular Agenda Items

## Information

16.

## Agenda Item

Discuss, consider and take appropriate action on a real estate contract with TRIBAR for ROW needed near CR 258.

## **Background**

## **Fiscal Impact**

From/To	Acct No.	Description	Amount

## **Attachments**

## **Tribar Contract**

## Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Charlie Crossfield Started On: 04/12/2017 08:38 AM Final Approval Date: 04/12/2017

## REAL ESTATE CONTRACT

THIS REAL ESTATE CONTRACT ("Contract") is made by TRIBAR, a Texas general partnership (referred to in this Contract as "Seller") and WILLIAMSON COUNTY, TEXAS (referred to in this Contract as "Purchaser"), upon the terms and conditions set forth in this Contract.

## ARTICLE I PURCHASE AND SALE

By this Contract, Seller sells and agrees to convey, and Purchaser purchases and agrees to pay for, the tract(s) of land described as follows:

All of those certain tracts of land being more fully described by metes and bounds in Exhibits "A" and "B", attached hereto and incorporated herein; and

together with all and singular the rights and appurtenances pertaining to the property, including any right, title and interest of Seller in and to adjacent streets, alleys or rights-of-way (all of such real property, rights, and appurtenances being referred to in this Contract as the "Property"), and any improvements situated on and attached to the Property described in Exhibits "A" and "B" not otherwise agreed herein to be retained by Seller, for the consideration and upon and subject to the terms, provisions, and conditions set forth below.

## ARTICLE II PURCHASE PRICE

## Purchase Price

2.01. The Purchase Price for the Property described in Exhibits "A" and "B", compensation for any improvements on the Property, and any damage or cost of cure for the remaining property of Seller shall be the sum of ONE HUNDRED NINTY THREE THOUSAND and 00/100 Dollars (\$193,000.00).

## **Special Provisions**

2.02. As additional consideration for this transaction, and as an obligation and agreement which shall survive Closing, Purchaser agrees to enter into a license agreement with Seller to provide for Seller's access across the Property until Purchaser is ready to construct a roadway on the Property.

## Payment of Purchase Price

2.03. The Purchase Price shall be payable in cash at the Closing.

## ARTICLE III PURCHASER'S OBLIGATIONS

## Conditions to Purchaser's Obligations

3.01. The obligations of Purchaser hereunder to consummate the transactions contemplated hereby are subject to the satisfaction of each of the following conditions (any of which may be waived in whole or in part by Purchaser at or prior to the Closing).

## Miscellaneous Conditions

3.02. Seller shall have performed, observed, and complied with all of the covenants, agreements, and conditions required by this Contract to be performed, observed, and complied with by Seller prior to or as of the closing.

## ARTICLE IV REPRESENTATIONS AND WARRANTIES OF SELLER

Seller hereby represents and warrants to Purchaser as follows, which representations and warranties shall be deemed made by Seller to Purchaser also as of the Closing Date, to the best of Seller's current actual knowledge:

- (1) There are no parties in possession of any portion of the Property as lessees, tenants at sufferance, or trespassers, other than as previously disclosed to Purchaser;
- (2) Seller has complied with all applicable laws, ordinances, regulations, statutes, rules and restrictions relating to the Property, or any part thereof;

The Property herein is being conveyed to Purchaser under threat of condemnation.

## ARTICLE V CLOSING

## Closing Date

5.01. The Closing shall be held at the office of Independence Title, 101 Jonathan Drive, #2, Liberty Hill, Texas 78642 on or before April 14, 2017, or at such time, date, and place as Seller and Purchaser may agree upon, or within 10 days after the completion of any title curative matters if necessary for items as shown on the Title Commitment or in the contract (which date is herein referred to as the "Closing Date").

### Seller's Obligations at Closing

### 5.02. At the Closing Seller shall:

- (1) Deliver to Purchaser a duly executed and acknowledged Special Warranty Deed conveying good and indefeasible title to Williamson County, Texas in fee simple to all of the Property described in Exhibits "A" and "B", free and clear of any and all liens and restrictions by, through, or under Grantor, but not otherwise, except for the following:
  - (a) General real estate taxes for the year of closing and subsequent years not yet due and payable;
  - (b) Any exceptions approved by Purchaser pursuant to Article III hereof; and
  - (c) Any exceptions approved by Purchaser in writing.

The Deed shall be in the form of Exhibit "C", attached hereto.

- (2) Deliver to Purchaser a Texas Owner's Title Policy at Purchaser's sole expense, issued by Title Company, in Grantee's favor in the full amount of the purchase price, insuring Purchaser's contracted interests in and to the Property subject only to those title exceptions listed herein, such other exceptions as may be approved in writing by Purchaser, and the standard printed exceptions contained in the usual form of Texas Owner's Title Policy, provided, however:
  - (a) The boundary and survey exceptions shall be deleted;
  - (b) The exception as to restrictive covenants shall be endorsed "None of Record", if applicable; and
  - (c) The exception as to the lien for taxes shall be limited to the year of Closing and shall be endorsed "Not Yet Due and Payable".
  - (d) Deliver to Purchaser possession of the Property if not previously done.

### Purchaser's Obligations at Closing

### 5.03. At the Closing, Purchaser shall:

(a) Pay the cash portion of the Purchase Price.

### Prorations

5.04. General real estate taxes for the then current year relating to the Property shall be prorated as of the Closing Date and shall be adjusted in cash at the closing. If the Closing shall occur before the tax rate is fixed for the then current year, the apportionment of taxes shall be upon the basis of the tax rate for the next preceding year applied to the latest assessed valuation. Agricultural roll-back taxes, if any, shall be paid by Purchaser.

### **Closing Costs**

- 5.05. All costs and expenses of closing in consummating the sale and purchase of the Property shall be borne and paid as follows:
  - (1) Owner's Title Policy and survey to be paid by Purchaser.
  - (2) Deed, tax certificates, and title curative matters, if any, paid by Purchaser.
  - (3) All other closing costs shall be paid by Purchaser.
  - (4) Attorney's fees paid by each respectively.

### ARTICLE VI BREACH BY SELLER

In the event Seller shall fail to fully and timely perform any of its obligations hereunder or shall fail to consummate the sale of the Property for any reason, except Purchaser's default, Purchaser may: (1) enforce specific performance of this Contract; or (2) request that the Escrow Deposit, if any, shall be forthwith returned by the title company to Purchaser.

### ARTICLE VII BREACH BY PURCHASER

In the event Purchaser should fail to consummate the purchase of the Property, the conditions to Purchaser's obligations set forth in Article III having been satisfied and Purchaser being in default and Seller not being in default hereunder, Seller shall have the right to receive the Escrow Deposit, if any, from the title company, the sum being agreed on as liquidated damages for the failure of Purchaser to perform the duties, liabilities, and obligations imposed upon it by the terms and provisions of this Contract, and Seller agrees to accept and take this cash payment as its total damages and relief and as Seller's sole remedy hereunder in such event. If no Escrow Deposit has been made then Seller shall receive the amount of \$500 as liquidated damages for any failure by Purchaser.

### ARTICLE VIII MISCELLANEOUS

### Notice

8.01. Any notice required or permitted to be delivered hereunder shall be deemed received when sent by United States mail, postage prepaid, certified mail, return receipt requested, addressed to Seller or Purchaser, as the case may be, at the address set forth opposite the signature of the party.

### Texas Law to Apply

8.02. This Contract shall be construed under and in accordance with the laws of the State of Texas, and all obligations of the parties created hereunder are performable in Williamson County, Texas.

### Parties Bound

8.03. This Contract shall be binding upon and inure to the benefit of the parties and their respective heirs, executors, administrators, legal representatives, successors and assigns where permitted by this Contract.

### **Legal Construction**

8.04. 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, this invalidity, illegality, or unenforceability shall not affect any other provision hereof, and this Contract shall be construed as if the invalid, illegal, or unenforceable provision had never been contained herein.

### Prior Agreements Superseded

8.05. This Contract constitutes the sole and only agreement of the parties and supersedes any prior understandings or written or oral agreements between the parties respecting the within subject matter.

### Time of Essence

8.06. Time is of the essence in this Contract.

### Gender

8.07. 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, and vice versa, unless the context requires otherwise.

### Memorandum of Contract

8.08. Upon request of either party, the parties shall promptly execute a memorandum of this Contract suitable for filing of record.

### Compliance

8.09. In accordance with the requirements of Section 20 of the Texas Real Estate License Act, Purchaser is hereby advised that it should be furnished with or obtain a policy of title insurance or Purchaser should have the abstract covering the Property examined by an attorney of Purchaser's own selection.

### Effective Date

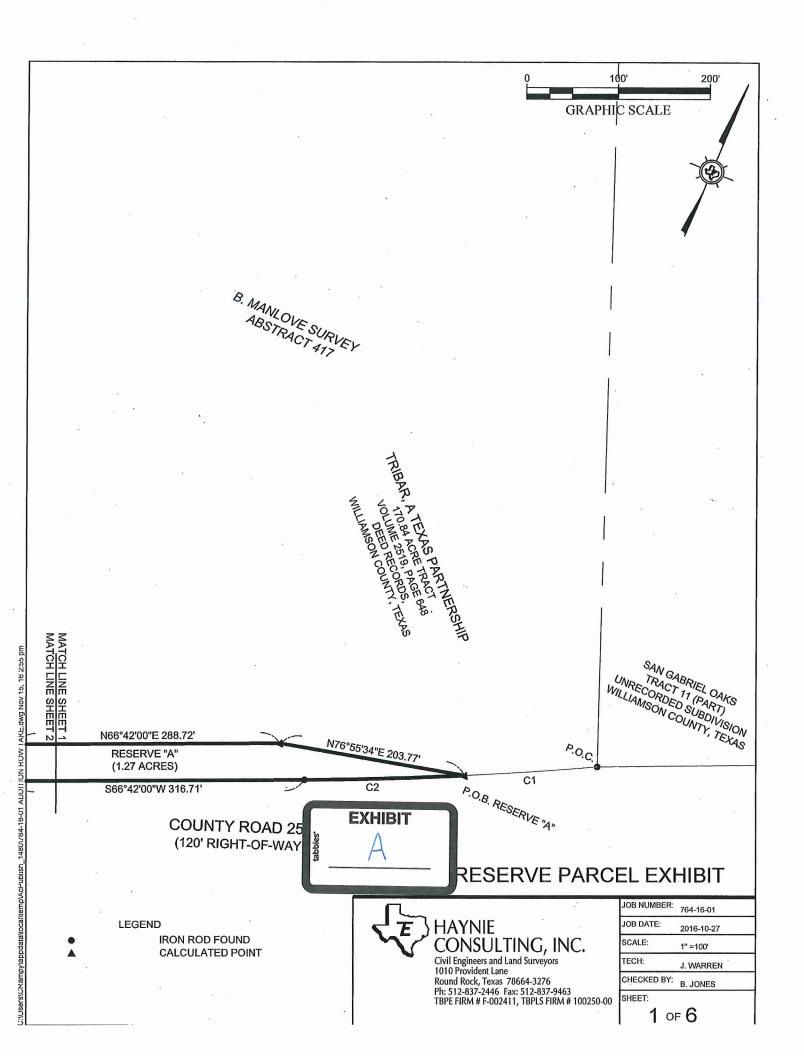
8.10. This Contract shall be effective as of the date it is approved by Williamson County, Texas which date is indicated beneath the County Judge's signature below.

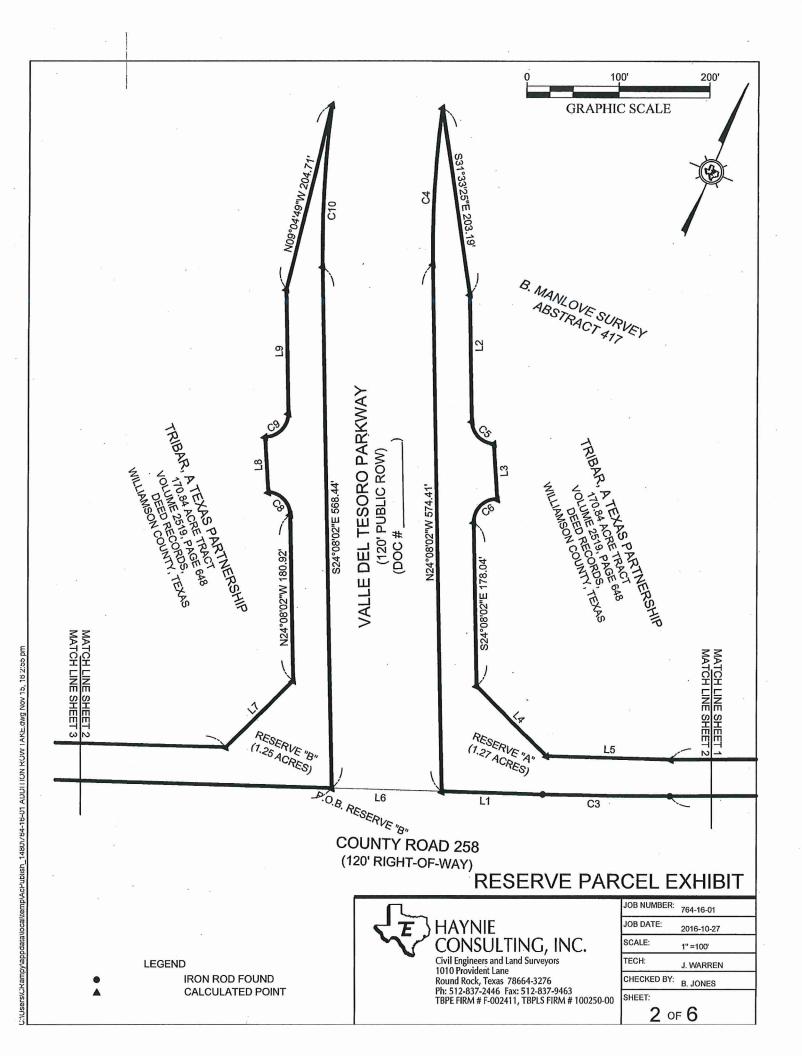
### Counterparts

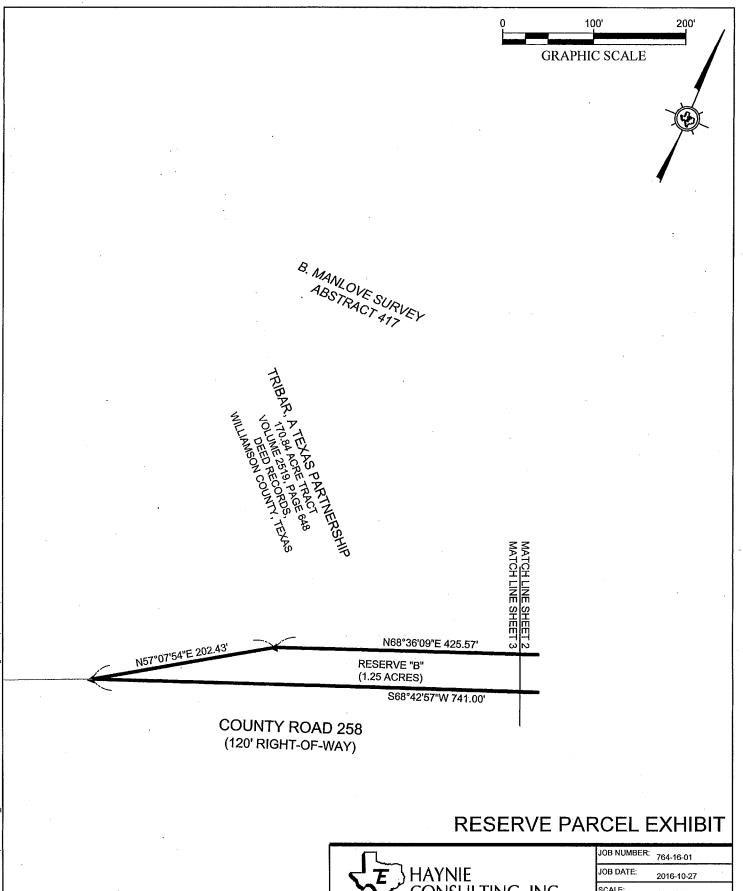
8.11. This Contract may be executed in any number of counterparts, which may together constitute the Contract. Signatures transmitted by facsimile or electronic mail may be considered effective as originals for purposes of this Contract.

### **SELLER:**

TRIBAR, a general Texas Partnership	
By: Brian Barnes, its	Address: 8103B BAYWOOD  DR AUSTIN, TX  78759
Date:	
PURCHASER:	
WILLIAMSON COUNTY, TEXAS	
By: Dan A. Gattis, County Judge	Address: 710 Main Street, Suite 101 Georgetown, Texas 78626
Date:	







LEGEND

IRON ROD FOUND CALCULATED POINT



JOB NUMBER:	764-16-01
JOB DATE:	2016-10-27
SCALE:	1" ≃100'
TECH:	J. WARREN
CHECKED BY:	B. JONES
SHEET:	

3 of 6

CURVE TABLE								
CURVE NO.	DELTA	RADIUS	CHORD BEARING	CHORD LENGTH				
C1	002°06'21"	3950.54'	145.19'	S63°07'32"W	145.18'			
C2	002°31'38"	3950.54'	174.25'	S65°26'32"W	174.24'			
C3	001°12'35"	6591.64'	139.18'	S67°43'12"W	139.17'			
C4 .	009°22'21"	1030.00'	168.49'	N19°26'52"W	168.30'			
C5	087°09'02"	25.00'	38.03'	S67°42'33"E	34.47'			
C6	092°50'58"	25.00'	40.51'	S22°17'27"W	36.22'			
C8	087°09'02"	25.00'	38.03'	N67°42'33"W	34.47'			
C9	092°50'58"	25.00'	40.51'	N22°17'27"E	36.22'			
C10	008°40'38"	1150.00'	174.16'	S19°47'37"E	174.00'			

LINE TABLE						
NUMBER	LENGTH					
L1	S68°42'57"W	110.11'				
L2	S24°08'02"E	137.40'				
L3	S26°29'54"E	60.25'				
L4	S67°45'56"E	108.57'				
L5	N68°36'09"E	136.55'				
L6	S68°42'57"W	120.15'				
L7	N22°14'04"E	103.50'				
L8	N26°29'54"W	60.25'				
L9	N24°08'02"W	134.51'				

# RESERVE PARCEL EXHIBIT



· ·	_//////////
JOB NUMBER:	764-16-01
JOB DATE:	2016-10-27
SCALE:	1" =100'
TECH:	J. WARREN
CHECKED BY:	B. JONES
SHEET:	
<b>4</b> or	∍6

### LEGAL DESCRIPTION:

BEING TWO (2) RESERVE PARCELS, SITUATED IN THE B. MANLOVE SURVEY, ABSTRACT 417, WILLIAMSON COUNTY, TEXAS. SAID RESERVE PARCELS BEING A PART OF A CALLED 170.84 ACRES OF LAND DESCRIBED IN A DEED TO TRIBAR, A TEXAS PARTNERSHIP AS RECORDED IN VOLUME 2519, PAGE 648, DEED RECORDS, WILLIAMSON COUNTY, TEXAS. SAID TWO (2) RESERVE PARCELS TO BE MORE PARTICULARLY DESCRIBED AS FOLLOWS:

### RESERVE "A" (1.27 ACRES)

COMMENCING AT A ½" IRON ROD FOUND IN THE NORTH RIGHT-OF-WAY LINE OF COUNTY ROAD 258, AT THE SOUTHWEST CORNER OF SAN GABRIEL OAKS, TRACT 11 (PART), UNRECORDED SUBDIVISION, WILLIAMSON COUNTY, TEXAS AND BEING THE SOUTHEAST CORNER OF SAID TRIBAR TRACT AND THE POINT OF CURVATURE OF A CURVE TO THE RIGHT:

THENCE WITH SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 3950.54 FEET, ARC LENGTH OF 145.19 FEET, A CHORD OF SOUTH 63°07'32" WEST, A DISTANCE OF 145.18 FEET TO A CALCULATED POINT, BEING THE SOUTHEAST CORNER AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED RESERVE "A";

THENCE ALONG SAID RIGHT-OF-WAY LINE AND THE SOUTH LINE OF SAID TRIBAR TRACT THE FOLLOWING FOUR (4) COURSES AND DISTANCES:

- 1) CONTINUING ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 3950.54 FEET, ARC LENGTH OF 174.25 FEET, A CHORD OF SOUTH 65°26'32" WEST, A DISTANCE OF 174.24 FEET TO A ½" IRON ROD FOUND FOR A POINT OF TANGENCY;
- 2) SOUTH 66°42'00" WEST, A DISTANCE OF 316.71 FEET TO A ½" IRON ROD FOUND, BEING THE POINT OF CURVATURE OF A CURVE TO THE RIGHT:
- 3) WITH SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 6591.64 FEET, ARC LENGTH OF 139.18 FEET, A CHORD OF SOUTH 67°43'12" WEST, A DISTANCE OF 139.17 FEET TO A ½" IRON ROD FOUND, BEING THE POINT OF TANGENCY;
- 4) SOUTH 68°42'57" WEST, A DISTANCE OF 110.11 FEET TO A CALCULATED POINT BEING THE SOUTHWEST CORNER OF THE HEREIN DESCRIBED RESERVE "A":

THENCE THROUGH SAID TRIBAR TRACT THE FOLLOWING NINE (9) COURSES AND DISTANCES:

- 1) NORTH 24°08'02" WEST, A DISTANCE OF 574.41 FEET TO A CALCULATED POINT FOR A POINT OF CURVATURE OF A CURVE TO THE RIGHT:
- 2) WITH SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 1030.00 FEET, AN ARC LENGTH OF 168.49 FEET, A CHORD OF NORTH 19°26'52" EAST, A DISTANCE OF 168.30 FEET TO A CALCULATED POINT BEING A POINT OF TANGENCY AND THE NORTHWEST CORNER OF THE HEREIN DESCRIBED RESERVE "A";
- 3) SOUTH 31°33'25" EAST, A DISTANCE OF 203.19 FEET TO A CALCULATED POINT;
- 4) SOUTH 24°08'02" EAST, A DISTANCE OF 137.40 FEET TO A CALCULATED POINT FOR A POINT OF CURVATURE OF A CURVE TO THE LEFT;
- 5) WITH SAID CURVE TO THE LEFT, HAVING A RADIUS OF 25.00 FEET, AN ARC LENGTH OF 38.03 FEET, A CHORD OF SOUTH 67°42'33" EAST, A DISTANCE OF 34.47 FEET TO A CALCULATED POINT BEING A POINT OF TANGENCY;
- 6) SOUTH 26°29'54" EAST, A DISTANCE OF 60.25 FEET TO A CALCULATED POINT FOR A POINT OF CURVATURE OF A CURVE TO THE LEFT;
- 7) WITH SAID CURVE TO THE LEFT, HAVING A RADIUS OF 25.00 FEET, AN ARC LENGTH OF 40.51 FEET, A CHORD OF SOUTH 22°17'27" WEST, A DISTANCE OF 36.22 FEET TO A CALCULATED POINT BEING A POINT OF TANGENCY;
- B) SOUTH 24°08'02" EAST, A DISTANCE OF 178.04 FEET TO A CALCULATED POINT;
- 9) SOUTH 67°45'56" EAST, A DISTANCE OF 108.57 FEET TO A CALCULATED POINT;
- 10) NORTH 68°36'09" EAST, A DISTANCE OF 136.55 FEET TO A CALCULATED POINT;
- 11) NORTH 66°42'00" EAST, A DISTANCE OF 288.72 FEET TO A CALCULATED POINT;
- 12) NORTH 76°55'34" EAST, A DISTANCE OF 203.77 FEET TO THE POINT OF BEGINNING, CONTAINING 1.27 ACRES OF LAND MORE OR LESS.

### RESERVE "B" (1.25 ACRES)

COMMENCING AT A  $\frac{1}{2}$ " IRON ROD FOUND IN THE NORTH RIGHT-OF-WAY LINE OF COUNTY ROAD 258, AT THE SOUTHWEST CORNER OF SAN GABRIEL OAKS, TRACT 11 (PART), UNRECORDED SUBDIVISION, WILLIAMSON COUNTY, TEXAS AND BEING THE SOUTHEAST CORNER OF SAID TRIBAR TRACT AND THE POINT OF CURVATURE OF A CURVE TO THE RIGHT;

THENCE ALONG SAID RIGHT-OF-WAY LINE AND THE SOUTH LINE OF SAID TRIBAR TRACT THE FOLLOWING SIX (6) COURSES AND DISTANCES:

- 1) WITH SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 3950.54 FEET, ARC LENGTH OF 174.29 FEET, A CHORD OF SOUTH 63°07'32" WEST, A DISTANCE OF 145.18 FEET TO A CALCULATED POINT;
- 2) CONTINUING ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 3950.54 FEET, ARC LENGTH OF 145.19 FEET, A CHORD OF SOUTH 65°26'32" WEST, A DISTANCE OF 174.24 FEET TO A <sup>1</sup>/<sub>2</sub>" IRON ROD FOUND BEING A POINT OF TANGENCY;
- 3) SOUTH 66°42'00" WEST, A DISTANCE OF 316.71 FEET TO A  $\frac{1}{2}$ " IRON ROD FOUND, FOR THE POINT OF CURVATURE OF A CURVE TO THE RIGHT:
- 4) WITH SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 6591.64 FEET, ARC LENGTH OF 139.18 FEET, A CHORD OF SOUTH 67°43'12" WEST, A DISTANCE OF 139.17 FEET TO A ⅓" IRON ROD FOUND, BEING THE POINT OF TANGENCY;
- 5) SOUTH 68°42'57" WEST, A DISTANCE OF 110.11 FEET TO A CALCULATED POINT;
- 6) SOUTH 68°42'57" WEST, A DISTANCE OF 120.15 FEET TO A CALCULATED POINT, BEING THE SOUTHEAST CORNER AND THE POINT OF BEGINNING OF THE HEREIN DESCRIBED ROW "B";

CONTINUES ON SHEET 6



THENCE SOUTH 68°42'57" WEST, A DISTANCE OF 741.00 FEET TO A CALCULATED POINT, BEING THE SOUTHWEST CORNER OF THE HEREIN DESCRIBED RESERVE "B";

THENCE THROUGH SAID TRIBAR TRACT THE FOLLOWING EIGHT (8) COURSES AND DISTANCES:

- 1) NORTH 57°07'54" EAST, A DISTANCE OF 202.43 FEET TO A CALCULATED POINT;
- 2) NORTH 68°36'09" EAST, A DISTANCE OF 425.57 FEET TO A CALCULATED POINT;
- 3) NORTH 22°14'04" EAST, A DISTANCE OF 103.50 FEET TO A CALCULATED POINT;
- 4) NORTH 24°08'02" WEST, A DISTANCE OF 180.92 FEET TO A CALCULATED POINT, FOR A POINT OF CURVATURE OF A CURVE TO THE LEFT;
- 5) WITH SAID CURVE TO THE LEFT, HAVING A RADIUS OF 25.00 FEET, AN ARC LENGTH OF 38.03 FEET, A CHORD OF NORTH 67°42'33" WEST, A DISTANCE OF 34.47 FEET TO A CALCULATED POINT BEING POINT OF TANGENCY;
- 6) NORTH 26°29'54" WEST, A DISTANCE OF 60.25 FEET TO A CALCULATED POINT, FOR A POINT OF CURVATURE OF A CURVE TO THE LEFT;
- 7) WITH SAID CURVE TO THE LEFT, HAVING A RADIUS OF 25.00 FEET, AN ARC LENGTH OF 40.51 FEET, A CHORD OF NORTH 22°17'27" EAST, A DISTANCE OF 36.22 FEET TO A CALCULATED POINT;
- 8) NORTH 24°08'02" WEST, A DISTANCE OF 134.51 FEET TO A CALCULATED POINT;
- 9) NORTH 09°04'49" WEST, A DISTANCE OF 204.71 FEET TO A CALCULATED POINT, FOR A POINT OF CURVATURE OF A CURVE TO THE LEFT;
- 10) WITH SAID CURVE TO THE LEFT, HAVING A RADIUS OF 1150.00 FEET, AN ARC LENGTH OF 174.16 FEET, CHORD OF SOUTH 19°47'37" EAST, A DISTANCE OF 174.00 FEET TO A CALCULATED POINT;
- 11) SOUTH 24°08'02" EAST, A DISTANCE OF 568.44 FEET TO THE POINT OF BEGINNING, CONTAINING 1.25 ACRES OF LAND, MORE OR LESS..

### SURVEYOR'S CERTIFICATE

THE UNDERSIGNED, BEING A REGISTERED SURVEYOR OF THE STATE OF TEXAS DOES HEREBY CERTIFY THAT THE TWO (2) RESERVE PARCELS SHOWN HEREON WERE DETERMINED IN THE OFFICE BY CALCULATIONS BASED ON AN ON THE GROUND SURVEY.

TIMOTHY E. HAYNIB.

YNIB. 11-15-16 YNIB. DATE:

TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR NO. 2380



RESERVE PARCEL EXHIBIT

HAYNIE CONSULTING, INC.
Civil Engineers and Land Surveyors
1010 Provident Lane

Civil Engineers and Land Surveyors 1010 Provident Lane Round Rock, Texas 78664-3276 Ph: 512-837-2446 Fax: 512-837-9463 TBPE FIRM # F-002411, TBPLS FIRM # 100250-00 JOB NUMBER: 764-16-01

JOB DATE: 2016-10-27

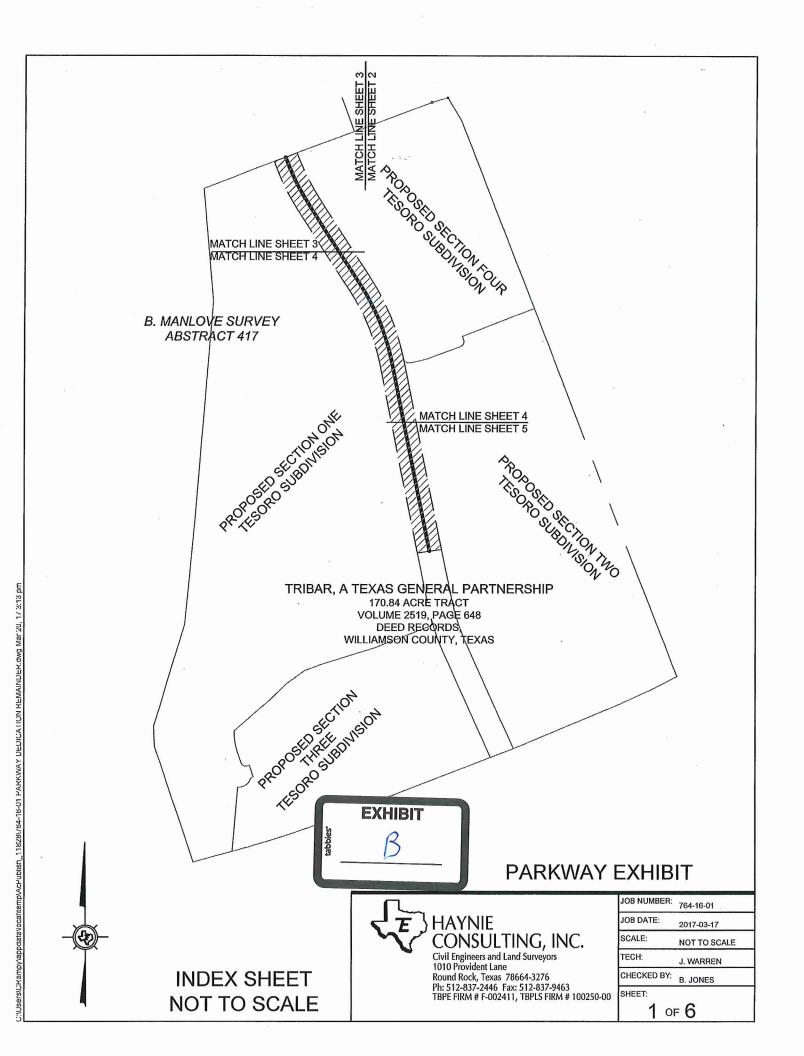
SCALE: 1" =100'

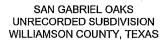
TECH: J. WARREN

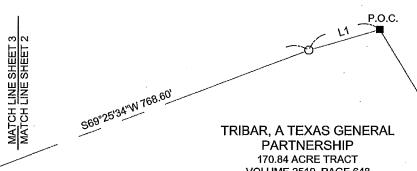
CHECKED BY: B. JONES

SHEET:

6 of 6



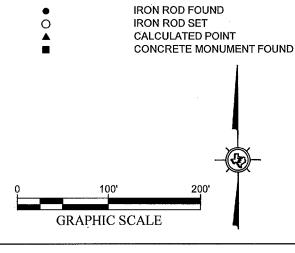




**VOLUME 2519, PAGE 648** DEED RECORDS, WILLIAMSON COUNTY, TEXAS

### B. MANLOVE SURVEY ABSTRACT 417

ĹINE TABLE						
NUMBER	DIRECTION	LENGTH				
L1	S73°59'55"W	80.19'				
L2	S11°32'32"E	103.02'				



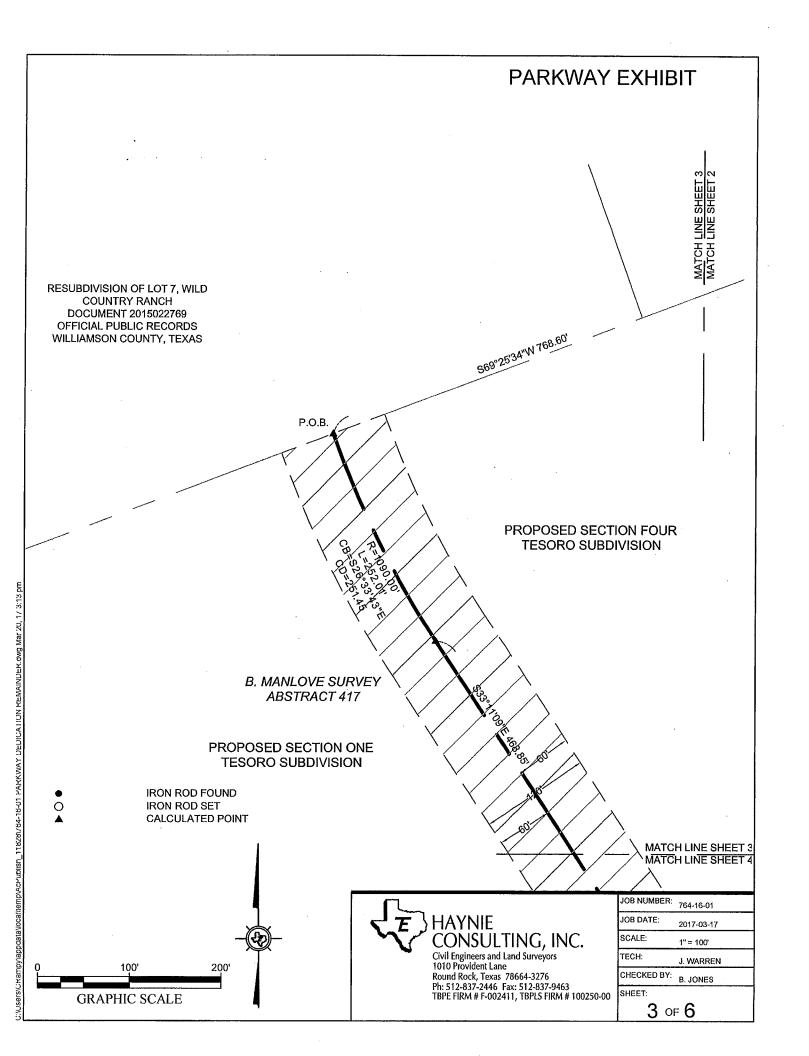
C:\Users\CKampy\appdata\tocal\temp\dc\upusn\_118zt\/84-16-01 PARKWAY DEUICA⊺ION REMAINDER,dwg Mar 20, 1/ 3:13 pm

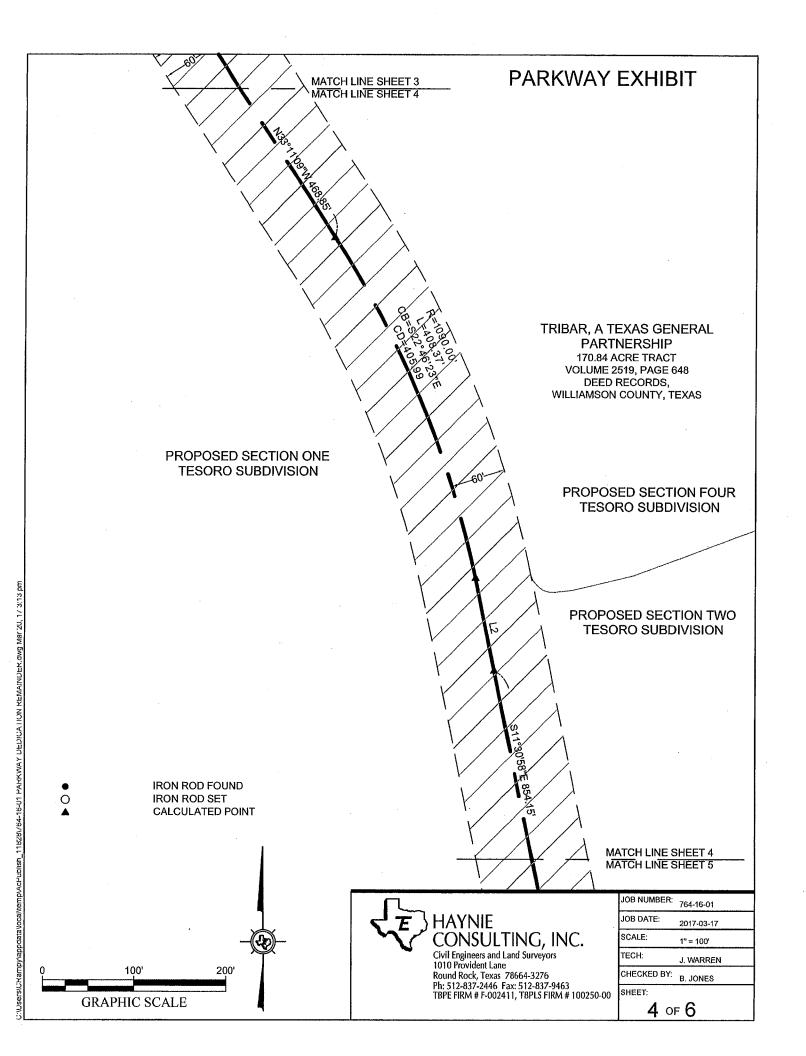
# **PARKWAY EXHIBIT**

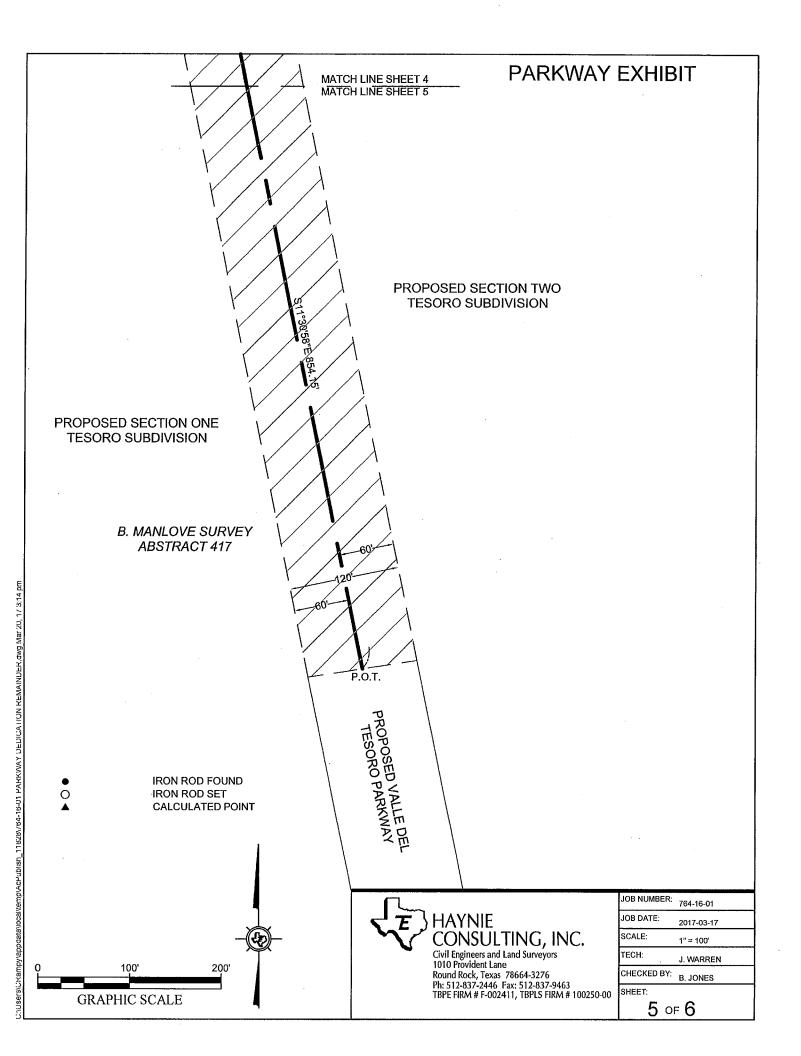


HAYNIE CONSULTING, INC. Civil Engineers and Land Surveyors 1010 Provident Lane Round Rock, Texas 78664-3276 Ph: 512-837-2446 Fax: 512-837-9463 TBPE FIRM # F-002411, TBPLS FIRM # 100250-00

JOB NUMBER:	764-16-01
JOB DATE:	2017-03-17
SCALE:	1" = 100'
TECH:	J. WARREN
CHECKED BY:	B. JONES
SHEET:	
<b>2</b> or	- 6







### LEGAL DESCRIPTION

BEING A CENTERLINE DESCRIPTION OF 120' WIDE PARKWAY (BEING 60' EAST AND WEST OF SAID CENTERLINE), SITUATED IN THE B. MANLOVE SURVEY, ABSTRACT 417, WILLIAMSON COUNTY, TEXAS. SAID 120' WIDE PARKWAY BEING A PART OF A CALLED 170,84 ACRES OF LAND DESCRIBED IN A DEED TO TRIBAR, A TEXAS PARTNERSHIP AS RECORDED IN VOLUME 2519, PAGE 648, DEED RECORDS, WILLIAMSON COUNTY, TEXAS. SAID CENTERLINE OF 120' WIDE PARKWAY TO BE MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING AT A CONCRETE MONUMENT BEING A CORNER OF OF THE SAN GABRIEL OAKS, A UNRECORDED SUBDIVISION IN WILLIAMSON COUNTY, TEXAS AND BEING THE NORTHEAST CORNER OF SAID TRIBAR TRACT:

THENCE ALONG THE MOST NORTHERLY SOUTH LINE OF SAID SAN GABRIEL OAKS SUBDIVISION, THE SOUTH LINE OF RESUBDIVISION OF LOT 7, WILD COUNTRY RANCH, A SUBDIVISION RECORDED IN DOCUMENT NO. 2015022769, OFFICIAL PUBLIC RECORDS, WILLIAMSON COUNTY. TEXAS AND THE NORTH LINE OF SAID TRIBAR TRACT, THE FOLLOWING TWO (2) COURSES AND DISTANCES:

- SOUTH 73°59'55" WEST, FOR A DISTANCE OF 80.19 FEET TO IRON ROD SET;
- SOUTH 69°25'34" WEST, FOR A DISTANCE OF 768.60 FEET TO A CALCULATED POINT, BEING THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARKWAY, ALSO BEING A POINT OF CURVATURE IN A CURVE TO THE LEFT:

THENCE THROUGH SAID TRIBAR TRACT THE FOLLOWING FIVE (5) COURSES AND DISTANCES:

- 1) ALONG SAID CURVE TO THE LEFT, HAVING A RADIUS OF 1090.00 FEET, ARC LENGTH OF 252.01 FEET, A CHORD OF SOUTH 26°33'43" EAST, FOR A DISTANCE OF 251.45 FEET TO A CALCULATED POINT FOR A POINT OF TANGENCY;
- 2) SOUTH 33°11'09" EAST, FOR A DISTANCE OF 468.85 FEET TO A CALCULATED POINT FOR A POINT OF CURVATURE IN A CURVE TO THE RIGHT:
- ALONG SAID CURVE TO THE RIGHT, HAVING A RADIUS OF 1090.00 FEET, ARC LENGTH OF 408.37 FEET, A CHORD OF SOUTH 22°46'23" EAST, FOR A DISTANCE OF 405.99 FEET TO A CALCULATED POINT FOR A POINT OF TANGENCY;
- SOUTH 11°32'32" EAST, FOR A DISTANCE OF 103.02 FEET TO A CALCULATED POINT;
- SOUTH 11°30'58" EAST, FOR A DISTANCE OF 854.15 FEET TO A CALCULATED POINT BEING THE POINT OF TERMINATION OF SAID CENTERLINE IN THE MOST SOUTHERLY NORTH LINE OF PROPOSED SECTION ONE TESORO SUBDIVISION.

#### SURVEYOR'S CERTIFICATE

THE UNDERSIGNED, BEING A REGISTERED SURVEYOR OF THE STATE OF TEXAS DOES HEREBY CERTIFY THAT THE CENTERLINE OF THE 120' WIDE PARKWAY SHOWN HEREON WAS DETERMINED IN THE OFFICE BY CALCULATIONS BASED ON AN ON THE GROUND SURVEY.

TIMOTHY E. HAYNIE.

DATE:

TEXAS REGISTERED PROFESSIONAL LAND SURVEYOR NO. 2380

03-21-17



### PARKWAY EXHIBIT



1010 Provident Lane Round Rock, Texas 78664-3276 Ph: 512-837-2446 Fax: 512-837-9463 TBPE FIRM # F-002411, TBPLS FIRM # 100250-00

JOB NUMBER:	764-16-01
JOB DATE:	2017-03-17
SCALE:	1" = 100'
TECH:	J. WARREN
CHECKED BY:	B. JONES
SHEET:	

::\USers\CKampy\appdata\loca\temp\AcPublish\_11828\/64-16-01 PAKKWAY DEDICATION KEMAINDEK.awg Mar.zu, 1/ 3:14|

### **EXHIBIT C**

### SPECIAL WARRANTY DEED

THE STATE OF TEXAS	§
	§
COUNTY OF WILLIAMSON	§

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

### NOW, THEREFORE, KNOW ALL BY THESE PRESENTS:

That **TRIBAR**, a Texas general partnership, hereinafter referred to as "Grantor", whether one or more, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration to Grantor in hand paid by **WILLIAMSON COUNTY**, a Texas political subdivision, hereinafter referred to as "Grantee", receipt and sufficiency of which is hereby acknowledged, and for which no lien is retained, either expressed or implied, have this day Sold and by these presents do Grant, Bargain, Sell and Convey unto Grantee, all of those certain tracts or parcels of land lying and being situated in the County of Williamson, State of Texas, along with any improvements thereon, being more particularly described as follows:

All of those certain tracts of land being more fully described by metes and bounds in Exhibits "A" and "B", attached hereto and incorporated herein.

**RESERVATIONS FROM AND EXCEPTIONS TO CONVEYANCE AND WARRANTY:** Easements and rights-of-way of record; all presently recorded restrictions, reservations, covenants, conditions, oil and gas leases, and other instruments, other than liens and conveyances, that affect the property; rights of adjoining owners in any walls and fences situated on a common boundary; and any encroachments or overlapping of improvements.

TO HAVE AND TO HOLD the premises herein described and herein conveyed together with all and singular the rights and appurtenances thereto in any wise belonging unto Grantee and its successors and assigns forever; and Grantor does hereby bind itself and its successors and assigns to Warrant and Forever Defend all and singular the said premises herein conveyed unto Grantee and its successors and assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof by, through, or under Grantor, but not otherwise.

IN	WITNESS	WHEREOF,	this	instrument	is	executed	on	this	the	 day	of
		, 2017.									

GRANTOR:	
TRIBAR, a Texas general partnership	
By:	
ac.	

### ACKNOWLEDGMENT

§		
§		
§		
•	•	
or mout, in a	ie capacity and for	the purposes une
Notary Public, St	ate of Texas	
	\$  vledged before me on the of Tribar, in th	<b>§</b>

AFTER RECORDING RETURN TO:

Sheets & Crossfield, P.C. 309 E. Main St. Round Rock, Texas 78664 **Commissioners Court - Regular Session** 

**Meeting Date:** 04/18/2017

CR 101 Contract

Submitted For: Charlie Crossfield Submitted By: Charlie Crossfield, Road Bond

**Department:** Road Bond

Agenda Category: Regular Agenda Items

### Information

17.

### Agenda Item

Discuss, consider and take appropriate action on a real estate contract with Paul J. Anderson for right of way needed on CR 101 (Parcel 15).

### **Background**

### **Fiscal Impact**

From/To	Acct No.	Description	Amount

### **Attachments**

### **Anderson Contract**

### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Charlie Crossfield Started On: 04/12/2017 08:39 AM Final Approval Date: 04/12/2017

# REAL ESTATE CONTRACT CR 101 Right of Way—Parcel 15

THIS REAL ESTATE CONTRACT ("Contract") is made by PAUL J. ANDERSON (referred to in this Contract as "Seller") and WILLIAMSON COUNTY, TEXAS (referred to in this Contract as "Purchaser"), upon the terms and conditions set forth in this Contract.

### ARTICLE I PURCHASE AND SALE

By this Contract, Seller sells and agrees to convey, and Purchaser purchases and agrees to pay for, the tract(s) of land described as follows:

All of that certain 0.340 acre (14,797 Sq. Ft.) tract of land in the Patrick O. Daugherty Survey, Abstract No. 184, Williamson County, Texas; being more fully described by metes and bounds in Exhibit "A", attached hereto and incorporated herein (Parcel 15)

together with all and singular the rights and appurtenances pertaining to the property, including any right, title and interest of Seller in and to adjacent streets, alleys or rights-of-way (all of such real property, rights, and appurtenances being referred to in this Contract as the "Property"), and any improvements situated on and attached to the Property described in Exhibit "A" not otherwise agreed herein to be retained by Seller, for the consideration and upon and subject to the terms, provisions, and conditions set forth below.

### ARTICLE II PURCHASE PRICE

### Purchase Price and Additional Compensation

- 2.01. The Purchase Price for the Property described in Exhibit "A" shall be the sum of NINE THOUSAND ONE HUNDRED and 00/100 Dollars (\$9,100.00).
- 2.01.1. As Additional Compensation for any improvements on the Property, and any damage to or cost to cure for the remaining property of Seller, Purchaser shall pay the sum of FIVE THOUSAND FIVE HUNDRED FORTY FOUR and 00/100 Dollars (\$5,544.00)

### Payment of Purchase Price and Additional Compensation

2.02. The Purchase Price and Additional Compensation shall be payable in cash at the Closing.

00375880.DOC

### ARTICLE III PURCHASER'S OBLIGATIONS

### Conditions to Purchaser's Obligations

3.01. The obligations of Purchaser hereunder to consummate the transactions contemplated hereby are subject to the satisfaction of each of the following conditions (any of which may be waived in whole or in part by Purchaser at or prior to the Closing).

### Miscellaneous Conditions

3.02. Seller shall have performed, observed, and complied with all of the covenants, agreements, and conditions required by this Contract to be performed, observed, and complied with by Seller prior to or as of the closing.

# ARTICLE IV REPRESENTATIONS AND WARRANTIES OF SELLER

Seller hereby represents and warrants to Purchaser as follows, which representations and warranties shall be deemed made by Seller to Purchaser also as of the Closing Date, to the best of Seller's current actual knowledge:

- (1) There are no parties in possession of any portion of the Property as lessees, tenants at sufferance, or trespassers, other than as previously disclosed to Purchaser;
- (2) Seller has complied with all applicable laws, ordinances, regulations, statutes, rules and restrictions relating to the Property, or any part thereof;

The Property herein is being conveyed to Purchaser under threat of condemnation.

# ARTICLE V CLOSING Closing Date

5.01. The Closing shall be held at the office of Independence Title Company on or before May 31, 2017, or at such time, date, and place as Seller and Purchaser may agree upon, or within 10 days after the completion of any title curative matters if necessary for items as shown on the Title Commitment or in the contract (which date is herein referred to as the "Closing Date").

### Seller's Obligations at Closing

### 5.02. At the Closing Seller shall:

- (1) Deliver to Purchaser a duly executed and acknowledged Deed conveying good and indefeasible title to Williamson County, Texas in fee simple to all of the Property described in Exhibit "A", free and clear of any and all liens and restrictions, except for the following:
  - (a) General real estate taxes for the year of closing and subsequent years not yet due and payable;
  - (b) Any exceptions approved by Purchaser pursuant to Article III hereof; and
  - (c) Any exceptions approved by Purchaser in writing.

The Deed shall be in the form as shown in Exhibit "B" attached hereto and incorporated herein.

- (2) Deliver to Purchaser a Texas Owner's Title Policy at Purchaser's sole expense, issued by Title Company, in Grantee's favor in the full amount of the Purchase Price, insuring Purchaser's contracted interests in and to the Property subject only to those title exceptions listed herein, such other exceptions as may be approved in writing by Purchaser, and the standard printed exceptions contained in the usual form of Texas Owner's Title Policy, provided, however:
  - (a) The boundary and survey exceptions shall be deleted;
  - (b) The exception as to restrictive covenants shall be endorsed "None of Record", if applicable; and
  - (c) The exception as to the lien for taxes shall be limited to the year of Closing and shall be endorsed "Not Yet Due and Payable".
  - (d) Deliver to Purchaser possession of the Property if not previously done.

### Purchaser's Obligations at Closing

### 5.03. At the Closing, Purchaser shall:

(a) Pay the cash portion of the Purchase Price and Additional Compensation.

### **Prorations**

5.04. General real estate taxes for the then current year relating to the Property shall be prorated as of the Closing Date and shall be adjusted in cash at the closing. If the Closing shall occur before the tax rate is fixed for the then current year, the apportionment of taxes shall be upon the basis of the tax rate for the next preceding year applied to the latest assessed valuation. Agricultural roll-back taxes, if any, shall be paid by Purchaser.

### **Closing Costs**

- 5.05. All costs and expenses of closing in consummating the sale and purchase of the Property shall be borne and paid as follows:
  - (1) Owner's Title Policy and survey to be paid by Purchaser.
  - (2) Deed, tax certificates, and title curative matters, if any, paid by Purchaser.
  - (3) All other closing costs shall be paid by Purchaser.
  - (4) Attorney's fees paid by each respectively.

### ARTICLE VI BREACH BY SELLER

In the event Seller shall fail to fully and timely perform any of its obligations hereunder or shall fail to consummate the sale of the Property for any reason, except Purchaser's default, Purchaser may: (1) enforce specific performance of this Contract; or (2) request that the Escrow Deposit, if any, shall be forthwith returned by the title company to Purchaser.

### ARTICLE VII BREACH BY PURCHASER

In the event Purchaser should fail to consummate the purchase of the Property, the conditions to Purchaser's obligations set forth in Article III having been satisfied and Purchaser being in default and Seller not being in default hereunder, Seller shall have the right to receive the Escrow Deposit, if any, from the title company, the sum being agreed on as liquidated damages for the failure of Purchaser to perform the duties, liabilities, and obligations imposed upon it by the terms and provisions of this Contract, and Seller agrees to accept and take this cash payment as its total damages and relief and as Seller's sole remedy hereunder in such event. If no Escrow Deposit has been made then Seller shall receive the amount of \$500 as liquidated damages for any failure by Purchaser.

### ARTICLE VIII MISCELLANEOUS

### Notice

8.01. Any notice required or permitted to be delivered hereunder shall be deemed received when sent by United States mail, postage prepaid, certified mail, return receipt requested, addressed to Seller or Purchaser, as the case may be, at the address set forth opposite the signature of the party.

### Texas Law to Apply

8.02. This Contract shall be construed under and in accordance with the laws of the State of Texas, and all obligations of the parties created hereunder are performable in Williamson County, Texas.

### Parties Bound

8.03. This Contract shall be binding upon and inure to the benefit of the parties and their respective heirs, executors, administrators, legal representatives, successors and assigns where permitted by this Contract.

### **Legal Construction**

8.04. 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, this invalidity, illegality, or unenforceability shall not affect any other provision hereof, and this Contract shall be construed as if the invalid, illegal, or unenforceable provision had never been contained herein.

### Prior Agreements Superseded

8.05. This Contract constitutes the sole and only agreement of the parties and supersedes any prior understandings or written or oral agreements between the parties respecting the within subject matter.

### Time of Essence

8.06. Time is of the essence in this Contract.

### Gender

8.07. 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, and vice versa, unless the context requires otherwise.

### Memorandum of Contract

8.08. Upon request of either party, the parties shall promptly execute a memorandum of this Contract suitable for filing of record.

### Compliance

8.09 In accordance with the requirements of Section 20 of the Texas Real Estate License Act, Purchaser is hereby advised that it should be furnished with or obtain a policy of title insurance or Purchaser should have the abstract covering the Property examined by an attorney of Purchaser's own selection.

### Effective Date

8.10 This Contract shall be effective as of the date it is approved by Williamson County, Texas which date is indicated beneath the County Judge's signature below.

### Counterparts

8.11 This Contract may be executed in any number of counterparts, which may together constitute the Contract. Signatures transmitted by facsimile or electronic mail may be considered effective as originals for purposes of this Contract.

[signature page follows]

Paul J. Anderson	Address:
Date: $4-6-2017$	
PURCHASER:	
WILLIAMSON COUNTY, TEXAS	
By:  Dan A. Gattis County Judge	Address: 710 Main Street, Suite 101 Georgetown, Texas 78626
Date:	

**SELLER:** 

# EXHIBIT A

County: Williamson

Parcel: 15

Highway: County Road 101

### METES & BOUNDS DESCRIPTION FOR PARCEL 15

METES & BOUNDS DESCRIPTION FOR A 0.340 ACRE (14,797 SQUARE FOOT) TRACT OF LAND SITUATED IN THE PATRICK O. DAUGHERTY SURVEY, ABSTRACT NO. 184, WILLIAMSON COUNTY, TEXAS AND BEING A PORTION OF A CALLED 17.44 ACRE TRACT OF LAND AS CONVEYED TO PAUL J. ANDERSON BY WARRANTY DEED WITH VENDOR'S LIEN RECORDED IN DOCUMENT NUMBER 2001082527 OF THE OFFICIAL PUBLIC RECORDS OF WILLIAMSON COUNTY, TEXAS; SAID 0.340 ACRE TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS AND SHOWN ON THE ATTACHED SKETCH:

**BEGINNING** at a 1/2-inch iron rod (NAD-83, Central Zone Grid Coordinates: N: 10,183,509.16, E: 3,190,365.84) found on the west right-of-way line of County Road 101 at the southeast corner of the above described Anderson tract, at the northeast corner of a remainder of a called 89.87-acre tract of land as conveyed to Rebecca J. Schernik by deed with vendor's lien recorded in Volume 908, Page 80 of the Deed Records of Williamson County, Texas, for the southeast corner and **POINT OF BEGINNING** of the herein described tract, 79.42 feet left of County Road 101 baseline station 85+16.05;

THENCE, leaving the west right-of-way line of County Road 101, with the north line of said Schernik tract and the south line of said Anderson Tract, N 72°24'26" W a distance of 33.11 feet to a 1/2-inch iron rod with aluminum cap stamped "WILCO ROW 5777" set for the southwest corner of the herein described tract, 105.00 feet left of County Road 101 baseline station 85+37.07, from which a 1/2-inch iron pipe found at an angle point in the north line of said Schernik tract bears, N 72°24'26" W a distance of 608.39 feet;

**THENCE**, leaving the north line of said Schernik tract, over and across said Anderson tract, N 21°48'41" W a distance of 114.40 feet to a 1/2-inch iron rod with aluminum cap stamped "WILCO ROW 5777" set at a point of curvature of a curve to the right, 105.00 feet left of County Road 101 baseline station 86+51.46;

**THENCE**, continuing over and across said Anderson tract, along said curve to the right an arc distance of **200.62** feet, having a radius of **10,105.00** feet, a central angle of **1°08'15"**, and a chord which bears **N 21°14'33"** W a distance of **200.62** feet to a 1/2-inch iron rod with aluminum cap stamped "WILCO ROW 5777" set for corner, 105.00 feet left of County Road 101 baseline station 88+50.00;

**THENCE**, continuing over and across said Anderson tract, N 08°45'33" W a distance of 256.56 feet to a 1/2-inch iron rod with aluminum cap stamped "WILCO ROW 5777" set at an angle point, 55.00 feet left of County Road 101 baseline station 91+55.00;

9/9/2016

THENCE, continuing over and across said Anderson tract, N 18°06'35" W a distance of 58.13 feet to a 1/2-inch iron rod with aluminum cap stamped "WILCO ROW 5777" set on the north line of said Anderson tract, also being the south line of a called 169' x 325' tract (First Tract), as conveyed to Sharon S. Beran and Boyd Wayne Schiller by deed of gift recorded in Document No. 9623016 of the Official Records of Williamson County, Texas, for the northwest corner of the herein described tract, 53.52 feet left of County Road 101 baseline station 91+58.11;

THENCE, with the north line of said Anderson tract, N 70°18'48" E a distance of 13.85 feet to a calculated point at the common east corner of said Anderson tract and said Beran & Schiller tract, on the west right-of-way of said County Road 101, for the northeast corner of the herein described tract;

**THENCE**, with the west right-of-way line of said County Road 101 and the east line of said Anderson Tract the following three (3) courses:

- 1) S 18°14'48" E a distance of 198.72 feet to a 1/2-inch iron rod found at an angle point;
- 2) S 16°49'10" W a distance of 63.67 feet to a 1/2-inch iron rod found at an angle point; and
- 3) S 21°50'06" E a distance of 395.37 feet to a the POINT OF BEGINNING and containing 0.340 acre (14,797 square feet) of land, more or less.

Bearing orientation is based on the Texas State Plane Coordinate System NAD-83, Central Zone 4203. All distances are surface and may be converted to grid by dividing by a scale factor of 1.00012352.

I hereby certify that these notes were prepared by BGE from a survey made on the ground under my supervision on February 26, 2016 and are true and correct to the best of my knowledge. A sketch accompanies this description.

Jonathan O. Nobles RPLS No. 5777

Brown & Gay Engineers, Inc. 7000 North Mopac, Suite 330

Austin, Texas 78731

Telephone: (512) 879-0400

TBPLS Licensed Surveying Firm No. 10106502

Client: Date: Williamson County September 1, 2016

Job No:

2792-02

#### RESTRICTIVE COVENANT AND EASEMENT NOTES:

THIS SURVEY WAS MADE IN RELIANCE UPON THAT CERTAIN COMMITMENT FOR TITLE INSURANCE ISSUED BY TITLE RESOURCES GUARANTY COMPANY AND COUNTERSIGNED BY INDEPENDENCE TITLE UNDER G.F. NUMBER 1622703—GTN, DATED EFFECTIVE JUNE 29, 2016 AND ISSUED ON JULY 11, 2016.

- 10e. ELECTRIC TRANSMISSION AND/OR DISTRIBUTION LINE(S) EASEMENT GRANTED TO TEXAS POWER & LIGHT COMPANY BY INSTRUMENT RECORDED IN VOLUME 287, PAGE 61, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, MAY AFFECT THE SUBJECT TRACT, BUT CANNOT BE DETERMINED FROM INFORMATION CURRENTLY AVAILABLE.
- 10f. ELECTRIC TRANSMISSION AND/OR DISTRIBUTION LINE(S) EASEMENT GRANTED TO TEXAS POWER & LIGHT COMPANY BY INSTRUMENT RECORDED IN VOLUME 286, PAGE 189, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, MAY AFFECT THE SUBJECT TRACT, BUT CANNOT BE DETERMINED FROM INFORMATION CURRENTLY AVAILABLE.
- 10g. ELECTRIC LINE(S) EASEMENT GRANTED TO TEXAS POWER & LIGHT COMPANY BY INSTRUMENT RECORDED IN VOLUME 335, PAGE 31, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, MAY AFFECT THE SUBJECT TRACT, BUT CANNOT BE DETERMINED FROM INFORMATION CURRENTLY AVAILABLE.
- 10h. ELECTRIC LINE(S) EASEMENT GRANTED TO TEXAS POWER & LIGHT COMPANY BY INSTRUMENT RECORDED IN VOLUME 335, PAGE 254, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, MAY AFFECT THE SUBJECT TRACT, BUT CANNOT BE DETERMINED FROM INFORMATION CURRENTLY AVAILABLE.
- 10I. EASEMENT FOR FLOODWATER RETARDING STRUCTURE GRANTED TO BRUSHY CREEK WATER CONTROL AND IMPROVEMENT DISTRICT NO. 1 BY INSTRUMENT RECORDED IN VOLUME 504, PAGE 79, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, MAY AFFECT THE SUBJECT TRACT, BUT CANNOT BE DETERMINED FROM INFORMATION CURRENTLY AVAILABLE.
- 10j. WATER LINE(S) EASEMENT GRANTED TO JONAH WATER SUPPLY CORPORATION BY INSTRUMENT RECORDED IN VOLUME 563, PAGE 714, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, MAY AFFECT THE SUBJECT TRACT, BUT CANNOT BE DETERMINED FROM INFORMATION CURRENTLY AVAILABLE.
- 10k. ELECTRIC LINE(S) EASEMENT GRANTED TO TEXAS POWER & LIGHT COMPANY BY INSTRUMENT RECORDED IN VOLUME 710, PAGE 198, DEED RECORDS, WILLIAMSON COUNTY, TEXAS, DOES AFFECT THE SUBJECT TRACT, AS SHOWN HEREON.

### GENERAL NOTES:

- 1. BEARING ORIENTATION IS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD-83, CENTRAL ZONE 4203. SCALE FACTOR = 1.00012352
- 2. A SEPARATE METES AND BOUNDS DESCRIPTION OF EVEN DATE WAS PREPARED IN CONJUNCTION WITH THIS SKETCH.
- 3. FENCES ROADS & UTILITIES SHOWN WERE LOCATED ON THE GROUND. AERIAL IMAGERY WAS USED TO APPROXIMATE LOCATIONS OF OTHER IMPROVEMENTS SHOWN HEREON.



JONATHAN O. NOBLES RPLS NO. 5777 BROWN & GAY ENGINEERS, INC. 7000 NORTH MOPAC, SUITE 330 AUSTIN, TEXAS 78731

. O. N.

TELEPHONE: (512) 879-0400

3(**e**) 5

Brown & Gay Engineers, Inc.
7000 North Mopac, Suite 330, Auslin, TX 78731
Tel: 512-879-0400 ● www browngay com
TBPLS Licensed Surveying Firm No 10106502

Copyright 301

PARCEL PLAT
SHOWING PARCEL 15
0.340 ACRE (14,797 S.F.)
COUNTY ROAD 101
WILLIAMSON COUNTY

Scale:	Job No.:	Date:	Page:
1"=100'	2792-02	09/01/2016	4 of 4

# EXHIBIT "B"

Parcel 15

### <u>**DEED**</u> County Road 101 Right of Way

THE STATE OF TEXAS \$

COUNTY OF WILLIAMSON \$

NOTICE OF CONFIDENTIALITY RIGHTS: IF YOU ARE A NATURAL PERSON, YOU MAY REMOVE OR STRIKE ANY OF THE FOLLOWING INFORMATION FROM THIS INSTRUMENT BEFORE IT IS FILED IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

### NOW, THEREFORE, KNOW ALL BY THESE PRESENTS:

That PAUL J. ANDERSON, a single person, hereinafter referred to as Grantor, whether one or more, for and in consideration of the sum of Ten Dollars (\$10.00) and other good and valuable consideration to Grantor in hand paid by Williamson County, Texas, the receipt and sufficiency of which is hereby acknowledged, and for which no lien is retained, either expressed or implied, have this day Sold and by these presents do Grant, Bargain, Sell and Convey unto WILLIAMSON COUNTY, TEXAS, all that certain tract or parcel of land lying and being situated in the County of Williamson, State of Texas, along with any improvements thereon, being more particularly described as follows:

All of that certain 0.340 acre (14,797 Sq. Ft.) tract of land in the Patrick O. Daugherty Survey, Abstract No. 184, Williamson County, Texas; being more fully described by metes and bounds in Exhibit "A", attached hereto and incorporated herein (Parcel 15)

**SAVE AND EXCEPT, HOWEVER,** it is expressly understood and agreed that Grantor is retaining title to the following improvements located on the property described in said Exhibit "A" to wit: NONE

### RESERVATIONS FROM AND EXCEPTIONS TO CONVEYANCE AND WARRANTY:

Visible and apparent easements not appearing of record;

Any discrepancies, conflicts, or shortages in area or boundary lines or any encroachments or any overlapping of improvements which a current survey would show;

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 property, but only to the extent that said items are still valid and in force and effect at this time.

Grantor reserves all of the oil, gas and other minerals in and under the land herein conveyed but waives all rights of ingress and egress to the surface thereof for the purpose of exploring, developing, mining or drilling or pumping the same; provided, however, that operations for exploration or recovery of any such minerals shall be permissible so long as all surface operations in connection therewith are located at a point outside the acquired parcel and upon the condition that none of such operations shall be conducted so near the surface of said land as to interfere with the intended use thereof or in any way interfere with, jeopardize, or endanger the facilities of Williamson County, Texas or create a hazard to the public users thereof; it being intended, however, that nothing in this reservation shall affect the title and the rights of Grantee to take and use without additional compensation any, stone, earth, gravel, caliche, iron ore, gravel or any other road building material upon, in and under said land for the construction and maintenance of CR 101.

TO HAVE AND TO HOLD the property herein described and herein conveyed together with all and singular the rights and appurtenances thereto in any wise belonging unto Williamson County, Texas and its assigns forever; and Grantor does hereby bind itself, its heirs, executors, administrators, successors and assigns to Warrant and Forever Defend all and singular the said premises herein conveyed unto Williamson County, Texas and its assigns against every person whomsoever lawfully claiming or to claim the same or any part thereof.

This deed is being delivered in lieu of condemnation.

IN WITNESS WHEREOF, this instrument is executed on this the \_\_\_\_ day of \_\_\_\_\_\_, 2017.

[signature pages follow]

Paul J. Anderson	
	<u>ACKNOWLEDGMENT</u>
STATE OF TEXAS	§
COUNTY OF	§ § §
therein.	
	Notary Public, State of Texas
PREPARED IN THE OFFICE	

AFTER RECORDING RETURN TO:

**Commissioners Court - Regular Session** 

**Meeting Date:** 04/18/2017

Advertisement Approval IFB 1704-156 Crack Seal

Submitted For: Randy Barker Submitted By: Thomas Skiles, Purchasing

**Department:** Purchasing

Agenda Category: Regular Agenda Items

### Information

18.

### Agenda Item

Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive sealed bids for Crack Seal under IFB # 1704-156.

### **Background**

### **Fiscal Impact**

From/To	Acct No.	Description	Amount

### **Attachments**

### **Bid Packet**

### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/10/2017 09:05 AM

Form Started By: Thomas Skiles Started On: 04/07/2017 11:40 AM Final Approval Date: 04/10/2017



## PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

# WILLIAMSON COUNTY PURCHASING DEPARTMENT SOLICIATION 1704-156

Crack Seal

### BIDS MUST BE RECEIVED ON OR BEFORE: May 8, 2017 3:00:00 PM CDT

### BIDS WILL BE PUBLICLY OPENED: May 8, 2017 3:00:00 PM CDT

Notice is hereby given that sealed Bids 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 bids. Specifications for this IFB may be obtained by registering at www.bidsync.com\_

# Williamson County prefers and requests electronic submittal of this Bid.

All electronic bids must be submitted via: www.bidsync.com

Electronic bids are requested, however paper bids will currently still be received, until further notice and may be mailed or delivered to the address listed below.

# Bidders are strongly encouraged to carefully read this entire IFB.

All interested Bidders are invited to submit a Bid in accordance with the Instructions and General Requirements, Bid Format, Bid Specifications, and Definitions, Terms and Conditions stated in this IFB.

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 Bids received after the submittal deadline, and shall return such Bids unopened to the Bidder.

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### General Information:

• 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 above for this IFB, to:

Williamson County Purchasing Department Attn: **BID NAME AND NUMBER** 901 South Austin Avenue Georgetown, Texas 78626

- Bidders should list the Bid Number, Bid Name, Name and Address of Bidder, and the Date of the Bid opening on the outside of the box or envelope and note "Sealed Bid Enclosed."
- o Bidder 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 Bids being delivered by third party carriers.
- o Facsimile transmittals will NOT be accepted.
- Bids will be opened publicly in a manner; however, to avoid public disclosure of contents only the names and of Bidders and prices will be read aloud.
- All submitted questions with their answers will be posted and updated on www.bidsync.com.
- It is the Bidder'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.
  - o Any Addenda and/or other information relevant to the IFB will be posted on www.bidsync.com.
  - The Williamson County Purchasing Department takes no responsibility to ensure any interested Bidder has obtained any outstanding addenda or additional information.

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# Bid 1704-156 Crack Seal

Bid Number 1704-156
Bid Title Crack Seal

Bid Start Date In Held

Bid End Date May 8, 2017 3:00:00 PM CDT

Question & Answer

End Date

May 5, 2017 5:00:00 PM CDT

Bid Contact Blake Skiles

Purchasing Specialist III

512-943-1478

blake.skiles@wilco.org

Contract Duration 1 year

Contract Renewal 2 annual renewals

Prices Good for 90 days

Pre-Bid Conference Apr 27, 2017 10:30:00 AM CDT

Attendance is optional

Location: 3151 S.E. Inner Loop

Georgetown, TX 78626

Bid Comments Williamson County is seeking qualified companies to provide Crack Seal.

Item Response Form

Item 1704-156-01-01 - Please Attach All Documents To This Line

Quantity 1 each

Prices are not requested for this item.

Delivery Location Williamson County, Texas

No Location Specified

Qty 1

Description

Please Attach All Documents To This Line

#### **GENERAL NOTES AND TECHNICAL SPECS**

#### **General Information**

Williamson County is seeking qualified companies to provide Asphalt Emulsions per Item 300, Texas Department of Transportation, Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges 2014.

Quantities shown are <u>estimated quantities</u>. The actual quantity purchased may be more or less. The County is not obligated to purchase any minimum amount and the County may purchase any reasonable amount greater than the estimate for the same unit price. Items will be ordered on an "As Needed" basis.

Williamson County reserves the right to award the bid in whole to one contractor or to award a contract on each separate item or combination of items as may be most advantageous to the County. A primary, secondary, tertiary, and/or subsequent award may be made for this bid by the County.

It is expressly understood and agreed that in case Williamson County should need any item(s) not available within the time frame needed from the successful vendor(s) during the term of this contract, the County reserves the right to purchase the item(s) vendors from other than the successful vendor(s) and shall not be in violation of any terms or conditions of said contract.

Provide three (3) references where like services have been performed by your firm. Include name of firm, address, telephone number and name of representative.

#### **Definition of Terms**

County: Williamson County Road and Bridge Division

Contractor: Successful bidder of the attached invitation to bid.

Engineer: County Engineer

Inspector: Employee of Williamson County supplied full time to the contractor's crew for the selection, prosecution, and quality control of the work. Should the work, as well as the geographical location, allow, the County may supply one foreman for multiple crews.

Specifications: Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges 2014.

Department: Road and Bridge Division

#### **Control of Materials**

**Source Control.** Use only materials that meet Contract requirements. Unless otherwise specified or approved, use new materials for the work. Secure the Engineer's approval of the proposed source of materials to be used before their delivery. Materials can be approved at a supply source or staging area but may be re-inspected.

The Contractor shall submit the following test reports from an approved independent testing laboratory, providing the proposed materials compliance and adequacy. Emulsions and Specialty Emulsions:

CRM content, Grade B, % by wt. Virgin rubber content, % by wt. Penetration, 77°F, 150 g, 5 sec. Penetration, 32°F, 200 g, 60 sec

**Material Quality.** Correct or remove materials that fail to meet the contract requirements, for cost incurred if additional sampling and testing is required by a change of source. Materials not meeting Contract requirements will be rejected, unless the Engineer approves corrective actions. Upon rejection, immediately remove and replace rejected materials. If the Contractor does not comply with this Article, the County may remove and replace defective material. The cost of testing, removal, and replacement will be deducted from invoice.

**Manufacturer Warranties.** Transfer to the County warranties and guarantees required by the Contract or received as part of normal trade practice.

**Plant Inspection and Testing.** The Engineer may but is not obligated to inspect materials at the acquisition or manufacturing source. Material samples will be obtained and tested for compliance with quality requirements. Materials produced under County inspection are for County use only unless released in writing by the Engineer.

If inspection is at the plant, meet the following conditions unless otherwise specified:

- Cooperate fully and assist the Engineer during the inspection
- Ensure the Engineer has full access to all parts of the plant used to manufacture or produce materials.
- In accordance with pertinent items and the Contract, provide a facility at the plant for use by the Engineer as an office or laboratory.
- Provide and maintain adequate safety measures and restroom facilities.
- Furnish and calibrate scales, measuring devices, and other necessary equipment.

The Engineer may provide inspection for periods other than daylight hours if:

- Continuous production of materials for County use is necessary due to the production volume being handled at the plant and
- The lighting is adequate to allow satisfactory inspection.

#### ITEM 300 - Asphalts, Oils and Emulsions

- Contractor to provide crack sealer that is Class B, Asphalt Rubber Blocks.
- Sample of the material to be provided prior to purchase.
- Sealant shall be hot-applied, single component polymer/rubber modified asphalt supplied in a solid form that when melted is flexible and an adhesive compound able to be applied in accordance with Item 712, TxDOT specifications.
- Product's preferred safe heating temperature shall be 400°F, with a recommended pour temperature of 380°F.

## **Bid Items and Estimate of Quantities**

Item #	Description	Estimated Quantity	Pounds per Box	Price per Box
300	Rubber-Asphalt Crack Sealer (TxDOT Item 300.2H Table 15)	350,000 lbs		



# 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 <a href="https://www.bidsync.com\_forfurther">www.bidsync.com\_forfurther</a> 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 deand 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 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 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 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

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 states 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 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 la 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 a County.

Awards should be made approximately sixty (60) business days after the Bid opening date. Results 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 mot 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 at 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 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<sup>th</sup>) 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 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. Successful Bidder shall keep the County informed of the progress and quality of the services. 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, 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 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 the 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 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 (31 st) 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 (1<sup>st</sup>) 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 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-Magreement 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 ligal 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 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.

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#### **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 County's evaluation of the Bid.	$oldsymbol{w}$ . A non-affirmative Bid will in no way have a negative impact on the
☐ 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	s to all authorized entities.
*If no box is checked, the Bidder agrees all authorized entities.*	to make best efforts in good faith to offer the quoted prices to
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 o	fficer of/agent for (Name of Bidder) and
have been duly authorized to execute the f Bidder).	foregoing on behalf of the said (Name of
SUBSCRIBED AND SWORN to before me	by the above-named
on this the day of	, 20 .
No	otary Public in and for
Th	e State of
Th	e County of
SIGNATURE AND NOTARY NOT RE	FOUIRED IF COMPLETING IN BIDSYNC FLECTRONICALLY.

# **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:		1
Contact Name:			Title:	1
Phone:			E-mail	1
Contract Date To:	Contract D	Date From:	Contract Value: \$	
Scope of Work:				
			<u>5</u>	
Reference 2				
Client Name:			Location:	
Contact Name:			Title:	1
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:	<b>!</b>	5	

CONFLICT OF INTEREST QUESTIONNAIRE  For vendor or other person doing business with local governmental entity						
		onnaire is being filed in accordance with chapter 176 of the Local at Code by a person doing business with the governmental entity.	OFFICE USE	ONLY		
lo-	cal govern pecomes a	questionnaire must be filed with the records administrator of the ment not later than the 7th business day after the date the person ware of facts that require the statement to be filed. See Section 176.006, Local Government Code.	Date Rece	eived		
		ommits an offense if the person violates Section 176.006, Local t Code. An offense under this section is a Class C misdemeanor.				
1		me of person doing business with local governmental entity.				
2		Check this box if you are filing an update to a previously				
3	(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.)					
				6		
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.					
				5		

# **CONFLICT OF INTEREST QUESTIONNAIRE**

For vendor or other person doing business with local governmental entity

Form CIQ Page 2

	Jimy	. 490 _		
5	Name of local government officer with whom filer has affiliation or business rela (Complete this section only if the answer to A, B, or C is YES.)	tionship.		
	This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the file 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?			
	D. Describe each affiliation or business relationship.			
	5			
		6		
	6. Describe any other affiliation or business relationship that might cause conflict of interest:			
		5		
7		101		
'				
	Signature of person doing business with the governmental entity	Date		
	Signature not required if completing in BIDSYNC electronically.			

# Question and Answers for Bid #1704-156 - Crack Seal

#### **Overall Bid Questions**

There are no questions associated with this bid.

#### **Commissioners Court - Regular Session**

**Meeting Date:** 04/18/2017

Advertisement Approval IFB 1704-157 Milling And Overlay RR Blvd

Submitted For: Randy Barker Submitted By: Thomas Skiles, Purchasing

**Department:** Purchasing

Agenda Category: Regular Agenda Items

#### Information

19.

#### Agenda Item

Discuss, consider, and take appropriate action on authorizing Purchasing Agent to advertise and receive bids for Milling & Overlay Ronald Regan Blvd From FM 3405 To RM 2338 under IFB # 1704-157.

#### **Background**

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount

#### **Attachments**

#### **Bid Packet**

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/10/2017 09:05 AM

Form Started By: Thomas Skiles Started On: 04/07/2017 02:58 PM Final Approval Date: 04/10/2017



# PUBLIC ANNOUNCEMENT AND GENERAL INFORMATION

# WILLIAMSON COUNTY PURCHASING DEPARTMENT SOLICIATION 1704-157

Milling & Overlay - Ronald Regan Blvd From FM 3405 To RM 2338

BIDS MUST BE RECEIVED ON OR BEFORE: May 17, 2017 3:00:00 PM CDT

# BIDS WILL BE PUBLICLY OPENED: May 17, 2017 3:00:00 PM CDT

Notice is hereby given that sealed Bids 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 bids. Specifications for this IFB may be obtained by registering at www.bidsync.com\_

# Williamson County prefers and requests electronic submittal of this Bid.

All electronic bids must be submitted via: www.bidsync.com

Electronic bids are requested, however paper bids will currently still be received, until further notice and may be mailed or delivered to the address listed below.

# Bidders are strongly encouraged to carefully read this entire IFB.

All interested Bidders are invited to submit a Bid in accordance with the Instructions and General Requirements, Bid Format, Bid Specifications, and Definitions, Terms and Conditions stated in this IFB.

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 Bids received after the submittal deadline, and shall return such Bids unopened to the Bidder.

#### General Information:

• 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 above for this IFB, to:

Williamson County Purchasing Department Attn: **BID NAME AND NUMBER** 901 South Austin Avenue Georgetown, Texas 78626

- Bidders should list the Bid Number, Bid Name, Name and Address of Bidder, and the Date of the Bid opening on the outside of the box or envelope and note "Sealed Bid Enclosed."
- o Bidder 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 Bids being delivered by third party carriers.
- o Facsimile transmittals will NOT be accepted.
- Bids will be opened publicly in a manner; however, to avoid public disclosure of contents only the names and of Bidders and prices will be read aloud.
- All submitted questions with their answers will be posted and updated on www.bidsync.com.
- It is the Bidder'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.
  - o Any Addenda and/or other information relevant to the IFB will be posted on www.bidsync.com.
  - The Williamson County Purchasing Department takes no responsibility to ensure any interested Bidder has obtained any outstanding addenda or additional information.

### Bid 1704-157

## Milling & Overlay - Ronald Regan Blvd From FM 3405 To RM 2338

Bid Number 1704-157

Bid Title Milling & Overlay - Ronald Regan Blvd From FM 3405 To RM 2338

Expected Expenditure \$1,767,296.00 (This price is expected · not guaranteed)

Bid Start Date In Held

Bid End Date May 17, 2017 3:00:00 PM CDT

Question & Answer

End Date

May 12, 2017 5:00:00 PM CDT

Bid Contact Blake Skiles

Purchasing Specialist III

512-943-1478

blake.skiles@wilco.org

Contract Duration One Time Purchase
Contract Renewal Not Applicable

Prices Good for 90 days

Pre-Bid Conference May 10, 2017 10:00:00 AM CDT

Attendance is mandatory Location: 3151 S.E. Inner Loop Georgetown, TX 78626

Bid Comments Williamson Co

Williamson County is seeking qualified Contractors to provide materials, experienced milling, overlay, and striping crews and equipment to resurface Ronald Reagan Blvd from approximately FM 3405 to RM 2338.

Substantial Completion 35 Days Final Completion 40 Days Liquidated Damages \$200/Day

**Bonds Required (Performance, Payment, & Warranty)** 

#### Item Response Form

Item 1704-157--01 - Please Attach All Documents To This Line

Quantity 1 each

Prices are not requested for this item.

Delivery Location Williamson County, Texas

No Location Specified

Qty 1

Description

Please Attach All Documents To This Line



# 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 <a href="https://www.bidsync.com\_forfurther">www.bidsync.com\_forfurther</a> 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 deand 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 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 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 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

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 states 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 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 la 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 a County.

Awards should be made approximately sixty (60) business days after the Bid opening date. Results 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 mot 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 at 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 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<sup>th</sup>) 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 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. Successful Bidder shall keep the County informed of the progress and quality of the services. 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, 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 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 the 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 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 (31 st) 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 (1<sup>st</sup>) 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 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-ball 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 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<sup>th</sup>) 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<sup>th</sup>) 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' is 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.

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### **Additional Stipulations**

#### 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

J. Terron Evertson, P.E. (or successor), County Engineer, 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

A time frame of forty (40) days (thirty-five (35) to substantial completion/forty (40) to final completion) is given for completion of plans on this bid. 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. The Work on this project shall begin within five (5) calendar days after such notification.

Liquidated damages for failure to substantially complete the work within the allotted time will be applied. Liquidated damages are \$200 per working day.

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. Failure to begin work within the allotted time will result in liquidated damages being incurred at the rate of \$200.00 per working day.

#### 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 <u>performance bonds</u> 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 <u>payment bonds</u> 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.

If the public works contract is less than \$50,000, the performance bond will not be required as long as the contract provides that payment is not due until the work is completed and accepted by the County.

#### 1.5 Bidder's Bonds

All Bids requiring a Bid Bond shall be accompanied by a certified cashier's check upon a National or State bank in an amount not less than five (5) percent of the total maximum bid price, payable without recourse to the County, or a bid bond in the same amount from a reliable surety company, as a guarantee that the Bidder will enter into a contract and execute and deliver to the County performance and payment bonds prior to being recommended for award of the Contract. Bid guarantees must be submitted in the same sealed envelope with the Bid. Bids submitted without check or bid bonds will not be considered. For unit price contracts, the total maximum bid price shall be estimated and calculated by multiplying the estimated quantities to the unit bid price.

#### 1.6 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.

#### 1.7 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.

- 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:
  - 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:
  - 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;
  - 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.

#### GENERAL NOTES AND TECHNICAL SPECIFICATIONS

#### **Definition of Terms**

Asphalt Season: April 1 through September 30.

County: Williamson County acting through the Road and Bridge Division.

Contractor: Successful bidder of the IFB.

Engineer: Williamson County Director of Road and Bridge, or designee.

Inspector: Engineer, or designee, supplied full time 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 8 hrs. (excluding lunch) between 7:00 A.M. and 6:00 P.M. Time begins with crews on site with equipment and ready for operation.

#### **General Notes**

Unless set forth otherwise, all Work performed shall comply with requirements which pertain to the various items of Work included as *Standard Specification for Construction of Highways, Streets and Bridges* of the Texas Department of Transportation, adopted November 1, 2014, 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. The overlay project shall begin within five (5) working days after such notification and shall continue for forty (40) working days.

Contractor shall not begin work prior to the beginning of the asphalt season (April 1), nor after the ending of the asphalt season (September 30), except with the approval of the Engineer.

Contractor specifically acknowledges that Williamson County will sustain damages for each working day beyond the date in which overlay work is to begin. Once the written Notice to Proceed is given by Williamson County, the Contractor has five (5) working days to begin the work. Contractor agrees that <a href="two-hundred and No/100 Dollars">two-hundred and No/100 Dollars</a>

(\$200.00) per working day shall be retained by Williamson County from any amounts due Contractor for every day that Contractor does not begin the overlay work.

Contractor specifically acknowledges that Williamson County will sustain damages for each working day beyond the required dates of completion of the overlay work. Because of the impracticality and extreme difficulty of fixing and ascertaining Williamson County's actual damages, Contractor agrees that <a href="two-hundred and No/100">two-hundred and No/100</a> <a href="Dollars (\$200.00">Dollars (\$200.00</a>) per working day shall be retained by Williamson County from any amounts due Contractor for every day that Contractor does not complete the overlay work.

Periods of time (i) during which Williamson County suspends the work by written notice to Contractor, or (ii) during which contractor has performed work and is waiting for Williamson County's acceptance, or (iii) during which a delay directly related to delays caused by "Acts of God", non-county governmental processes, national emergency, or any other causes beyond Contractor's or Williamson County's reasonable control, shall not be taken into account in computing the amount retained. In the event that work received by Williamson County is found to be incomplete, the period of time from the end of the performance of the work to the receipt of subsequent performance necessary to produce completed work will be taken into account in computing the number of days and the amount retained.

Contractor shall submit a basic work plan, bar chart, or schedule for the Engineer to review one week prior to commencement of work.

Once work begins, Contractor shall continuously execute the work until completion, unless otherwise directed by Engineer.

Nighttime, weekend and holiday work is allowed with prior approval by Engineer.

The Contractor shall perform work during appropriate weather conditions, unless otherwise directed by the Engineer. If work is performed at the Contractor's option during, or prior to, inclement weather conditions and the work is damaged, the Contractor is responsible for all costs associated with replacing the work.

Contractor shall determine the exact location of all existing utilities before commencing work, and is fully responsible for any and all damages associated by Contractor's failure to locate and preserve utilities.

Do not park equipment or make stockpiles where driver sight distance to businesses and side street intersections is obstructed, especially after work hours. If it is necessary to park where drivers' views are blocked, Contractor shall make every effort to flag traffic accordingly. Give the travelling public first priority.

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.

The contractor shall place two (2) "electronic" Portable Changeable Message Signs (PCMS) at locations requiring lane closures for one-week prior to the closures, or as directed. Obtain approval from Engineer for the actual message that will appear on the boards. If more than two phases of a message are required per board, then provide additional PCMS's to meet the two-phases-per-board requirement.

The Contractor will be required to maintain a minimum of one through lane with flaggers/pilot vehicle during milling or paving operations, except with written approval by the Inspector.

If multiple days are required to complete work, Contractor shall not leave work in hazardous conditions, as determined by Engineer.

Contractor shall maintain positive drainage for permanent and temporary site conditions for duration of project.

Areas of the edge/end transition that are milled shall be under sealed and overlaid the same day and completely finished before opening to traffic.

Contractor shall be responsible for hauling and disposing of all planing ACP materials off the project site. Consider subsidiary to the pertinent Items.

The Contractor shall configure the longitudinal joints of the surface course placement to be away from the wheel paths, preferably to coincide with lane lines.

The actual quantity required may vary from the estimated quantities in the contract. The Contractor shall be compensated for completed work based on actual quantities per bid item.

All accepted "Plane Asphalt Concrete Pavement" will be measured by the square yard of specified milling areas. Thickness of milling for overlay transverse/longitudinal tapers shall be 0" to 2".

All accepted sealing will be measured by the gallon of asphalt (oil) and by cubic yard of aggregate. Thickness of sealing shall be no greater than  $\frac{1}{4}$ ".

All accepted "Dense-Graded Hot-Mix Asphalt" (Type D) will be measured by the ton of composite hot mix, which includes asphalt, aggregate, and additives. Thickness of overlay application shall be 2".

County will pay to the Contractor, for the satisfactory performance of the work, a specified unit price per square yard of milling, per gallon of asphalt (oil), per cubic yard

of aggregate, per ton of hot mix, and per linear-foot of striping. This price shall be full compensation for furnishing all labor, equipment, time, materials and incidentals necessary to complete the Work. Surface preparation and cleaning shall be considered a part of the work and will not be measured or paid in addition to the above stated unit price.

Testing may be performed at the request of the County any time during the length of the contract through an independent testing laboratory. Testing may be requested by the County on any and/or all items on this contract. If the results determine the item did not meet specifications, then the cost of the testing will be borne by the Contractor. If the results of the test determine that the item did meet specifications, the cost of the testing will be borne by the County.

Final cleanup will include the removal of excess material considered detrimental to vegetation growth within the working area. Materials such as excess asphalt and other materials, as specified by the Engineer, will be removed at the Contractor's expense.

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.

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.

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.

Contractor's equipment and vehicles shall not be maintained on-site during construction, except at designated sites as approved by the Inspector.

Contractor shall mark and maintain 100 ft stations for the duration of the project, as directed.

#### ITEM 160 - TOPSOIL

Obtain approval of all topsoil sources before digging begins. Ensure off-site topsoil has a minimum PI of 25, or as directed. The County reserves the right to take samples, as needed, to assure that the material meets the PI and other requirements as indicated in the Specifications (Fertility, Organics, Erodability, etc.).

No Sandy Loam allowed, unless the project dictates otherwise.

Construct topsoil stockpiles of no more than five (5) feet in height.

Track ALL topsoiled slopes left idle for more than 14 days, within or at the end of the 14-day idle period, to prevent erosion. Tracking consists of operating a tracked vehicle or equipment up and down the slope, leaving track marks perpendicular to the direction of the slope. Retrack slopes after rain event, as directed. Consider the tracking of slopes to prevent erosion as subsidiary to the pertinent Items.

Upon final grading, immediately track all topsoiled slopes to prevent erosion as directed. Consider subsidiary to the pertinent Items.

Place topsoil four (4) inches thick by eight (8) feet wide along roadside edges of the new/existing surface courses shown on the Typical Section in the plans.

#### <u>ITEM 164 – SEEDING FOR EROSION CONTROL</u>

Drill seeding to be distributed uniformly over the area shown on the Typical Section in the plans.

After 60 days, areas with little or no growth shall be re-seeded at contractor's expense.

#### ITEM 166 – FERTILIZER

Fertilizer shall be applied before seeding.

Fertilizer shall be delivered in bags unless otherwise specified or approved prior to delivery. Bags shall be clearly labeled showing contents. When non-bagged, loose fertilizer is approved, documentation will be required for each load of material delivered verifying authenticity of material.

Fertilizer shall be granular and essentially dust free.

#### **ITEM 168 – VEGETATIVE WATERING**

The Contractor shall obtain water at a source that is metered or shall furnish the manufacturer's specifications showing tank capacity for each truck used.

The Contractor shall notify the Inspector prior to watering that the Inspector may verify meter readings or truck counts.

Water all areas of the project to be top soiled and seeded. Maintain the seed bed in a condition favorable for the growth of grass.

Watering can be postponed immediately after a rainfall on the site of ½ inch or grater, but shall be resumed before the soil dries out, continue watering until final acceptance.

Watering rates shall be 12,000 gallons/acre per working day for 15 consecutive working days (the acreage is calculated based on a width of 10' and the length of each roadway edge).

Rate and frequency may be adjusted with the approval of the Engineer, to meet site conditions.

#### <u>ITEM 300 – ASPHALTS, OILS, AND EMULSIONS</u>

Asphalt season starts April 1 and ends September 30.

No engine oil shall be used as a component of any asphalt or emulsion.

Non-Tracking Tack Coat Emulsion shall be applied on milled edge/end transition prior to HMAC placement and considered subsidiary to the pertinent Items.

#### ITEM 302 – AGGREGATES FOR SURFACE TREATMENTS

Previously tested aggregates delivered to the project which are found to contain excessive quantities of dust (more than 0.5 percent passing the no. 40 sieve) during pre-coating, stockpiling or hauling operations, will be rejected, unless otherwise directed. Use test method Tex-200-F, Part I, for testing.

#### ITEM 316, 341

Perform work during appropriate weather conditions, unless otherwise directed. If work is performed at the Contractor's option, during, or prior to, inclement weather conditions, and the work is damaged, the Contractor is responsible for all costs associated with replacing the work.

#### <u>ITEM 316 – SURFACE TREATMENTS</u>

Do not apply asphalt within 1½ hours of sunset, or later, unless otherwise directed.

Ensure the accuracy of the Distance Measuring Instrument (DMI) with the Engineer, prior to marking the Asphalt and Rock Land shots.

Surface all transitions, tapers, climbing lanes and intersections to the limits as directed.

Remove and dispose of, off the right of way, any existing traffic buttons before beginning surfacing operations. Remove dirt, dust or other harmful material prior to underseal application. If necessary, blade pavement edges as directed by engineer. Consider subsidiary to the pertinent Items.

#### ITEM 341 - DENSE-GRADED HOT-MIX ASPHALT

Provide mixture Type D, where applicable, using PG binder 70-22. Unless otherwise approved, provide Type D mixtures that have no less than 5% asphalt binder.

Recycled Asphalt Shingles (RAS) or Recycled Asphalt Pavement (RAP) are not permitted.

Target laboratory molded density is 96.5% for all mixtures without RAP and when using a Texas Gyratory Compactor (TGC) for designing the mixture.

When using Superpave Gyratory Compactor (SGC) to design mixtures, submit the SGC mix design to the Engineer for approval.

Minimum VMA during production shall be equal to or greater than Design VMA as shown in Table 8 for all mixture types.

All mixtures must meet the Hamburg requirement as stated in the table below.

High- Temperature	Test	Hamburg Wheel Test Requirements <sup>1</sup>	
Binder Grade	Method	Minimum # of Passes @ 0.5" Rut Depth, Tested @122°F	
PG 64 or lower	Tex-242-F	7,000	
PG 70	Tex-242-F	15,000	
PG 76 or higher	Tex-242-F	20,000	

 The Engineer may accept Hamburg Wheel test results for production and placement if no more than 1of the 5 most recent tests is below the specified number of passes and the failing test is no more than 2,000 passes below the specified number of passes. The County may at any time request that paving operation be stopped, if there is observance of pavement irregularities which could adversely affect the pavement quality.

HMAC shall be placed in layers/lifts as identified in the plans. Lifts shall be compacted thoroughly and uniformly to obtain the compaction and cross section identified in the plans.

Under no circumstances shall the HMA material be dumped on or near the job site and then reloaded for hauling to the site for placement.

All HMA construction joints shall be staggered for each proceeding lift. Ensure placement sequence to avoid excess distance of longitudinal joint lapback not to exceed one day's production rates.

Submit any proposed adjustments or changes to a job mix formula to the Engineer before production of the new job mix formula.

The Contractor shall provide saw cutting where necessary. This shall not be paid for directly, but shall be considered subsidiary to Bid Item Dense-Graded Hot Mix Asphalt.

- The Contractor shall utilize a material transfer device per Item 320, a grade reference (such as a ski) for the overlay operations. Consider subsidiary to the pertinent Items.
- 2. Incorporate a maintain a 3H:1V safety wedge for any roadway edge of 2 inches or greater against adjacent travel lanes. Consider subsidiary to the pertinent Items.
- 3. Taper transverse faces at ends of passes as directed.
- 4. Make transverse tapers on each end of each pass using a minimum slope rate of 60H:1V. Tapers shall be removed directly before placement of the final HMA. Consider subsidiary to the pertinent Items.
- 5. Use a 10 ft. straightedge, where allowed, on all surface and intermediate pavement layers, as directed by the Inspector.

Acceptance Plan is not applicable to this project; no bonus and/or penalty are allowed. Acceptance of work will follow the specification as outlined with the clarification below.

Provide performance grade (PG) binders that do not contain Recycled Engine Oil Bottoms (REOBs) or Poly Phosphoric Acid (PPA).

For Mixture Design Verification, provide the Engineer with two 5-gallon buckets of each aggregate stockpile to be used on the project and three gallons of each PG binder from the plant to be used on the project. Sufficient quantities of any other additives that will be used in the HMA mixture shall also be provided.

Prior to allowing production of the trial batch, the Engineer will use the materials provided by the Contractor to perform the following tests to verify the HMA mixture design.

- 1. Indirect Tensile Test in accordance with Tex-226-F
- 2. Hamburg Wheel Test in accordance with Tex-242-F
- 3. Overlay Test in accordance with Tex-248-F
- 4. Cantabro Test in accordance with Tex-245-F

For mixtures designed with a Texas Gyratory Compactor (TGC), the Engineer may require that the target laboratory molded density be raised to no more than 97.5% or may lower the design number of gyrations to no less than 35 for mixtures designed with an SGC if any of the following conditions exist.

- 1. The Indirect Tensile Test results in a value greater than 200 PSI
- 2. The Hamburg Wheel Test results in a value less than 3.0 mm
- 3. The Overlay Test results in a value less than 100 cycles
- 4. The Cantabro Test results in a value of more than 20% loss

In lieu of or in addition to evaluating the mixture design prior to allowing a trial batch to be produced, the Engineer may also evaluate the mixture produced during the trial batch for compliance with the 4 tests listed above.

#### **ITEM 354 - PLANING AND TEXTURING PAVEMENT**

No milling operation can begin until passing test results of trial batch are received.

A single cut will be permitted if at most a 1¼-inch vertical offset is created against adjacent lanes when opened to traffic at the end of a work period.

A transverse transition taper (butt joint) will be sawcut, milled to a transition length of 50 feet to 1 inch in depth for main roads and 25 feet to 1 inch in depth for side streets, unless otherwise shown on the plans.

A longitudinal transition taper will be milled along all existing MBGF mow strips and driveways shown on the plans.

Edge milling shall be done with a large miller with grade control.

Remove the loose material from the roadway before opening to traffic.

#### ITEM 502 - BARRICADES, SIGNS, AND TRAFFIC HANDLING

The contractor shall provide two (2) "electronic" Portable Changeable Message Signs at locations requiring lane closures for one-week prior to the closures, or as directed. This shall not be paid for directly, but shall be considered subsidiary to this Bid Item.

Contractor shall provide all traffic control measures to prosecute the work and to ensure a minimum inconvenience to traffic around the construction area. Should the contractor's traffic control measures be found unsatisfactory by the Engineer or Inspector, overlay operations will cease.

The Traffic Control Plan (TCP) for this project shall be as detailed on TxDOT standard plan sheet TCP (2-2)-12 thru TCP (2-4)-12, TCP (3-1)-13, TCP (3-3)-13, TCP (3-4)-13, TCP (7-1)-13, the Texas Manual on Uniform Traffic Control Devices, and the Work Zone Traffic Control Device List (WZTCDL).

Utilize barrels or plastic drums for all merging tapers.

Take immediate action to modify Closures / Traffic Control, if at any time backup (roadway queuing) becomes unreasonable (greater than 10 minutes). Have in place a contingency plan of how this will occur.

Do not set up any Lane Closure / TCP when the pavement is wet prior to the "setup," unless otherwise directed. Revise Traffic Control, when inclement weather is imminent, as directed.

Within the limits of the project, provide standard barricades, warning signs, delineators, lights, 28-inch cones, and flaggers in sufficient numbers and combinations, as directed. All traffic control devices are listed in TxDOT's WZTCDL.

Use a minimum of two (2) flaggers, two (2) advance warning flashing arrow panels (TY C), two (2) of each signs CW20-5R or CW20-5L with appropriate distance plaques and CW9-2R or CW9-2L and 28-in. cones at each location in which milling or paving operations are in progress. Flaggers must comply with all requirements outlined in TxDOT Specification Item 502.2B. This shall not be paid for directly, but shall be considered subsidiary to bid Item Dense-Graded Hot Mix Asphalt.

The contractor shall provide rumble strips at locations requiring flaggers, or as directed. This shall not be paid for directly, but shall be considered subsidiary to this Bid Item.

Maintain access to all streets and driveways at all times, unless otherwise approved. Consider subsidiary to the pertinent Items.

Maintain enough workers to revise traffic control as directed.

Cover or remove any existing sign(s), which conflict with temporary traffic control operations. Install all permanent signs, delineation, and object markers necessary for the operation of any roadway before opening that section of roadway to traffic, regardless of the phase during which the roadway construction occurs. Erect the signs on temporary mounts until the permanent mounts are installed. Consider any costs associated with the temporary mounts subsidiary. Repair or replace any signs which are damaged by the

Contractor's operations during construction or which are deemed not sufficient. The Engineer will be the sole judge of the adequacy of the sign(s). Consider this work subsidiary to the pertinent Items.

Maintain Sandbags that are used for ballast, as directed. Consider subsidiary to the pertinent Items.

Contractor shall schedule work so that all lanes are open to traffic at night (after 6:00 P.M.), unless otherwise approved.

#### ITEM 666 - REFLECTORIZED PAVEMENT MARKINGS

Type II Reflectorized Pavement Markings to be applied prior to Type I. Type I Reflectorized Pavement Markings to be applied no sooner than 14 days after applying Type II, unless otherwise directed.

#### <u>ITEM 677 – ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS</u>

Blasting Method is required for the removal of existing pavement markings on bridge decks. No other methods will be allowed.

## GOVERNING SPECIFICATIONS (STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, AND SPECIAL SPECIFICATIONS)

WHERE DISCREPENCIES 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.

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 160 TOPSOIL

ITEM 164 SEEDING FOR EROSION CONTROL

ITEM 166 FERTILIZER

ITEM 168 VEGETATIVE WATERING

ITEM 300 ASPHALTS, OILS, AND EMULSIONS

ITEM 302 AGGREGATES FOR SURFACE TREATMENTS (300)(301)

ITEM 316 SURFACE TREATMENTS (210)(300)(302)

ITEM 341 DENSE-GRADED HOT-MIX ASPHALT (300)(301)(320) (520)(585)

ITEM 354 PLANING AND TEXTURING PAVEMENT

ITEM 500 MOBILIZATION

ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING

ITEM 666 REFLECTORIZED PAVEMENT MARKINGS

ITEM 672 RAISED PAVEMENT MARKERS

ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS

SPECIAL PROVISIONS: THE CONTENT OF THE SPECIAL PROVISIONS ARE

INCLUDED ON THE FOLLOWING PAGES.

SPECIAL PROVISION TO ITEM 300 (300-001) SPECIAL PROVISION TO ITEM 300 (300-005) SPECIAL PROVISION TO ITEM 300 (300-007)

	INDEX OF SHEETS
SHEET	DESCRIPTION
1	TITLE SHEET
2	ESTIMATE OF QUANTITIES SUMMARY
3	TYPICAL SECTION
4	MISC DETAILS
5	STA 0+00.00 - 9+75.00
6	STA 9+75.00 - 21+25.00
7	STA 21+25.00 - 32+75.00
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16	STA 124+75 00 - 136+25 00
17	STA 136+25.00 - 147+75.00
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24	TCP (1-2)-12
25	TCP (2-2)-12
26	TCP (2-3)-12
27	TCP (2-4)-12
28	TCP (3-1)-13
29	TCP (3-1)-13
	TCP (3-4)-13
30	TCP (7-1)-13
31	WZ (TD)-13
32	WZ (STPM)-13
33	
34	WZ (UL)-13
35	BC (1)-14
36	BC (2)-14
37	BC (3)-14
38	BC (4)-14
39	BC (5)-14
40	BC (6)-14
41	BC (7)-14
42	BC (8)-14
43	BC (9)-14
44	BC (10)-14
45	BC (11)-14
46	BC (12)-14
47	PM (1)-12
48	PM (3)-12
10	DM (2) 42

Williamson County, Texas

# WILLIAMSON COUNTY DEPARTMENT OF INFRASTRUCTURE

3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 512-943-3330 www.wilco.org

# PLANS FOR PROPOSED RONALD REGAN BLVD IMPROVEMENTS

From FM 3405 to RM 2338 FY 17

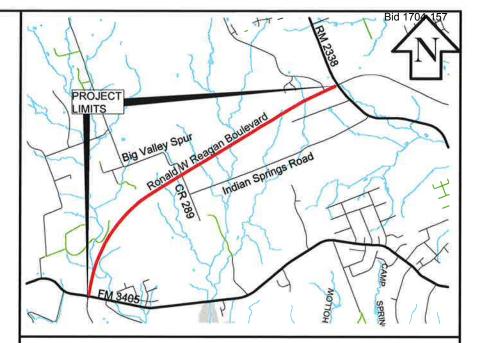


1848

GENERAL PROJECT INFO: REHAB OF RONALD REAGAN CONSISTS OF MILLING, SEALING, OVERLAY & RESTRIPING

LIMITS: FROM THE INTERSECTION OF FM 3405 TO THE INTERSECTION OF FM 2338, APPROXIMATELY 21,175 LF OR 4.0 MILES IN LENGTH.

# SHEETS AFFECTED



VICINITY MAP NTS

#### WILLIAMSON COUNTY

DESIGNED BY:

KON Q. RWAN. PROJECT ENGINEER

THE STANDARD / DETAIL SHEETS, #24 THRU #50, HAVE BEEN ISSUED BY ME AND ARE APPLICABLE TO THIS PROJECT.

APPROVED AND RECOMMENDED FOR CONSTRUCTION:

TERRON EVERTSON, P.E., DIRECTOR DATE OF ROAD & BRIDGE

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 11/29/2016

KON Q. KWAN

7/17 SHEET

1 of 50

REFERENCED STANDARD SPECIFICATIONS: SPECIFICATIONS ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION ON NOVEMBER 1, 2014 SHALL GOVERN THIS PROJECT.

<b>ESTIMATE OF QUANTITIES SUMMARY</b>
2" Overlay for Ronald Reagan - FM 3405 to RM 2338
Williamson County

		williamson County		
ITEM	NO	DESCRIPTION	UNITS	QTY
160	6003	FURNISHING AND PLACING TOPSOIL (4")	SY	35828
164	6033	DRILL SEEDING (PERM) (RURAL) (SANDY)	SY	35828
166	6001	FERTILIZER	AC	8
168	6001	VEGETATIVE WATERING	MG	1666
316	6175	AGGR (TY-B GR-4 SAC-B)	CY	845
316	6466	ASPH (CHFRS-2P OR CRS-2P)	GAL	33985
341	6043	D - GR HMA TY - D PG70 - 22	TON	11750
354	6021	PLANE ASPH CONC PAV (0" TO 2")	SY	5006
500	6001	MOBILIZATION	LS	1
502	6001	BARRICADES, SIGNS AND TRAFFIC HANDLING	MO	1
TEMP	DRARY	TABS		
662	6109	WK ZN PAV MRK SHT TERM (TAB) TY W	EA	51
662	6111	WK ZN PAV MRK SHT TERM (TAB) TY Y	EA	1949
PAINT				
666	6170	REFL PAV MRK TY II (W) 4" (SLD)	LF	42004
666	6178	REFL PAV MRK TY II (W) 8" (SLD)	LF	875
666	6182	REFL PAV MRK TY II (W) 24" (SLD)	LF	92
666	6184	REFL PAV MRK TY II (W) (ARROW)	EA	8
666	6192	REFL PAV MRK TY II (W) (WORD)	EA	6
666	6207	REFL PAV MRK TY II (Y) 4" (SLD)	LF	31028
666	6205	REFL PAV MRK TY II (Y) 4" (BRK)	LF	13644
666	6214	REFL PAV MRK TY II (Y) 24" (SLD)	LF	680
THERM	1O			
666	6302	RE PM W / RET REQ TY I (W) 4" (SLD) (090MIL)	LF	42004
666	6035	REFL PAV MRK TY I (W) 8" (SLD) (090MIL)	LF	875
666	6047	REFL PAV MRK TY I (W) 24" (SLD) (090MIL)	LF	92
666	6053	REFL PAV MRK TY I (W) (ARROW) (090MIL)	EA	8
666	6077	REFL PAV MRK TY I (W) (WORD) (090MIL)	EA	6
666	6311	RE PM W / RET REQ TY I (Y) 4" (BRK) (090MIL)	LF	13644
666	6314	RE PM W / RET REQ TY I (Y) 4" (SLD) (090MIL)	LF	31028
666	6146	REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)	LF	680
RPM				
672	6009	REFL PAV MRKR TY II-A-A	EA	944
672	6007	REFL PAV MRKR TY I-C	EA	44
ELIMIN	IATE			
677	6001	ELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)	LF	4040



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 04/06/2017

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$\pm$			
NO.	REVISION	BY	DATE

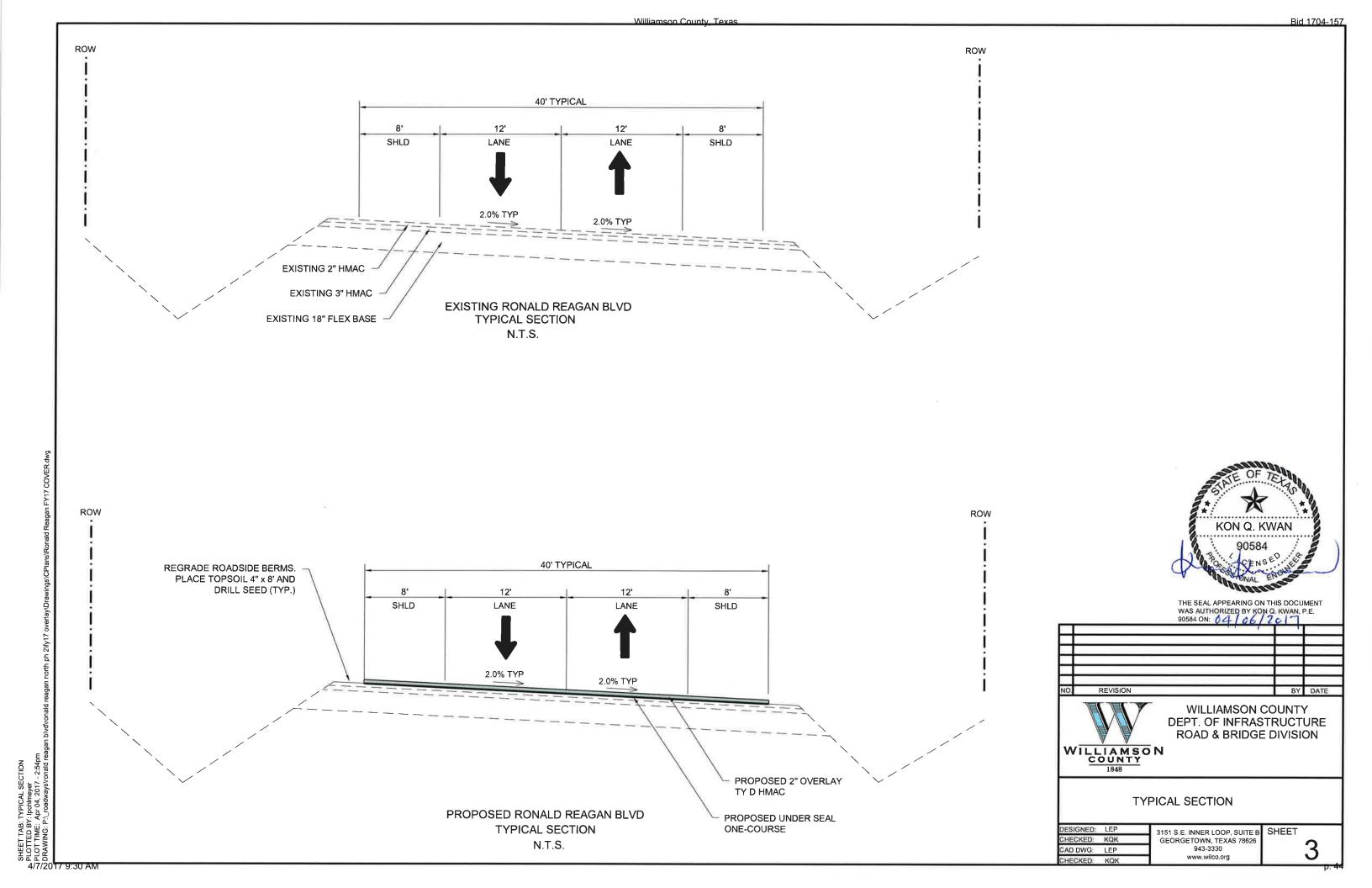


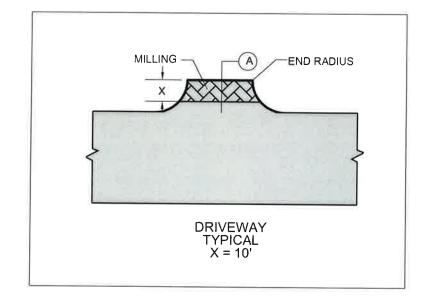
WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE ROAD & BRIDGE DIVISION

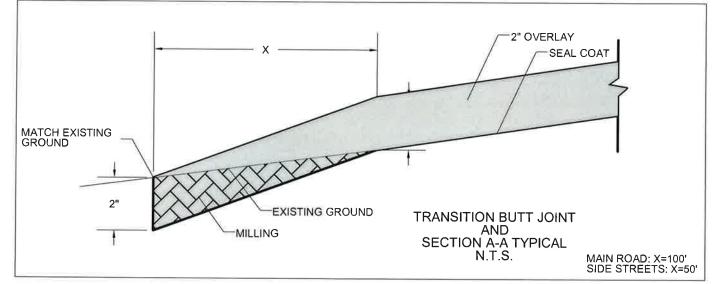
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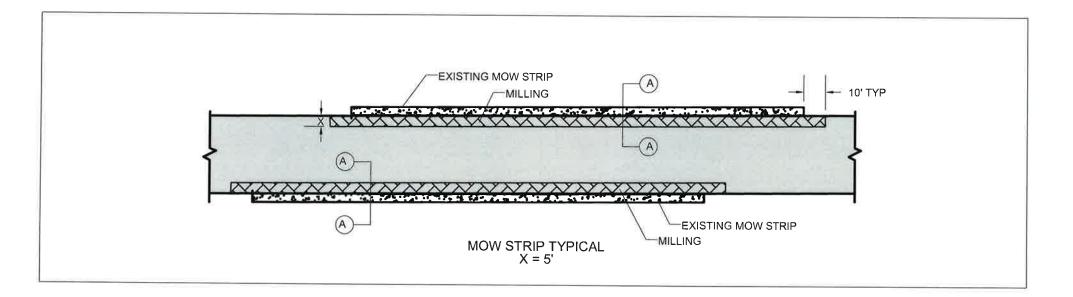
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CAD DWG:	LEP	
CHECKED.	MOM	

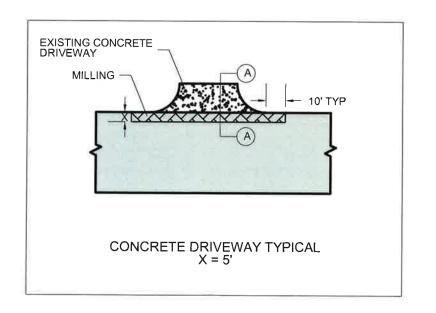
3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org





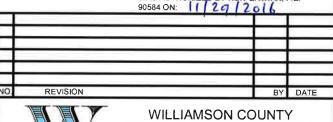








THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 1129/2016



WILLIAMSON COUNTY

DEPT. OF INFRASTRUCTURE ROAD & BRIDGE DIVISION

MISC. DETAILS

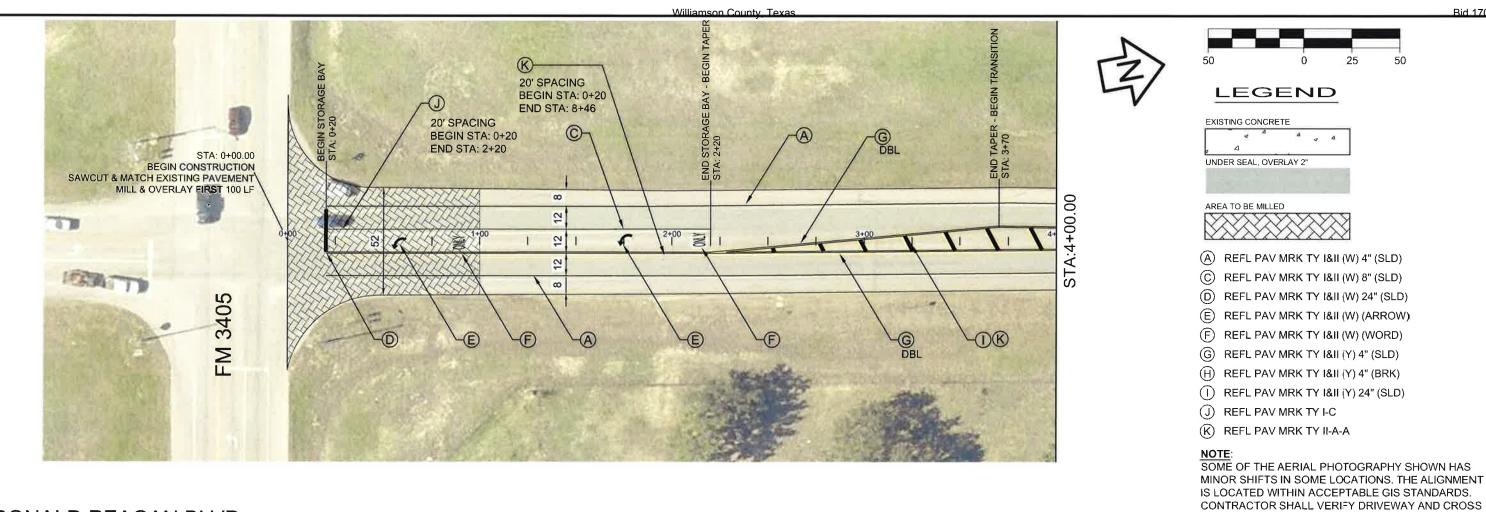
 DESIGNED:
 LEP
 3151 S.E

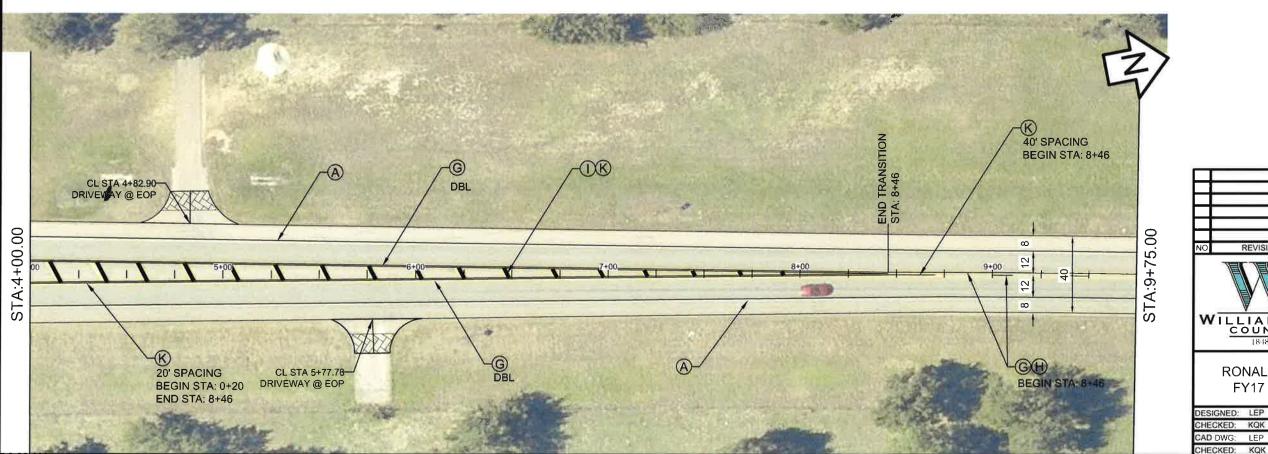
 CHECKED:
 KQK
 GEORG

 CAD DWG:
 LEP

 CHECKED:
 KQK

3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org

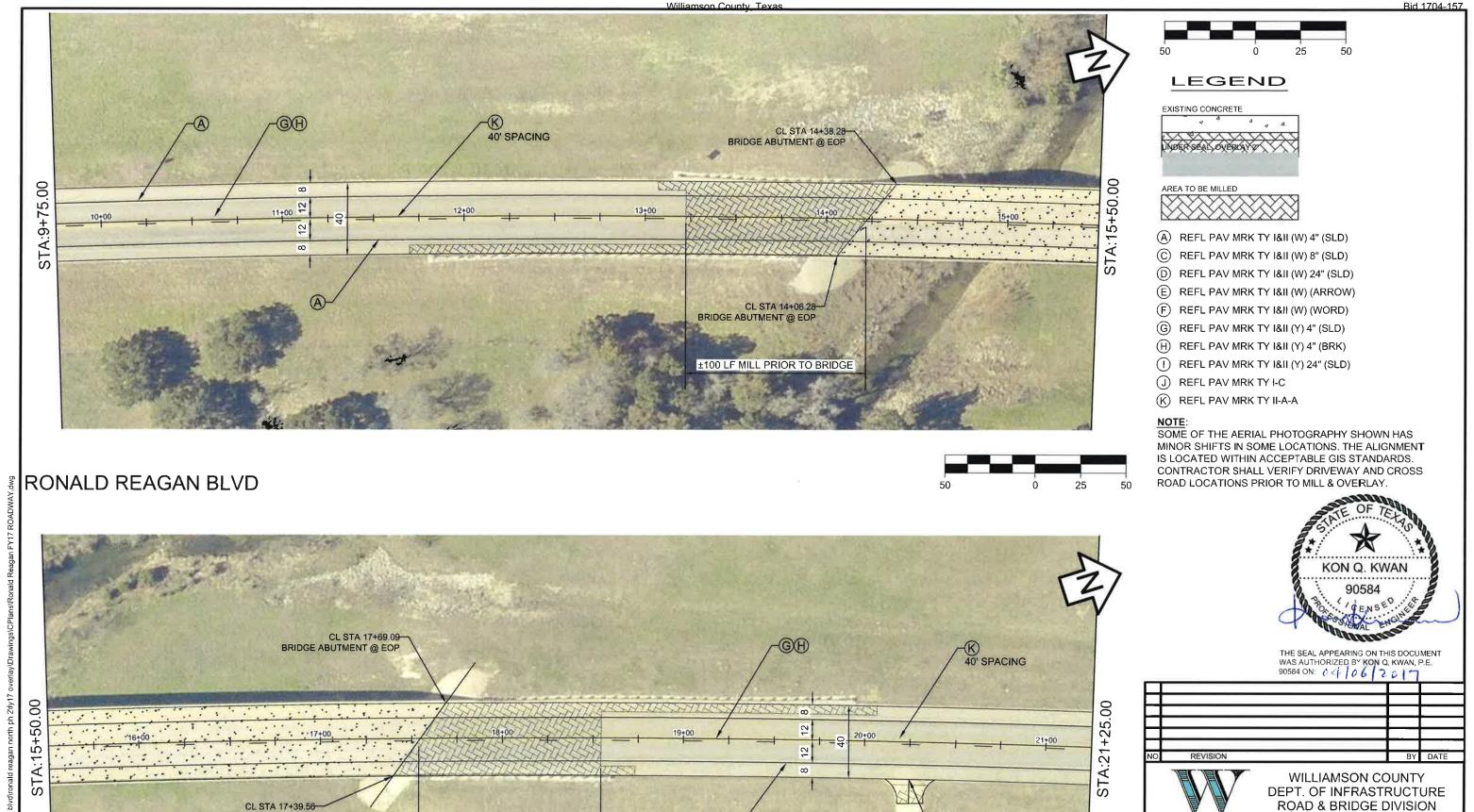




ROAD LOCATIONS PRIOR TO MILL & OVERLAY. KON Q. KWAN THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 0 + 06/201 WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** WILLIAMSON RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN DESIGNED: LEP SHEET 3151 S.E. INNER LOOP, SUITE B CHECKED: KQK GEORGETOWN, TEXAS 78626 943-3330

www.wilco.org

Bid 1704-157



SHEET TAB: STA 9+75.00 - 21+25.00
PPLOTTED BY: Ipothmeyer
CAPICOT TIME: Apr 06, 2017 - 1:30pm

**BRIDGE ABUTMENT @ EOP** 

±100 LF MILL AFTER BRIDGE

DESIGNED: LEP 3151 S.E. IN GEORGETC CAD DWG: LEP CHECKED: KQK

**RONALD REAGAN BLVD NORTH PH 2** 

FY17 OVERLAY & STRIPING PLAN

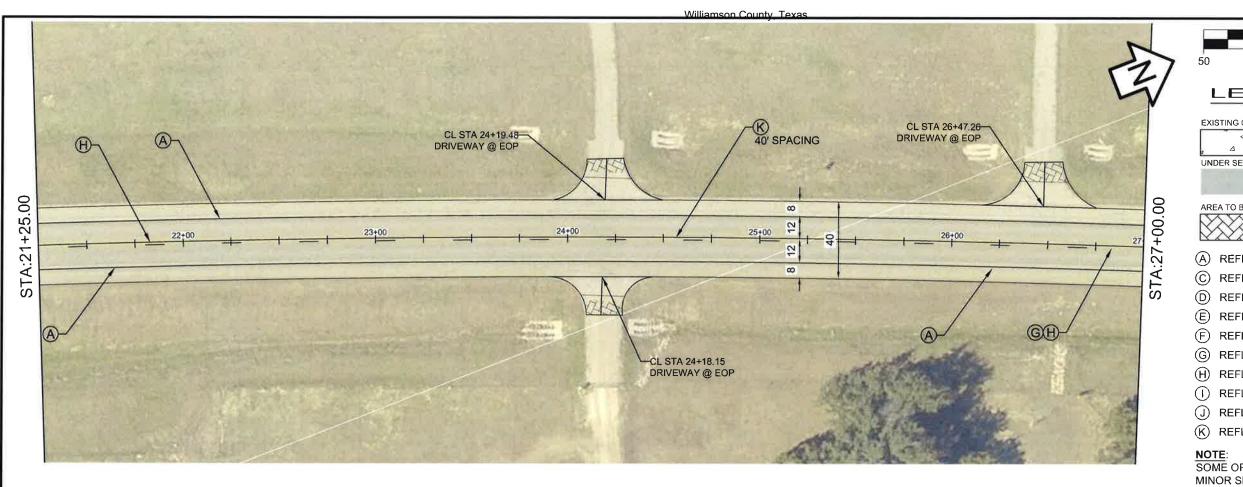
WILLIAMSON

CL STA 20+24.97

DRIVEWAY @ EOP

3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org

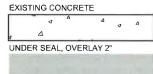
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# LEGEND



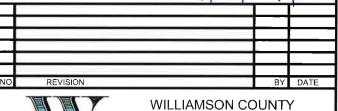


- (A) REFL PAV MRK TY I&II (W) 4" (SLD)
  - (C) REFL PAV MRK TY I&II (W) 8" (SLD)
  - D REFL PAV MRK TY I&II (W) 24" (SLD)
  - E REFL PAV MRK TY I&II (W) (ARROW)
  - (F) REFL PAV MRK TY I&II (W) (WORD)
  - (G) REFL PAV MRK TY I&II (Y) 4" (SLD)
  - (H) REFL PAV MRK TY I&II (Y) 4" (BRK)
  - (I) REFL PAV MRK TY I&II (Y) 24" (SLD)
  - J REFL PAV MRK TY I-C
  - (K) REFL PAV MRK TY II-A-A

NOTE:
SOME OF THE AERIAL PHOTOGRAPHY SHOWN HAS
MINOR SHIFTS IN SOME LOCATIONS. THE ALIGNMENT
IS LOCATED WITHIN ACCEPTABLE GIS STANDARDS,
CONTRACTOR SHALL VERIFY DRIVEWAY AND CROSS
ROAD LOCATIONS PRIOR TO MILL & OVERLAY.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 0 4 0 6 20 17





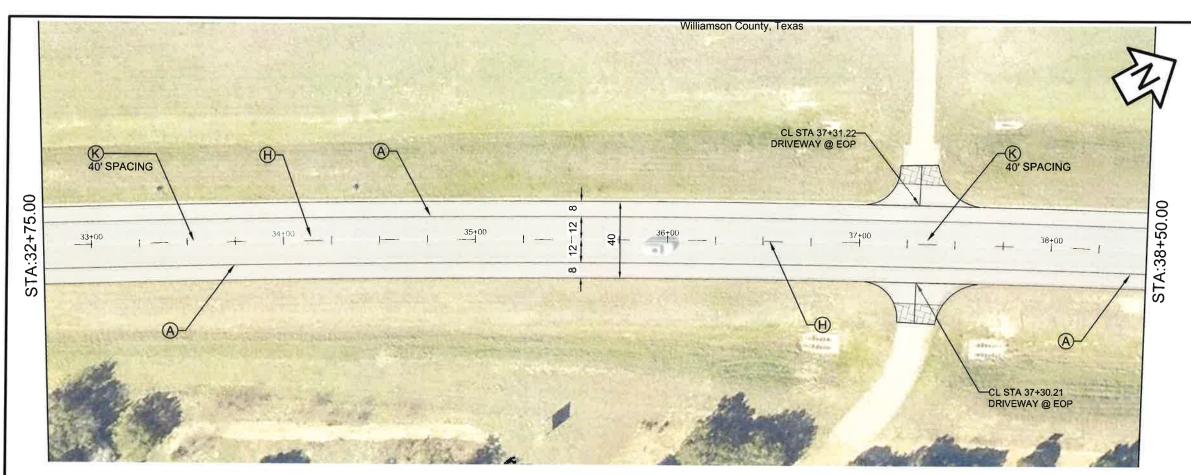
DEPT. OF INFRASTRUCTURE ROAD & BRIDGE DIVISION

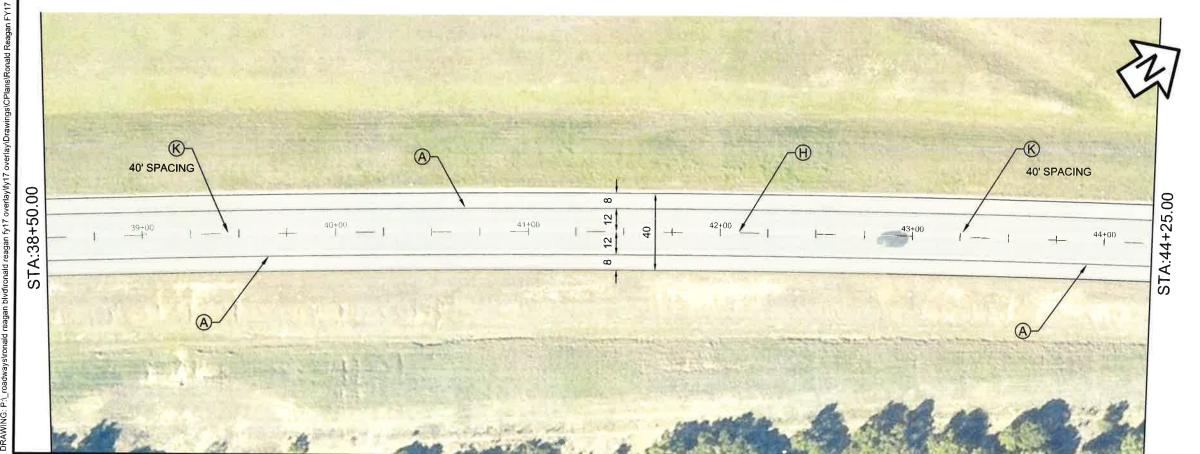
RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN

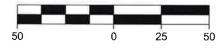
DESIGNED:	LEP	3151
CHECKED:	KQK	GEO
CAD DWG:	LEP	
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3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org SHEET 7

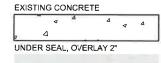
SHEET TAB: STA 21+25,00 - 32+75,00
PLOTTED BY: Johlineyer
C/PLOTTIME: Apr 06, 2017 - 1.31pm







# LEGEND



#### AREA TO BE MILLED



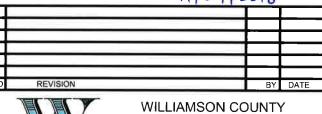
- (A) REFL PAV MRK TY I&II (W) 4" (SLD)
- © REFL PAV MRK TY I&II (W) 8" (SLD)
- (D) REFL PAV MRK TY I&II (W) 24" (SLD)
- (E) REFL PAV MRK TY I&II (W) (ARROW)
- (F) REFL PAV MRK TY I&II (W) (WORD)
- G REFL PAV MRK TY I&II (Y) 4" (SLD)
- (H) REFL PAV MRK TY I&II (Y) 4" (BRK) (I) REFL PAV MRK TY I&II (Y) 24" (SLD)
- (J) REFL PAV MRK TY I-C
- (K) REFL PAV MRK TY II-A-A

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 11 2 9 2 0 16



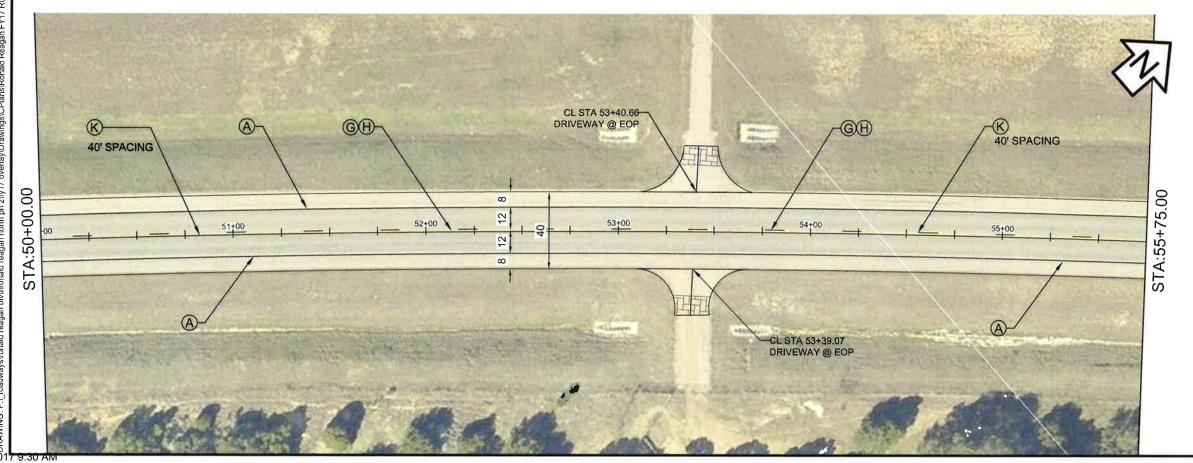


DEPT. OF INFRASTRUCTURE ROAD & BRIDGE DIVISION

RONALD REAGAN BLVD OVERLAY & STRIPING PLAN

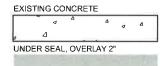
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3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org





## LEGEND



# AREA TO BE MILLED

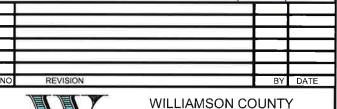


- A REFL PAV MRK TY I&II (W) 4" (SLD)
- © REFL PAV MRK TY I&II (W) 8" (SLD)
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- (I) REFL PAV MRK TY I&II (Y) 24" (SLD)
- J REFL PAV MRK TY I-C
- (K) REFL PAV MRK TY II-A-A

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 0 4 106 20 0



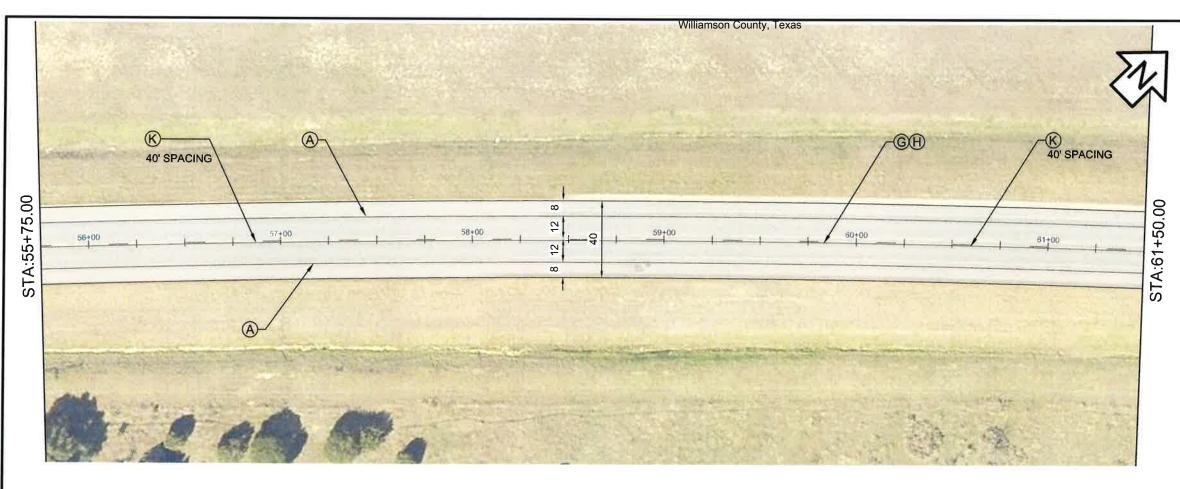


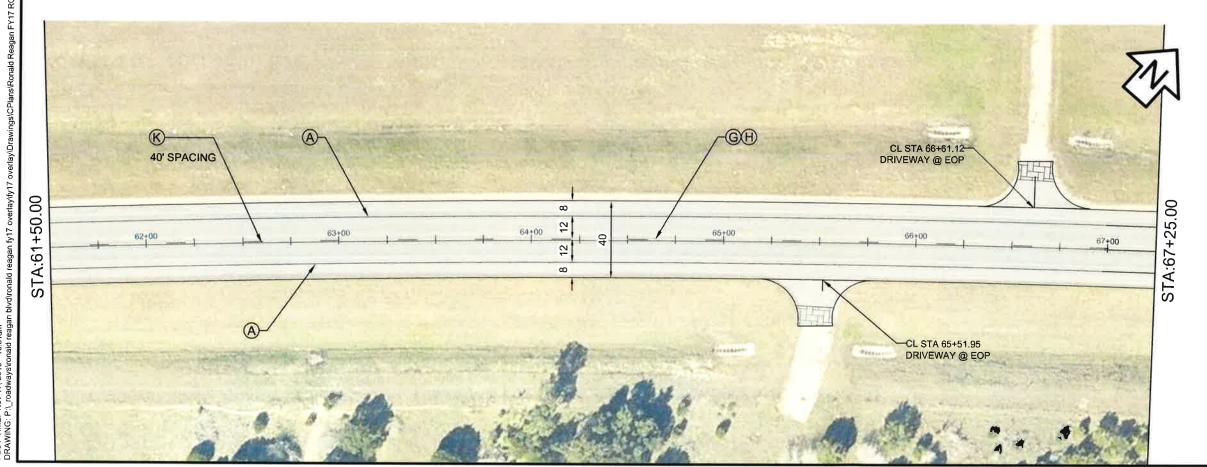
DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** 

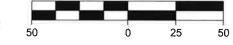
RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN

ESIGNED:	LEP	315
HECKED:	KQK	GI
AD DWG:	LEP	

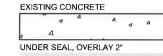
51 S.E. INNER LOOP, SUITE B EORGETOWN, TEXAS 78626 943-3330 www.wilco.org







# LEGEND



#### AREA TO BE MILLED

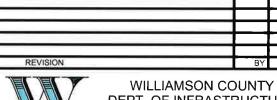


- (A) REFL PAV MRK TY I&II (W) 4" (SLD)
- (C) REFL PAV MRK TY I&II (W) 8" (SLD)
- D REFL PAV MRK TY I&II (W) 24" (SLD)
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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 1/29/2016



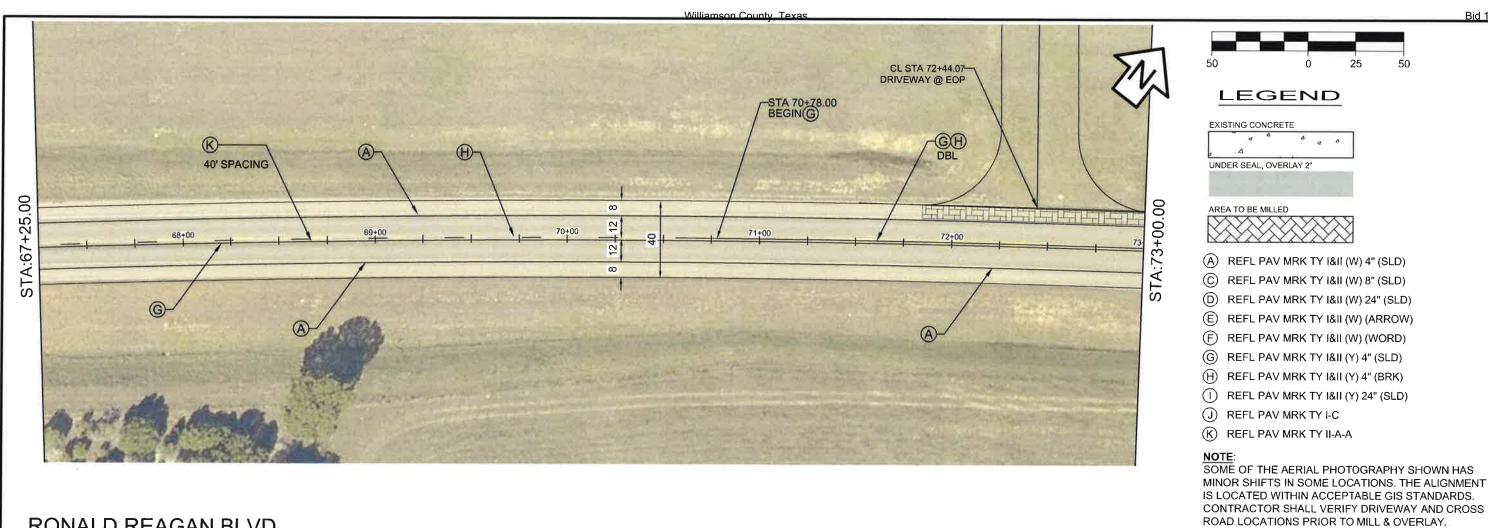


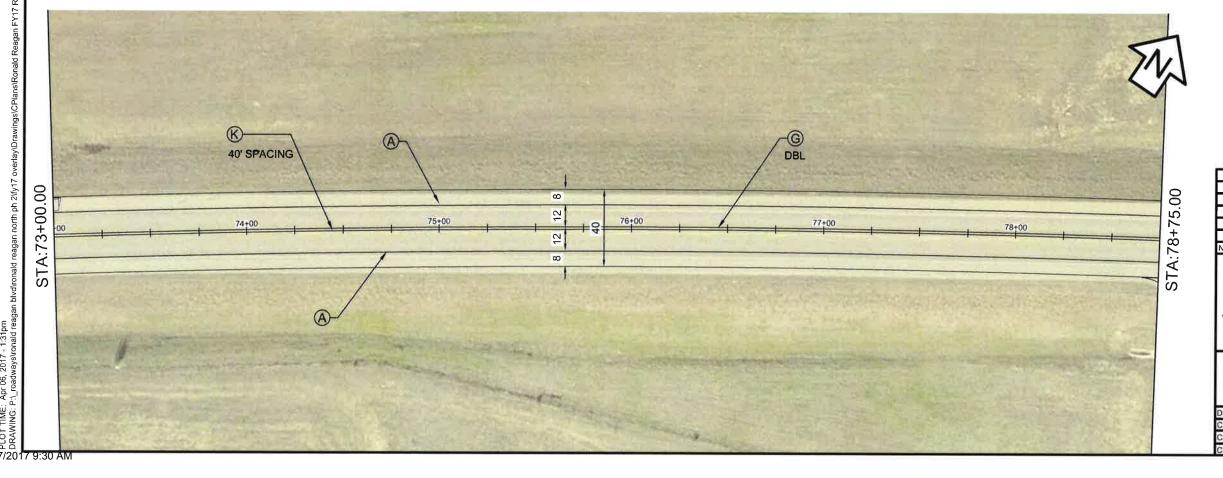
DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** 

RONALD REAGAN BLVD OVERLAY & STRIPING PLAN

DESIGNED:	LEP	31
CHECKED:	KQK	Ğ
CAD DWG:	LEP	
CHECKED.	KOK	_

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: () 4 0 ( / 7 0 | 7 WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** WILLIAMSON

KON Q. KWAN

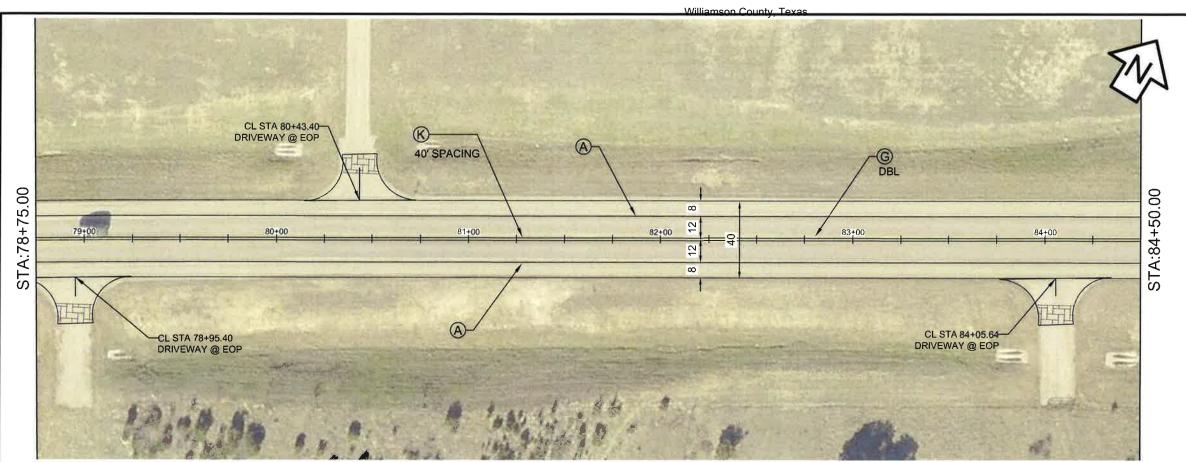
RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN

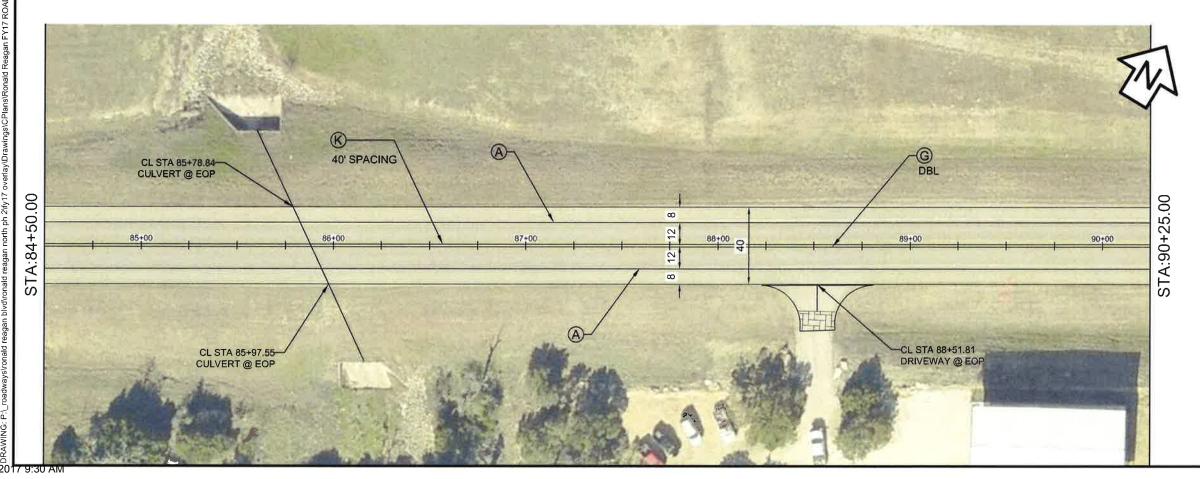
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3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 www.wilco.org

SHEET

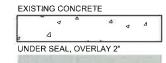
Bid 1704-157







# LEGEND





- A REFL PAV MRK TY I&II (W) 4" (SLD)
- © REFL PAV MRK TY I&II (W) 8" (SLD)
- (D) REFL PAV MRK TY I&II (W) 24" (SLD)
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- (K) REFL PAV MRK TY II-A-A

#### NOTE:

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P. E. 90584 ON: C 4 | O 6 | 7 0 1 7

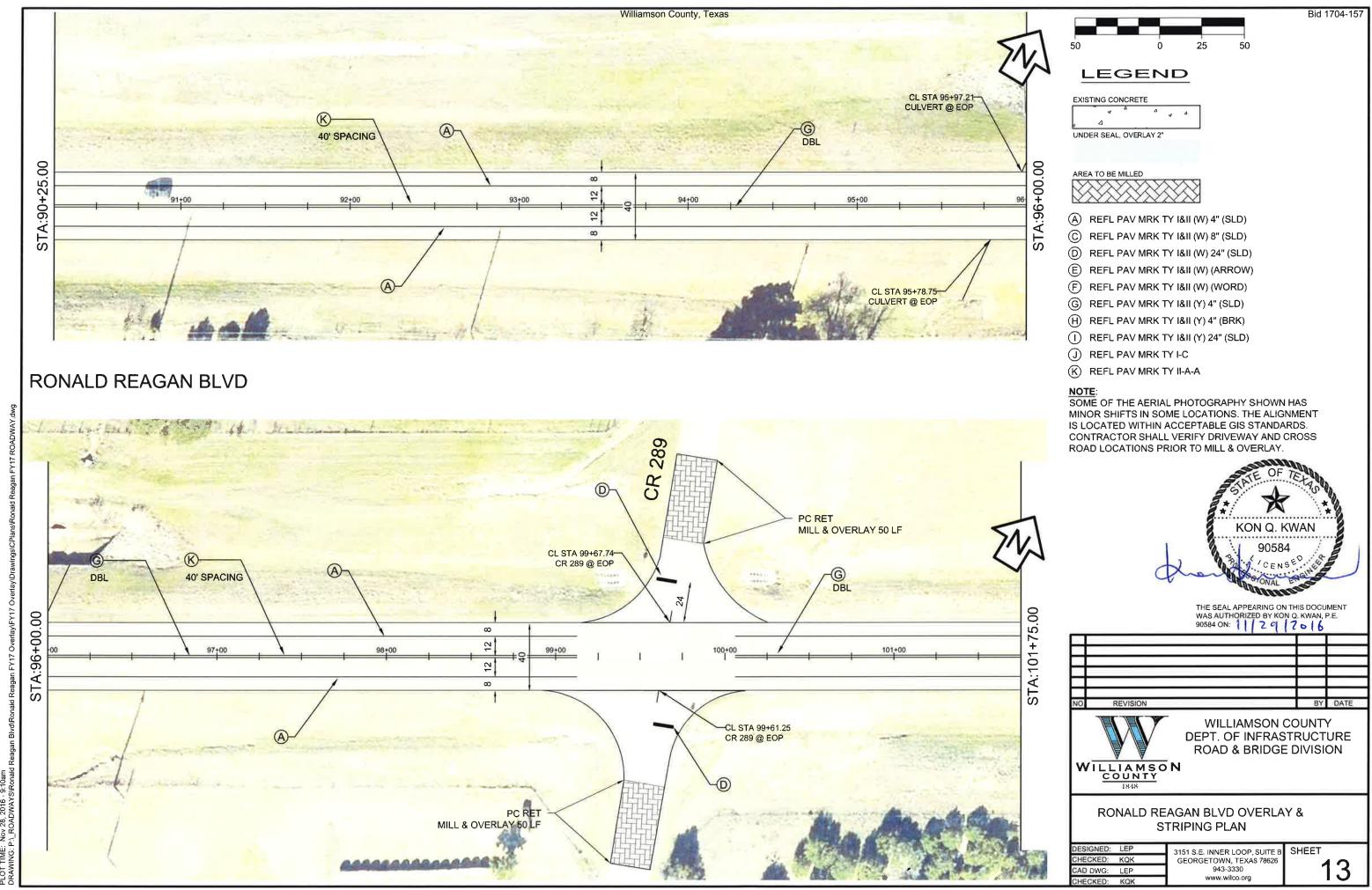
WILLIAMSON COUNTY



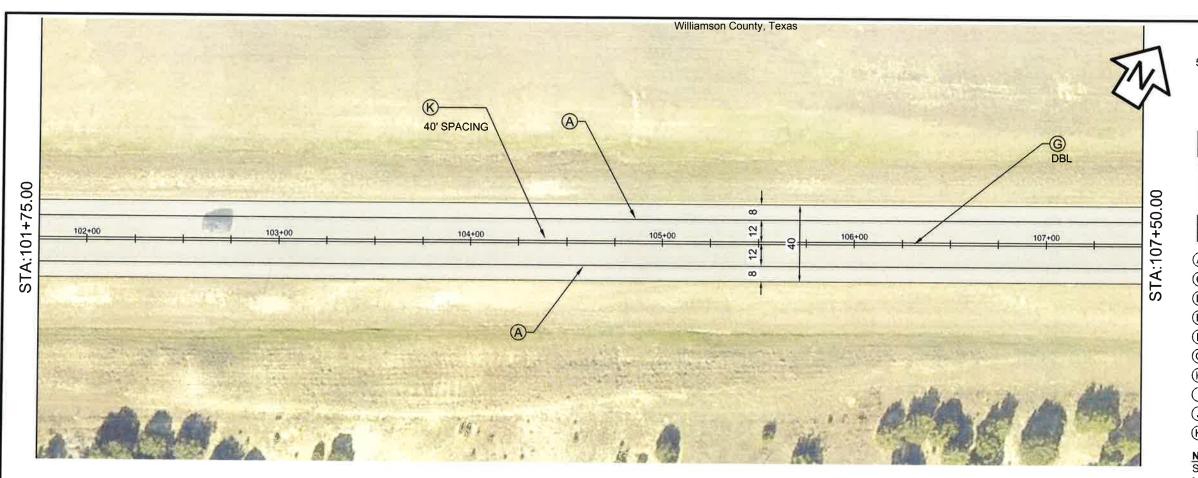
DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** 

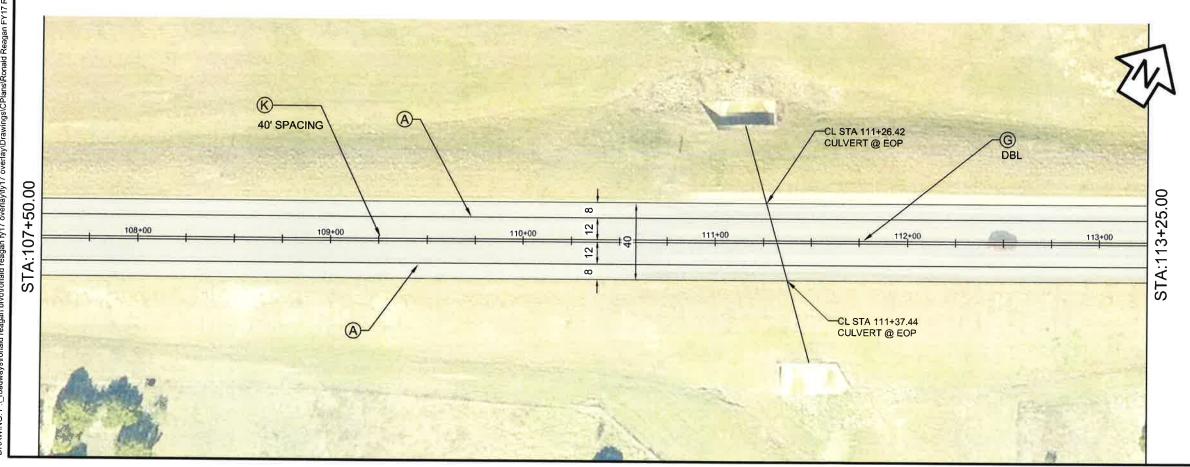
RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN

DESIGNED: LEP	3151 S.E. INNER LOOP, SUI
CHECKED: KQK	GEORGETOWN, TEXAS 786
CAD DWG: LEP	943-3330
	www.wilco.org



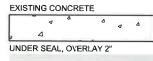
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# LEGEND



AREA TO BE MILLED

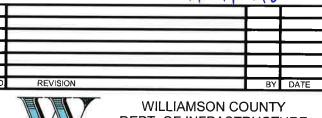


- (A) REFL PAV MRK TY I&II (W) 4" (SLD)
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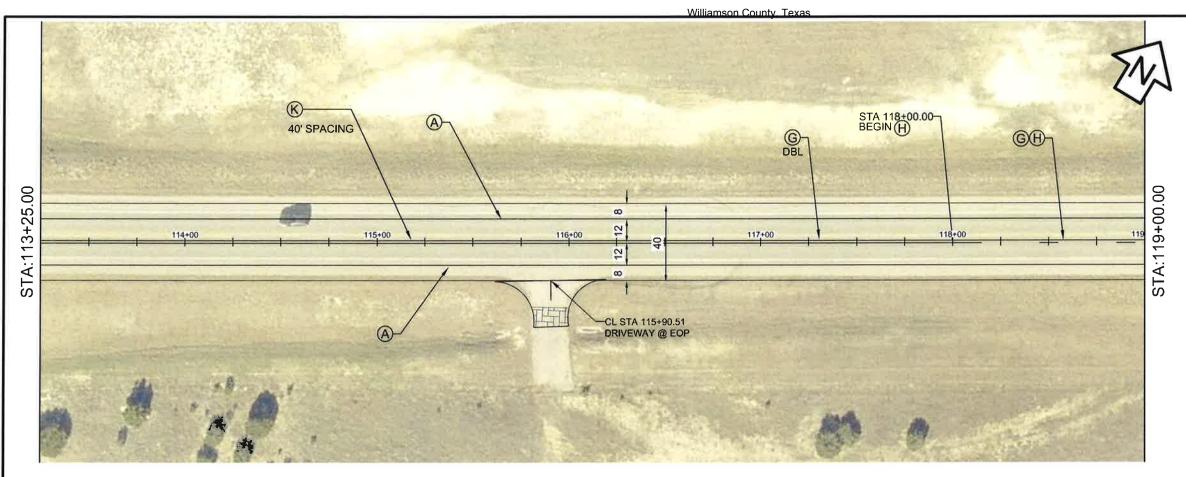
WILLIAMSON

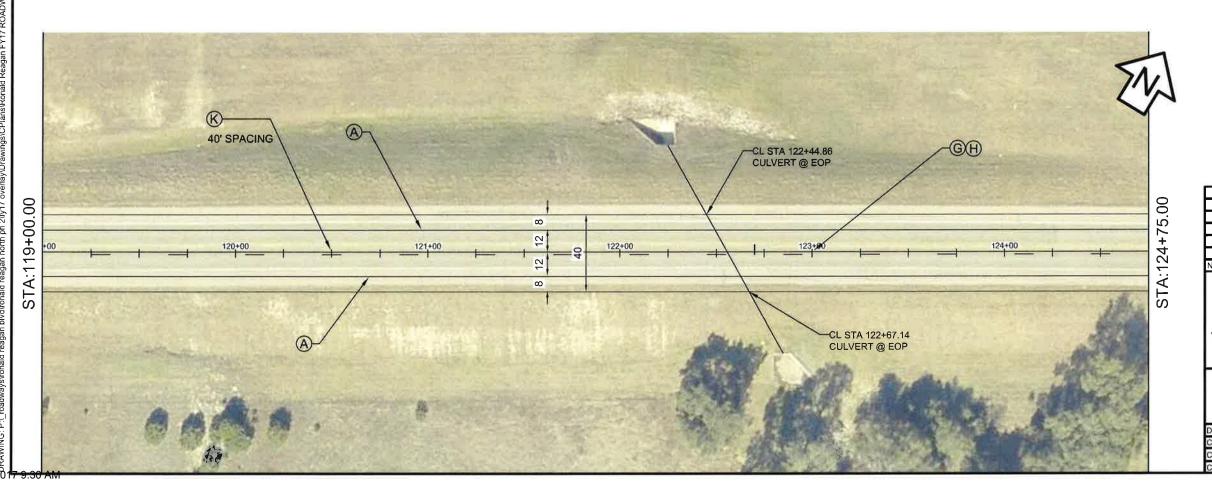
DEPT. OF INFRASTRUCTURE ROAD & BRIDGE DIVISION

RONALD REAGAN BLVD OVERLAY & STRIPING PLAN

DESIGNED:	LEP	315
CHECKED:	KQK	GE
CAD DWG:	LEP	
	110,200	_

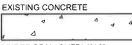
51 S.E. INNER LOOP, SUITE B EORGETOWN, TEXAS 78626 943-3330 www.wilco.org







# **LEGEND**



UNDER SEAL, OVERLAY 2"

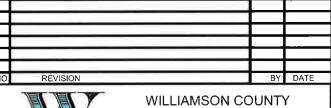


- (A) REFL PAV MRK TY I&II (W) 4" (SLD)
- © REFL PAV MRK TY I&II (W) 8" (SLD)
- (D) REFL PAV MRK TY I&II (W) 24" (SLD)
- (E) REFL PAV MRK TY I&II (W) (ARROW)
- (F) REFL PAV MRK TY I&II (W) (WORD)
- G REFL PAV MRK TY I&II (Y) 4" (SLD)
- (H) REFL PAV MRK TY I&II (Y) 4" (BRK)
- (I) REFL PAV MRK TY I&II (Y) 24" (SLD)
- J REFL PAV MRK TY I-C
- (K) REFL PAV MRK TY II-A-A

NOTE:
SOME OF THE AERIAL PHOTOGRAPHY SHOWN HAS
THE ALIGNMEN MINOR SHIFTS IN SOME LOCATIONS. THE ALIGNMENT IS LOCATED WITHIN ACCEPTABLE GIS STANDARDS. CONTRACTOR SHALL VERIFY DRIVEWAY AND CROSS ROAD LOCATIONS PRIOR TO MILL & OVERLAY.



THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 0 4 0 6 2017



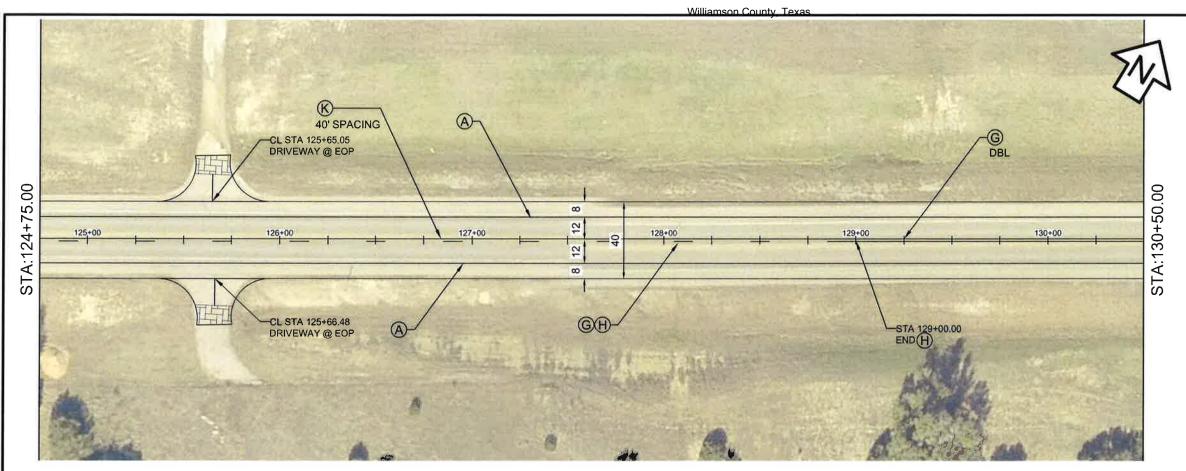
WILLIAMSON

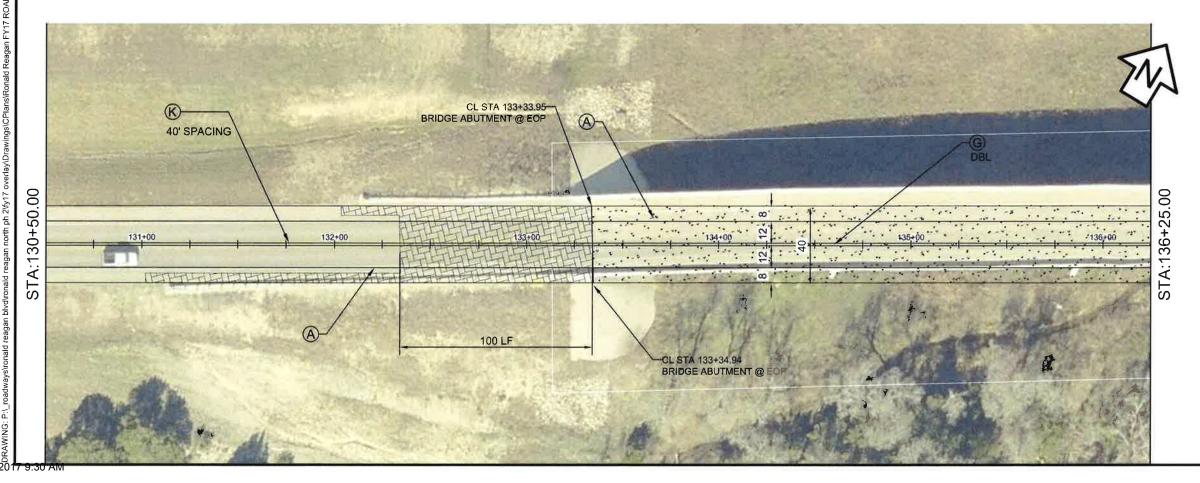
DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** 

RONALD REAGAN BLVD NORTH PH 2 **FY17 OVERLAY & STRIPING PLAN** 

www.wilco.org

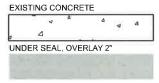
3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 CHECKED: KQK CAD DWG: LEP







# LEGEND



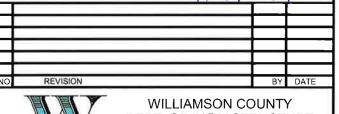
- (A) REFL PAV MRK TY I&II (W) 4" (SLD)
  - © REFL PAV MRK TY I&II (W) 8" (SLD)
- (D) REFL PAV MRK TY I&II (W) 24" (SLD)
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- G REFL PAV MRK TY I&II (Y) 4" (SLD)
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- (I) REFL PAV MRK TY I&II (Y) 24" (SLD)
- (J) REFL PAV MRK TY I-C
- K REFL PAV MRK TY II-A-A

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: 04/06/2017





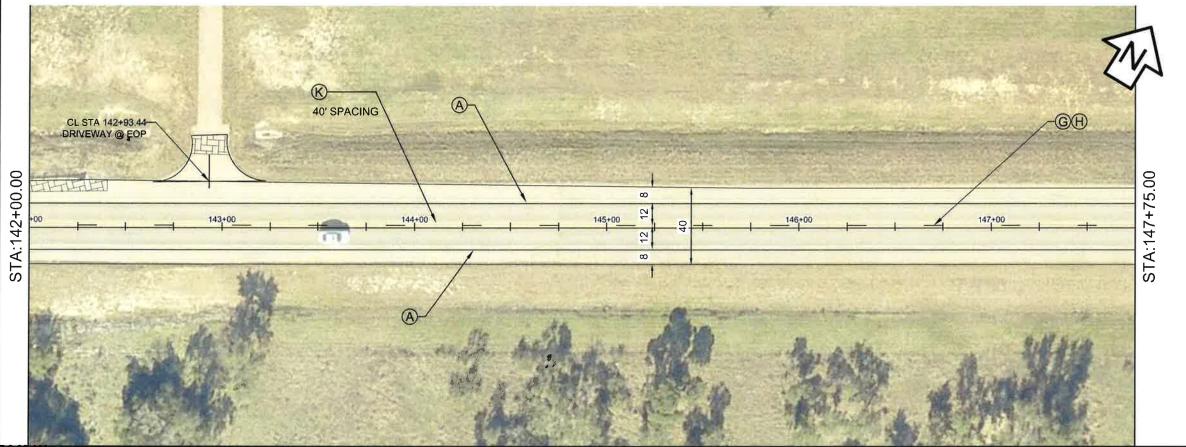
DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** 

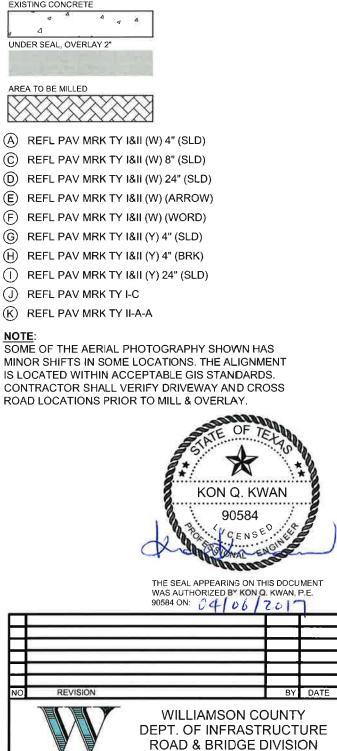
RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN

ESIGNED:	LEP	3151 S.E
HECKED:	KQK	GEORG
AD DWG:	LEP	

E, INNER LOOP, SUITE B GETOWN, TEXAS 78626 943-3330 www.wilco.org







WILLIAMSON

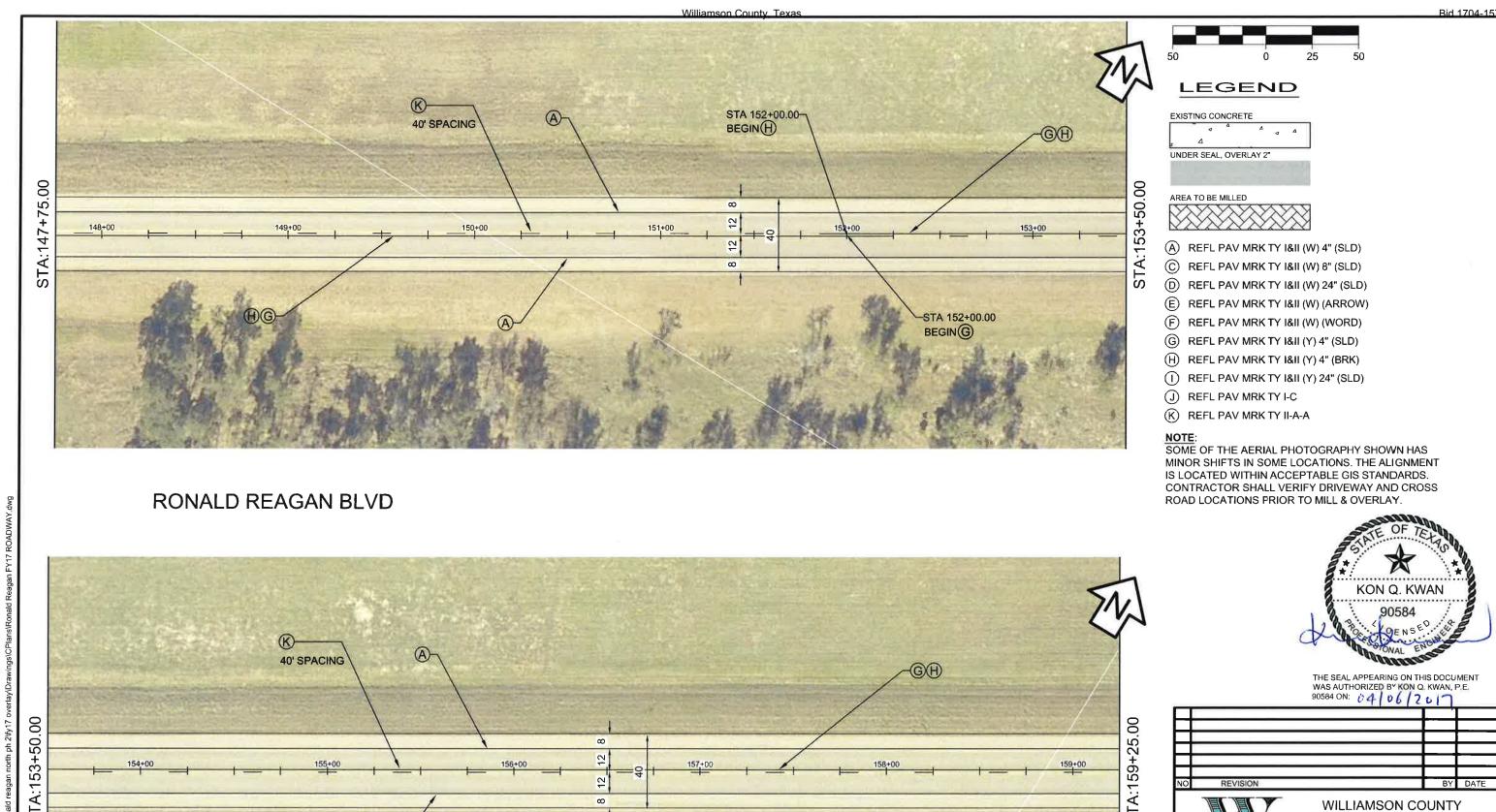
CAD DWG: LEP

RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN

SHEET TAB: STA 136+25.00 - 147+75.00
PPLOTTED BY: Ipohlmeyer
PLOT TIME: Apr 06, 2017 - 1:32pm

GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org

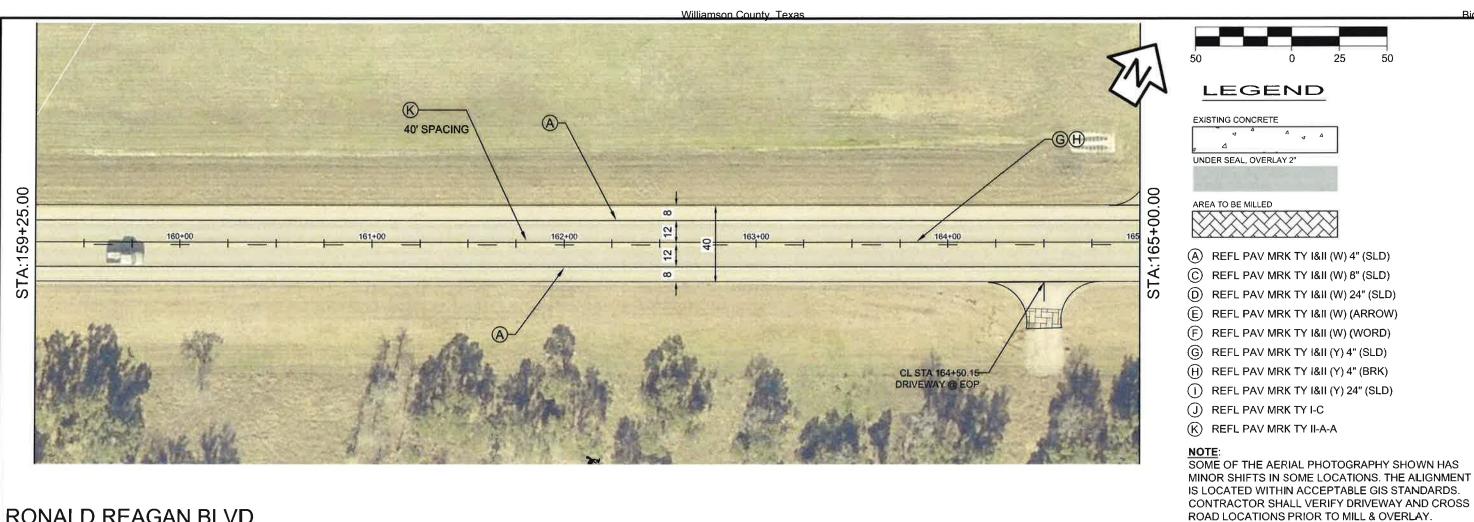
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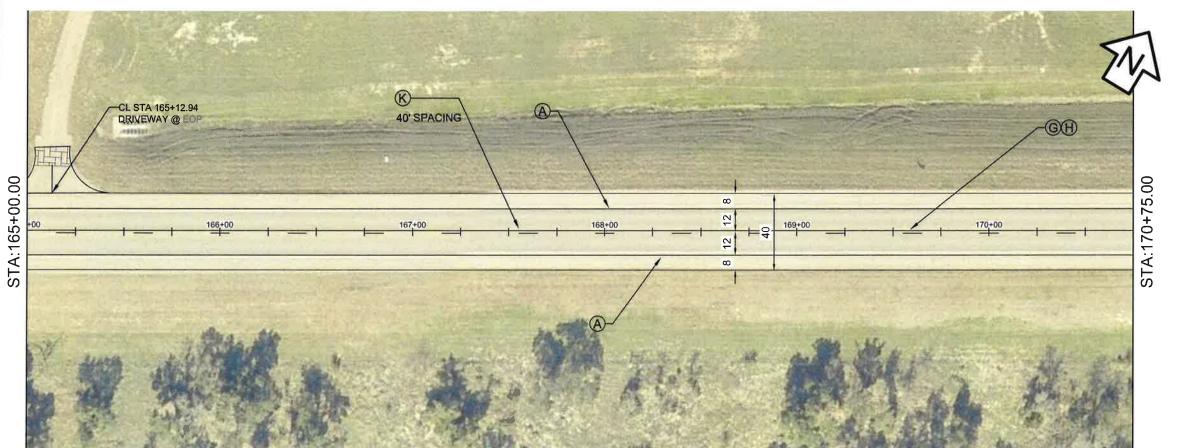
STA:153+50.00 STA:159+25.00 œ DEPT. OF INFRASTRUCTURE **ROAD & BRIDGE DIVISION** WILLIAMSON RONALD REAGAN BLVD NORTH PH 2 **FY17 OVERLAY & STRIPING PLAN** CHECKED: KQK

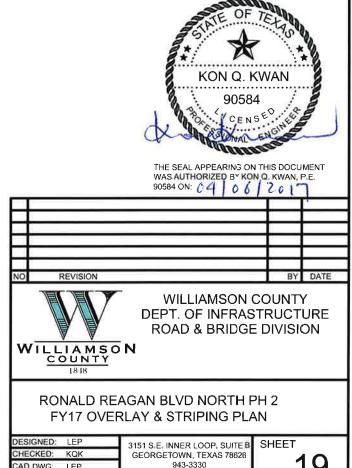
3151 S.E. INNER LOOP, SUITE B SHEET GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org

18

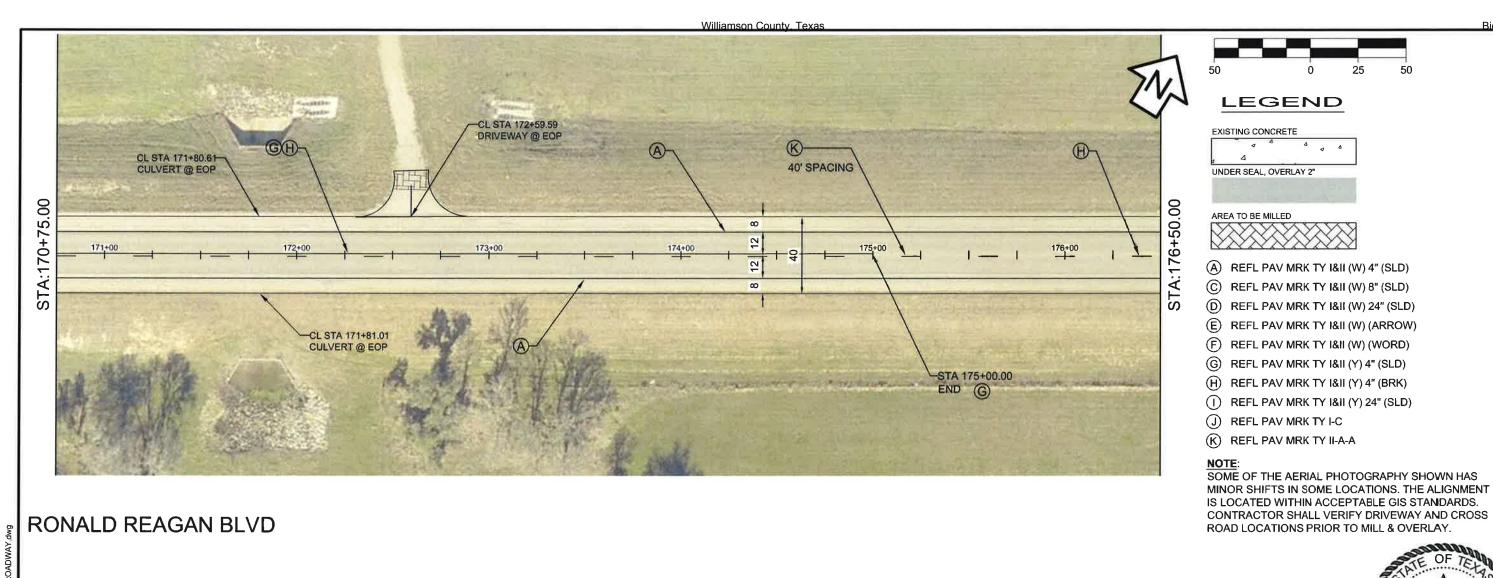


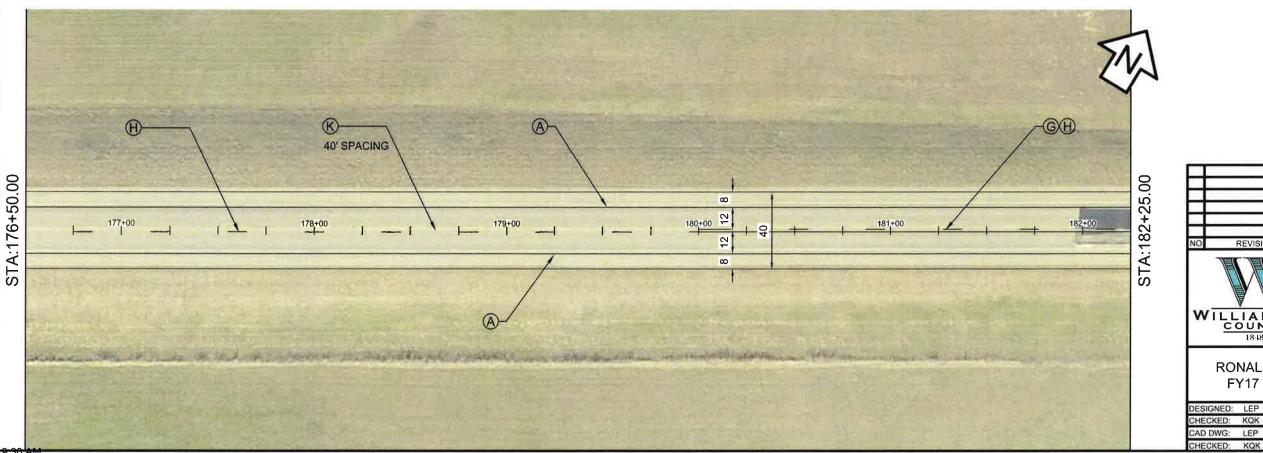


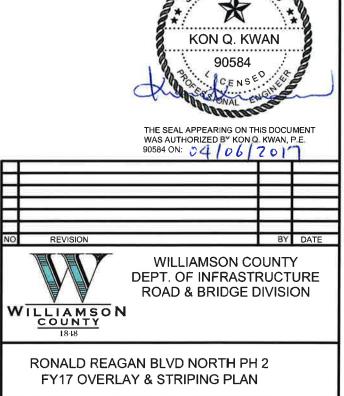




www.wilco.org

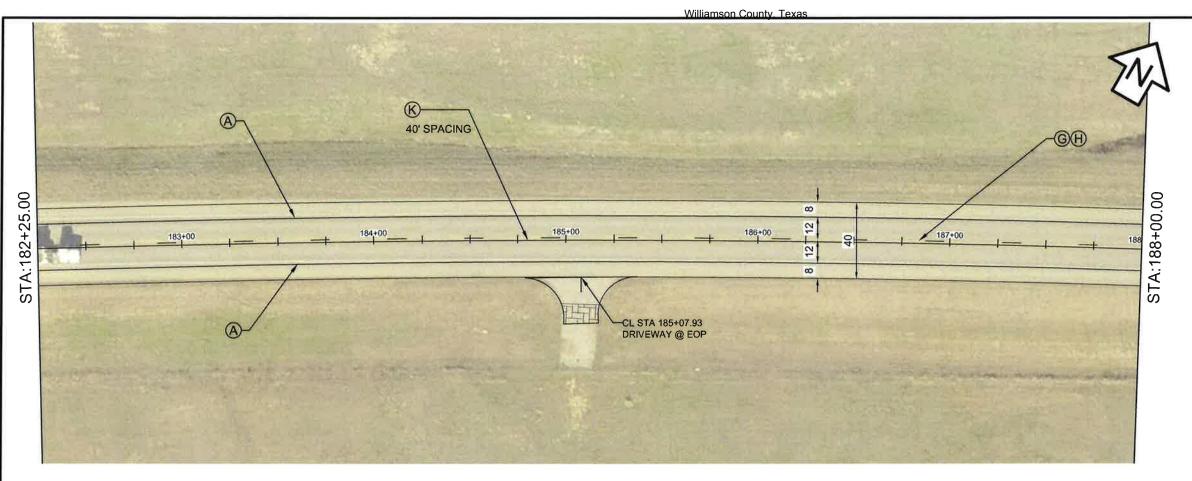


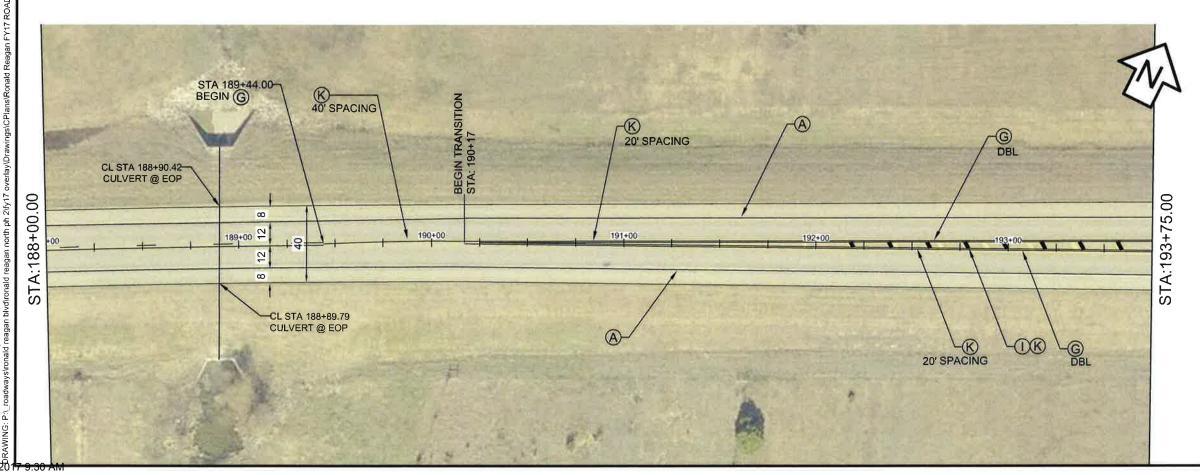




3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org

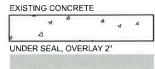
LOOP, SUITE B SHEET
TEXAS 78626
330
co.org
SHEET







# LEGEND



# AREA TO BE MILLED

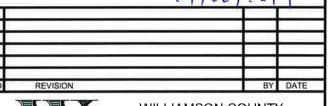
- (A) REFL PAV MRK TY I&II (W) 4" (SLD)
  - © REFL PAV MRK TY I&II (W) 8" (SLD)
  - (D) REFL PAV MRK TY I&II (W) 24" (SLD)
  - E REFL PAV MRK TY I&II (W) (ARROW)
  - F REFL PAV MRK TY I&II (W) (WORD)
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  - (J) REFL PAV MRK TY I-C
  - (K) REFL PAV MRK TY II-A-A

#### IOTE:

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THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY KON Q. KWAN, P.E. 90584 ON: (34/06/72017)





WILLIAMSON COUNTY DEPT. OF INFRASTRUCTURE ROAD & BRIDGE DIVISION

RONALD REAGAN BLVD NORTH PH 2 FY17 OVERLAY & STRIPING PLAN

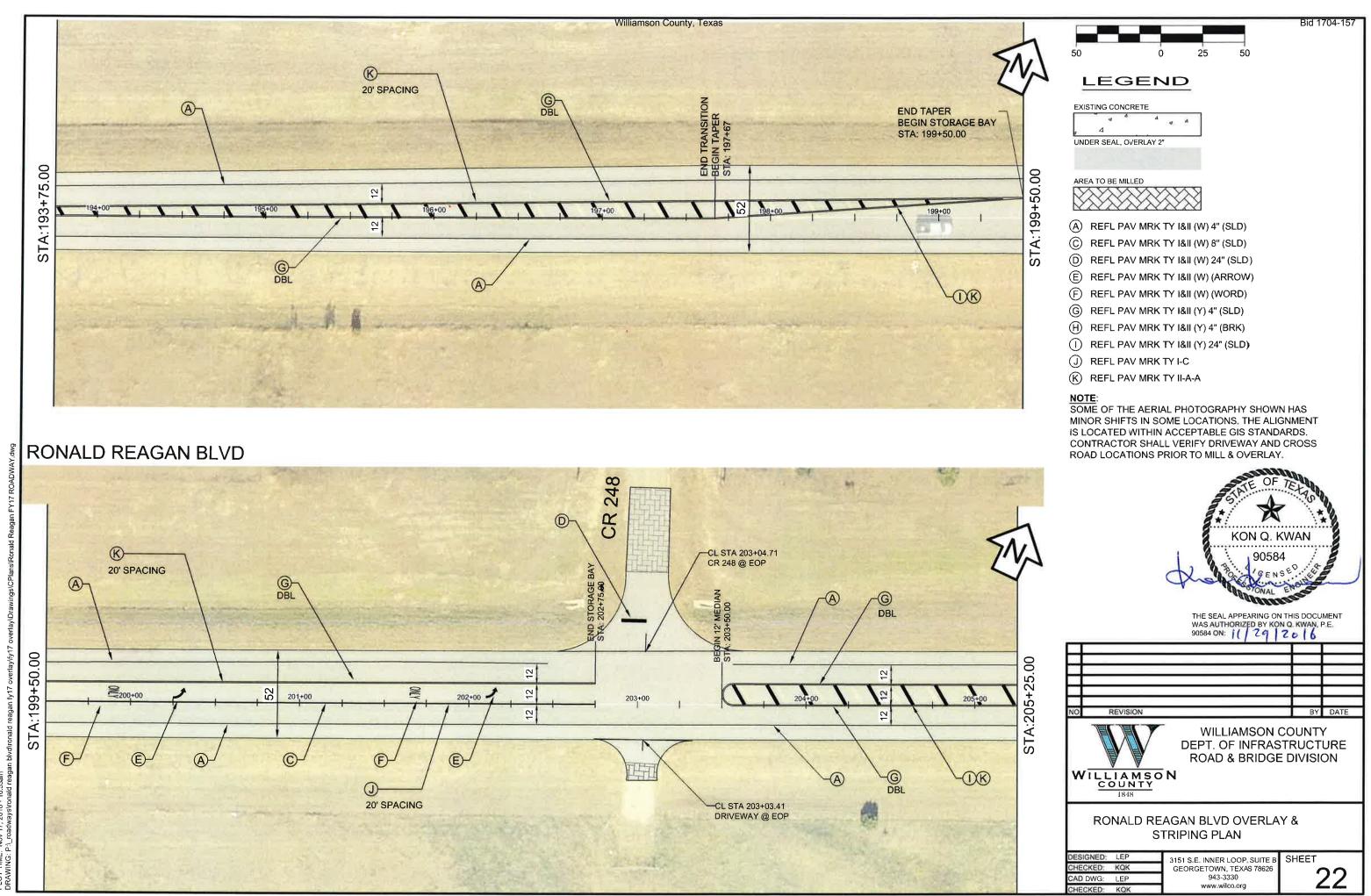
SIGNED:	LEP	3151 S
ECKED:	KQK	GEOF
D DWG:	LEP	

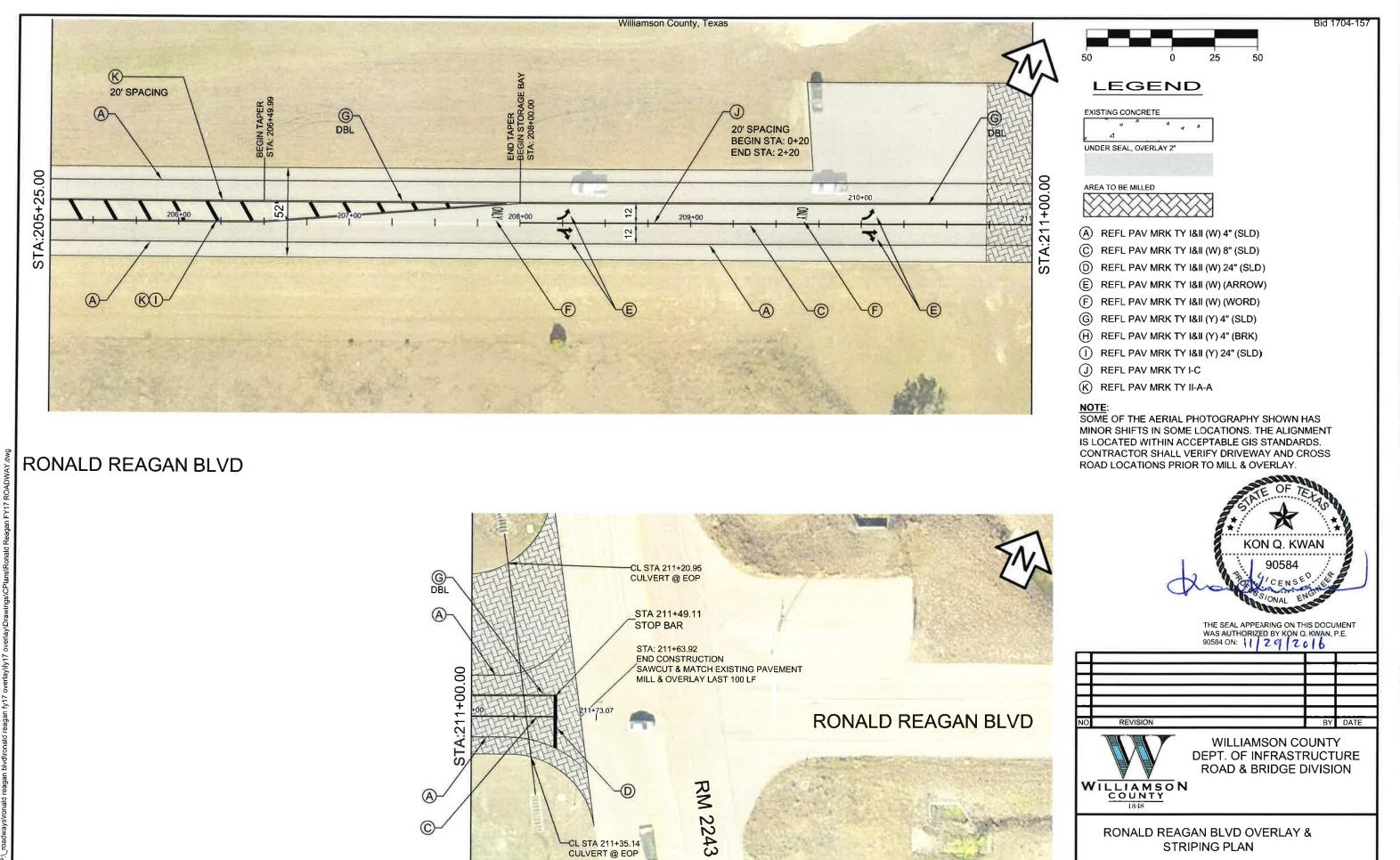
3151 S.E. INNER LOOP, SUITE B GEORGETOWN, TEXAS 78626 943-3330 www.wilco.org

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ET TAB: STA 182+25, TED BY: Ipohlmeyer TIME: Apr 06, 2017

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-CL STA 211+35.14

CULVERT @ EOP

4/7/2017 9:30 AM

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SHEET

RONALD REAGAN BLVD OVERLAY &

STRIPING PLAN

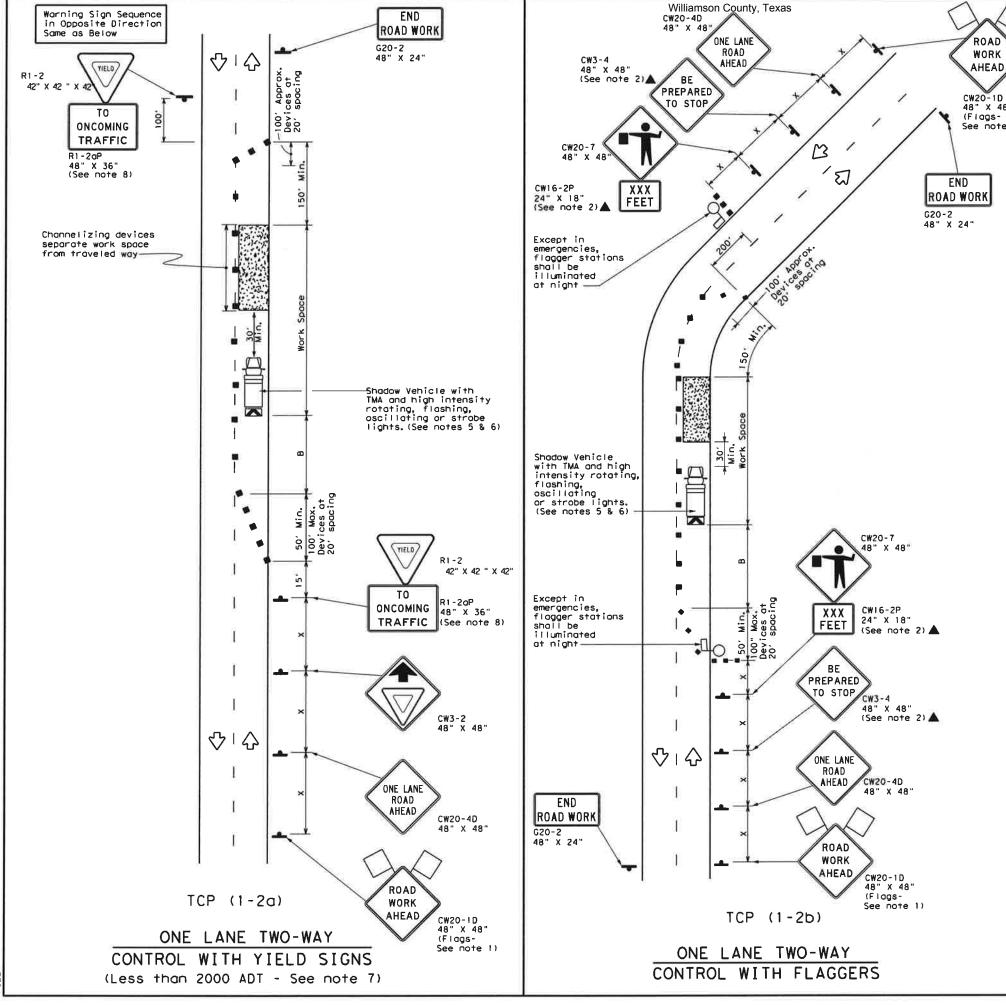
3151 S.E. INNER LOOP, SUITE B

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GEORGETOWN, TEXAS 78626

DESIGNED: LEP

CAD DWG: LEP



	LEGEND					
	Type 3 Barricade		Channelizing Devices			
	Heavy Work Vehicle	K	Truck Mounted Attenuator (TMA)			
Ê	Trailer Mounted Floshing Arrow Board	M	Portable Changeable Message Sign (PCMS)			
-	Sign	♡	Traffic Flow			
$\Box$	Flag	ПО	Flagger			

Posted Formula	Minimum Desirable Taper Lengths **		Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X"	Suggested Longitudinal Buffer Space	Stopping Sight Distance		
*		10' Offset	11' Offset	12 Offset	On a Taper	On a Tangent	Distance	"8"	
30	2	150'	165	180"	301	60'	1201	90'	2001
35	L= WS2	2051	225'	2451	35′	701	1601	120'	250'
40	60	2651	2951	320'	40'	80"	240'	155'	305*
45		450'	4951	540'	45′	90'	320'	195'	360"
50		5001	550'	600	50′	100*	400′	240*	425'
55	L=WS	550'	6051	660'	55′	110'	500'	295'	495"
60	L-#3	600"	660*	7201	60'	120"	600'	3501	570'
65		650*	715'	780'	65'	130′	700'	410'	645*
70		7001	7701	8401	701	140"	800	475′	730'
75		750'	825'	9001	751	150"	900"	540°	820'

\* Conventional Roads Only

\*\* Taper lengths have been rounded off.
L\*Length of Taper(FT) W\*Width of Offset(FT) S\*Posted Speed(MPH)

TYPICAL USAGE						
MOBILE SHORT SHORT TERM INTERMEDIATE LONG TER						
	1	1				

#### GENERAL NOTES

- 1. Flags attached to signs where shown are REQUIRED.
- 2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- 3. The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4D "ONE LANE ROAD AHEAD" sign, but proper sign spacing shall be maintained.
- 4. Sign spacing may be increased or an additional CW20-1D "ROAD WORK AHEAD" sign may be used if advance warning ahead of the flagger or R1-2 "YIELD" sign is less than 1500 feet.
- 5. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- 6. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

#### TCP (1-2a)

- 7. R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
  8. R1-2 "YIELD" sign with R1-2aP "TO ONCOMING TRAFFIC" plaque shall be placed on a support
- at a 7 foot minimum mounting height.

#### TCP (1-2b)

- 9. Flaggers should use two-way radios or other methods of communication to control traffic. 10. Length of work space should be based on the ability of flaggers to communicate.
- II. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above)
- Channelizing devices on the center-line may be omitted when a pilot car is leading traffic and approved by the Engineer.

  13. Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be
- limited to emergency situations.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502. Barricades, Signs and Traffic Handling.

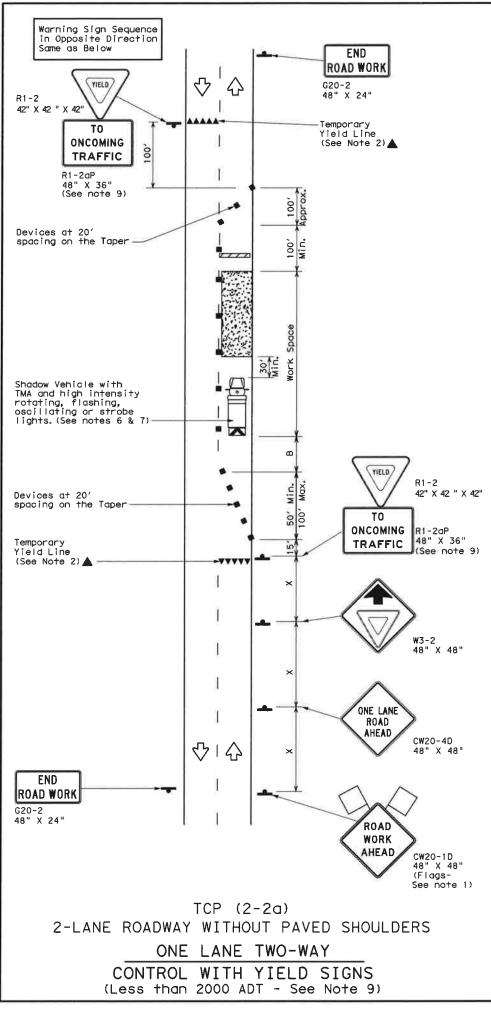


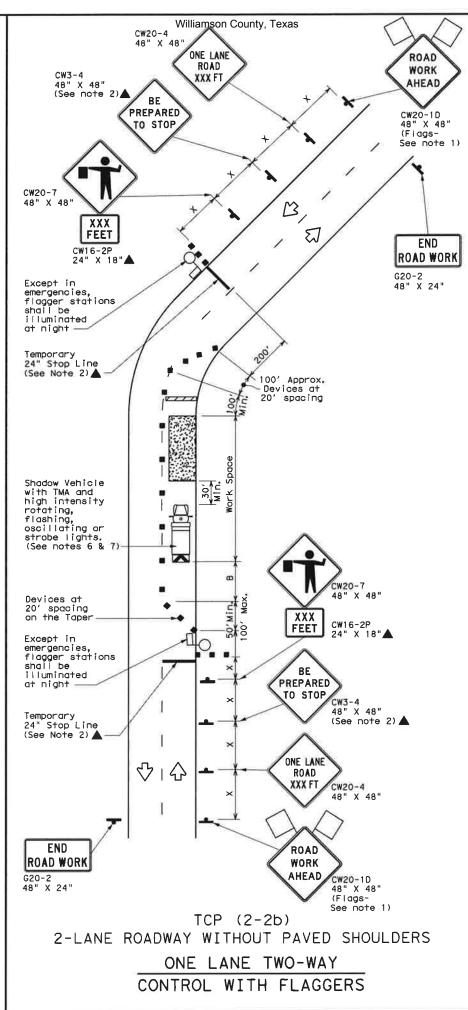
TRAFFIC CONTROL PLAN ONE-LANE TWO-WAY TRAFFIC CONTROL

TCP(1-2)-12

Bid 1704-15

© TxDOT December 1985	DN: TX	DOT	CK: TXDOT	DWI TXDOT	CK1 TXDOT
4-90 2-12	CONT	SECT	JOB		HIGHWAY
2-94 1-97	DIST CO		COUNTY		SHEET NO.
4-98					24





LEGEND Type 3 Barricade Channelizing Devices ruck Mounted Heavy Work Vehicle Attenuator (TMA) Portable Changeable Message Sign (PCMS) M Trailer Mounted Flashing Arrow Board ⟨₽ Traffic Flow Sign Flag Flagger

Posted Speed	Formula	D	Minimum esirab er Len **	le	Spacii Channe		Sign Suggested Longitudinal Buffer Space		Stopping Sight Distance
<del>  *</del>		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	Distance	"B"	
30	2	150'	1651	1801	30'	60'	120'	90'	200′
35	L= WS <sup>2</sup>	2051	2251	2451	35′	70′	160'	120′	250′
40	- 60	265'	295′	320'	40'	80′	240′	155′	305′
45		450'	4951	5401	45′	90'	320'	195′	360′
50		500'	550'	6001	50'	100'	400′	240′	4251
55	L=WS	550′	6051	660′	55′	110'	500′	295′	495′
60	L-#3	600'	6601	7201	60′	1201	600′	350′	570′
65		650′	715′	780'	65″	130′	7001	410′	645'
70		7001	7701	840'	70′	140′	800'	475′	730′
75		750′	8251	900*	75′	150′	900′	540′	820′

\* Conventional Roads Only

\*\* Taper lengths have been rounded off.

L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

		TYPICAL L	JSAGE	
MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
	1	1	1	

#### GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.

- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol
  may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved
  by the Engineer.
- The CW3-4 "BE PREPARED TO STOP" sign may be installed after the CW20-4 "ONE LANE ROAD XXX FT" sign, but proper sign spacing shall be maintained.
- 4. Flaggers should use two-way radios or other methods of communication to control traffic.

5. Length of work space should be based on the ability of flaggers to communicate.

- 6. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

#### TCP (2-2a)

- 8. The R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work space should be no longer than one half city block. In rural areas, roadways with less than 2000 ADT, work space should be no longer than 400 feet.
- 9. The R1-2aP "YIELD TO ONCOMING TRAFFIC" sign shall be placed on a support at a 7 foot minimum mounting height.

#### TCP (2-2b)

- 10. Channelizing devices on the center line may be omitted when a pilot car is leading traffic and approved by the Engineer.
- 11. If the work space is located near a horizontal or vertical curve, the buffer distances should be increased in order to maintain stopping sight distance to the flagger and a queue of stopped vehicles. (See table above).
- 12.Flaggers should use 24" STOP/SLOW paddles to control traffic. Flags should be limited to emergency situtations.

For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

Texas Department of Transportation

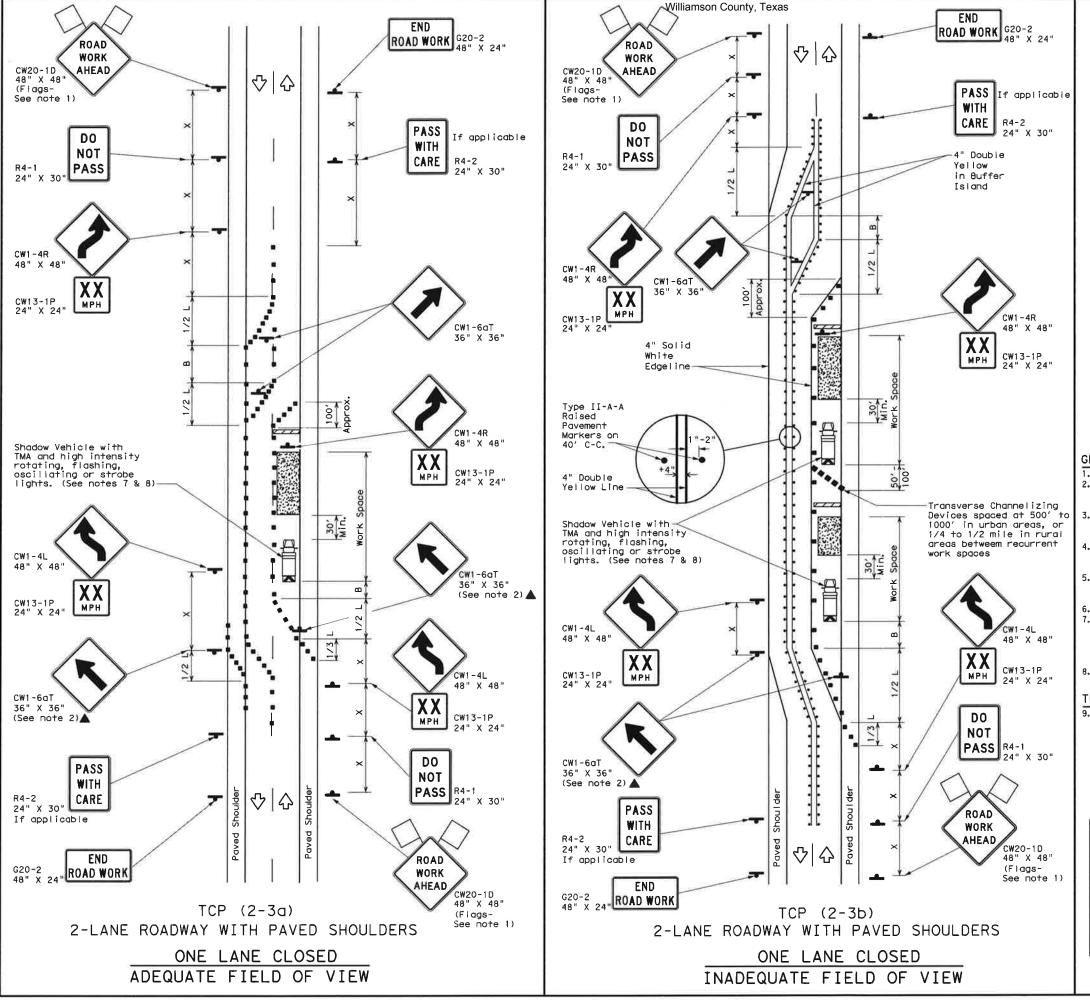
Traffic Operations Division

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL

TCP(2-2)-12

© TxDOT December 1985	DN: TX	TOO	CK: TXDOT	DW: TXDOT	CK: TXDOT
REVISIONS -95 2-12	CONT	SECT	JOB	)	IGHWAY
-97 -98	DIST		COUNTY		SHEET NO.
03					25

Bid 1704-157



Bid-1704-15 LEGEND Type 3 Barricade . Channelizing Devices ~~~ Truck Mounted Attenuator (TMA) Heavy Work Vehicle Raised Pavement Markers Ty II-AA Trailer Mounted Flashing Arrow Board  $\Diamond$ Traffic Flow Sign Q LO Flag Flagger

Speed	Formula	D	Minimur esirab er Lena <del>X X</del>	le	Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X"	Suggested Longitudinal Buffer Space
*		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	Distance	"B"
30	2	150'	1651	180'	30′	60′	120'	90*
35	L= WS2	2051	225'	2451	35′	70*	160′	120′
40	60	265'	295′	320′	40'	80′	240'	155'
45		450'	495′	540'	45′	901	320′	195'
50		500′	550′	6001	50′	100'	400'	240′
55	L=WS	550'	605′	660'	55′	110′	500′	295′
60	L-#3	600'	660'	720'	60,	120′	600′	350′
65		650'	715"	7801	65*	130'	700'	410′
70		7001	770′	840'	70′	140'	800'	475′
75		750′	825′	9001	75′	150′	900′	540'

\* Conventional Roads Only

\*\* Taper lengths have been rounded off.

L=Length of Taper (FT) W=Width of Offset (FT) S=Posted Speed (MPH)

	TYPICAL USAGE								
MOBILÉ	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY					
				TCP (2-3b) ONLY					
			1	1					

#### GENERAL NOTES

1. Flags attached to signs where shown, are REQUIRED.

- 2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- When work space will be in place less than three days existing pavement markings may remain in place. Channelizing devices shall be used to separate traffic.
- 4. Flagger control should NOT be used unless roadway conditions or heavy traffic volume require additional emphasis to safely control traffic. Flagger should be positioned at end of traffic queue.
- 5. The R4-1 "DO NOT PASS," R4-2 " PASS WITH CARE" and construction regulatory speed zone signs may be installed within CW20-1D "ROAD WORK AHEAD" signs. Proper spacing of signs shall be maintained.
- 6. Conflicting pavement marking shall be removed for long term projects.
- 7. A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted.
- 8. Additional Shadow Vehicles with TMAs may be positioned off the paved surface, next to those shown in order to protect a wider work space.

#### TCP (2-3a)

9. Conflicting pavement markings shall be removed for long-term projects. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter device spacing is intended for the area of the conflicting markings, not the entire work zone.

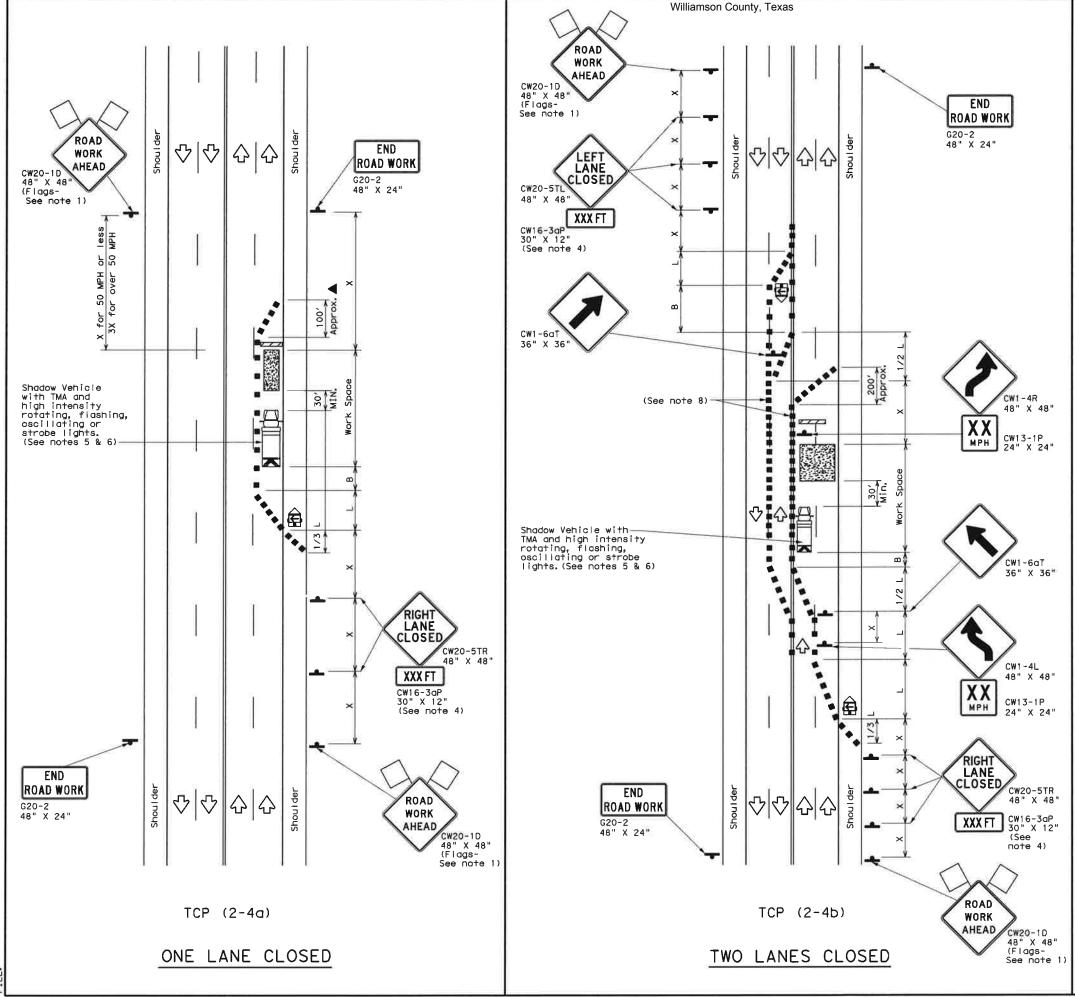
For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.

Texas Department of Transportation Traffic Operations Division

TRAFFIC CONTROL PLAN TRAFFIC SHIFTS ON TWO-LANE ROADS

TCP(2-3)-12

© TxDOT December 1985	DN: TX	TOO	CK: TXDOT	DW: TXDOT	CK: TXDOT
8-95 2-12	CONT	SECT	J08	Н	TCHWAY
1-97 4-98	DIST		COUNTY		SHEET NO.
3-03					26



	LEGEND						
	Type 3 Barricade		Channelizing Devices				
	Heavy Work Vehicle		Truck Mounted Attenuator (TMA)				
Ê	Trailer Mounted Flashing Arrow Board	M	Portable Changeable Message Sign (PCMS)				
4	Sign	♦	Traffic Flow				
a	Flag	10	Flagger				

Posted Speed	Formula	Desirable Spacing Channel XX Devi		Suggested Maximum Spacing of Channelizing Devices		Minimum Sign Spacing "X"	Suggested Longitudinal Buffer Space	
<del>*</del>		10' Offset	11' Offset	12' Offset	On a Taper	On a Tangent	Distance	"B"
30	2	150′	1651	180'	30*	60′	120′	90′
35	$L = \frac{WS^2}{60}$	2051	225′	245'	35′	70′	160′	120′
40	60	265'	295'	320'	40*	80*	240′	155′
45		450'	4951	540'	45′	90′	320'	1951
50		500'	550'	600'	50'	100'	400′	240'
55	L=WS	5501	605'	660'	55′	110'	500′	295′
60	L-113	6001	6601	720'	60′	120'	600'	350′
65		650′	715′	780′	65′	130′	700′	410'
70		700'	7701	840'	70′	140'	800′	475′
75		750′	825′	900′	75′	150'	900′	540′

\* Conventional Roads Only

\*\* Taper lengths have been rounded off.

L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

- 1			TYPICAL L	JSAGE	
	MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
Г			1	1	

#### GENERAL NOTES

- 1. Flags attached to signs where shown, are REQUIRED.
- 2. All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- The downstream taper is optional. When used, it should be 100 feet minimum length per lane.
- For short term applications, when post mounted signs are not used, the distance legend may be shown on the sign face rather than on a CW16-3aP supplemental
- A Shadow Vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the area of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMAs may be positioned in each closed lane, on the shoulder or off the paved surface, next to those shown in order to protect a wider work space.

#### TCP (2-4a)

7. If this TCP is used for a left lane closure, CW20-5TL "LEFT LANE CLOSED" signs shall be used and channelizing devices shall be placed on the centerline to protect the work space from opposing traffic with the arrow board placed in the closed lane near the end of the merging taper.

#### CP (2-4b)

8. For shorter durations where traffic is directed over a yellow centerline, channelizing devices which separate two-way traffic should be spaced on tapers at 20' or 15' if posted speeds are 35 mph or slower, and for tangent sections, at 1/2(S) where S is the speed in mph. This tighter devices spacing is intended for the area of conflicting markings, not the entire work zone.

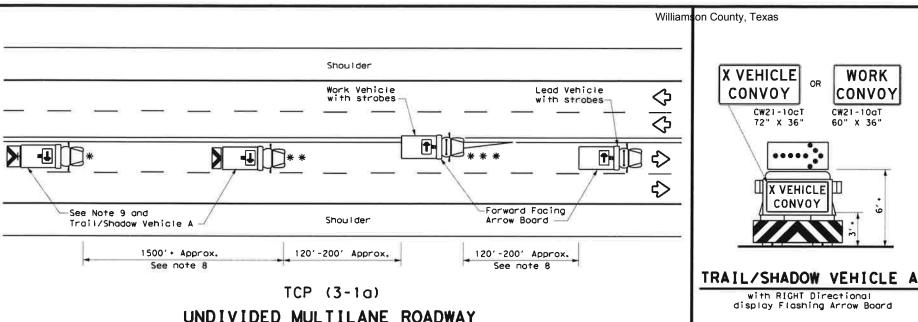
For construction or maintenance contract work, specific project requirements for shadow vehicles can be found in the project GENERAL NOTES for Item 502, Barricades, Signs and Traffic Handling.



TRAFFIC CONTROL PLAN
LANE CLOSURES ON MULTILANE
CONVENTIONAL ROADS

TCP (2-4) -12

© TxDOT December 1985	DN: TX	DOT	CK: TXDOT	DW: TXDOT	CK: TXDOT
REVISIONS 3-95 2-12	CONT	SECT	JOB	- H	HIGHWAY
-97 -98	T210		COUNTY		SHEET NO.
-03					27

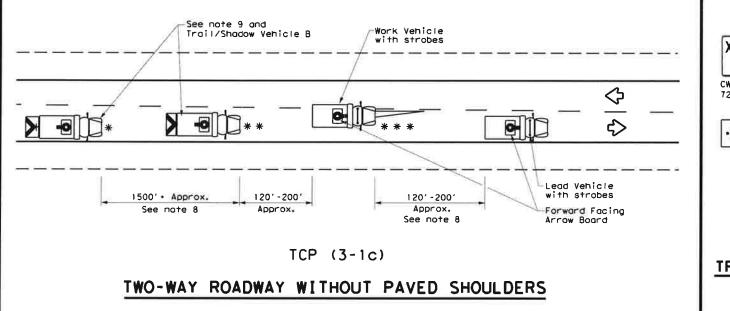


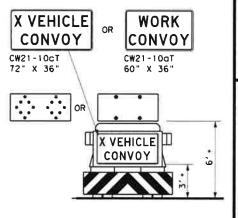
UNDIVIDED MULTILANE ROADWAY

Work Vehicle with strobes 120' -200' 120' -200' See note 9 and 1500' + Approx. Lead Vehicle Trail/Shadow Vehicle B Approx. Approx. See note 8 See note 8 Shoul der  $\diamondsuit$ ❖ \* 0 0 1 \*\* Shoulder -See note 9 and Trail/Shadow Vehicle A 1500' + Approx. 120' -200' Forward Approx. Facing Arrow Board WORK ON SHOULDER WORK ON TRAVEL LANE

TCP (3-1b)

# TWO-WAY ROADWAY WITH PAVED SHOULDERS





TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board in CAUTION display

	LEGEND						
*	Trail Vehicle		ARROW BOARD DISPLAY				
**	Shadow Vehicle		ARROW DOARD DISPLAT				
* * *	Work Vehicle	<b>P</b>	RIGHT Directional				
	Heavy Work Vehicle	•	LEFT Directional				
	Truck Mounted Attenuator (TMA)	•	Double Arrow				
♦	Traffic Flow	Þ	CAUTION (Alternating Diamond or 4 Corner Flash)				

		TYPICAL L	ISAGE	
MOBILE	SHORT DURATION	SHORT TERM STATIONARY		LONG TERM STATIONARY
1				

#### GENERAL NOTES

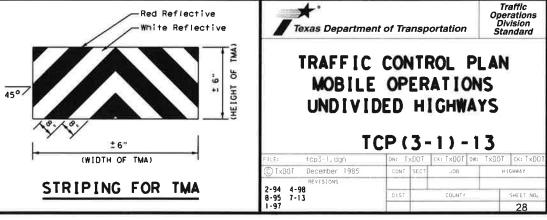
WORK

CONVOY

CW21-10gT

60" X 36"

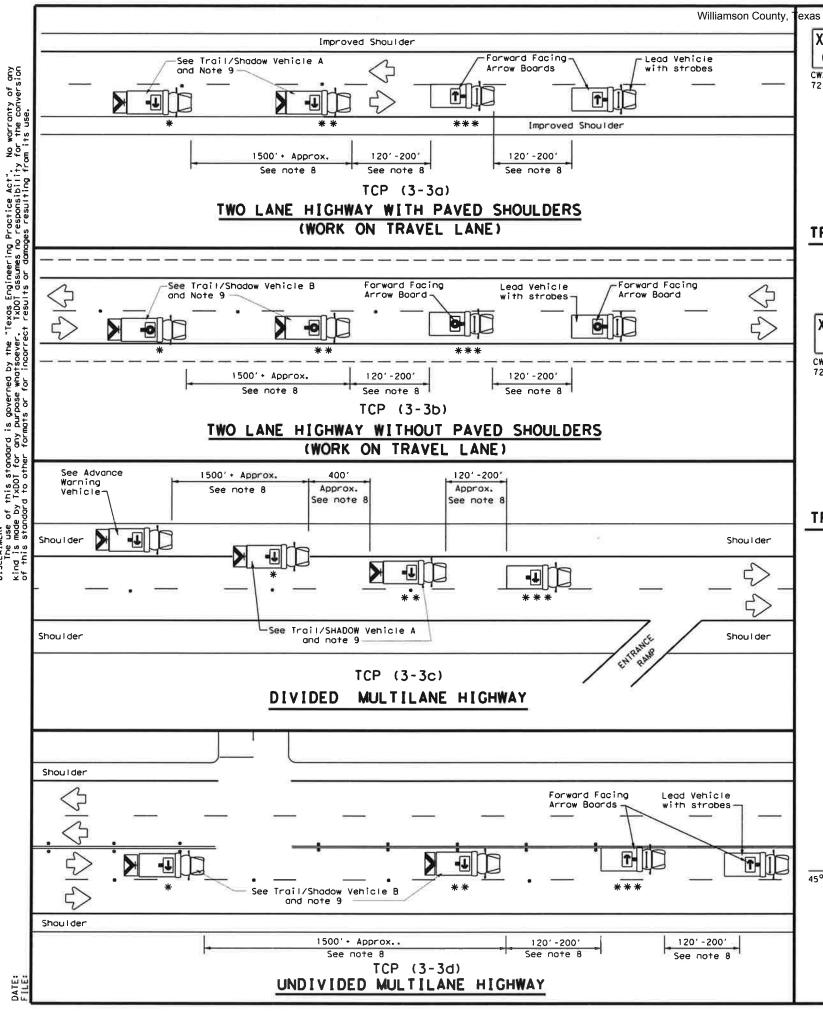
- TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used the WORK vehicle must be equipped with an arrow board. The Engineer will determine if the LEAD VEHICLE and/or TRAIL VEHICLE are required based on prevailing roadway conditions. traffic volume, and sight distance restrictions.
- The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the driver's side of the vehicle may be operated simultaneously with the amber beacons or strobe lights.
- The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE and TRAIL VEHICLE are required.
- Reflective sheeting on the rear of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
- Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the vehicle.
- Each vehicle shall have two-way radio communication capability.
- When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
- Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the work convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors.
- "X VEHICLE CONVOY" (CW21-10cT) or "WORK CONVOY" (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" X 48" diamond shaped "WORK CONVOY" (CW21-10T) or "X VEHICLE CONVOY" (CW21-10bT) signs may be used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The "X VEHICLE CONVOY" sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
- 10. On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a "DO NOT PASS" (R4-1) sign should be placed on the back of the rearmost protection vehicle.

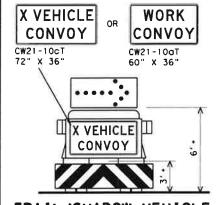


No warranty of any for the conversion on its use.

Texas Engineering Practice Act". TxD01 assumes no responsibility t results or damages resulting fra

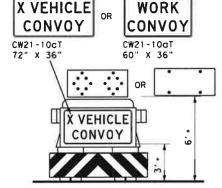
of this standard is gover: by TxDOI for any purpose idard to other formats or





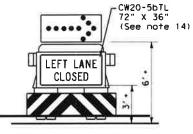
### TRAIL/SHADOW VEHICLE A

with RIGHT Directional display Flashing Arrow Board

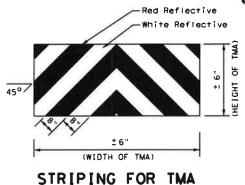


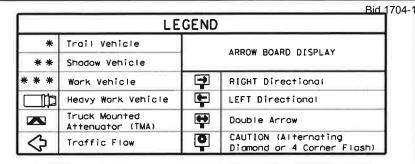
## TRAIL/SHADOW VEHICLE B

with Flashing Arrow Board in Caution Mode



ADVANCE WARNING VEHICLE



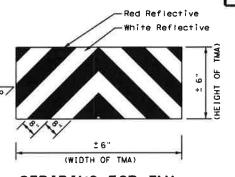


TYPICAL USAGE						
MOBILE	SHORT DURATION		INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY		
1	İ					

#### GENERAL NOTES

- TRAIL, SHADOW, and LEAD vehicles shall be equipped with arrow boards as illustrated. When a LEAD vehicle is not used on two way roads the WORK vehicle must have an arrow board. For divided roadways, the arrow board on the WORK vehicle is optional based on the type of work being performed. The Engineer will determine if the LEAD vehicle and/or TRAIL vehicle are required based on prevailing roadway conditions, traffic volume, and sight distance restrictions.
- The use of amber high intensity rotating, flashing, oscillating, or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating, or strobe lights when mounted on the driver's side of the vehicle may be operated
- simultaneously with the amber beacons or strobe lights.
  The use of truck mounted attenuators (TMA) on the SHADOW VEHICLE, ADVANCE WARNING and TRAIL VEHICLE are required.
- Reflective sheeting on the reor of the TMA shall meet or exceed the reflectivity and color requirements of DEPARTMENTAL MATERIAL SPECIFICATION DMS 8300, Type A.
- Flashing arrow boards shall be Type B or Type C as per the Barricade and Construction (BC) standards. The board shall be controlled from inside the
- Each vehicle shall have two-way radio communication capability.
  When work convoys must change lanes, the TRAIL VEHICLE should change lanes first to shadow the other convoy vehicles.
  Vehicle spacing between the TRAIL VEHICLE and the SHADOW VEHICLE will vary
- Vehicle spacing between the IRAIL VEHICLE and the SHADOW VEHICLE will vary depending on sight distance restrictions. Motorists approaching the convoy should be able to see the TRAIL VEHICLE in time to slow down and/or change lanes as they approach the TRAIL VEHICLE. Vehicle spacing between the WORK VEHICLE and SHADOW VEHICLE and vehicle spacing between WORK VEHICLE and LEAD VEHICLE may vary according to terrain, work activity and other factors. X VEHICLE CONVOY (CW21-10cT) or WORK CONVOY (CW21-10aT) signs shall be used on TRAIL VEHICLES and SHADOW VEHICLES as shown. As an option 48" x 48" diamond shaped WORK CONVOY (CW21-10T) or X VEHICLE CONVOY (CW21-10T) or Space exists. When used the X VEHICLE CONVOY
- used where adequate mounting space exists. When used, the X VEHICLE CONVOY sign shall have the number of the convoy vehicles displayed on the sign in the number designation "X" location. The X VEHICLE CONVOY sign shall not be used on the SHADOW VEHICLE if a TRAIL VEHICLE is used.
- 10. For divided highways with two or three lanes in one direction, the appropriate LEFT LANE CLOSED (CW20-5bTL), RIGHT LANE CLOSED (CW20-5bTR), or CENTER LANE CLOSED (CW20-5dT) sign should be used on the Advance Warning Vehicle. As an option, a portable changeable message sign (PCMS) or truck mounted changeable message sign (TMCMS) with a minimum character height of 12", and displaying the same legend may be substituted for these signs. An appropriate directional arrow display, simulating the size and legibility of the flashing arrow board may be used in the second phase of the PCMS/TMCMS message. When this is done, the arrow board will not be required on the Advance Warning Vehicle.
- 11.A double arrow shall not be displayed on the arrow board on the Advance Warning Vehicle.
- 12. For divided highways with three or four lanes in each direction, use TCP(3-2). 13. Standard diamond shape versions of the CW20-5 series signs may be used as an
- option if the rectangular signs shown are not available.

  14. The Advance Warning Vehicle may straddle the edgeline when Shoulder width makes it necessary.
- 15.On two-lane two-way roadways, the work and protection vehicles should pull over periodically to allow motor vehicle traffic to pass. If motorists are not allowed to pass the work convoy, a DO NOT PASS (R4-1) sign should be placed on the back of the rearmost protection vehicle.



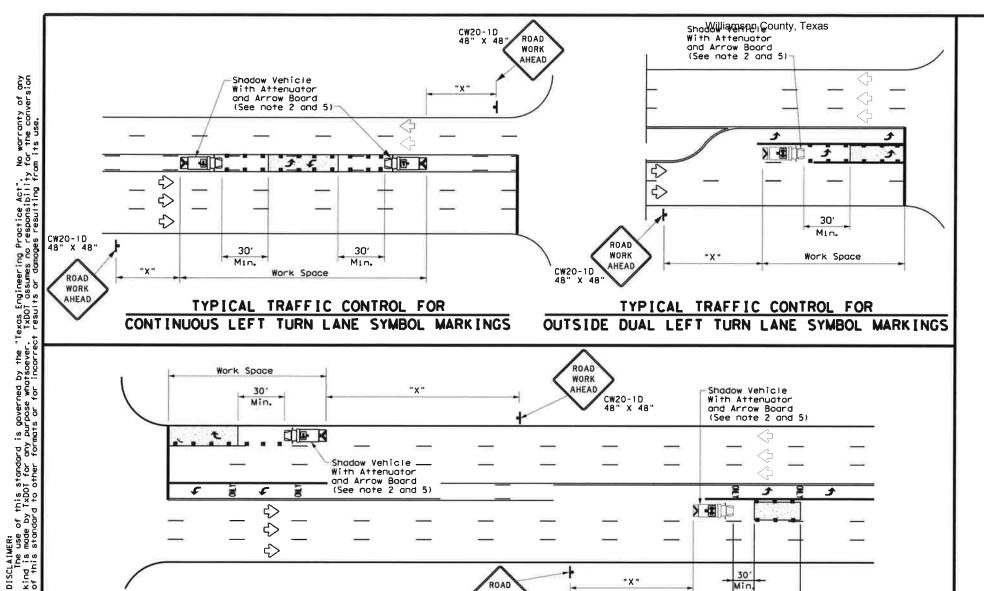
Texas Department of Transportation

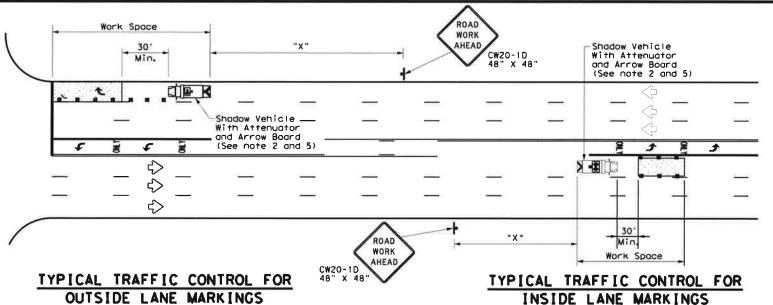
TRAFFIC CONTROL PLAN

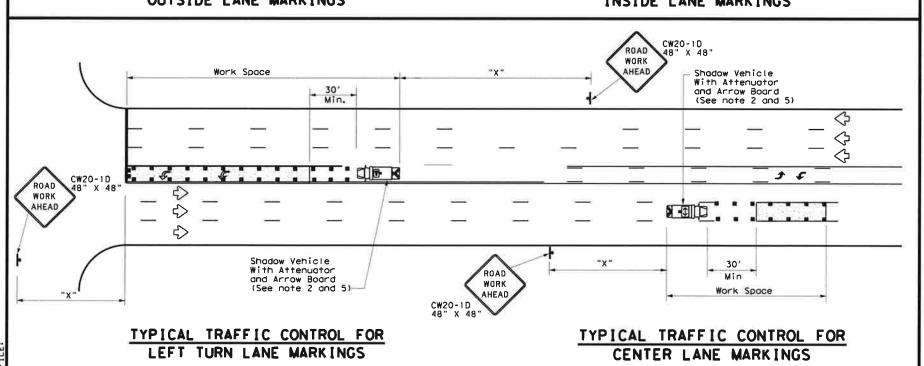
Operation

MOBILE OPERATIONS RAISED PAVEMENT MARKER INSTALLATION/ REMOVAL TCP(3-3)-14

C: TXDOT OW: TXDOT CK: TXD top3-3.dgn 2-94 4-98 8-95 7-13 1-97 7-14







	LEGEND							
*	Trail Vehicle		ARROW BOARD DISPLAY					
**	Shadow Vehicle		ARROW BOARD DISPLAT					
* * *	Work Vehicle	P	RIGHT Directional					
	Heavy Work Vehicle	<b>F</b>	LEFT Directional					
	Truck Mounted Attenuator (TMA)	•	Double Arrow					
♦	Traffic Flow		Channelizing Devices					

Speed	Formula	D	Minimur esirab er Lend **	le	Spaci Channe	d Maximum ng of lizing rices	Minimum Sign Spacing "x"	Suggested Longitudinal Buffer Space
*		10' Offset	11' Offset	12" Offset	On a Taper	On a Tangent	Distance	"B"
30	2	1501	1651	1801	30'	60"	120'	90*
35	L = WS <sup>2</sup>	2051	2251	245	35′	70*	160	1201
40	60	265'	295"	320'	40*	80′	240'	155'
45		450'	4951	540*	45′	90"	3201	1951
50		5001	550"	600'	50′	100′	400'	240'
55	L≂₩S	550*	605*	6601	55*	110'	500′	2951
60	L-#3	6001	660'	720"	60"	120′	6001	350"
65		650'	715'	7801	65′	130	700*	410'
70		7001	7701	8401	70*	140*	800'	475′
75		750′	8251	9001	75*	150′	900'	540′

\* Conventional Roads Only

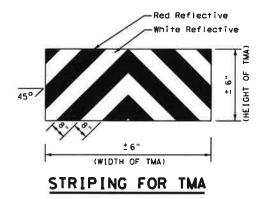
\*\* Taper lengths have been rounded off.

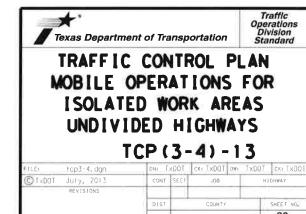
L=Length of Taper(FT) W=Width of Offset(FT) S=Posted Speed(MPH)

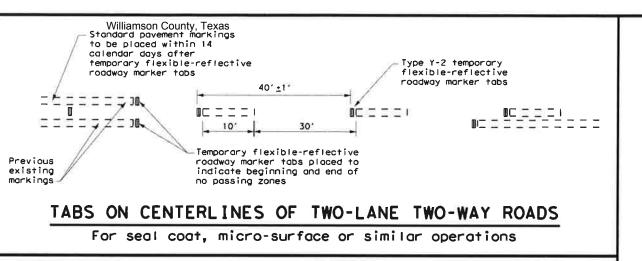
TYPICAL USAGE							
MOBILE	SHORT DURATION		INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY			
-							

#### GENERAL NOTES

- 1. This traffic control plan is for use on conventional roads posted at 45 mph or less and is intended for mobile operations that move continuously or intermittently (stopping up to approximately 15 minutes) such as short-line striping and in-lane rumble strips. When activities are anticipated to take longer amounts of time or traffic conditions warrant, a short duration or short-term stationary traffic control plan should be used.
- 2. A Truck Mounted Attenuator shall be used on Shadow Vehicle. Striping on the back panel of all truck mounted attenuators shall be 8" red and white reflective sheeting placed in an inverted "V" design. Reflective sheeting shall meet or exceed the reflectivity and color requirements of departmental material specification DMS-8300, Type A.
- 3. All traffic control devices shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD), latest edition.
- 4. The use of yellow rotating beacons or strobe lights on vehicles are required. Blue high intensity rotating, flashing, oscillating or strobe lights when mounted on the drivers side of the vehicle may be operated simultaneously with the omber beacons or strobe lights.
- Flashing arrow board shall be used on Shadow Vehicle. Flashing arrow board shall be Type B or Type C as per BC Standards. The arrow board operation shall be controlled from inside the truck.







#### "DO NOT PASS" SIGN (R4-1) and NO-PASSING ZONES

- Prior to the beginning of construction, all currently striped no-passing zones shall be signed with the DO NOT PASS (R4-1) signs and PASS WITH CARE (R4-2) signs placed at the beginning and end of each zone for each direction of travel except as otherwise provided herein. Signs marking these individual no-passing zones need not be covered prior to construction if the signs supplement the existing povement
- At the discretion of the Engineer, in areas of numerous no-passing zones, several zones may be combined as a single zone. If passing is to be prohibited over one or more lengthy sections, a DO NOT PASS sign and a NEXT XX MILES (R20-ITP) plaque may be used at the beginning of such zones. The DO NOT PASS sign and the NEXT XX MILES plaque should be repeated every mile to the end of the no-passing zone. In areas where there is considerable distance between no-passing zones, the end of the no-passing zone may be signed with a PASS WITH CARE sign and a NEXT XX MILES plaque.
- Depending on traffic volumes and length of sections, it may be desirable to prohibit passing throughout the project to prevent damage to windshield and lights. The DO NOT PASS sign and NEXT XX MILES plaque should be used and repeated as often as necessary for this purpose. Where several existing zones are to be combined into one individual no-passing zone, the sign at the beginning of the zone should be covered until the surfacing operation has passed this location so as not to have the DO NOT PASS sign conflict with the existing povement markings. Also, unless one days operation completes the entire length of such combined zones, appropriate DO NOT PASS and PASS WITH CARE signs should be placed at the beginning and end of the no-passing zones where the surfacing operation has stopped for the day.
- D. R4-1 and R4-2 are to remain in place until standard pavement markings are installed.

#### "NO CENTER LINE" SIGN (CW8-12)

- Center line markings are yellow pavement markings that delineate the separation of travel lanes that have opposite directions of travel on a roadway. Divided highways do not typically have center line
- At the time construction activity obliterates the existing center line markings(low volume roads may not have an existing centerline), a NO CENTER LINE (CW8-12) sign should be erected at the beginning of the work area, at approximately 2 mile intervals within the work area, beyond major intersections and other locations deemed necessary by the Engineer.
- C. The NO CENTER LINE signs are to remain in place until standard pavement markings are installed.

#### "LOOSE GRAVEL" SIGN (CW8-7)

- When construction begins, a LOOSE GRAVEL (CW8-7) sign should be erected at each end of the work area and repeated at intervals of approximately 2 miles in rural areas and closer in urban areas.
- B. The LOOSE GRAVEL signs are to remain in place until the condition no longer exists.

#### PAVEMENT MARKINGS

ROAD WORK 36" X 18

R4-2

R20-1TP 24" X 18'

R4-1

CW8-12 36" X 36" Min.

CW8-7 36" X 36"

R4-2

R4-1

R4-1

R4-1

R20-1TP

CW8-12

CW8-7

36" X 36"

CW20-1D

36" x 36" Min.

REPEAT EVERY 2 MILES

24" X 18"

PASS 24" X 30"

24" x 30"

24" X 30"

R20-1TP

24" X 18"

24" X 30"

R20-1TP

24" X 18"

REPEAT EVERY

2 MILES

24" X 30"

24" x 30

WITH

CARE

NEXT

2 MILES

DO

NOT

PASS

NO

CENTER

LINE

LOOSE

GRAVEL

WITH

CARE

NOT

**PASS** 

NEXT

2 MILES

DO

NOT

**PASS** 

NEXT

3 MILES

DO

NOT

NEXT

4 MILES

CENTER

LINE

LOOSE

GRAVEL

ROAD

WORK AHEAD

NO PASSING ZONES ON TWO-LANE TWO-WAY ROADS

MAJOR RURAL ROAD

- Temporary markings for surfacing projects shall be Temporary Flexible-reflective Roadway Marker Tabs unless otherwise approved by the Engineer. Tabs are to be installed to provide true alignment for striping crews or as directed by the Engineer. Tabs will be placed at the spacing indicated. Tabs should be applied to the payement no more than two (2) days before the surfacing is applied. After the surfacing is rolled and swept,
  - the cover over the reflective strip shall be removed.
- Tabs shall not be used to simulate edge lines.
- C. Tab placement for overlay/inlay operations shall be as shown on the WZ(STPM) standard sheet.

#### COORDINATION OF SIGN LOCATIONS

- The location of warning signs at the beginning and end of a work area are to be coordinated with other signing typically shown on the Barricade and Construction Standards for project limits to ensure adequate sign spacing.
- Where possible the ROAD WORK AHEAD (CW20-1D), LOOSE GRAVEL (CW8-7), and NO CENTER LINE (CW8-12) signs should be placed in the sequence shown following the OBEY WARNING SIGNS STATE LAW (R20-3T) and the TRAFFIC FINES DOUBLE (R20-5T) sign, and one "X" sign spacing prior to the CONTRACTOR (G20-6T) sign typically located at or near the limits of surfacing. LOOSE GRAVEL and NO CENTER LINE signs will then be repeated as described above.

	Minimum
Posted	Sign
Speed	Spacing
*	"x"
	Distance
30	120'
35	160′
40	240'
45	320′
50	4001
55	500'
60	6001
65	700′
70	8001
75	900′

\* Conventional Roads Only

	TYPICAL	USAGE	
MOBILE		INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
		1	- €

#### GENERAL NOTES

- The traffic control devices detailed on this sheet will be furnished and erected as directed by the Engineer on sections of roadway where tabs must be placed prior to the surfacing operation which will cover or obliterate the existing pavement markings.
- The devices shown on this sheet are to be used to supplement those required by the BC Standards or others required elsewhere in the plans.
- Signs shall be erected as detailed on the BC Standards or the Compliant Work Zone Traffic Control Devices List (CWZTCD) on supports approved for Long-Term / Intermediate-Term Work Zone Sign Supports.
- When surfacing operations take place on divided highways, freeways or expressways, the size of diamond shaped construction warning signs shall be 48" x 48".
- Signs on divided highways, freeways and expressways will be placed on both right and left sides of the roadway based on roadway conditions as directed by



TRAFFIC CONTROL DETAILS

FOR SURFACING OPERATIONS

TCP(7-1)-13

FILE: rcp/-1, dgri	DN:	XDOT.	CK: [xDO]	DW:	TXDOT	CKI TXDOX
© TxDOT March !991	CONT	SECT	JOB		н	GHWAY
REVISIONS						
4-92 4-98	DIST		COUNTY			SHEET NO.
1-97 7-13						31

SURFACING ENDS

40"+1

PASSING

ZONE

SHORT TERM

PAVEMENT

MARKING

with Departmental Material Specification DMS-8300, Sign Face Materials, Type B or C Yellow, minimum size of 2 inches by 12 inches can be attached to the edge of the panel/blade. The sheeting shall be attached to one panel/blade per section of concrete barrier not to exceed a spacing of 30 feet. Barrier reflectors are not necessary when panel/blades are installed with reflective sheeting as described.

4. Payment for these devices will be under statewide Special Specification "Modular Glare Screens for Headlight Barrier."

5. This detail is only intended to show types of locations where Glare Screens would be appropriate. Required signing and other devices shall be as shown elsewhere in the plans.

Refer to BC and/or TCP  $\Diamond$ sheets for approach requirements.  $\Diamond$ Centerline  $\Diamond$  $\Diamond$ ⇔  $\Rightarrow$  $\Rightarrow$  $\Rightarrow$ 500' Max. - See Notes 2 & 3 VP or 42" Cone Typical VP or 42" Cone Typical Opposing Opposing

# VERTICAL PANELS & OPPOSING TRAFFIC LANE DIVIDERS (OTLD) SEPARATING TWO-WAY TRAFFIC ON NORMALLY DIVIDED HIGHWAYS

#### NOTES:

- 1. When two-lane, two way traffic control must be maintained on one roadway of a normally divided highway, opposing traffic shall be separated with either temporary traffic barriers, channelizing devices, or a temporary raised island throughout the length of the two way operation. The above Typical Application is intended to show the appropriate application of channelizing devices when they are used for this purpose. This is not a traffic control plan. If this detail is to be used for other types of roads or applications, those locations should be stated elsewhere in the plans.
- △ 2. Space devices according to the Tangent Spacing shown on the Device Spacing table on BC(9) but not exceeding 100′.
- 3. Every fifth device should be an OTLD except when spaced closer to accommodate an intersection. An OTLD should be the first device on each side of intersecting streets or roads.
- 4. Locations where surface mount bases with adhesives or self-righting devices will be required in order to maintain them in their proper position should be noted elsewhere in the plans.

#### DEPARTMENTAL MATERIAL SPECIFICATIONS

SIGN FACE MATERIALS	DMS-8300
DELINEATORS AND OBJECT MARKERS	DMS-8600
MODULAR GLARE SCREENS FOR HEADLIGHT BARRIER	DMS-8610

Only pre-qualified products shall be used. A capy of the "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found at the following web address:

http://www.txdot.gov/txdot\_library/publications/construction.htm



Operations
Division
Standard

Bid 1704-

LEGEND
Type 3 Barricade

Channelizing Devices

Flashing Arrow Board

Safety glare fence

Trailer Mounted

Sign

# TRAFFIC CONTROL PLAN TYPICAL DETAILS

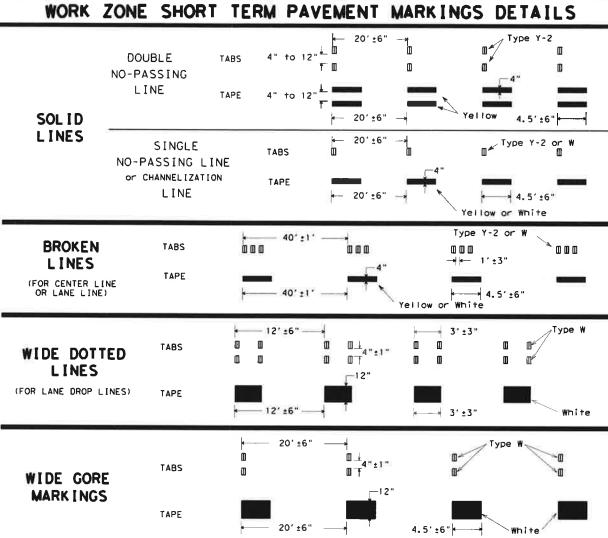
WZ (TD) -13

FILE:	wztd-13.dgn	DN: T	xDOT	ck: TxDOT	DW:	TXDOT	ck: TxDOT
(C) [x001	February 1998	CONT	SECT	08		HI	GHWAY
4-98 3-03	REVISIONS	DIST	H	COUNTY			SHEET NO.
7-13							32

Texas Engineering Practice Act". No warranty of any TXDO assumes no responsibility for the conversion tresults or damages resulting from its use.

of this standard is gover by TxDOI for any purpose idard to other formats or



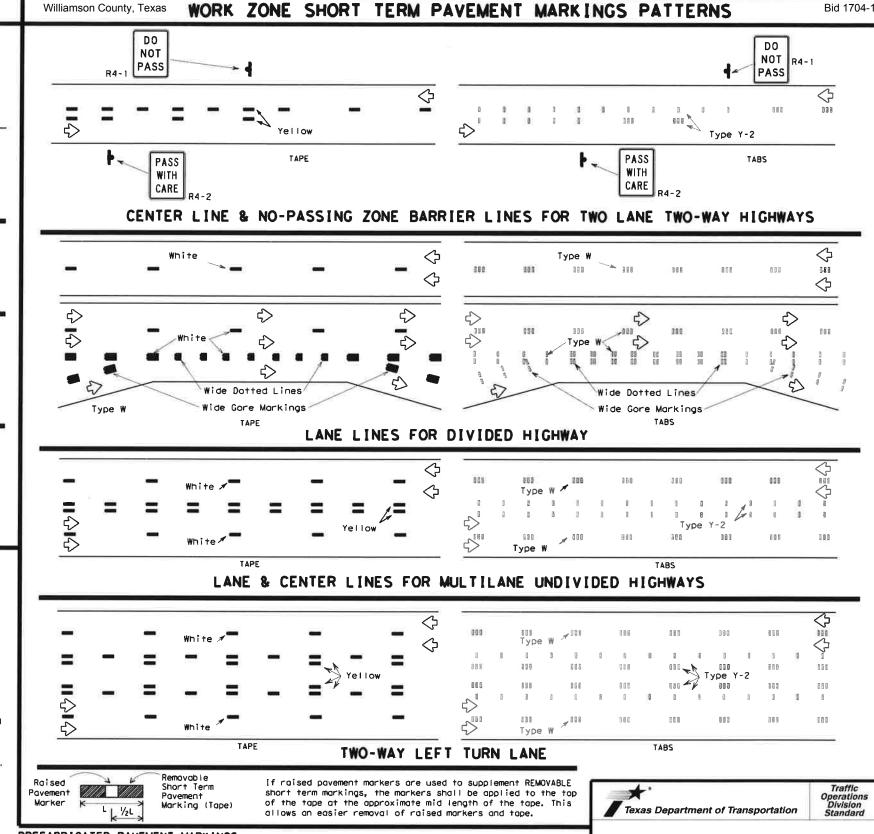


#### NOTES:

- 1. Short term pavement markings may be prefabricated markings (stick down tape) or temporary flexiblereflective roadway marker tabs unless otherwise specified elsewhere in plans.
- 2. Short term payement markings shall NOT be used to simulate edge lines.
- 3. Dimensions indicated on this sheet are typical and approximate. Variations in size and height may occur between markers or devices made by manufacturers, by as much as 1/4 inch, unless otherwise noted.
- 4. Temporary flexible-reflective roadway marker tabs will require normal maintenance replacement when used on roadways with an ADT per lane of up to 7500 vehicles with no more than 10% truck mix. When roadways exceed these values, additional maintenance replacement of devices should be planned.
- No segment of roadway open to traffic shall remain without permanent povement markings for a period greater than 14 calendar days. The Contractor will be responsible for maintaining short term payement markings until permanent pavement markings are in place. When the Contractor is responsible for placement of permanent pavement markings, no segment of roadway shall remain without permanent pavement markings for a period greater than 14 calendar days unless weather conditions prohibit placement. Permanent povement markings shall be placed as soon as weather permits.
- 6. For two lane, two-way roadways, DO NOT PASS signs shall be erected to mark the beginning of sections where passing is prohibited and PASS WITH CARE signs shall be erected to mark the beginning of sections where passing is permitted. Signs shall be in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and may be used to indicate the limits of no-passing zones for up to 14 calendar days. Permanent povement markings should then be placed.
- 7. For low volume two lane, two-way roadways of 4000 ADT or less, no-passing lines may be omitted when approved by the Engineer. DO NOT PASS and PASS WITH CARE signs shall be erected (see note 6).
- 8. For exit gores where a lame is being dropped place wide gore markings or retroreflective channelizing devices to guide motorist through the exit. If channelizing devices are to be used it should be noted elsewhere in the plans. One piece cones are not allowed for this purpose.

#### TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS (TABS)

- 1. Temporary flexible-reflective roadway marker tabs detailed on this sheet will be designated Type Y-2 (two amber reflective surfaces with yellow body); Type Y (one omber reflective surface with yellow body); and Type W (one white or silver reflective surface with white body). Additional details may be found on BC(11).
- 2. Tabs shall meet requirements of Departmental Material Specification DMS-8242.
- 3. When dry, tabs shall be visible for a minimum distance of 200 feet during normal daylight hours and when illuminated by automobile low-beam head light at night, unless sight distance is restricted by roadway
- No two consecutive tabs nor four tabs per 1000 feet of line shall be missing or fail to meet the visual performance requirements of Note 3.



### PREFABRICATED PAVEMENT MARKINGS

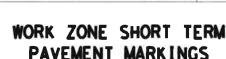
- Temporary Removable Prefabricated Pavement Markings shall meet the requirements of DMS-8241.
- 2. Non-removable Prefabricated Pavement Markings shall meet the requirements of either DMS-8240 "Permanent Prefabricated Pavement Markings" or DMS-8243 "Temporary Costruction-Grade Prefabricated Pavement Markings.

#### RAISED PAVEMENT MARKERS

1. All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and DMS-4200.

#### DEPARTMENTAL MATERIAL SPECIFICATIONS (DMS) & MATERIAL PRODUCER LISTS (MPL)

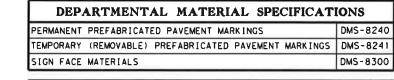
- 1. DMSs referenced above can be found along with embedded links to their respective MPLs at the following website:
- http://www.txdot.gov/business/contractors consultants/material specifications/default.htm



WZ (STPM) - 13

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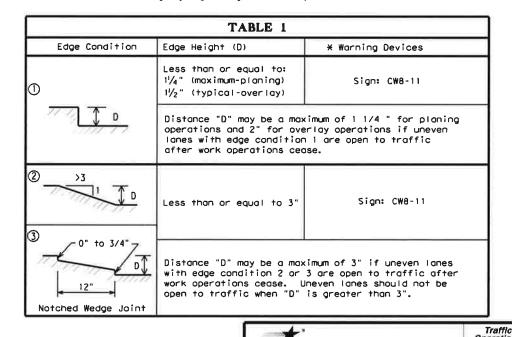
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١	COLOR	USAGE	SHEETING MATERIAL
١	ORANGE	BACKGROUND	TYPE B <sub>FL</sub> OR TYPE C <sub>FL</sub> SHEETING
١	BLACK	LEGEND & BORDERS	ACRYLIC NON-REFLECTIVE SHEETING

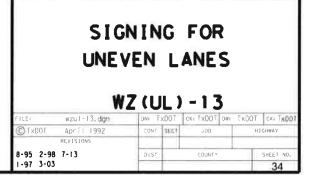
#### GENERAL NOTES

- If spalling or holes occur, ROUGH ROAD (CW8-8) signs should be placed in advance of the condition and be repeated every two miles where the condition persists.
- UNEVEN LANES (CW8-11) signs shall be installed in advance of the condition and repeated every mile. Signs installed along the uneven lane condition may be supplemented with the NEXT XX MILES (CW7-3aP) plaque or Advisory Speed (CW13-1P) plaque.
- 3. NO CENTER LINE (CW8-12) signs and temporary pavement markings as per the WZ(STPM) standard shall be installed if yellow centerlines separating two way traffic are obscured or obliterated. Repeat NO CENTER LINE signs every two miles where the center line markings are not in place. The signs and markings shall remain in place until permanent pavement markings are installed.
- 4. Signs shall be spaced at the distances recommended as per BC standards.
- Additional signs may be required as directed by the Engineer. Signs shall remain in place until final surface is applied. Signs shall be considered subsidiary to Item 502 "BARRICADES, SIGNS AND TRAFFIC HANDLING."
- Signs shall be fabricated and mounted on supports as shown on the BC standards and/or listed on the "Compliant Work Zone Traffic Control Devices" list.
- 7. Short term markings shall not be used to simulate edge lines.
- B. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition.

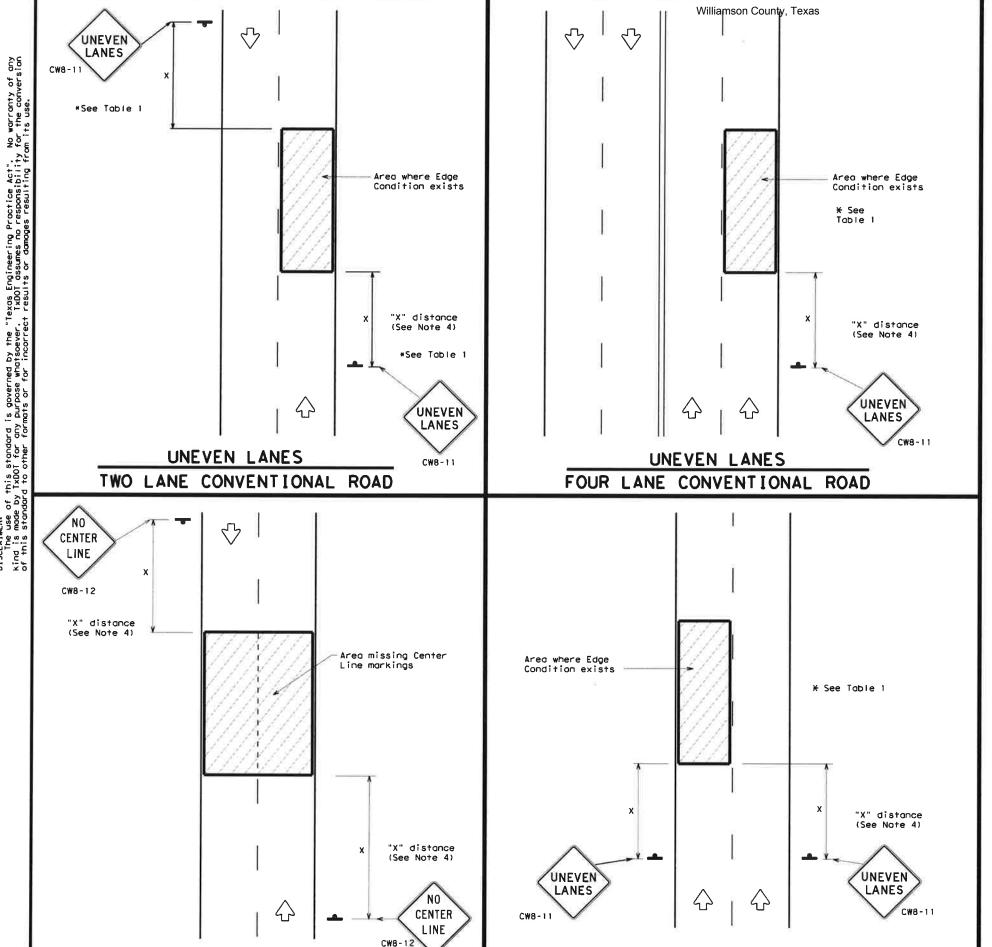


TRAFFIC CONTROL DURING PLANING, OVERLAY AND LEVELING OPERATIONS ARE SHOWN ELSEWHERE IN THE PLANS.

MINIMUM WARNING	SIGN SIZE
Conventional roads	36" × 36"
Freeways/expressways, divided roadways	48" × 48"



Texas Department of Transportation



UNEVEN LANES

DIVIDED ROADWAY

NO CENTER LINE

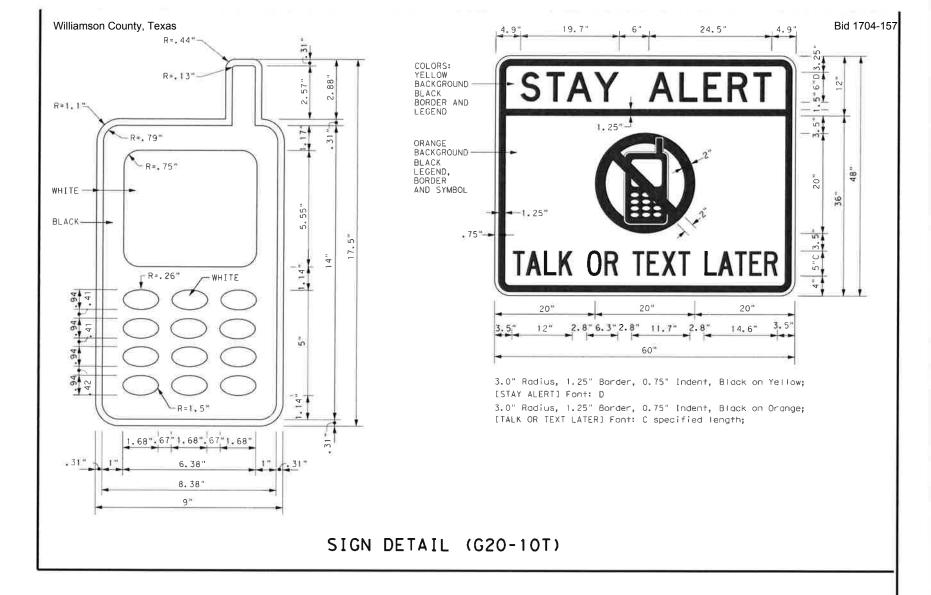
TWO LANE CONVENTIONAL ROAD

#### BARRICADE AND CONSTRUCTION (BC) STANDARD SHEETS GENERAL NOTES:

- The Barricade and Construction Standard Sheets (BC sheets) are intended to show typical examples for placement of temporary traffic control devices, construction pavement markings, and typical work zone signs. The information contained in these sheets meet or exceed the requirements shown in the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- 2. The development and design of the Traffic Control Plan (TCP) is the responsibility of the Engineer.
- 3. The Contractor may propose changes to the TCP that are signed and sealed by a licensed professional engineer for approval. The Engineer may develop, sign and seal Contractor proposed changes.
- 4. The Contractor is responsible for installing and maintaining the traffic control devices as shown in the plans. The Contractor may not move or change the approximate location of any device without the approval of the Engineer.
- 5. Geometric design of lane shifts and detours should, when possible, meet the applicable design criteria contained in manuals such as the American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highways and Streets," the TxDOT "Roadway Design Manual" or engineering judgment.
- 6. When projects abut, the Engineer(s) may omit the END ROAD WORK, TRAFFIC FINES DOUBLE, and other advance warning signs if the signing would be redundant and the work areas appear continuous to the motorists. If the adjacent project is completed first, the Contractor shall erect the necessary warning signs as shown on these sheets, the TCP sheets or as directed by the Engineer. The BEGIN ROAD WORK NEXT X MILES sign shall be revised to show appropriate work zone distance.
- 7. The Engineer may require duplicate warning signs on the median side of divided highways where median width will permit and traffic volumes justify the signing.
- 8. All signs shall be constructed in accordance with the details found in the "Standard Highway Sign Designs for Texas," latest edition. Sign details not shown in this manual shall be shown in the plans or the Engineer shall provide a detail to the Contractor before the sign is manufactured.
- 9. The temporary traffic control devices shown in the illustrations of the BC sheets are examples. As necessary, the Engineer will determine the most appropriate traffic control devices to be used.
- 10. As shown on BC(2), the OBEY WARNING SIGNS STATE LAW sign, STAY ALERT TALK OR TEXT LATER (see Sign Detail G20-10T) and the WORK ZONE TRAFFIC FINES DOUBLE sign with plaque shall be erected in advance of the CSJ limits. However, the TRAFFIC FINES DOUBLE sign will not be required on projects consisting solely of mobile operation work, such as striping or milling edgeline rumble strips. The BEGIN ROAD WORK NEXT X MILES, CONTRACTOR and END ROAD WORK signs shall be erected at or near the CSJ limits.
- 11. Except for devices required by Note 10, traffic control devices should be in place only while work is actually in progress or a definite need exists.
- 12. The Engineer has the final decision on the location of all traffic control devices.
- 13. Inactive equipment and work vehicles, including workers' private vehicles must be parked away from travel lanes. They should be as close to the right-of-way line as possible, or located behind a barrier or guardrail, or as approved by the Engineer.

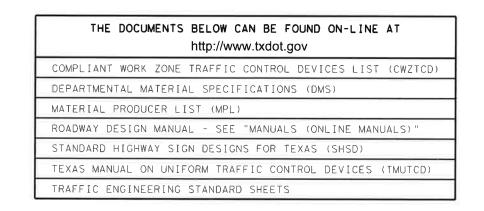
#### WORKER SAFETY APPAREL NOTES:

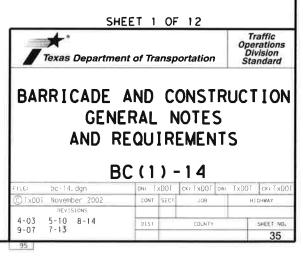
Workers on foot who are exposed to traffic or to construction equipment within the right-of-way shall wear high-visibility safety apparel meeting the requirements of ISEA "American National Standard for High-Visibility Apparel," or equivalent revisions, and labeled as ANSI 107-2004 standard performance for Class 2 or 3 risk exposure. Class 3 garments should be considered for high traffic volume work areas or night time work.



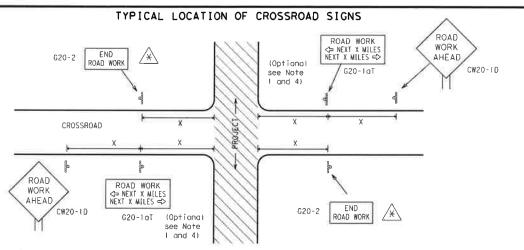
Only pre-qualified products shall be used. The "Compliant Work Zone Traffic Control Devices List" (CWZTCD) describes pre-qualified products and their sources and may be found on-line at the web address given below or by contacting:

Texas Department of Transportation Traffic Operations Division - TE Phone (512) 416-3118





ATE:



May be mounted on back of "ROAD WORK AHEAD" (CW20-ID) sign with approval of Engineer. (See note 2 below)

- The typical minimum signing on a crossroad approach should be a "ROAD WORK AHEAD" (CW20-1D) sign and a (G20-2) "END ROAD WORK" sign, unless noted otherwise in plans.
- 2. The Engineer may use the reduced size 36" x 36" ROAD WORK AHEAD (CW20-1D) sign mounted back to back with the reduced size 36" x 18" "END ROAD WORK"(C20-2) sign on low volume crossroads (see Note 4 under "Typical Construction Warning Sign Size and Spacing"). See the "Standard Highway Sign Designs for Texas" manual for sign details. The Engineer may omit the advance warning signs on low volume crossroads. The Engineer will determine whether a road is low volume. This information shall be shown in the plans.
- 3. Based on existing field conditions, the Engineer/Inspector may require additional signs such as FLAGGER AHEAD, LOOSE GRAVEL, or other appropriate signs. When additional signs are required, these signs will be considered part of the minimum requirements. The Engineer/Inspector will determine the proper location and spacing of any sign not shown on the BC sheets, Traffic Control Plan sheets or the Work Zone Standard Sheets.
- 4. The "ROAD WORK NEXT X MILES" (G20-1aT) sign shall be required at high volume crossroads to advise motorists of the length of construction in either direction from the intersection. The Engineer will determine whether a roadway is considered high volume.
- 5. Additional traffic control devices may be shown elsewhere in the plans for higher volume crossroads.
- 6. When work occurs in the intersection area, appropriate traffic control devices, as shown elsewhere in the plans or as determined by the Engineer/Inspector, shall be in place.

#### Williamson County, Texas INTERSECTION <= NEXT X MILES NEXT X MILES ⇒ G20-1bTI G20-1bTR $\Diamond$ INTERSECTED 1000'-1500' 1 Block = City - Hwy 1000'-1500' - Hwy 1 Block - City ROADWAY $\Rightarrow$ WORK WORK ZONE G20-5gP ZONE G20-5aP TRAFFL G20-5T R20-5T FINES R20-5T FINES DOUBL I R20-5aTP G20-6 MMEN MORKERS ARE PRESENT R20-5aTP END ROAD WORK G20-2

#### CSJ LIMITS AT T-INTERSECTION

- 1. The Engineer will determine the types and location of any additional traffic control devices, such as a flagger and accompanying signs, or other signs, that should be used when work is being performed at or near an intersection.
- 2. If construction closes the road at a T-intersection the Contractor shall place the "CONTRACTOR NAME" (G20-6T) sign behind the Type 3 Barricades for the road closure (see BC(10) also). The "ROAD WORK NEXT X MILES" left arrow(G20-1bTL) and "ROAD WORK NEXT X MILES" right arrow (G20-1bTR)" signs shall be replaced by the detour signing called for in the plans.

# TYPICAL CONSTRUCTION WARNING SIGN SIZE AND SPACING

#### SIZE

Sign Number or Series	Conventional Road	Expressway/ Freeway			
CW20 <sup>4</sup> CW21 CW22 CW23 CW25	48" × 48"	48" × 48"			
CW1, CW2, CW7, CW8, CW9, CW11, CW14	36" x 36"	48" × 48"			
CW3, CW4, CW5, CW6, CW8-3, CW10, CW12	48" × 48"	48" × 48"			

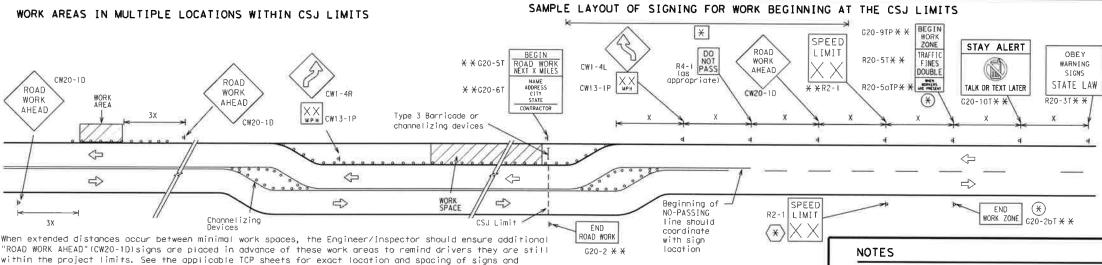
Posted Speed	Sign <sup>△</sup> Spacing "X"
MPH	Feet (Apprx.)
30	120
35	160
40	240
45	320
50	400
55	500 <sup>2</sup>
60	600 <sup>2</sup>
65	700 2
70	800 <sup>2</sup>
75	900 <sup>2</sup>
80	10002

SPACING

- \* For typical sign spacings on divided highways, expressways and freeways, see Part 6 of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) typical application diagrams or TCP Standard Sheets.
- Δ Minimum distance from work area to first Advance Warning sign nearest the work area and/or distance between each additional sign.

#### GENERAL NOTES

- 1. Special or larger size signs may be used as necessary.
- Distance between signs should be increased as required to have 1500 feet advance warning.
- Distance between signs should be increased as required to have 1/2 mile or more advance warning.
- 4. 36" x 36" "ROAD WORK AHEAD" (CW20-1D) signs may be used on low volume crossroads at the discretion of the Engineer. See Note 2 under "Typical Location of Crossroad Signs".
- 5. Only diamond shaped warning sign sizes are indicated.
- See sign size listing in "TMUTCD", Sign Appendix or the "Standard Highway Sign Designs for Texas" manual for complete list of available sign design sizes.



SAMPLE LAYOUT OF SIGNING FOR WORK BEGINNING DOWNSTREAM OF THE CSJ LIMITS \* \* G20-5aP STAY ALERT ZONE × SPEEL OBEY \* \* G20-5T ROAD ROAD TMT ROAL \* \* R20-5T SIGNS CLOSED RII-2 WORK WORK STATE LAW AHEAD 12 MILE TALK OR TEXT LATER X X R20-50TP Type 3 Barricade or XX CWI3-1P CW20-10 \* \* R2-1 R20-3 channelizing devices  $\langle \neg$ Channelizing Devices -CSJ Limit  $\Rightarrow$ 13 SPEED R2-(\*) END TIMIT ROAD WORK G20-2 \* \*

The Contractor shall determine the appropriate distance to be placed on the G20-1 series signs and "BEGIN ROAD WORK NEXT X MILES" (G20-5T) sign for each specific project. This distance shall replace the "X" and shall be rounded to the nearest whole mile with the approval of the Engineer

No decimals shall be used.

- The "BEGIN WORK ZONE" (G20-9TP) and "END WORK ZONE" (G20-2bT shall be used as shown on the sample layout when advance signs are required outside the CSJ Limits. They inform the motorist of entering or leaving a part of the work zone lying outside the CSJ Limits where traffic fines may double if workers are present.
- \*\* Required CSJ Limit signing. See Note 10 on BC(I). TRAFFIC FINES DOUBLE signs will not be required on projects consisting solely of mobile operations work.
- Area for placement of "ROAD WORK AHEAD" (CW20-10)sign and other signs or devices as called for on the Traffic Control Plan.
- Contractor will install a regulatory speed limit sign at the end of the work zone.

	LEGEND			
⊢⊣	Type 3 Barricade			
000	Channelizing Devices			
_	Sign			
х	See Typical Construction Warning Sign Size and Spacing chart or the TMUTCD for sign spacing requirements.			

SHEET 2 OF 12



Traffic Operations Division Standard

# BARRICADE AND CONSTRUCTION PROJECT LIMIT

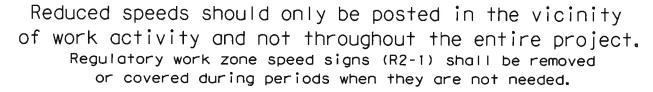
BC(2)-14

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9-07 8-14		DIST		COUNTY			SHEET NO.	
7-13							36	

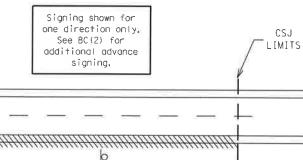
channelizing devices.

# TYPICAL APPLICATION OF WORK ZONE SPEED LIMIT SIGNS

Work zone speed limits shall be regulatory, established in accordance with the "Procedures for Establishing Speed Zones," and approved by the Texas Transportation Commission, or by City Ordinance when within Incorporated City Limits.



See General Note 4



See General

Note 4

WORK

ZONE

SPEED

LIMIT

G20-5aF

R2-1

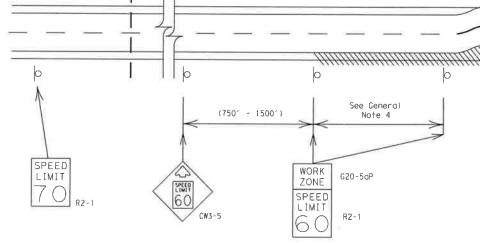
(750' - 1500')

ZONE

SPEED LIMIT G20-50F

Bid 1704-157

IMIT



LIMITS

### GUIDANCE FOR USE:

Signing shown for

one direction only.

See BC(2) for

additional advance

signing.

#### LONG/INTERMEDIATE TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit should be included on the design of the traffic control plans when restricted geometrics with a lower design speed are present in the work zone and modification of the geometrics to a higher design speed is not feasible.

Long/Intermediate Term Work Zone Speed Limit signs, when approved as described above, should be posted and visible to the motorist when work activity is present. Work activity may also be defined as a change in the roadway that requires a reduced speed for motorists to safely negotiate the work area, including:

- a) rough road or damaged pavement surface
- b) substantial alteration of roadway geometrics (diversions)
- c) construction detours
- d) grade
- e) width

f) other conditions readily apparent to the driver

As long as any of these conditions exist, the work zone speed limit signs should remain in place.

# SHORT TERM WORK ZONE SPEED LIMITS

This type of work zone speed limit may be included on the design of the traffic control plans when workers or equipment are not behind concrete barrier, when work activity is within 10 feet of the traveled way or actually in the travelled way.

Short Term Work Zone Speed Limit signs should be posted and visible to the motorists only when work activity is present. When work activity is not present, signs shall be removed or covered. (See Removing or Covering on BC(4)).

## GENERAL NOTES

ZONE

SPEED

LIMIT

G20-5aP

R2-1

- Regulatory work zone speed limits should be used only for sections of construction projects where speed control is of major importance.
- Regulatory work zone speed limit signs shall be placed on supports at a 7 foot minimum mounting height.

SPEED

LIMIT

- Speed zone signs are illustrated for one direction of travel and are normally posted for each direction of travel.
- 4. Frequency of work zone speed limit signs should be: 40 mph and greater 0.2 to 2 miles 35 mph and less 0.2 to 1 mile
- 5. Regulatory speed limit signs shall have black legend and border on a white reflective background (See "Reflective Sheeting" on BC(4)).
- 6. Fabrication, erection and maintenance of the "ADVANCE SPEED LIMIT" (CW3-5) sign, "WORK ZONE" (G20-5aP) plaque and the "SPEED LIMIT" (R2-1) signs shall not be paid for directly, but shall be considered subsidiary to Item 502.
- 7. Turning signs from view, laying signs over or down will not be allowed, unless as otherwise noted under "REMOVING OR COVERING" on BC(4).
- 8. Techniques that may help reduce traffic speeds include but are not limited to:
  A. Law enforcement.
  - B. Flagger stationed next to sign.
  - C. Portable changeable message sign (PCMS).
  - D. Low-power (drone) radar transmitter.
  - E. Speed monitor trailers or signs.
- Speeds shown on details above are for illustration only.
   Work Zone Speed Limits should only be posted as approved for each project.
- 10.For more specific guidance concerning the type of work, work zone conditions and factors impacting allowable regulatory construction speed zone reduction see TxDOT form #1204 in the TxDOT e-form system.

Texas Department of Transportation

SHEET 3 OF 12

BARRICADE AND CONSTRUCTION WORK ZONE SPEED LIMIT

BC(3)-14

9-07 8-14 DIST COUNTY	SHEET NO	
7-13 DIST COUNTY	SHEET NO.	

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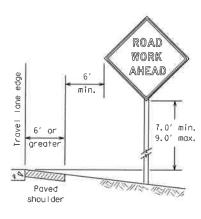
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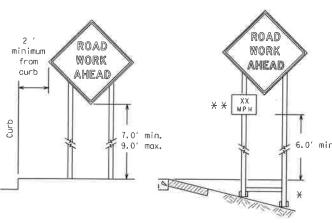
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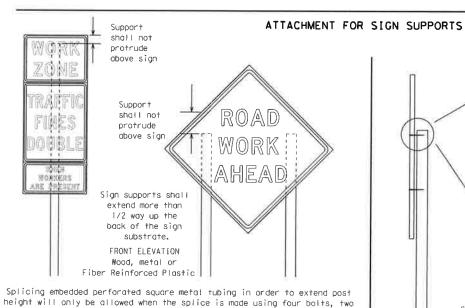
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\* When placing skid supports on unlevel ground, the leg post lengths must be adjusted so the sign appears straight and plumb. Objects shall NOT be placed under skids as a means of leveling.

\* \* When plaques are placed on dual-leg supports, they should be attached to the upright nearest the travel lane. Supplemental plaques (advisory or distance) should not cover the surface of the parent sign.



above and two below the spice point. Splice must be located entirely behind

the sign substrate, not near the base of the support. Splice insert lengths

should be at least 5 times nominal post size, centered on the splice and

of at least the same gauge material.

SIDE ELEVATION

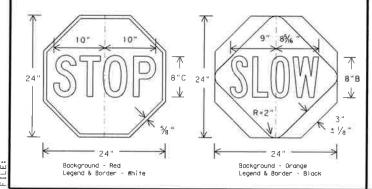
Wood

Attachment to wooden supports will be by bolts and nuts or screws. Use TxDOT's or manufacturer's recommended procedures for attaching sign substrates to other types of sign supports

Nails shall NOT be allowed. Each sian shall be attached directly to the sign support. Multiple signs shall not be joined or spliced by any means. Wood supports shall not be extended or repaired by splicing or other means.

#### STOP/SLOW PADDLES

- 1. STOP/SLOW paddles are the primary method to control traffic by flaggers. The STOP/SLOW paddle size should be 24" x 24" as detailed below.
- 2. When used at night, the STOP/SLOW paddle shall be retroreflectorized.
- 3. STOP/SLOW paddles may be attached to a staff with a minimum length of 6' to the bottom of the sign.
- 4. Any lights incorporated into the STOP or SLOW paddle faces shall only be as specifically described in Section 6E.03 Hand Signaling Devices in the TMUTCD.



#### CONTRACTOR REQUIREMENTS FOR MAINTAINING PERMANENT SIGNS WITHIN THE PROJECT LIMITS

- 1. Permanent signs are used to give notice of traffic laws or regulations, call attention to conditions that are potentially hazardous to traffic operations. show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information. Drivers proceeding through a work zone need the same, if not better route guidance as normally installed on a roadway without construction.
- When permanent regulatory or warning signs conflict with work zone conditions. remove or cover the permanent signs until the permanent sign message matches the roadway condition.
- When existing permanent signs are moved and relocated due to construction purposes, they shall be visible to motorists at all times.
- If existing signs are to be relocated on their original supports, they shall be installed on crashworthy bases as shown on the SMD Standard sheets. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards. This work should be paid for under the appropriate pay item for relocating existing signs.
- If permanent signs are to be removed and relocated using temporary supports, the Contractor shall use crashworthy supports as shown on the BC sheets or the CWZTCD. The signs shall meet the required mounting heights shown on the BC Sheets or the SMD Standards during construction. This work should be paid for under the appropriate pay item for relocating existing signs.
- Any sign or traffic control device that is struck or damaged by the Contractor 6. or his/her construction equipment shall be replaced as soon as possible by the Contractor to ensure proper guidance for the motorists. This will be subsidiary to Item 502.

#### GENERAL NOTES FOR WORK ZONE SIGNS

Contractor shall install and maintain signs in a straight and plumb condition and/or as directed by the Engineer.

- Wooden sign posts shall be painted white.
- Barricades shall NOT be used as sign supports.
- 4. All signs shall be installed in accordance with the plans or as directed by the Engineer. Signs shall be used to regulate, warn, and guide the traveling public safely through the work zone.
- The Contractor may furnish either the sign design shown in the plans or in the "Standard Highway Sign Designs for Texas" (SHSD). The Engineer/Inspector may require the Contractor to furnish other work zone signs that are shown in the IMUTCD but may have been omitted from the plans. Any variation in the plans shall be documented by written agreement between the Engineer and the Contractor's Responsible Person. All changes must be documented in writing before being implemented. This can include documenting the changes in the Inspector's TxDOT diary and having both the Inspector and Contractor initial and date the agreed upon changes.
- The Contractor shall furnish sign supports listed in the "Compliant Work Zone Traffic Control Device List" (CWZTCD). The Contractor shall install the sign support in accordance with the manufacturer's recommendations. If there is a question regarding installation procedures, the Contractor shall furnish the Engineer a copy of the manufacturer's installation recommendations so the Engineer can verify the correct procedures are being followed.
- The Contractor is responsible for installing signs on approved supports and replacing signs with damaged or cracked substrates and/or damaged or marred reflective sheeting as directed by the Engineer/Inspector.
- Identification markings may be shown only on the back of the sign substrate. The maximum height of letters and/or company logos used for identification shall be I inch.
- The Contractor shall replace damaged wood posts. New or damaged wood sign posts shall not be spliced.

# DURATION OF WORK (as defined by the "Texas Manual on Uniform Traffic Control Devices" Part 6)

- The types of sign supports, sign mounting height, the size of signs, and the type of sign substrates can vary based on the type of work being performed. The Engineer is responsible for selecting the appropriate size sign for the type of work being performed. The Contractor is responsible for ensuring the sign support, sign mounting height and substrate meets manufacturer's recommendations in regard to crashworthiness and duration of work requirements.
- a. Long-term stationary work that occupies a location more than 3 days.
- Intermediate-term stationary work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than one hour.
- Short-term stationary daytime work that occupies a location for more than I hour in a single daylight period.
- Short, duration work that occupies a location up to 1 hour.

#### e. Mobile - work that moves continuously or intermittently (stopping for up to approximately 15 minutes.)

#### SIGN MOUNTING HEIGHT

- The bottom of Long-term/Intermediate-term signs shall be at least 7 feet, but not more than 9 feet, above the paved surface, except as shown for supplemental plaques mounted below other signs.
- The bottom of Short-term/Short Duration signs shall be a minimum of I foot above the pavement surface but no more than 2 feet above the ground.
- Long-term/Intermediate-term Signs may be used in lieu of Short-term/Short Duration signing.
- Short-term/Short Duration signs shall be used only during daylight and shall be removed at the end of the workday or raised to appropriate Long-term/Intermediate sign height.
- Regulatory signs shall be mounted at least 7 feet, but not more than 9 feet, above the paved surface regardless of work duration.

# SIZE OF SIGNS

The Contractor shall furnish the sign sizes shown on BC (2) unless otherwise shown in the plans or as directed by the Engineer.

### SIGN SUBSTRATES

- The Contractor shall ensure the sign substrate is installed in accordance with the manufacturer's recommendations for the type of sign support that is being used. The CWITCD lists each substrate that can be used on the different types and models of sign supports. "Mesh" type materials are NOT an approved sign substrate, regardless of the tightness of the weave.
- All wooden individual sign panels fabricated from 2 or more pieces shall have one or more plywood cleat, 1/2" thick by 6" wide, fastened to the back of the sign and extending fully across the sign. The cleat shall be attached to the back of the sign using wood screws that do not penetrate the face of the sign panel. The screws shall be placed on both sides of the splice and spaced at 6" centers. The Engineer may approve other methods of splicing the sign face.

#### REFLECTIVE SHEETING

- All signs shall be retroreflective and constructed of sheeting meeting the color and retro-reflectivity requirements of DMS-8300 for rigid signs or DMS-8310 for roll-up signs. The web address for DMS specifications is shown on BC(1).
- White sheeting, meeting the requirements of DMS-8300 Type A, shall be used for signs with a white background.
- Orange sheeting, meeting the requirements of DMS-8300 Type  $B_{FL}$  or Type  $C_{FL}$ , shall be used for rigid signs with orange backgrounds.

#### SIGN LETTERS

1. All sign letters and numbers shall be clear, and open rounded type uppercase alphabet letters as approved by the Federal Highway Administration (FHWA) and as published in the "Standard Highway Sign Design for Texas" manual. Signs, letters and numbers shall be of first class workmanship in accordance with Department Standards and Specifications.

#### REMOVING OR COVERING

- When sign messages may be confusing or do not apply, the signs shall be removed or completely covered.
- Long-term stationary or intermediate stationary signs installed on square metal tubing may be turned away from traffic 90 degrees when the sign message is not applicable. This technique may not be used for signs installed in the median of divided highways or near any intersections where the sign may be seen from approaching traffic.
- Signs installed on wooden skids shall not be turned at 90 degree angles to the roadway. These signs should be removed or completely covered when not required.
- When signs are covered, the material used shall be opaque, such as heavy mil black plastic, or other materials which will cover the entire sign face and maintain their opaque properties under automobile headlights at night, without damaging the sign sheeting. Burlap shall NOT be used to cover signs.
- Duct tape or other adhesive material shall NOT be affixed to a sign face.
- Signs and anchor stubs shall be removed and holes backfilled upon completion of work.

#### SIGN SUPPORT WEIGHTS

- Where sign supports require the use of weights to keep from turning over, the use of sandbags with dry, cohesionless sand should be used.
- The sandbags will be tied shut to keep the sand from spilling and to maintain a constant weight.
- Rock, concrete, iron, steel or other solid objects shall not be permitted for use as sign support weights.
- 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.

- Rubber ballasts designed for channelizing devices should not be used for ballast on portable sign supports. Sign supports designed and manufactured with rubber bases may be used when shown on the CWZTCD list.
- Sandbags shall only be placed along or laid over the base supports of the traffic control device and shall not be suspended above ground level or hung with rope, wire, chains or other fasteners. Sandbags shall be placed along the length of the skids to weigh down the sign support.
- Sandbags shall NOT be placed under the skid and shall not be used to level sign supports placed on slopes.

#### FLAGS ON SIGNS

Flags may be used to draw attention to warning signs. When used the flag shall be 16 inches square or larger and shall be arange or fluorescent red-orange in color. Flags shall not be allowed to cover any portion of

SHEET 4 OF 12

Traffic Texas Department of Transportation

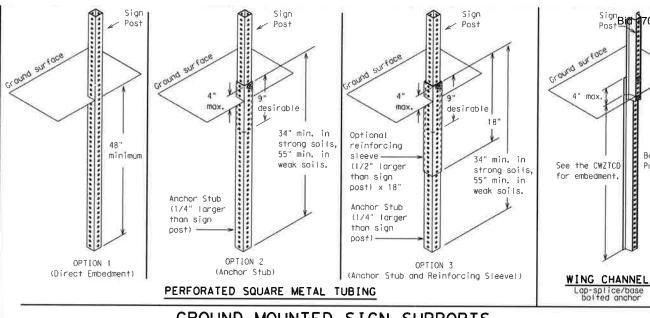
# BARRICADE AND CONSTRUCTION TEMPORARY SIGN NOTES

BC(4) - 14

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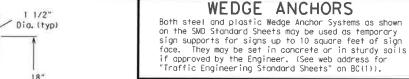
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### GROUND MOUNTED SIGN SUPPORTS

Refer to the CWZTCD and the manufacturer's installation procedure for each type sign support. The maximum sign square footage shall adhere to the manufacturer's recommendation. Two post installations can be used for larger signs.

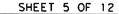


OTHER DESIGNS MORE DETAILS OF APPROVED LONG/INTERMEDIATE

AND SHORT TERM SUPPORTS CAN BE FOUND ON THE CWZTCD LIST. SEE BC(1) FOR WEBSITE LOCATION.

#### GENERAL NOTES

- Nails may be used in the assembly of wooden sign supports, but 3/8" bolts with nuts or 3/8" x 3 1/2" lag screws must be used on every joint for final connection.
- No more than 2 sign posts shall be placed within a 7 ft. circle, except for specific materials noted on th CWZTCD List.
- When project is completed, all sign supports and foundations shall be removed from the project site. This will be considered subsidiary to Item 502.
  - ☐ See BC(4) for definition of "Work Duration."
  - Wood sign posts MUST be one piece. Splicing will NOT be allowed. Posts shall be painted white.
  - $\triangle$  See the CWZTCD for the type of sign substrate that can be used for each approved sign support.





Traffic Operations Division Standard

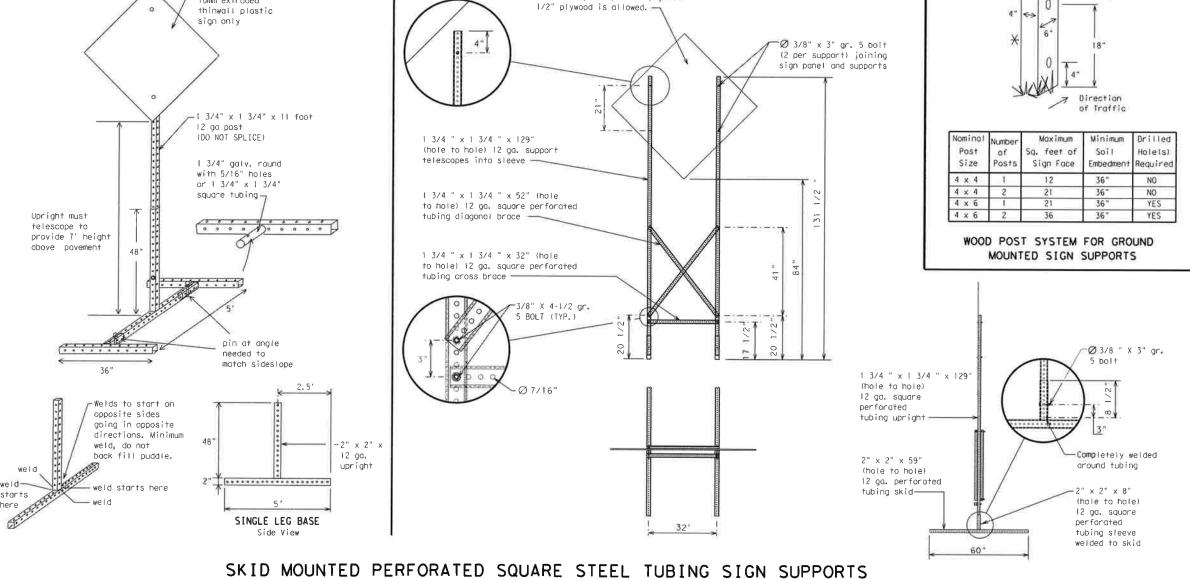
Sign Post **Bio 1**704-157

Post

### BARRICADE AND CONSTRUCTION TYPICAL SIGN SUPPORT

BC(5)-14

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anty of any conversion

No

WHEN NOT IN USE, REMOVE THE PCMS FROM THE RIGHT-OF-WAY OR PLACE THE PCMS BEHIND BARRIER OR GUARDRAIL WITH SIGN PANEL TURNED PARALLEL TO TRAFFIC

#### PORTABLE CHANGEABLE MESSAGE SIGNS

- The Engineer/Inspector shall approve all messages used on portable changeable message signs (PCMS).
- Messages on PCMS should contain no more than 8 words (about four to eight characters per word), not including simple words such as "TO,"
- Messages should consist of a single phase, or two phases that alternate. Three-phase messages are not allowed. Each phase of the message should convey a single thought, and must be understood by itself.
- Use the word "EXIT" to refer to an exit ramp on a freeway; i.e., "EXIT CLOSED," Do not use the term "RAMP,
- Always use the route or interstate designation (IH, US, SH, FM) along with the number when referring to a roadway.
- When in use the bottom of a stationary PCMS message panel should be a minimum 7 feet above the roadway, where possible.
- The message term "WEEKEND" should be used only if the work is to start on Saturday morning and end by Sunday evening at midnight. Actual days and hours of work should be displayed on the PCMS if work is to begin on Friday evening and/or continue into Monday morning.
- The Engineer/Inspector may select one of two options which are available for displaying a two-phase message on a PCMS. Each phase may be displayed for either four seconds each or for three seconds each.
- Do not "flash" messages or words included in a message. The message should be steady burn or continuous while displayed.
- 10. Do not present redundant information on a two-phase message; i.e., keeping two lines of the message the same and changing the third line. 11. Do not use the word "Donger" in message.
- 12. Do not display the message "LANES SHIFT LEFT" or "LANES SHIFT RIGHT" on a PCMS. Drivers do not understand the message.
- 13. Do not display messages that scroll horizontally or vertically across the face of the sign.
- 14. The following table lists abbreviated words and two-word phrases that are acceptable for use on a PCMS. Both words in a phrase must be displayed together. Words or phrases not on this list should not be abbreviated, unless shown in the TMUTCD.
- 15. PCMS character height should be at least 18 inches for trailer mounted units. They should be visible from at least 1/2 (.5) mile and the text should be legible from at least 600 feet at night and 800 feet in daylight. Truck mounted units must have a character height of 10 inches and must be legible from at least 400 feet.

  16. Each line of text should be centered on the message board rather than
- left or right justified.
- 17. If disabled, the PCMS should default to an illegible display that will not alarm motorists and will only be used to alert workers that the PCMS has malfunctioned. A pattern such as a series of horizontal solid bars is appropriate.

WORD OR PHRASE	ABBREVIATION	WORD OR PHRASE	ABBREVIATION
Access Road	ACCS RD	Major	MAJ
Alternate	ALT	Miles	MI
Avenue	AVE	Miles Per Hour	MPH
Best Route	BEST RTE	Minor	MNR
Boulevard	BLVD	Monday	MON
Bridge	BRDG	Normal	NORM
Cannot	CANT	North	N
Center	CTR	Northbound	(route) N
Construction Ahead	CONST AHD	Parking Road	PK INC
CROSSING	XING	Right Lane	RT LN
Detour Route	DETOUR RTE	Saturday	SAT
Do Not	DONT	Service Rood	SERV RD
East	E	Shoulder	SHLDR
Eastbound	(route) E		SLIP
Emergency	EMER	Slippery	S
Emergency Vehicle		Southbound	(route) S
Entrance, Enter	ENT	Speed	SPD SPD
Express Lane	EXP LN	Street	ST
Expressway	EXPWY	Sunday	SUN
XXXX Feet	XXXX FT	Telephone	PHONE
Fog Ahead	FOG AHD	Temporary	TEMP
Freeway	FRWY, FWY	Thursday	THURS
Freeway Blocked	FWY BLKD	To Downtown	TO DWNTN
Friday	FRI	Traffic	TRAF
Hazardous Driving	HAZ DRIVING		1
Hozardous Material		Travelers	TRVLRS
High-Occupancy	HOV	Tuesday	TUES
Vehicle	10700	Time Minutes	TIME MIN
Highway	HWY	Upper Level	UPR LEVEL
Hour (s)	HR, HRS	Vehicles (s)	VEH, VEHS
Information	INFO	Warning	WARN
It Is	ITS	Wednesday	WED
Junction	JCT	Weight Limit	WT LIMIT
Left	LFT	West	W
Left Lane	LFT LN	Westbound	(route) W
Lane Closed	LN CLOSED	Wet Povement	WET PVMT
Lower Level	LWR LEVEL	Will Not	WONT
Maintenance	MAINT		

designation # [H-number, US-number, SH-number, FM-number

### RECOMMENDED PHAISES CAND ENORMATS FOR PCMS MESSAGES DURING ROADWORK ACTIVITIES

(The Engineer may approve other messages not specifically covered here.)

#### Phase 1: Condition Lists

### Road/Lane/Ramp Closure List

FREEWAY FRONTAGE CLOSED ROAD X MILE CLOSED ROAD SHOULDER CLOSED CLOSED AT SH XXX XXX FT ROAD RIGHT LN CLSD AT CLOSED FM XXXX XXX FT RIGHT X IANES LANES CLOSED OPEN

CENTER DAYTIME LANE LANE CLOSED CLOSURES NIGHT I-XX SOUTH LANF EXIT

CLOSURES CLOSED VARIOUS EXIT XXX LANES CLOSED CLOSED X MILE EXIT RIGHT LN

CLOSED MALL X LANES DRIVEWAY CLOSED CLOSED TUE - FRI

CLOSED

XXXXXXX

BI VD

CLOSED

ROADWORK ROAD XXX FT REPAIRS

Other Condition List

XXXX FT FLAGGER LANE XXXX FT NARROWS XXXX FT RIGHT LN TWO-WAY NARROWS TRAFFIC

XXXX FT XX MILE MERGING CONST TRAFFIC TRAFFIC XXXX FT XXX FT LOOSE UNEVEN GRAVEL LANES XXXX FT XXXX FT DF TOUR ROUGH

XXXX FT ROADWORK ROADWORK PAST NEXT SH XXXX FRI-SUN

ROAD

BUMP US XXX XXXX FT EXIT X MILES TRAFFIC LANES

SIGNAL SHIFT XXXX FT

\* LANES SHIFT in Phase 1 must be used with STAY IN LANE in Phase 2.

X MILE

### Phase 2: Possible Component Lists

Action to Take/Effect on Travel Location Warning List List List MERGE FORM ΑT SPEED RIGHT X LINES FM XXXX LIMIT RIGHT XX MPH DETOUR USE BEFORE XXXXX RAILROAD X EXITS RD EXIT CROSSING USE EXIT USE NEXT EXIT XXX I-XX NORTH MILES STAY ON USE PAST US XXX I-XX E US XXX SOUTH TO I-XX N EXIT TRUCKS WATCH XXXXXXX USE FOR TO US XXX N TRUCKS XXXXXXX WATCH EXPECT US XXX DELAYS CAUTION TO TRUCKS FM XXXX EXPECT PREPARE DELAYS TO STOP

MAXIMUM SPEED XX MPH MINIMUM SPEED XX MPH ADVISORY SPEED XX MPH RIGHT LANE EXIT USE

> DRIVE SAFELY DRIVE WITH CARE

XX AM TO XX PM NEXT TUE AUG XX

> TONIGHT XX PM-XX AM

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\*\* Advance

Notice List

TUE-FRI

XX AM-

X PM

APR XX-

XX

X PM-X AM

REGINS

MONDAY

BEGINS

MAY XX

MAY X-X

XX AM

NEXT

FRI-SUN

XX PM -

\* \* See Application Guidelines Note 6.

#### APPLICATION GUIDELINES

TO BE

- 1, Only 1 or 2 phases are to be used on a PCMS.
- The 1st phase (or both) should be selected from the "Road/Lane/Ramp Closure List" and the "Other Condition List".
- 3. A 2nd phase can be selected from the "Action to Take/Effect on Travel, Location, General Warning, or Advance Notice Phase Lists".
- 4. A Location Phase is necessary only if a distance or location is not included in the first phase selected.
- 5. If two PCMS are used in sequence, they must be separated by a minimum of 1000 ft. Each PCMS shall be limited to two phases, and should be understandable by themselves.
- 6. For advance notice, when the current date is within seven days of the actual work date, calendar days should be replaced with days of the week. Advance notification should typically be for no more than one week prior to the work.

#### WORDING ALTERNATIVES

REDUCE

SPEED

XXX FT

USE

OTHER

ROUTES

STAY

ΙN

LANE

- The words RIGHT, LEFT and ALL can be interchanged as appropriate. Roadway designations IH, US, SH, FM and LP can be interchanged as appropriate.
- 3. EAST, WEST, NORTH and SOUTH (or abbreviations E, W, N and S) can be interchanged as appropriate.
- Highway names and numbers replaced as appropriate.
- ROAD, HIGHWAY and FREEWAY can be interchanged as needed.

END

SHOULDER

USE

WATCH

FOR

WORKERS

- 6. AHEAD may be used instead of distances if necessary. FT and MI, MILE and MILES interchanged as appropriate.
- 8. AT, BEFORE and PAST interchanged as needed.
- 9. Distances or AHEAD can be eliminated from the message if a location phase is used.

PCMS SIGNS WITHIN THE R.O.W. SHALL BE BEHIND GUARDRAIL OR CONCRETE BARRIER OR SHALL HAVE A MINIMUM OF FOUR (4) PLASTIC DRUMS PLACED PERPENDICULAR TO TRAFFIC ON THE UPSTREAM SIDE OF THE PCMS, WHEN EXPOSED TO ONE DIRECTION OF TRAFFIC. WHEN EXPOSED TO TWO WAY TRAFFIC. THE FOUR DRUMS SHOULD BE PLACED WITH ONE DRUM AT EACH OF THE FOUR CORNERS OF THE UNIT.

#### FULL MATRIX PCMS SIGNS

- 1. When Full Matrix PCMS signs are used, the character height and legibility/visibility requirements shall be maintained as listed in Note 15 under "PORTABLE CHANGEABLE MESSAGE SIGNS" above.
- 2. When symbol signs, such as the "Flagger Symbol"(CW20-7) are represented graphically on the Full Matrix PCMS sign and, with the approval of the Engineer, it shall maintain the legibility/visibility requirement listed above.
- 3. When symbol signs are represented graphically on the Full Matrix PCMS, they shall only supplement the use of the static sign represented, and shall not substitute for, or replace that sign.
- 4. A full matrix PCMS may be used to simulate a flashing arrow board provided it meets the visibility, flash rate and dimming requirements on BC(7), for the same size arrow.

#### SHEET 6 OF 12

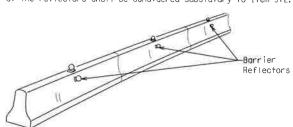
Texas Department of Transportation

BARRICADE AND CONSTRUCTION PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)

BC(6)-14

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136.1						_	

2. Color of Barrier Reflectors shall be as specified in the IMUTCD. The cost of the reflectors shall be considered subsidiary to Item 512.



#### CONCRETE TRAFFIC BARRIER (CTB)

- 3. Where troffic is on one side of the CTB, two (2) Barrier Reflectors shall be mounted in approximately the midsection of each section of CTB. An alternate mounting location is uniformly spaced at one end of each CTB. This will allow for attachment of a barrier grapple without damaging the reflector. The Barrier Reflector mounted on the side of the CTB shall be located directly below the reflector mounted on top of the barrier, as shown in the detail above.
- 4. Where CTB separates two-way traffic, three barrier reflectors shall be mounted on each section of CTB. The reflector unit on top shall have two yellow reflective faces (Bi-Directional) while the reflectors on each side of the barrier shall have one yellow reflective face, as shown in the detail above.
- When CTB separates traffic traveling in the same direction, no barrier reflectors will be required on top of the CTB.
- Barrier Reflector units shall be yellow or white in color to match the edgeline being supplemented.
- 7. Maximum spacing of Barrier Reflectors is forty (40) feet.

Type C Warning Light or approved substitute mounted on a

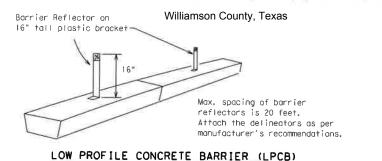
drum adjacent to the travel way.

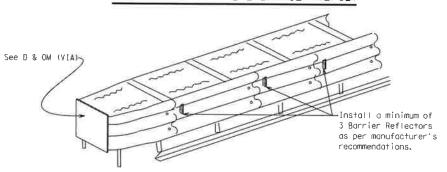
Warning reflector may be round

or square. Must have a yellow

reflective surface area of at least

- 8. Pavement markers or temporary flexible-reflective roadway marker tabs shall NOT be used as CTB delineation.
- 9. Attachment of Barrier Reflectors to CTB shall be per manufacturer's
- 10.Missing or damaged Barrier Reflectors shall be replaced as directed by the Engineer.
- 11. Single slope barriers shall be delineated as shown on the above detail.





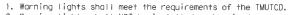
#### DELINEATION OF END TREATMENTS

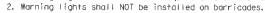
END TREATMENTS FOR CTB'S USED IN WORK ZONES

End treatments used on CTB's in work zones shall meet crashworthy standards as defined in the National Cooperative Highway Research Report 350. Refer to the CWZTCD List for approved end treatments and manufacturers.

### BARRIER REFLECTORS FOR CONCRETE TRAFFIC BARRIER AND ATTENUATORS

#### WARNING LIGHTS





WARNING LIGHTS MOUNTED ON PLASTIC DRUMS

- 3. Type A-Low Intensity Flashing Warning Lights are commonly used with drums. They are intended to warn of or mark a potentially hazardous area. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "FL". The Type A Warning Lights shall not be used with signs manufactured with Type B<sub>FL</sub> or C<sub>FL</sub> Sheeting meeting the requirements of Departmental Material Specification DMS-8300.
- 4. Type-C and Type 0 360 degree Steady Burn Lights are intended to be used in a series for delineation to supplement other traffic control devices. Their use shall be as indicated on this sheet and/or other sheets of the plans by the designation "SB".
- 5. The Engineer/Inspector or the plans shall specify the location and type of warning lights to be installed on the traffic control devices. 6. When required by the Engineer, the Contractor shall furnish a copy of the warning lights certification. The warning light manufacturer will
- certify the warning lights meet the requirements of the latest ITE Purchase Specifications for Flashing and Steady-Burn Warning Lights. When used to delineate curves, Type-C and Type D Steady Burn Lights should only be placed on the outside of the curve, not the inside.
- 8. The location of warning lights and warning reflectors on drums shall be as shown elsewhere in the plans.

### 1. Type A flashing warning lights are intended to warn drivers that they are approaching or are in a potentially hazardous area.

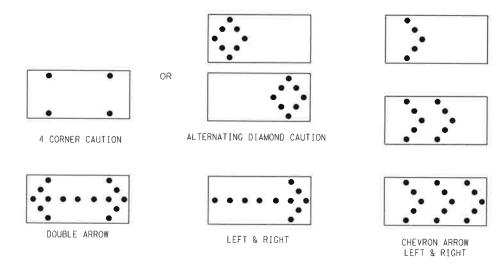
- 2. Type A random flashing warning lights are not intended for delineation and shall not be used in a series.
- 3. A series of sequential flashing warning lights placed on channelizing devices to form a merging taper may be used for delineation. If used, the successive flashing of the sequential warning lights should occur from the beginning of the taper to the end of the merging taper in order to identify the desired vehicle path. The rate of flashing for each light shall be 65 flashes per minute, plus or minus 10 flashes,
- 4. Type C and D steady-burn warning lights are intended to be used in a series to delineate the edge of the travel lane on detours, on lane changes, on lane closures, and on other similar conditions.
- 5. Type A, Type C and Type D warning lights shall be installed at locations as detailed on other sheets in the plans.
- 6. Warning lights shall not be installed on a drum that has a sign, chevron or vertical panel.
- 7. The maximum spacing for warning lights on drums should be identical to the channelizing device spacing.

### WARNING REFLECTORS MOUNTED ON PLASTIC DRUMS AS A SUBSTITUTE FOR TYPE C (STEADY BURN) WARNING LIGHTS

- 1. A warning reflector or approved substitute may be mounted on a plastic drum as a substitute for a Type C, steady burn warning light at the discretion of the Contractor unless otherwise noted in the plans.
- 2. The warning reflector shall be yellow in color and shall be manufactured using a sign substrate approved for use with plastic drums listed
- 3. The warning reflector shall have a minimum retroreflective surface area (one-side) of 30 square inches.
- 4. Round reflectors shall be fully reflectorized, including the area where attached to the drum.
- 5. Square substrates must have a minimum of 30 square inches of reflectorized sheeting. They do not have to be reflectorized where it attaches to the drum,
- 6. The side of the warning reflector facing approaching traffic shall have sheeting meeting the color and retroreflectivity requirements for DMS 8300-Type B or Type C.
- 7. When used near two-way traffic, both sides of the warning reflector shall be reflectorized.
- 8. The warning reflector should be mounted on the side of the handle nearest approaching traffic.
- 9. The maximum spacing for warning reflectors should be identical to the channelizing device spacing requirements.

Bid 1704-157 Arrow Boards may be located behind channelizing devices in place for a shoulder taper or merging taper, otherwise they shall be delineated with four (4) channelizing devices placed perpendicular to traffic on the upstream side of traffic.

- 1. The Flashing Arrow Board should be used for all lane closures on multi-lane roadways, or slow moving maintenance or construction activities on the travel lanes.
- 2. Flashing Arrow Boards should not be used on two-lane, two-way roadways, detours, diversions or work on shoulders unless the "CAUTION" display (see detail below) is used.
- The Engineer/Inspector shall choose all appropriate signs, barricades and/or other traffic control devices that should be used in conjunction with the Flashing Arrow Board.
- 4. The Flashing Arrow Board should be able to display the following symbols:



- The "CAUTION" display consists of four corner lamps flashing simultaneously, or the Alternating Diamond Caution mode as shown.
- The straight line caution display is NOT ALLOWED.
- The Flashing Arrow Board shall be capable of minimum 50 percent dimming from rated lamp voltage. The flashing rate of the lamps shall not be less than 25 nor more than 40 flashes per minute.
- Minimum lamp "on time" shall be approximately 50 percent for the flashing arrow and equal intervals of 25 percent for each sequential phase of the flashing chevron.
- 9. The sequential arrow display is NOT ALLOWED.
  10. The flashing arrow display is the TxDOT standard; however, the sequential Chevron
- display may be used during daylight operations.
- The Flashing Arrow Board shall be mounted on a vehicle, trailer or other suitable support.
   A Flashing Arrow Board SHALL NOT BE USED to laterally shift traffic.
   A full matrix PCMS may be used to simulate a Flashing Arrow Board provided it meets visibility,
- flash rate and dimming requirements on this sheet for the same size arrow.
- 14. Minimum mounting height of trailer mounted Arrow Boards should be 7 feet from roadway to bottom of panel.

	REQUIREMENTS										
TYPE	MINIMUM SIZE	MINIMUM NUMBER OF PANEL LAMPS	MINIMUM VISIBILITY DISTANCE								
8	30 x 60	13	3/4 mile								
С	48 x 96	15	1 mile								

. Truck-mounted attenuators (TMA) used on TxDOT facilities must meet the requirements outlined in the National

Cooperative Highway Research Report No. 350 (NCHRP 350) or the Manual for Assessing Safety Hardware (MASH).

2. Refer to the CWZTCD for the requirements of Level 2 or

4. TMAs are required on freeways unless otherwise noted

5. A TMA should be used anytime that it can be positioned

without adversely affecting the work performance.

30 to 100 feet in advance of the area of crew exposure

6. The only reason a TMA should not be required is when a work

area is spread down the roadway and the work crew is an

3. Refer to the CWZTCD for a list of approved TMAs.

TRUCK-MOUNTED ATTENUATORS

extended distance from the TMA.

Level 3 TMAs.

in the plans.

AT	TENTION
Flashing	Arrow Boards
shall be	equipped with
automati	c dimming device

WHEN NOT IN USE, REMOVE THE ARROW BOARD FROM THE RIGHT-OF-WAY OR PLACE THE ARROW BOARD BEHIND CONCRETE TRAFFIC BARRIER OR GUARDRAIL.

### FLASHING ARROW BOARDS

SHEET 7 OF 12

### Texas Department of Transportation

Traffic

### BARRICADE AND CONSTRUCTION ARROW PANEL, REFLECTORS. WARNING LIGHTS & ATTENUATOR

BC(7)-14

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1711			_				

### GENERAL NOTES

- For long term stationary work zones on freeways, drums shall be used as the primary channelizing device.
- 2. For intermediate term stationary work zones on freeways, drums should be used as the primary channelizing device but may be replaced in tangent sections by vertical panels, or 42" two-piece cones. In tangent sections one-piece cones may be used with the approval of the Engineer but only if personnel are present on the project at all times to maintain the cones in proper position and location.
- For short term stationary work zones on freeways, drums are the preferred channelizing device but may be replaced in tapers, transitions and tangent sections by vertical panels, two-piece cones or one-piece cones as approved by the Engineer.
- Drums and all related items shall comply with the requirements of the current version of the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD) and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- Drums, bases, and related materials shall exhibit good workmanship and shall be free from objectionable marks or defects that would adversely affect their appearance or serviceability.
- The Contractor shall have a maximum of 24 hours to replace any plastic drums identified for replacement by the Engineer/Inspector. The replacement device must be an approved device.

#### GENERAL DESIGN REQUIREMENTS

Pre-qualified plastic drums shall meet the following requirements:

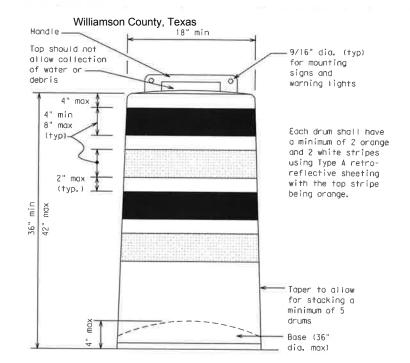
- Plastic drums shall be a two-piece design; the "body" of the drum shall be the top portion and the "base" shall be the bottom.
- The body and base shall lock together in such a manner that the body separates from the base when impacted by a vehicle traveling at a speed of 20 MPH or greater but prevents accidental separation due to normal handling and/or air turbulence created by passing vehicles.
- Plastic drums shall be constructed of lightweight flexible, and deformable materials. The Contractor shall NOT use metal drums or single piece plastic drums as channelization devices or sign supports.
- 4. Drums shall present a profile that is a minimum of 18 inches in width at the 36 inch height when viewed from any direction. The height of drum unit (body installed on base) shall be a minimum of 36 inches and a maximum of 42 inches.
- 5. The top of the drum shall have a built-in handle for easy pickup and shall be designed to drain water and not collect debris. The handle shall have a minimum of two widely spaced 9/16 inch diameter holes to allow attachment of a warning light, warning reflector unit or approved compliant sign.
- 6. The exterior of the drum body shall have a minimum of four alternating orange and white retroreflective circumferential stripes not less than 4 inches nor greater than 8 inches in width. Any non-reflectorized space between any two adjacent stripes shall not exceed 2 inches in width.
- Bases shall have a maximum width of 36 inches, a maximum height of 4 inches, and a minimum of two footholds of sufficient size to allow base to be held down while separating the drum body from the base.
- 8. Plastic drums shall be constructed of ultra-violet stabilized, orange, high-density polyethylene (HDPE) or other approved material.
- 9. Drum body shall have a maximum unballasted weight of 11 lbs.
- 10. Drum and base shall be marked with manufacturer's name and model number.

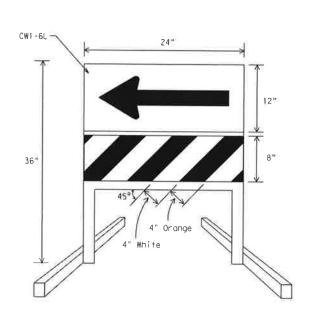
#### RETROREFLECTIVE SHEETING

- The stripes used on drums shall be constructed of sheeting meeting the color and retroreflectivity requirements of Departmental Materials Specification DMS-8300, "Sign Face Materials." Type A reflective sheeting shall be supplied unless otherwise specified in the plans.
- The sheeting shall be suitable for use on and shall adhere to the drum surface such that, upon vehicular impact, the sheeting shall remain adhered in-place and exhibit no delaminating, cracking, or loss of retroreflectivity other than that loss due to abrasion of the sheeting surface.

#### BALLAST

- 1. Unballasted bases shall be large enough to hold up to 50 lbs. of sand. This base, when filled with the ballast material, should weigh between 35 lbs (minimum) and 50 lbs (maximum). The ballast may be sand in one to three sandbags separate from the base, sand in a sand-filled plastic base, or other ballasting devices as approved by the Engineer. Stacking of sandbags will be allowed, however height of sandbags above pavement surface may not exceed 12 inches.
- Bases with built-in ballast shall weigh between 40 lbs. and 50 lbs. Built-in ballast can be constructed of an integral crumb rubber base or a solid rubber base.
- Recycled truck tire sidewalls may be used for ballast on drums approved for this type of ballast on the CWZTCD list.
- 4. The ballast shall not be heavy objects, water, or any material that would become hazardous to motorists, pedestrians, or workers when the drum is struck by a vehicle.
- When used in regions susceptible to freezing, drums shall have drainage holes in the bottoms so that water will not collect and freeze becoming a hazard when struck by a vehicle.
- 6. Ballast shall not be placed on top of drums.
- 7. Adhesives may be used to secure base of drums to pavement.

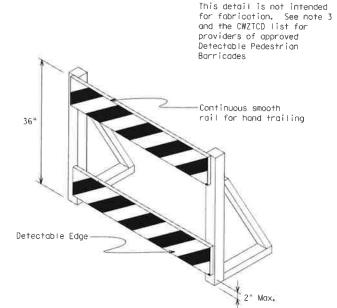




#### DIRECTION INDICATOR BARRICADE

- The Direction Indicator Barricade may be used in tapers, transitions, and other areas where specific directional
- guidance to drivers is necessary.

  2. If used, the Direction Indicator Barricade should be used in series to direct the driver through the transition and into the intended travel lane.
- 3. The Direction Indicator Barricade shall consist of One-Direction Large Arrow (CWI-6) sign in the size shown with a black arrow on a background of Type B<sub>FL</sub> or Type C<sub>FL</sub> Orange retroreflective sheeting above a rail with Type A retroreflective sheeting in alternating 4" white and orange stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. Sheeting types shall be as per DMS 8300.
- Double arrows on the Direction Indicator Barricade will not be allowed.
- Approved manufacturers are shown on the CWZTCD List. Ballast shall be as approved by the manufacturers instructions.



#### DETECTABLE PEDESTRIAN BARRICADES

- When existing pedestrian facilities are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with
- the features present in the existing pedestrian facility.

  2. Where pedestrians with visual disabilities normally use the closed sidewalk, a device that is detectable by a person with a visual disability traveling with the aid of a long cane shall be placed across the full width of the closed sidewalk.
- Detectable pedestrian barricades similar to the one pictured above, longitudinal channelizing devices, same concrete barriers, and wood or chain link fencing with a continuous detectable edging can satisfactorily delineate a pedestrian path.
- 4. Tape, rope, or plastic chain strung between devices are not detectable, do not comply with the design standards in the "Americans with Disabilities Act Accessibility Guidelines for Buildings and Facilities (ADAAG)" and should not be used as a control for pedestrian movements.
- Warning lights shall not be attached to detectable pedestrian barricades,
- 6. Detectable pedestrian barricades may use 8" nominal barricade rails as shown on BC(10) provided that the top rail provides a smooth continuous rail suitable for hand trailing with no splinters, burrs, or sharp edges.



18" x 24" Sign (Maximum Sign Dimension) Chevron CWI-8, Opposing Traffic Lane Divider, Driveway sign D70a, Keep Right R4 series or other signs as approved by Engineer



12" x 24"
Vertical Panel
mount with diagonals
sloping down towards
travel way

Plywood, Aluminum or Metal sign substrates shall NOT be used on plastic drums

### SIGNS, CHEVRONS, AND VERTICAL PANELS MOUNTED ON PLASTIC DRUMS

- Signs used on plastic drums shall be manufactured using substrates listed on the CWZTCD.
- 2. Chevrons and other work zone signs with an orange background shall be manufactured with Type  $\rm B_{FL}$  or Type  $\rm C_{FL}$  Orange sheeting meeting the color and retroreflectivity requirements of DMS-8300, "Sign Face Material," unless otherwise specified in the plans.
- Vertical Panels shall be manufactured with orange and white sheeting meeting the requirements of DMS-8300 Type A Diagonal stripes on Vertical Panels shall slope down toward the intended traveled lane.
- 4. Other sign messages (text or symbolic) may be used as opproved by the Engineer. Sign dimensions shall not exceed 18 inches in width or 24 inches in height, except for the R9 series signs discussed in note 8 below.
- Signs shall be installed using a 1/2 inch bolt (nominal) and nut, two washers, and one locking washer for each connection.
- 6. Mounting bolts and nuts shall be fully engaged and odequately torqued. Bolts should not extend more than 1/2 inch beyond nuts.
- 7. Chevrons may be placed on drums on the outside of curves, on merging topers or on shifting topers. When used in these locations they may be placed on every drum or spaced not more than on every third drum. A minimum of three (3) should be used at each location called for in the plans.
- R9-9, R9-10, R9-11 and R9-11a Sidewalk Closed signs which are 24 inches wide may be mounted on plastic drums, with approval of the Engineer.

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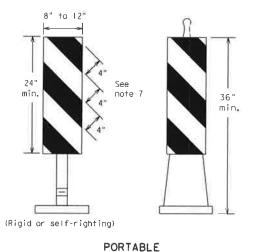
Traffic Operation Division Standard

# BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC(8)-14

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1. Vertical Panels (VP's) are normally used to channelize traffic or divide opposing lanes of traffic.

2. VP's may be used in daytime or nighttime situations. They may be used at the edge of shoulder drop-offs and other greas such as lane transitions where positive daytime and nighttime delineation is required. The Engineer/Inspector shall refer to the Roadway Design Manual Appendix B "Treatment of Pavement Drop-offs in Work Zones" for additional guidelines on the use of VP's for drop-offs.

3. VP's should be mounted back to back if used at the edge of cuts adjacent to two-way two lane roadways. Stripes are to be reflective orange and reflective white and should always slope downward toward the travel lane.

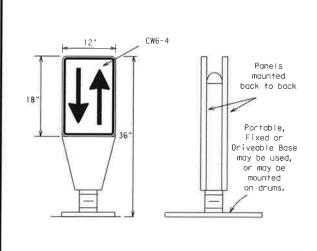
4. VP's used on expressways and freeways or other high speed roadways, may have more than 270 square inches of retroreflective area facing traffic.

5. Self-righting supports are available with portable base. See "Compliant Work Zone Traffic Control Devices List" (CWZTCD).

6. Sheeting for the VP's shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300, unless noted otherwise.

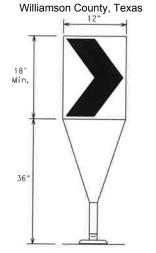
7. Where the height of reflective material on the vertical panel is 36 inches or greater, a panel stripe of 6 inches shall be used.

### VERTICAL PANELS (VPs)



- 1. Opposing Traffic Lane Dividers (OTLD) are delineation devices designed to convert a normal one-way roadway section to two-way operation, OTLD's are used on temporary centerlines. The upward and downward arrows on the sign's face indicate the direction of traffic on either side of the divider. The base is secured to the pavement with an adhesive or rubber weight to minimize movement caused by a vehicle impact or wind gust.
- 2. The OTLD may be used in combination with 42" cones or VPs.
- 3. Spacing between the OTLD shall not exceed 500 feet. 42" cones or VPs placed between the OTLD's should not exceed 100 foot spacing.
- 4. The OTLD shall be orange with a black nonreflective legend. Sheeting for the OTLD shall be retroreflective Type  $B_{\mathsf{FL}}$  or Type  $C_{\mathsf{FL}}$  conforming to Departmental Material Specification DMS-8300. unless noted otherwise. The legend shall meet the requirements of DMS-8300.

OPPOSING TRAFFIC LANE DIVIDERS (OTLD)



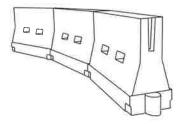
Fixed Base w/ Approved Adhesive (Driveable Base, or Flexible Support can be used)

- 1. The chevron shall be a vertical rectangle with a minimum size of 12 by 18 inches.
- 2. Chevrons are intended to give notice of a sharp change of alignment with the direction of travel and provide additional emphasis and guidance for vehicle operators with regard to changes in horizontal alignment of the roadway.
- 3. Chevrons, when used, shall be erected on the outside of a sharp curve or turn, or on the far side of an intersection. They shall be in line with and at right angles to approaching traffic. Spacing should be such that the motorist always has three in view, until the change in alignment eliminates its need.
- 4. To be effective, the chevron should be visible for at least 500 feet.
- 5. Chevrons shall be orange with a black nonreflective legend. Sheeting for the chevron shall be retroreflective Type  $B_{FL}$  or Type  $C_{FL}$  conforming to Departmental Material Specification DMS-8300, unless noted otherwise. The legend shall meet the requirements of DMS-8300.
- 6. For Long Term Stationary use on tapers or transitions on freeways and divided highways self-righting chevrons may be used to supplement plastic drums but not to replace plastic drums.

### **CHEVRONS**

#### GENERAL NOTES

- 1. Work Zone channelizing devices illustrated on this sheet may be installed in close proximity to traffic and are suitable for use on high or low speed roadways. The Engineer/Inspector shall ensure that spacing and placement is uniform and in accordance with the "Texas Manual on Uniform Traffic Control Devices" (TMUTCD).
- 2. Channelizing devices shown on this sheet may have a driveable, fixed or portable base. The requirement for self-righting channelizing devices must be specified in the General Notes or other plan sheets.
- 3. Channelizing devices on self-righting supports should be used in work zone areas where channelizing devices are frequently impacted by errant vehicles or vehicle related wind gusts making alignment of the channelizing devices difficult to maintain. Locations of these devices shall be detailed elsewhere in the plans. These devices shall conform to the TMUTCD and the "Compliant Work Zone Traffic Control Devices List" (CWZTCD).
- 4. The Contractor shall maintain devices in a clean condition and replace damaged, nonreflective, faded, or broken devices and bases as required by the Engineer/Inspector. The Contractor shall be required to maintain proper device spacing and alignment.
- 5. Portable bases shall be fabricated from virgin and/or recycled rubber. The portable bases shall weigh a minimum of 30 lbs.
- 6. Pavement surfaces shall be prepared in a manner that ensures proper bonding between the adhesives, the fixed mount bases and the pavement surface. Adhesives shall be prepared and applied according to the manufacturer's recommendations.
- 7. The installation and removal of channelizing devices shall not cause detrimental effects to the final pavement surfaces, including pavement surface discoloration or surface integrity. Driveable bases shall not be permitted on final pavement surfaces. The Engineer/Inspector shall approve all application and removal procedures of fixed bases.



#### LONGITUDINAL CHANNELIZING DEVICES (LCD)

- 1. LCDs are crashworthy, lightweight, deformable devices that are highly visible, have good target value and can be connected together. They are not designed to contain or redirect a vehicle on impact. 2. LCDs may be used instead of a line of cones or drums.
- 3. LCDs shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- 4. LCDs should not be used to provide positive protection for obstacles, pedestrians or workers.
- 5. LCDs shall be supplemented with retroreflective delineation as required for temporary barriers on BC(7) when placed roughly parallel to the travel lanes.
- 6. LCDs used as barricades placed perpendicular to traffic should have at least one row of reflective sheeting meeting the requirements for barricade rails as shown on BC(10) placed near the top of the LCD along the full length of the device.

#### WATER BALLASTED SYSTEMS USED AS BARRIERS

- Water ballasted systems used as barriers shall not be used solely to channelize road users, but also to protect the
- work space per the appropriate NCHRP 350 crashworthiness requirements based on roadway speed and barrier application. 2. Water ballasted systems used to channelize vehicular traffic shall be supplemented with retroreflective delineation or channelizing devices to improve daytime/nighttime visibility. They may also be supplemented with pavement markings.
- Water ballasted systems used as barriers shall be placed in accordance to application and installation requirements specific to the device, and used only when shown on the CWZTCD list.
- 4. Water ballasted systems used as barriers should not be used for a merging taper except in low speed (less than 45 MPH) urban areas. When used on a taper in a low speed urban area, the taper shall be delineated and the taper length should be designed to optimize road user operations considering the available geometric conditions.
- 5. When water ballasted systems used as barriers have blunt ends exposed to traffic, they should be attenuated as per manufacturer recommendations or flored to a point outside the clear zone.

If used to channelize pedestrians, longitudinal channelizing devices or water ballasted systems must have a continuous detectable bottom for users of long canes and the top f the unit shall not be less than 32 inches in height.

HOLLOW OR WATER BALLASTED SYSTEMS USED AS LONGITUDINAL CHANNELIZING DEVICES OR BARRIERS

Speed	Formula	D	Minimur esirab er Len * *	le	Spaci Channe	
*		lo′ Offset	11' Offset	12' Offset	On a Taper	On a Tangent
30	2	1501	165	180'	30"	60′
35	L = WS <sup>2</sup>	205′	225'	245	35	70′
40	80	265	295	320'	40"	80
45		450"	495	540'	45"	90'
50		500*	550′	600"	50"	100′
55	L=WS	550'	605	660	55*	110'
60	- "3	600′	660*	720"	60"	120′
65		650*	715′	780*	65"	130′
70		700"	770*	840′	70*	140′
75		750*	8251	900"	75′	150*
80		8001	880*	960′	80′	160*

\*\* Taper lengths have been rounded off. L=Length of Taper (FT.) W=Width of Offset (FT.) S=Posted Speed (MPH)

SUGGESTED MAXIMUM SPACING OF CHANNELIZING DEVICES AND MINIMUM DESIRABLE TAPER LENGTHS

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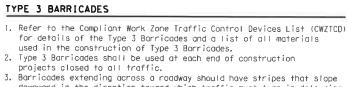
Texas Department of Transportation

Traffic Operations

### BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

BC (9) - 14

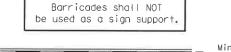
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- downward in the direction toward which traffic must turn in detouring. When both right and left turns are provided, the chevron striping may slope downward in both directions from the center of the barricade. Where no turns are provided at a closed 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
- 6. Barricades shall not be placed parallel to traffic unless an adequate
- clear zone is provided.

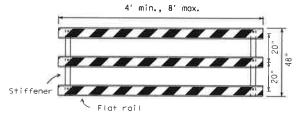
  7. Warning lights shall NOT be installed on barricades.

  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.
- Sheeting for barricades shall be retroreflective Type A conforming to Departmental Material Specification DMS-8300 unless otherwise noted.



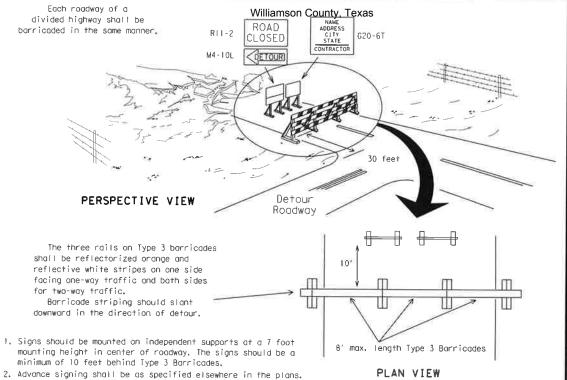


#### TYPICAL STRIPING DETAIL FOR BARRICADE RAIL



Stiffener may be inside or outside of support, but no more than 2 stiffeners shall be allowed on one barricade.

#### TYPICAL PANEL DETAIL FOR SKID OR POST TYPE BARRICADES



TYPE 3 BARRICADE (POST AND SKID) TYPICAL APPLICATION

Alternate

PLAN VIEW

minimum of 1 s used across

These drums are not required on one-way roadway Worl

Bid 1704-157

- 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.



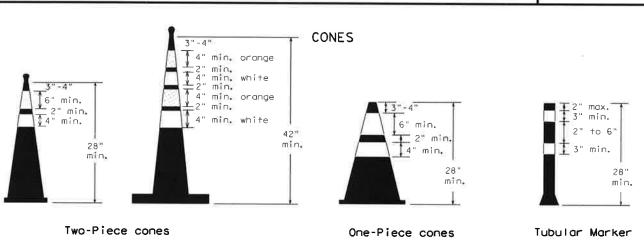
Increase number of plastic drums on the side of approaching traffic if the crown width makes it necessary. (minimum of 2 and maximum of 4 drums)

Plastic Drum

PERSPECTIVE VIEW

PLAN VIEW

CULVERT WIDENING OR OTHER ISOLATED WORK WITHIN THE PROJECT LIMITS



Alternate Ф 4 Drums, vertical panels or 42" cones Approx. Approx. 50" at 50' maximum spacing Min. 2 drums Min. 2 drums or 1 Type 3 or 1 Type 3 barricade STOCKPILE On one-way roads Desirable downstream drums stockpile location Channelizing devices parallel to traffic or barricade may be should be used when stockpile is omitted here clear zone. within 30' from travel lane.  $\Diamond$ 

TRAFFIC CONTROL FOR MATERIAL STOCKPILES

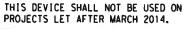
 $\Rightarrow$ 

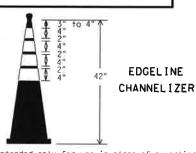
28" Cones shall have a minimum weight of 9 1/2 lbs. 42" 2-piece cones shall have a minimum weight of

30 lbs. including base.

1. Traffic cones and tubular markers shall be predominantly orange, and meet the height and weight requirements shown above.

- 2. One-piece cones have the body and base of the cone molded in one consolidated unit. Two-piece cones have a cone shaped body and a separate rubber base. or ballast, that is added to keep the device upright and in place.
- 3. Two-piece cones may have a handle or loop extending up to 8" above the minimum height shown, in order to aid in retrieving the device.
- 4. Cones or tubular markers used at night shall have white or white and orange reflective bands as shown above. The reflective bands shall have a smooth, sealed outer surface and meet the requirements of Departmental Material Specification DMS-8300 Type A.
- 5. 28" comes and tubular markers are generally suitable for short duration and short-term stationary work as defined on BC(4). These should not be used for intermediate-term or long-term stationary work unless personnel is on-site to maintain them in their proper upright position.
- 6. 42" two-piece cones, vertical panels or drums are suitable for all work zone
- 7. Cones or tubular markers used on each project should be of the same size and shape.





- 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 A conforming to Departmental Material Specification DMS-8300, unless otherwise noted.
- 4. The base must weigh a minimum of 30 lbs.



Traffic Texas Department of Transportation

### BARRICADE AND CONSTRUCTION CHANNELIZING DEVICES

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### GENERAL

- The Contractor shall be responsible for maintaining work zone and existing pavement markings, in accordance with the standard specifications and special provisions, on all roadways open to traffic within the CSJ limits unless otherwise stated in the plans.
- 2. Color, patterns and dimensions shall be in conformance with the "Texas Manual on Uniform Traffic Contro Devices" (TMUTCD).
- Additional supplemental pavement marking details may be found in the plans or specifications,
- Pavement markings shall be installed in accordance with the TMUTCD and as shown on the plans.
- When short term markings are required on the plans, short term markings shall conform with the TMUTCD, the plans and details as shown on the Standard Plan Sheet WZ(STPM).
- 6. When standard pavement markings are not in place and the roadway is opened to traffic, DO NOT PASS signs shall be erected to mark the beginning of the sections where passing is prohibited and PASS WITH CARE signs at the beginning of sections where passing is permitted.
- 7. All work zone pavement markings shall be installed in accordance with Item 662, "Work Zone Pavement Markings."

#### RAISED PAVEMENT MARKERS

- 1. Raised pavement markers are to be placed according to the patterns on  $\mathrm{BC}\,(12)_{\star,\parallel}$
- All raised pavement markers used for work zone markings shall meet the requirements of Item 672, "RAISED PAVEMENT MARKERS" and Departmental Material Specification DMS-4200 or DMS-4300.

#### PREFABRICATED PAVEMENT MARKINGS

- Removable prefabricated pavement markings shall meet the requirements of DMS-8241.
- Non-removable prefabricated pavement markings (foil back) shall meet the requirements of DMS-8240.

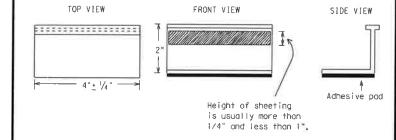
#### MAINTAINING WORK ZONE PAVEMENT MARKINGS

- The Contractor will be responsible for maintaining work zone pavement markings within the work limits,
- Work zone pavement markings shall be inspected in accordance with the frequency and reporting requirements of work zone traffic control device inspections as required by Form 599.
- 3. The markings should provide a visible reference for a minimum distance of 300 feet during normal daylight hours and 160 feet when illuminated by automobile low-beam headlights at night, unless sight distance is restricted by roadway geometrics.
- Markings failing to meet this criteria within the first 30 days after placement shall be replaced at the expense of the Contractor as per Specification Item 662.

#### REMOVAL OF PAVEMENT MARKINGS

- Pavement markings that are no longer applicable, could create confusion or direct a motorist toward or into the closed portion of the roadway shall be removed or obliterated before the roadway is opened to traffic.
- The above shall not apply to detours in place for less than three days, where flaggers and/or sufficient channelizing devices are used in lieu of markings to outline the detour route.
- Pavement markings shall be removed to the fullest extent possible, so as not to leave a discernable marking. This shall be by any method approved by TxDOT Specification Item 677 for "Eliminating Existing Pavement Markings and Markers".
- The removal of pavement markings may require resurfacing or seal coating portions of the roadway as described in [tem 677.
- Subject to the approval of the Engineer, any method that proves to be successful on a particular type pavement may be used.
- Blast cleaning may be used but will not be required unless specifically shown in the plans.
- 7. Over-painting of the markings SHALL NOT BE permitted.
- Removal of raised pavement markers shall be as directed by the Engineer,
- Removal of existing pavement markings and markers will be paid for directly in accordance with Item 677, "ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS," unless otherwise stated in the plans.
- 10. Black-out marking tape may be used to cover conflicting existing markings for periods less than two weeks when approved by the Engineer.

# Temporary Flexible-Reflective Roadway Marker Tabs



STAPLES OR NAILS SHALL NOT BE USED TO SECURE TEMPORARY FLEXIBLE-REFLECTIVE ROADWAY MARKER TABS TO THE PAVEMENT SURFACE

- Temporary flexible-reflective roadway marker tabs used as guidemarks shall meet the requirements of DMS-8242.
- 2. Tabs detailed on this sheet are to be inspected and accepted by the Engineer or designated representative. Sampling and testing is not normally required, however at the option of the Engineer, either "A" or "8" below may be imposed to assure quality before placement on the roadway.
  - A. Select five (5) or more tabs at random from each lot or shipment and submit to the Construction Division, Materials and Payement Section to determine specification compliance.
  - B. Select five (5) tabs and perform the following test. Affix five (5) tabs at 24 inch intervals on an asphaltic pavement in a straight line. Using a medium size passenger vehicle or pickup, run over the markers with the front and rear tires at a speed of 35 to 40 miles per hour, four (4) times in each direction. No more than one (1) out of the five (5) reflective surfaces shall be lost or displaced as a result of this test.
- 3. Small design variances may be noted between tab manufacturers.
- See Standard Sheet WZ(STPM) for tab placement on new pavements. See Standard Sheet TCP(7-1) for tab placement on seal coat work.

#### RAISED PAVEMENT MARKERS USED AS GUIDEMARKS

- Raised pavement markers used as guidemarks shall be from the approved product list, and meet the requirements of DMS-4200.
- All temporary construction raised pavement markers provided on a project shall be of the same manufacturer.
- Adhesive for guidemarks shall be bituminous material hot applied or butyl rubber pad for all surfaces, or thermoplastic for concrete surfaces.

Guidemarks shall be designated as:
YELLOW - (two amber reflective surfaces with yellow body).
WHITE - (one silver reflective surface with white body).

	Bid 1704-15
DEPARTMENTAL MATERIAL SPECIFICA	TIONS
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
TRAFFIC BUTTONS	DMS-4300
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240
TEMPORARY REMOVABLE, PREFABRICATED PAVEMENT MARKINGS	DMS-8241
TEMPORARY FLEXIBLE, REFLECTIVE ROADWAY MARKER TABS	DMS-8242

A list of prequalified reflective raised pavement markers, non-reflective traffic buttons, roadway marker tabs and other pavement markings can be found at the Material Producer List web address shown on BC(I).

SHEET 11 OF 12



Texas Department of Transportation

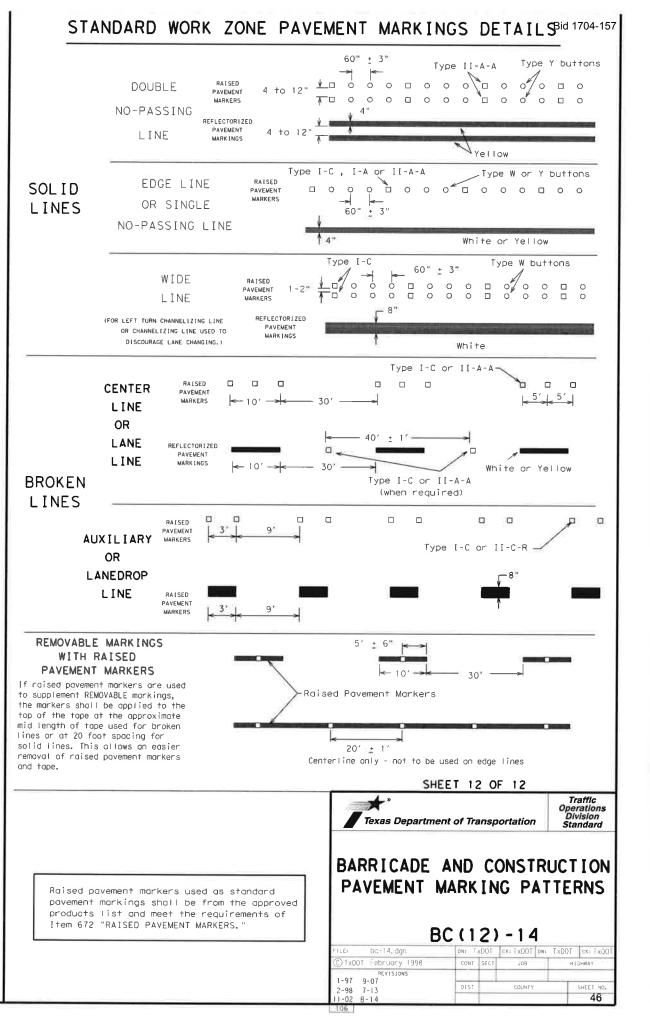
BARRICADE AND CONSTRUCTION

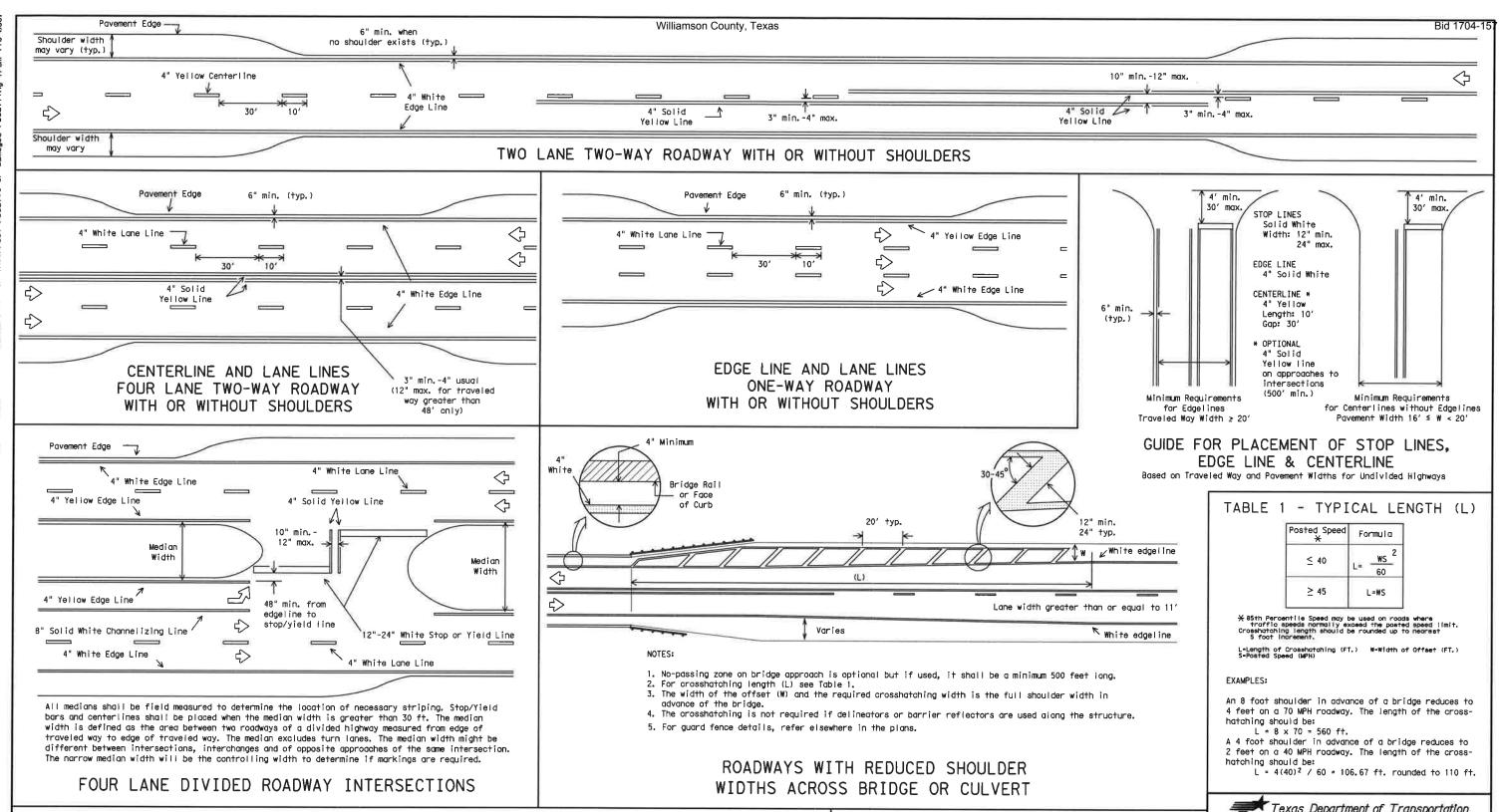
PAVEMENT MARKINGS

BC(11)-14

FILE: bc-14.dgn	DN: I	xD0T	CK: TxDOT	DW:	TxDOT	ck: TxDOT
© TxDOT February 1998	CONT	SEC?	JOB		н	SHWAY
2-98 9-07	DIST		COUN1Y			SHEET NO.
1-02 7-13 11-02 8-14	0131		COUNTY			45
105						

DATE: FIIF:





#### GENERAL NOTES

- 1. Edgeline striping shall be as shown in the plans or as directed by the Engineer. The edgeline should typically be placed a minimum of 6 inches from the edge of pavement. This distance may vary due to pavement raveling or other conditions. Edgelines are not required in curb and gutter sections of roadways.
- 2. The traveled way includes only that portion of the roadway used for vehicular travel and not the parking lanes, sidewalks, berms and shoulders. The traveled ways shall be measured from the inside of edgeline to inside of edgeline of a two lane roadway.

MATERIAL SPECIFICATIONS	
PAVEMENT MARKERS (REFLECTORIZED)	DMS-4200
EPOXY AND ADHESIVES	DMS-6100
BITUMINOUS ADHESIVE FOR PAVEMENT MARKERS	DMS-6130
TRAFFIC PAINT	DMS-8200
HOT APPLIED THERMOPLASTIC	DMS-8220
PERMANENT PREFABRICATED PAVEMENT MARKINGS	DMS-8240

All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



FOR POSTED SPEED ON ROAD BEING MARKED EQUAL TO OR GREATER THAN 45 MPH

abla 
abl

FOR POSTED SPEED ON ROAD BEING MARKED EQUAL TO OR LESS THAN 40 MPH

YIELD LINES



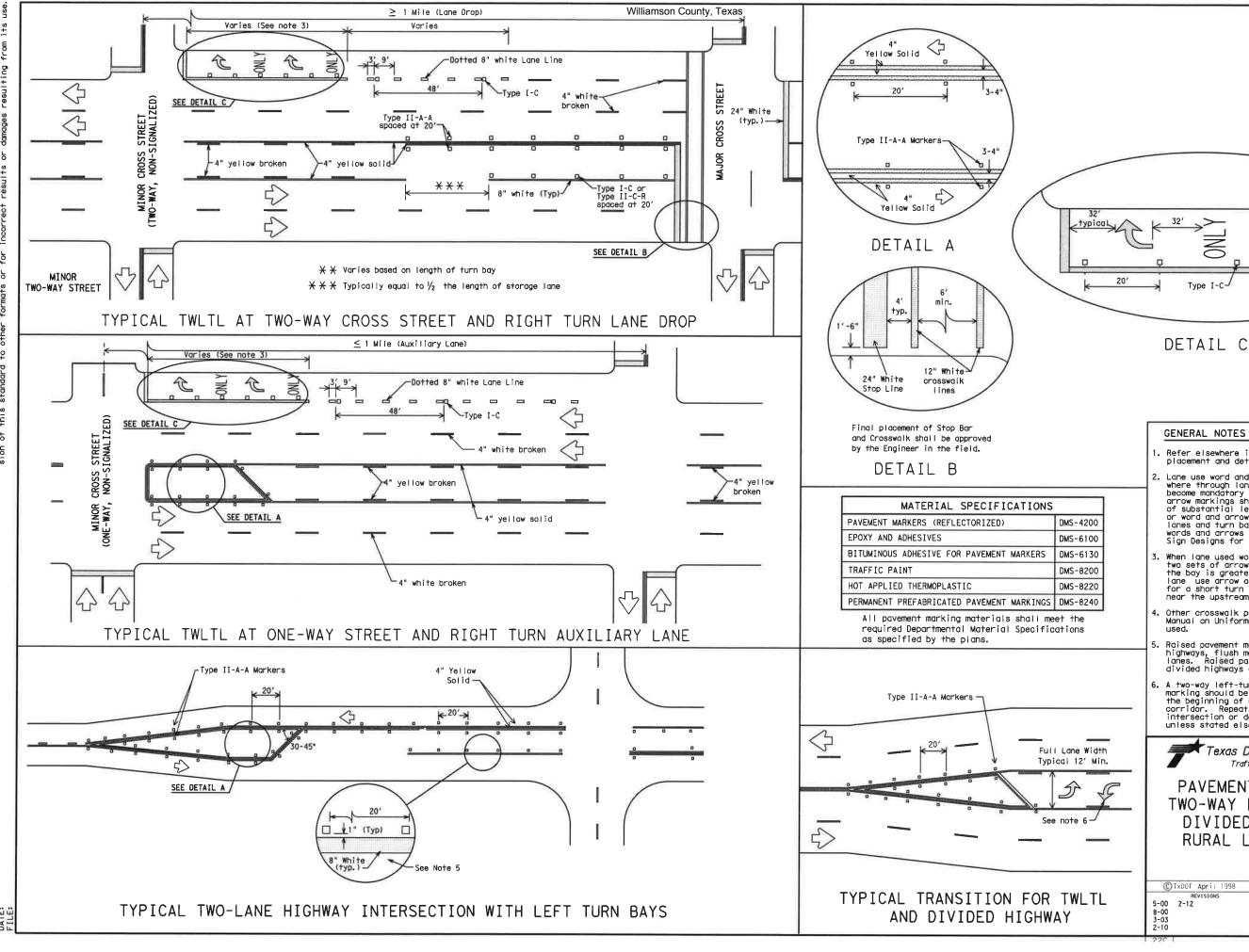
TYPICAL STANDARD PAVEMENT MARKINGS

PM(1)-12

© TxDOT November 1978	DN: TXDOT		CK: TXDOT	DW1 TXDOT CK: TXD		
8-95 2-12	CONT	SECT	JOB		HE	GHWAY
5-00 8-00	DIST		COUNTY	7		SHEET NO.
3-03						47
224						







Refer elsewhere in plans for additional RPM placement and details.

8" white

- Lane use word and arrow markings shall be used where through lanes approaching an intersection become mandatory turn lanes. Lane use word and arrow markings should be used in auxiliary lanes of substantial length. Lane use arrow markings or word and arrow markings may be used in other lanes and turn bays for emphasis. Details for words and arrows as shown in the Standard Highway Sign Designs for Texas.
- When lane used word and arrow markings are used, two sets of arrows should be used if the length of the bay is greater than 180 feet. When a single lane use arrow or word and arrow marking is used for a short turn lane, it should be located at or near the upstream end of the full-width turn lane.
- Other crosswalk paterns as shown in the "Texas Manual on Uniform Traffic Control Devices" may be
- Raised pavement marker Type I-C with undivided highways, flush medians and two way left turn lanes. Raised pavement marker Type II-C-R with divided highways and raised medians.
- 6. A two-way left-turn (TWLT) lane-use arrow pavement marking should be used at or just downstream from the beginning of a two-way left-turn lane within a corridor. Repeating the marking after each intersection or dedicated turn bay is not required unless stated elsewhere in the plans.

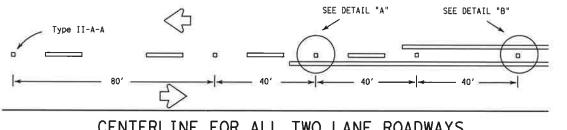


PAVEMENT MARKINGS FOR TWO-WAY LEFT TURN LANES DIVIDED HIGHWAYS AND RURAL LEFT TURN BAYS

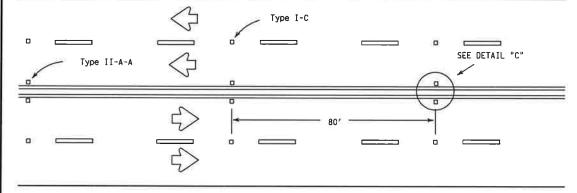
PM(3) - 12

©TxDOT April 1998	DNI TXDOT		CK: TXDOT	DW: TXDOT CK: TXC		CK: TXDOT
-00 2-12 -00 -03	CONT	SECT	JOB		HIG	HWAY
	DIST		COUNTY		5	HEET NO.
-10						48



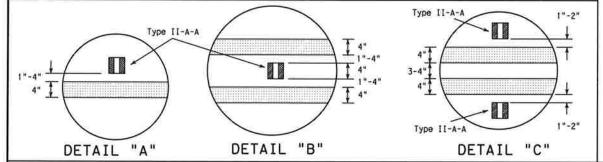


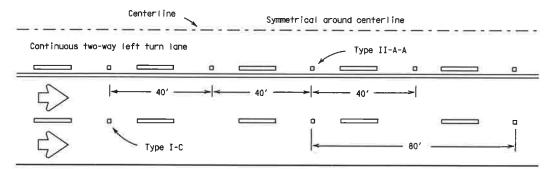
#### CENTERLINE FOR ALL TWO LANE ROADWAYS



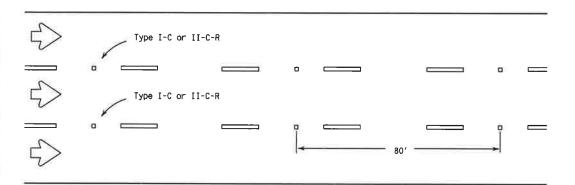
CENTERLINE & LANE LINES FOR FOUR LANE TWO-WAY HIGHWAYS

Raised pavement marker Type I-C, clear face toward normal traffic, shall be placed on 80-foot centers.



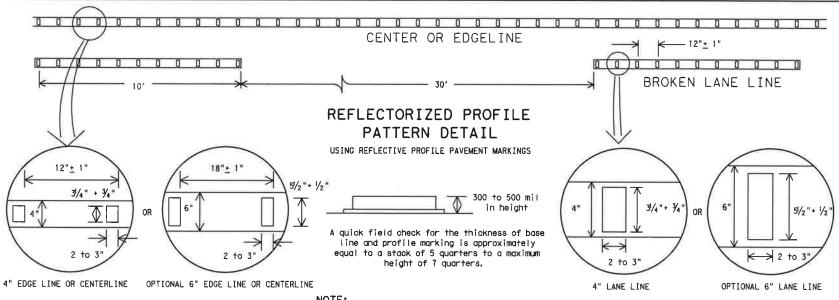


### CENTERLINE AND LANE LINES FOR TWO-WAY LEFT TURN LANE



LANE LINES FOR ONE-WAY ROADWAY (NON-FREEWAY FACILITIES)

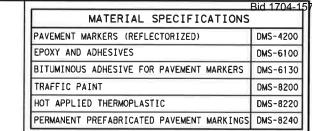
Raised pavement markers Type II-C-R shall have clear face toward normal traffic and red face toward wrong-way traffic.



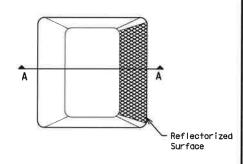
Profile markings shall not be placed on roadways with a posted speed limit of 45 MPH or less.

#### GENERAL NOTES

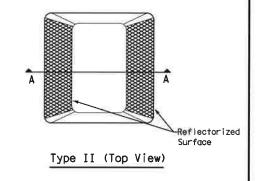
- 1. All raised pavement markers placed in broken lines shall be placed in line with and midway between the stripes.
- 2. On concrete pavements the raised pavement markers should be placed to one side of the longitudinal

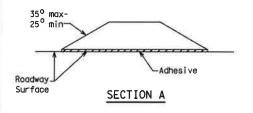


All pavement marking materials shall meet the required Departmental Material Specifications as specified by the plans.



Type I (Top View)





RAISED PAVEMENT MARKERS



Texas Department of Transportation Traffic Operations Division

POSITION GUIDANCE USING RAISED MARKERS REFLECTORIZED PROFILE MARKINGS

PM(2)-12

© TxDOT April 1977	DN: TX	DN: TXDOT CK: TXDOT DW: TXD		DW1 TXDOT	DOT CK: TXDOT	
REVISIONS 4-92 2-10	CONT	SECT	JOB		HIGHWAY	
5-00 2-12 8-00	DIST		COUNTY		SHEET NO.	
2-08					49	
22B		_				

GENERAL NOTES;

1. Minimum 8 foot white markings should be used, unless otherwise noted. If message consists of more than one word, it should be placed with first word nearest the driver.

Bid 1704-15

- 2. These details are standard size for normal installation; sizes may be reduced approximately one-third for low speed urban conditions; larger sizes may be needed for freeways, above average speed conditions or other critical locations.
- 3. The longitudinal space between markings should be at least four times the height of the markings, on low speed roads, but should not exceed ten times the height under any condition.
- 4. Markings considered appropriate for use when warranted include the following:
- A. Regulatory STOP
  - RIGHT (LEFT) TURN ONLY
- 25 MPH SYMBOL ARROWS
- B. Worning STOP AHEAD
  - SIGNAL AHEAD SCHOOL
- SCHOOL X-ING
  PED X-ING
  R X R (see RCPM standard)
- C. Guide
  US XXX
  - ROUTE XXX
  - STATE XXX
- Other words or symbols may be necessary under certain conditions
  5. Uncontrolled use of pavement markings can result
- in driver confusion. Word and symbol markings should be no more than three lines, 6. The word "STOP" shall not be used on the pavement
- unless accompanied by a Stop line and Stop sign. The word "STOP" shall not be placed on the pavement in advance to a stop line, unless every vehicle is required to stop at all times.
- 7. Pavement markings should generally be no more than one lane in width, with School messages being the exception. For details of School and School crossing pavement markings, refer to Part VII of the "Texas Manual on Uniform Traffic Control Devices".
- 8. Spacing between letters should be approximately 4 inches. The width of letters may vary depending on the width of the travel lanes.
- 9. Lane-Use arrow markings may be used to convey either guidance or mandatory messages. Arrows used to convey a mandatory movement must be accompanied by standard signs and the pavement marking word "ONLY".

  10. Pavement markings are to be located as specified elsewhere in the plans.

SPACING BETWEEN LINES OF PAVEMENT MARKINGS						
MPH	SPACING					
≤ 45	MINIMUM 4 TIMES THE LETTER HEIGHT					
> 45	MINIMUM - 4 TIMES THE LETTER HEIGHT MAXIMUM - 10 TIMES THE LETTER HEIGHT					



### STANDARD PLANS

Texas Department of Transportation
Traffic Operations Division

# STANDARD PAVEMENT MARKINGS (ARROWS)

PM(6) - 01

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6					50
COUN	Īτ	CONTROL	SECTION	108	HIGHWAY
	COUN	COUNTT			COUNTY CONTROL SECTION JOB

### **WILLIAMSON COUNTY BID FORM**

# RONALD REAGAN BLVD FROM FM 3405 TO RM 2338 MILLING AND OVERLAY

### WILLIAMSON COUNTY ROAD AND BRIDGE DIVISION

**BID NUMBER: IFB XXXX-XXX** 

NAME OF BIDDER	₹:			
Mailing Address: _				
	City:	_ State:	Zip:	
Email Address:				
Telephone: (	)	Fax: (		_
Mobile Phone: (	)			

					UNIT	
ITEM	NO	DESCRIPTION	UNITS	QTY	PRICE	TOTAL PRICE
160	6003	FURNISHING AND PLACING TOPSOIL (4")	SY	35828		
164	6033	DRILL SEEDING (PERM) (RURAL) (SANDY)	SY	35828		
166	6001	FERTILIZER	AC	8		
168	6001	VEGETATIVE WATERING	MG	1666		
316	6175	AGGR (TY-B GR-4 SAC-B)	CY	845		
316	6466	ASPH (CHFRS-2P OR CRS-2P)	GAL	33985		
341	6043	D - GR HMA TY - D PG70 - 22	TON	11750		
354	6021	PLANE ASPH CONC PAV (0" TO 2")	SY	5006		
500	6001	MOBILIZATION	LS	1		
		BARRICADES, SIGNS AND TRAFFIC				
502	6001	HANDLING	MO	1		
TEMP	ORARY T	ABS				
662	6109	WK ZN PAV MRK SHT TERM (TAB) TY W	EA	51		
662	6111	WK ZN PAV MRK SHT TERM (TAB) TY Y	EA	1949		
PAINT						
666	6170	REFL PAV MRK TY II (W) 4" (SLD)	LF	42004		
666	6178	REFL PAV MRK TY II (W) 8" (SLD)	LF	875		
666	6182	REFL PAV MRK TY II (W) 24" (SLD)	LF	92		
666	6184	REFL PAV MRK TY II (W) (ARROW)	EA	8		
666	6192	REFL PAV MRK TY II (W) (WORD)	EA	6		
666	6207	REFL PAV MRK TY II (Y) 4" (SLD)	LF	31028		
666	6205	REFL PAV MRK TY II (Y) 4" (BRK)	LF	13644		
666	6214	REFL PAV MRK TY II (Y) 24" (SLD)	LF	680		

WILLIAMSON COUNTY ROAD & BRIDGE DIVISION RONALD REAGAN BLVD FROM FM 3405 TO RM 2338 - MILLING AND OVERLAY

МО				
	RE PM W / RET REQ TY I (W) 4" (SLD)			
6302	(090MIL)	LF	42004	
6035	REFL PAV MRK TY I (W) 8" (SLD) (090MIL)	LF	875	
6047	REFL PAV MRK TY I (W) 24" (SLD) (090MIL)	LF	92	
6053	REFL PAV MRK TY I (W) (ARROW) (090MIL)	EA	8	
6077	REFL PAV MRK TY I (W) (WORD) (090MIL)	EA	6	
	RE PM W / RET REQ TY I (Y) 4" (BRK)			
6311	(090MIL)	LF	13644	
6314	(090MIL)	LF	31028	
6146	REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)	LF	680	
6009	REFL PAV MRKR TY II-A-A	EA	944	
6007	REFL PAV MRKR TY I-C	EA	44	
IATE				
6001	ELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)	LF	4040	
		•		
	PROJECT TOTAL			
	6302 6035 6047 6053 6077 6311 6314 6146 6009 6007	RE PM W / RET REQ TY I (W) 4" (SLD)  6302 (090MIL)  6035 REFL PAV MRK TY I (W) 8" (SLD) (090MIL)  6047 REFL PAV MRK TY I (W) 24" (SLD) (090MIL)  6053 REFL PAV MRK TY I (W) (ARROW) (090MIL)  6077 REFL PAV MRK TY I (W) (WORD) (090MIL)  RE PM W / RET REQ TY I (Y) 4" (BRK)  6311 (090MIL)  RE PM W / RET REQ TY I (Y) 4" (SLD)  6314 (090MIL)  6146 REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)  6009 REFL PAV MRKR TY II-A-A  6007 REFL PAV MRKR TY II-C  IATE  6001 ELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)	RE PM W / RET REQ TY I (W) 4" (SLD)  6302 (090MIL)  6035 REFL PAV MRK TY I (W) 8" (SLD) (090MIL)  6047 REFL PAV MRK TY I (W) 24" (SLD) (090MIL)  6053 REFL PAV MRK TY I (W) (ARROW) (090MIL)  6077 REFL PAV MRK TY I (W) (WORD) (090MIL)  RE PM W / RET REQ TY I (Y) 4" (BRK)  6311 (090MIL)  RE PM W / RET REQ TY I (Y) 4" (SLD)  6314 (090MIL)  LF  6314 (090MIL)  CF  6009 REFL PAV MRK TY II-A-A  6007 REFL PAV MRKR TY II-A-A  EA  6001 ELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  LF	RE PM W / RET REQ TY I (W) 4" (SLD)  6302 (090MIL)  6035 REFL PAV MRK TY I (W) 8" (SLD) (090MIL)  6047 REFL PAV MRK TY I (W) 24" (SLD) (090MIL)  6053 REFL PAV MRK TY I (W) (ARROW) (090MIL)  6054 REFL PAV MRK TY I (W) (WORD) (090MIL)  6055 REFL PAV MRK TY I (W) (WORD) (090MIL)  6065 REFL PAV MRK TY I (W) (WORD) (090MIL)  6066 REFL PAV MRK TY I (Y) 4" (BRK)  6076 REPM W / RET REQ TY I (Y) 4" (SLD)  6077 REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)  6080 REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)  6090 REFL PAV MRKR TY II-A-A  6007 REFL PAV MRKR TY II-C  6001 ELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6001 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6001 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6004 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6005 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6006 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6007 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6009 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6000 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)  6000 LELIM EXT REFL PAV MRK TY II (Y) 4" (SLD)

	Date of Bid:
Signature of Person Authorized to Sign Bid	
•	
Printed Name and Title of Signer:	

<u>DO NOT SIGN OR SUBMIT WITHOUT READING ENTIRE DOCUMENT THIS FORM MUST BE</u>
<u>COMPLETED, SIGNED, AND RETURNED WITH BID</u>



### **Agreement for Construction Services**

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 Solicitation #1704-157, Milling and Overlay for Ronald Reagan Blvd from FM 3405 to RM 2338; including the specifications set forth therein, which is 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 not-to-exceed amount of (One Million Seven Hundred Sixty Seven Thousand Two Hundred Ninety Six Dollars) (\$1,767,296.00) 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 Solicitation #1704-157, including the specifications set forth therein, which is 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: TBD

Under no circumstances will the time for Substantial Completion exceed this date without a written amendment to this Agreement. THE TIMES SET FORTH IN THE CONSTRUCTION DOCUMENTS ARE AN ESSENTIAL ELEMENT OF THE AGREEMENT. TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.

- **4.3 Final Completion.** The Work shall be fully and finally completed **on or before TBD**; 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 Dollars per day** (\$200/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:**

Contractor shall have a duty to submit to the ODR by the end of each month a statement showing the total value of the Work performed during such 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 pursuant to Chapter 2251 of the Texas Government Code ("Texas Prompt Payment Act"), as set forth in Article 11.1 of this Agreement, 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. **Statements are not considered "received" until reviewed by the ODR and an approved statement is submitted to the Williamson County Auditor's Office; therefore, Contractor must ensure timely delivery of statements for review and processing.** 

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.

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.

- **6.2** 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.
- **6.3** 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.
- 6.4 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.
- **6.5** 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.
- 6.6 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.

6.7 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.

# 6.8 NO ALTERATIONS OR CHANGES SHALL BE MADE, HOWEVER, EXCEPT UPON THE WRITTEN ORDER OF THE OWNER, OR THE ODR.

- **6.9** Contractor shall promptly correct any defective Work at Contractor's sole expense, unless the Owner specifically agrees, in writing, to accept the Work.
- **6.10** 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

- **6.11** 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.
- **6.12** 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.
- **6.13** Contractor shall provide warranty services for the Work for a full **12 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 Bodily Injury by Disease Bodily Injury by Disease	\$500,000 Ea. Accident \$500,000 Ea. Employee \$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. Builder's Risk Insurance (all risks)

An all risks policy shall be in the amount equal at all times to 100% of the Contract Sum. The policy shall include coverage for loss or damage caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act. The policy shall be issued in the name of the Contractor and shall name his Subcontractors as additional insureds. The Owner shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:

- 1. This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.
- 2. For renovation projects and or portions of work contained within an existing structure, the Owner waives subrogation for damage by fire to existing building structure(s), if the Builder's Risk Policy has been endorsed to include coverage for existing building structure(s) in the amount described in the Special Conditions. However, Contractor shall not be required to obtain such an endorsement unless specifically required by the Special Conditions., in this Agreement. The aforementioned waiver of subrogation shall not be effective unless such endorsement is obtained.
- f. 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 <u>Policies must include the following clauses, as applicable.</u>

- 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 claiming 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 20% 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 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"):	Contractor's Designated Representative:
Phone	Phone
Fax	Fax

#### **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 County's evaluation of the Bid.	$oldsymbol{w}$ . A non-affirmative Bid will in no way have a negative impact on the
☐ 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	s to all authorized entities.
*If no box is checked, the Bidder agrees all authorized entities.*	to make best efforts in good faith to offer the quoted prices to
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 o	fficer of/agent for (Name of Bidder) and
have been duly authorized to execute the f Bidder).	foregoing on behalf of the said (Name of
SUBSCRIBED AND SWORN to before me	by the above-named
on this the day of	, 20 .
No	otary Public in and for
Th	e State of
Th	e County of
SIGNATURE AND NOTARY NOT RE	FOUIRED IF COMPLETING IN BIDSYNC FLECTRONICALLY.

------

## **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:	
	<u>5</u>
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:	<b>!</b>	5	

CONFLICT OF INTEREST QUESTIONNAIRE For vendor or other person doing business with local governmental entity				Form CIQ
		onnaire is being filed in accordance with chapter 176 of the Local at Code by a person doing business with the governmental entity.	OFFICE USE	ONLY
lo I	By law this cal govern becomes a	questionnaire must be filed with the records administrator of the ment not later than the 7th business day after the date the person tware of facts that require the statement to be filed. See Section 176.006, Local Government Code.	Date Rece	sived
	overnmen	t Code. An offense under this section is a Class C misdemeanor.		
1	Na	me of person doing business with local governmental entity.		
	L			
2		Check this box if you are filing an update to a previously t	iilad guaatiannaira	
(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.)  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.				
				6
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.			
				5

### **CONFLICT OF INTEREST QUESTIONNAIRE**

# For vendor or other person doing business with local governmental entity

Form CIQ Page 2

	Chury	1 age 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.			
	b. Describe each anniation of business relationship.			
		6		
	6. Describe any other affiliation or business relationship that might cause conflict of interest:			
		.5_		
		6		
7				
	Signature of person doing business with the governmental entity	Date		
	Signature not required if completing in BIDSYNC electronically.			

# Question and Answers for Bid #1704-157 - Milling & Overlay - Ronald Regan Blvd From FM 3405 To RM 2338

#### **Overall Bid Questions**

There are no questions associated with this bid.

**Meeting Date:** 04/18/2017

Cul-De-Sac Fog Seal

Submitted For: Randy Barker Submitted By: Dianne West, Purchasing

**Department:** Purchasing

Agenda Category: Regular Agenda Items

#### Information

20.

### Agenda Item

Discuss, consider and take appropriate action on awarding IFB # 1702-147 Cul-De-Sac Fog Seal to the lowest and best bidder, Alpha Paving Industries LLC, as recommended by the Road and Bridge Department and authorizing the County Judge to sign the attached Agreement.

### **Background**

This project is to provide materials, experienced fog seal crews and equipment to resurface cul-de-sacs. Only one bid was received, Alpha Paving for \$342,826.50, the engineers estimate was \$348,000.

### **Fiscal Impact**

From/T	O II AC	ct No. Descri	ption Amount

#### **Attachments**

Agreement for Construction Svcs - Cul-De-Sac

### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 09:48 AM

Form Started By: Dianne West Started On: 04/12/2017 09:17 AM

Final Approval Date: 04/12/2017



### **Agreement for Construction Services**

This Agreement ("Agreement") between Williamson County, Texas, a political subdivision of the State of Texas ("Owner") and Alpha Paving Industries LLC ("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 Solicitation # 1702-147, Cul-De-Sac Fog Seal FY17; including the specifications set forth therein, which is 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 not-to-exceed amount of Three Hundred Forty Two Thousand Eight Hundred Twenty Six Dollars & Fifty Cents (\$342,826.50) 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 Solicitation # 1704-147, including the specifications set forth therein, which is 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: TBD (15 days from work authorizations)

Under no circumstances will the time for Substantial Completion exceed this date without a written amendment to this Agreement. THE TIMES SET FORTH IN THE CONSTRUCTION DOCUMENTS ARE AN ESSENTIAL ELEMENT OF THE AGREEMENT. TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.

- **4.3 Final Completion.** The Work shall be fully and finally completed **on or before TBD** (**20 days from work authorization**); 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 Dollars per day (\$200/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:**

Contractor shall have a duty to submit to the ODR by the end of each month a statement showing the total value of the Work performed during such 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 pursuant to Chapter 2251 of the Texas Government Code ("Texas Prompt Payment Act"), as set forth in Article 11.1 of this Agreement, 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. **Statements are not considered "received" until reviewed by the ODR and an approved statement is submitted to the Williamson County Auditor's Office; therefore, Contractor must ensure timely delivery of statements for review and processing.** 

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.

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.

- **6.2** 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.
- **6.3** 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.
- 6.4 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.
- **6.5** 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.

- 6.6 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.
- 6.7 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.

## 6.8 NO ALTERATIONS OR CHANGES SHALL BE MADE, HOWEVER, EXCEPT UPON THE WRITTEN ORDER OF THE OWNER, OR THE ODR.

- **6.9** Contractor shall promptly correct any defective Work at Contractor's sole expense, unless the Owner specifically agrees, in writing, to accept the Work.
- **6.10** 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

- **6.11** 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.
- **6.12** 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.
- **6.13** Contractor shall provide warranty services for the Work for a full **12 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 Bodily Injury by Disease Bodily Injury by Disease	\$500,000 Ea. Accident \$500,000 Ea. Employee \$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 l	imit

e. Builder's Risk Insurance (all risks)

An all risks policy shall be in the amount equal at all times to 100% of the Contract Sum. The policy shall include coverage for loss or damage caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act. The policy shall be issued in the name of the Contractor and shall name his Subcontractors as additional insureds. The Owner shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:

- This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.
- 2. For renovation projects and or portions of work contained within an existing structure, the Owner waives subrogation for damage by fire to existing building structure(s), if the Builder's Risk Policy has been endorsed to include coverage for existing building structure(s) in the amount described in the Special Conditions. However, Contractor shall not be required to obtain such an endorsement unless specifically required by the Special Conditions., in this Agreement. The aforementioned waiver of subrogation shall not be effective unless such endorsement is obtained.
- f. 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.

- 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 claiming 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 20% 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 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"):	Contractor's Designated Representative:
Phone	Phone

**Meeting Date:** 04/18/2017

Award Payroll Services for Elections

Submitted By: Kerstin Hancock, Purchasing

**Department:** Purchasing

Agenda Category: Regular Agenda Items

#### Information

21.

### Agenda Item

Discuss, consider and take appropriate action on awarding RFP 1612-131 for Payroll Services for Existing Temporary Labor for Elections, to the best proposer, Evins Personnel Consultants, Inc.

### **Background**

After in depth evaluation, the Evaluation Committee is recommending Evins Personnel Consultants, Inc. to be awarded the contract as this company demonstrated most experience with Elections and excellent adaptability to the County's needs. The proximity to Williamson County and the ability to be present at events with only a short notice, made Evins stand out and therefore resulted in the highest overall scoring

### **Fiscal Impact**

From/To	Acct No.	Description	Amount

#### **Attachments**

**Evins contract** 

scoring

summary

comparison emp vs contr

#### Form Review

Inbox Reviewed By Dat

County Judge Exec Asst. Wendy Coco 04/12/2017 11:34 AM

Form Started By: Kerstin Hancock Started On: 04/12/2017 09:24 AM

Final Approval Date: 04/12/2017

### **COUNTY OF WILLIAMSON**

§

### SERVICES CONTRACT (RFP#1612-131 Payroll Services for Temporary Labor for Elections)

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 Evins Personnel Consultants, Inc., 2013 W. Anderson Ln., Austin, Texas 78757, (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.

<u>Services</u>: Service Provider shall provide 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 RFP#1612-131 Payroll Services for Temporary Labor for Elections and the Service Provider's Proposal Response, signed and dated <u>January 30, 2017</u>, which are incorporated herein as if copied in full.

Should The County choose to add services in addition to those described in RFP#1612-131 and Service Provider's Proposal Response, 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 an initial term of thirty-six (36) months. The County Reserves the right to extend pursuant to paragraph 1.6 of Additional Stipulation set forth in RFP#1612-131.

This contract may be terminated pursuant to paragraph X below.

### III.

Consideration and Compensation: Service Provider will be compensated based on a fee schedule set forth in "Cost Proposal Appendix A," which is part of Service Provider's Proposal Response. Additionally, 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 Bodily Injury by Disease Bodily Injury by Disease	\$500,000 Ea. Accident \$500,000 Ea. Employee \$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:

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. RFP#1612-131 Payroll Services for Temporary Labor for Elections;
- B. Service Provider's Proposal Response, signed and dated January 30, 2017; and
- C. 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.

<u>Compliance with All Laws</u>: Service Provider agrees and will comply with all local, state or federal requirements with respect to the services rendered.

### X.

<u>Termination</u>: This Contract may be terminated at any time at the option of either party, without future or prospective liability for performance upon giving seven (7) days written notice thereof.

### XI.

<u>Venue and Applicable Law</u>: 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.

<u>Confidentiality</u>: 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.

<u>County Judge or Presiding Officer Authorized to Sign Contract</u>: 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:	SERVICE PROVIDER:
	Mary E. Eums
County Judge	Authorized signature
	MARY ELVING
Printed Name	Printed Name
Date:, 2017	Date: $\frac{3/28/17}{2017}$

(Incorporated Documents)

### Payroll Services for Existing and Referred Temporary Labor for Elections, RFP 1612-093

### Thursday, February 2, 2017 at 2:00PM

### Determining Minimum Requirements (Minimum Requirements must be passed to be scored)

Vendor		Ad-A-Staff		Ateeca		Evins		Knowledge Services				
Minimum Requirements	yes	по	Elaborate	yes	no	Elaborate	yes	no	Elaborate	yes	no	Elaborate
1.3.1.1. Proposal Cost Sheet Appendix A	X			X			X			X		
1.3.1.2 Sample of new employee paperwork	X			X			Х			X		
1.3.2 Allow and accept employee documentation within 24 hours		×		×			X			×		
1.3.3 Maintain paperwork for all employees (time sheets, new hire, paperwork etc.)				x			×			x		
1.3.4 Physical presence during central counting operations during election event(4-7 days per year)				x			X			×		
1.3.5 Ability to submit and receive new hire paperwork both electronically and in paper form				Х			X			X		
1.3.6 Ability to have customized payroll items as referenced in section 1.3.6 of the specifications				X			Х			X		
1.3.7 Options for both direct deposit and check submittal of payment				X			X			X		
1.3.8 Reports regarding payroll information as specified in section 1.3.8 of the specifications				X			×			X		
1.3.9 Ability to verify check has or has not been cashed				x			x			x		

### Payroll Services for Existing and Referred Temporary Labor for Elections, RFP 1612-093

Vendor		Ad-A-Staff			Ateeca		Evins			Knowledge Services		
Minimum Requirements	Yes	No	Elaborate	Yes	No	Elaborate	Yes	No	Elaborate	Yes	No	Elaborate
1.3.10 Provide the ability for Elections Administrator or designated representative to view/verify payment processing status				X			Х			X		
1.3.11 Provide Payroll services including processing Federal Payroll Taxes, Unemployment Insurance, and quarter/annual tax reporting, and W2 reporting under Respondent's tax id				X			Х			X		
1.3.12 Include post payroll reports that include the actual markup cost for each position, to include FICA				x			Х			X		

### Payroll Services for Existing and Referred Temporary Labor for Elections, RFP 1612-093

### **Graded Evaluation Factors**

Evaluation Criteria	Please select a Whole Number from the list provided for each question. (Decimal scoring or unlisted rating scores are not permitted)	Ateeca	Evins	Knowledge Services	
Overall experience of Team	5	5 = Significantly Exceeds requirements 4 = Marginally Exceeds Requirements 3 = Meets Requirements 2 = Marginally Meets Requirements 1 = Does Not Meet Requirements	4	5	4
Technical Expertise w/ Elections Process	5	5 = Significantly Exceeds Requirements 4 = Marginally Exceeds Requirements 3 = Meets Requirements 2 = Marginally Meets Requirements 1 = Does Not Meet Requirements	1	5	2
Local Presence/ ability to be present during training	5	5 = Significantly Exceeds Requirements 4 = Marginally Exceeds Requirements 3 = Meets Requirements 2 = Marginally Meets Requirements 1 = Does Not Meet Requirements	3	5	3
Adaptability to support Williamson County's needs	5	5 = Significantly Exceeds Requirements 4 = Marginally Exceeds Requirements 3 = Meets Requirements 2 = Marginally Meets Requirements 1 = Does Not Meet Requirements	4	4	4
Demonstrated Success in past projects with like scope and complexity	5	5 = Significantly Exceeds Requirements 4 = Marginally Exceeds Requirements 3 = Meets Requirements 2 = Marginally Meets Requirements 1 = Does Not Meet Requirements	2	4	3
Price (RFP Cost Score): Lowest Respondent's proposal/ Respondent's Proposal x 10 (points)if cost is weighted as 40%	10		10 (21%)	7.77 (27%)	8.07 (26%)
Possible Total max points	35	Total	24	30.77	24.07

# Williamson County Evaluation Score Sheet Payroll Services for Existing and Referred Temporary Labor for Elections, RFP 1612-093

### Interview/Demonstrations and BAFO scoring Wednesday, February 15, 2017 at 4:00PM

Evaluation Criteria	Total Points	Please select a Whole Number from the list provided for each question (Decimal scoring or unlisted rating scores are not permitted)	Ateeca	Evins	Knowledge Services
Ease of use of system (onboarding and time keeping)	5	5 = significantly exceeds requirements 4 = marginally exceeds requirements 3 = meets requirements 2 = marginally meets requirements 1 = does not meet requirements	2	4	5
Reporting	5	5 = significantly exceeds requirements 4 = marginally exceeds requirements 3 = meets requirements 2 = marginally meets requirements 1 = does not meet requirements		4	4
Overall Elections experience with temporary workers	5	5 = significantly exceeds requirements 4 = merginally exceeds requirements 3 = meets requirements 2 = marginally meets requirements 1 = does not meet requirements	1	5	3
Vendor flexibility to adapt to County's need	5	5 = significantly exceeds requirements 4 = marginally exceeds requirements 3 = meets requirements 2 = marginally meets requirements 1 = does not meet requirements	2	5	4
Account support	5	5 = significantly exceeds requirements 4 = marginally exceeds requirements 3 = meets requirements 2 = marginally meets requirements 1 = does not meet requirements	3	5	4
BAFO price (BAFO Cost Score): Loweset Respondent's proposal / Respondent's proposal x 10 (points)		10 (maximum - weighted at 40% of the total maximum points of criteria - 40x40% = 10 max points)	10 (21%)	7.77 (27%)	8.4 (26%)
Possible total max points	35	Total	21	30.77	28.4

### Payroll Services for Existing and Referred Temporary Labor for Elections, RFP 1612-093

Out of 4 proposals received, 3 met all mandatory criteria and moved into the second round of evaluation. The committee decided to have all 3 remaining proposers participate in the third evaluation phase which included a demonstration of their system as well as a Q&A interview session. Considering the criteria, Elite Personnel Consultants - Evins Temporaries, demonstrated most experience with Elections and excellent adaptability to the County's needs. The proximity to Williamson County and the ability to be present at events with only a short notice, made Evins stand out and therefore resulted in the highest overall scoring.

### **Processing in Wilco Payroll VS Staffing Agency Cost**

<b>Projected Costs</b>	Processed in Wilco Payroll			Processing by Staffing Agency (less FICA)			
per Year	Oracle Licensing	Non Election Dept - Labor	Total	General Fund	Contract Fund		
First Year Cost	\$149,352.75	\$23,376.43	\$172,729.18	\$58,165.73	\$36,991.72		
Second Year Cost	\$33,212.25	\$16,821.81	\$50,034.06	\$19,144.54	\$58,654.33		
Third Year Cost	\$33,212.25	\$16,821.81	\$50,034.06	\$69,568.71	\$34,599.85		
		4444 070 00	4400 040 00				

\$272,797.29 \$146,878.98 \$130,245.89

### **Additional Information about Data**

- Kronos licensing cost is not included in the projections (\$137,750.00 new license cost/\$29,000.00 per year), as we are not currently using Krono license Temporary Election Workers. All other Williamson County employee do use Kronos.
- Oracle licensing is based on 525 new licenses and maintenance fees on 725 licenses.
- Labor costs are based on year one labor figures for setting up 525 new employees, and yearly maintenance on 725 employees. The labor costs are primarily associate with HR/Payroll cost. Election Department costs are not included.
- Though over 70% of temporary elections workers were previously paid in Accounts Payable, over 70% of the total payments to election workers were paid out of Payroll. Based on this data, entities should not expect a significant increase due to FICA being included in either processing payroll or through a staffing agency.

### **IRS Tax Publications**

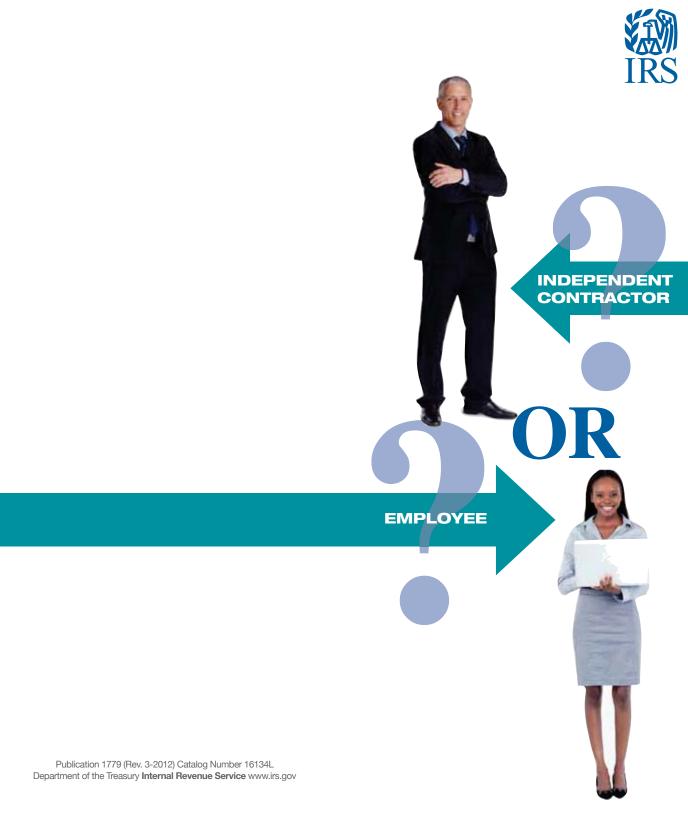
If you are not sure whether you are an employee or an independent contractor, get Form SS-8, Determination of Worker Status for Purposes of Federal Employment Taxes and Income Tax Withholding. Publication 15-A, Employer's Supplemental Tax Guide, provides additional information on independent contractor status.

### **IRS Electronic Services**

You can download and print IRS publications, forms, and other tax information materials on the Internet at www. irs.gov. You can also call the IRS at 1-800-829-3676 (1-800-TAX-FORM) to order free tax publications and forms.

Publication 1796, 2007 IRS Tax Products CD (Final Release), containing current and prior year tax publications and forms, can be purchased from the National Technical Information Service (NTIS). You can order Publication 1796 toll-free by calling 1-877-233-6767 or via the Internet at www.irs.gov/cdorders.

Call 1-800-829-4933, the Business and Speciality Tax Line, if you have questions related to employment tax issues.



# **Independent Contractor** *or* **Employee**

### Which are you?

For federal tax purposes, this is an important distinction. Worker classification affects how you pay your federal income tax, social security and Medicare taxes, and how you file your tax return. Classification affects your eligibility for social security and Medicare benefits, employer provided benefits and your tax responsibilities. If you aren't sure of your work status, you should find out now. This brochure can help you.

The courts have considered many facts in deciding whether a worker is an independent contractor or an employee. These relevant facts fall into three main categories: behavioral control; financial control; and relationship of the parties. In each case, it is very important to consider all the facts – no single fact provides the answer. Carefully review the following definitions.

### **Behavioral Control**

These facts show whether there is a right to direct or control how the worker does the work. A worker is an employee when the business has the right to direct and control the worker. The business does not have to actually direct or control the way the work is done – as long as the employer has the right to direct and control the work. For example:

**Instructions** – if you receive extensive instructions on how work is to be done, this suggests that you are an employee. Instructions can cover a wide range of topics, for example:

- how, when, or where to do the work
- what tools or equipment to use
- what assistants to hire to help with the work
- where to purchase supplies and services

If you receive less extensive instructions about what should be done, but not how it should be done, you may be an independent contractor. For instance, instructions about time and place may be less important than directions on how the work is performed.

**Training** – if the business provides you with training about required procedures and methods, this indicates that the business wants the work done in a certain way, and this suggests that you may be an employee.

### **Financial Control**

These facts show whether there is a right to direct or control the business part of the work. For example:

**Significant Investment** – if you have a significant investment in your work, you may be an independent contractor. While there is no precise dollar test, the investment must have substance. However, a significant investment is not necessary to be an independent contractor.

**Expenses** – if you are not reimbursed for some or all business expenses, then you may be an independent contractor, especially if your unreimbursed business expenses are high.

**Opportunity for Profit or Loss** – if you can realize a profit or incur a loss, this suggests that you are in business for yourself and that you may be an independent contractor.

### **Relationship of the Parties**

These are facts that illustrate how the business and the worker perceive their relationship. For example:

Employee Benefits – if you receive benefits, such as insurance, pension, or paid leave, this is an indication that you may be an employee. If you do not receive benefits, however, you could be either an employee or an independent contractor.

Written Contracts – a written contract may show what both you and the business intend. This may be very significant if it is difficult, if not impossible, to determine status based on other facts.

### When You Are an Employee...

- Your employer must withhold income tax and your portion of social security and Medicare taxes. Also, your employer is responsible for paying social security, Medicare, and unemployment (FUTA) taxes on your wages. Your employer must give you a Form W-2, Wage and Tax Statement, showing the amount of taxes withheld from your pay.
- You may deduct unreimbursed employee business expenses on Schedule A of your income tax return, but only if you itemize deductions and they total more than two percent of your adjusted gross income.

# When You Are an Independent Contractor...

- The business may be required to give you Form 1099-MISC, Miscellaneous Income, to report what it has paid to you.
- You are responsible for paying your own income tax and self-employment tax (Self-Employment Contributions Act – SECA). The business does not withhold taxes from your pay. You may need to make estimated tax payments during the year to cover your tax liabilities.

 You may deduct business expenses on Schedule C of your income tax return.



**Meeting Date:** 04/18/2017

Sungard quotes

Submitted By: Jayme Jasso, Purchasing

**Department:** Purchasing

Agenda Category: Regular Agenda Items

### Information

### Agenda Item

Discuss, consider and take appropriate action on approving the additional Terms & Conditions between Sungard Public Sector and Williamson County ITS for Sungard Public Sector add-ons.

### **Background**

From/To	Acct No.	Description	Amount

### **Attachments**

Sungard 1

Sungard 2

### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 11:34 AM

Form Started By: Jayme Jasso Final Approval Date: 04/12/2017

Started On: 04/12/2017 10:05 AM

22.



### **Add-On Quote**

### **Quote Prepared By:**

Brian Rennie 4000 OSSI Court High Point, NC 27265

Phone: 336-878-1287 Fax: (407) 304-1272

Email: brian.rennie@sungardps.com

 Quote
 Date
 Valid Until

 Q-00020945
 03/22/2017
 06/20/2017

### **Quote Prepared For:**

Janessa Poujade, Systems Administrator Williamson County 301 SE Inner Loop Ste. 107 Georgetown, TX 78626 512-943-1175

### **Professional Services**

#### **Services**

<b>Product Code</b>	Product Name		Proj Mgmt II	nstallation	Tech Svcs	Training	Impl Svcs	Consulting	Development	<b>Total Services</b>
PS-CD	Development	Ext Price:	-	-	-	-	-	-	10,400.00	10,400.00
PS-IN	Installation	Ext Price:	-	700.00	-	-	-	-	-	700.00
PS-PM	Project Management	Ext Price:	640.00	-	-	-	-	-	-	640.00
		Totals:	\$640.00	\$700.00	-	-	-	-	\$10.400.00	\$11.740.00

### **Product & Services**

Professional Services: \$11,740.00 Subtotal: \$11,740.00

**Total:** \$11,740.00

#### **Comments:**

Customer would like to see AVL equipped units of all services responding to a common call for service on the CAD Map similar to the solution SunGard previously developed in MCT (SOW #1678). SunGard will add a checkbox button to the Map toolbar to put the map in a "Show all Linked Units" mode. When this mode is active (button pushed in), all AVL equipped units of ALL services responding to the event currently being viewed will be displayed on the map. The users map display will ONLY show units responding to the call they are viewing in the call taker form and the user will have to uncheck the "Show all linked Units" button to go back to the regular AVL display mode.

This new mode can be configured to be under the users control/responsibility to turn the mode on and off manually OR it can be configured to automatically turn off based on certain criteria. There will be a system configurable timer that will cause the map to automatically return to the normal AVL view if the user doesn't uncheck the "Show all linked Units" within a specified time period (i.e. 30 seconds). Also, when this timer is specified and the user moves to another event the mode would automatically turn off and return to the normal AVL view. If the timer is configured to 0 seconds the user will be responsible for turning the mode off manually.

SunGard will add the functionality to right click on the AVL unit BMP on the CAD map, and through "view details" obtain the call reference number of the event the unit is on.

### Payment terms as follows, unless otherwise notated below for Special Payment Terms by Product:

Project Management, Consulting, Technical Services, Conversion, Third Party Product Software and Hardware Fees are due upon execution of this Quote. Training fees and Travel & Living expenses are due as incurred monthly. Installation is due upon completion. Custom Modifications, System Change Requests or SOW's for customization, and Third Party Product Implementation Services fees are due 50% on execution of this Quote and 50% due upon invoice, upon completion. Unless otherwise provided, other Professional Services are due monthly, as such services are delivered. Additional services, if requested, will be invoiced at then-current rates. Any shipping charges shown are estimated only and actual shipping charges will be due upon invoice, upon delivery.

#### **Additional Terms:**

This Quote constitutes an Amendment to the Software License & Services Agreement and the Maintenance Agreement (together, the "Contract and Agreement") by and between the parties hereto. The product and pricing information detailed above comprises the "Exhibit 1" schedule attached to this Amendment. Except as otherwise provided herein, all terms and conditions of the Contract and Agreement shall remain in full force and effect.

Any interfaces listed above are interfaces only. Customer shall be responsible for obtaining the applicable software, hardware and system software from the appropriate third party vendor.

Any software applications listed above which are solely owned by SunGard Public Sector are "Component Systems" under the provisions of the Contract and Agreement. Before signing this Quote, please contact your Account manager if you are not certain which software applications are owned by SunGard Public Sector.

Any hardware or other third party products and services listed above, including third party software, are "Pay Agency Products" under the provisions of the Contract and Agreement.

For training and on-site project management sessions which are cancelled at the request of Customer within fourteen (14) days of the scheduled start date, Customer is responsible for entire price of the training or on-site project management plus incurred expenses.

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.

Villiamson County		
Authorized Signature:	Date:	Printed Name:

## SUNGARD<sup>®</sup> **PUBLIC SECTOR**

### Add-On Quote

#### **Quote Prepared By:**

Brian Rennie 4000 OSSI Court High Point, NC 27265

Phone: 336-878-1287 Fax: (407) 304-1272

Email: brian.rennie@sungardps.com

Quote Date Valid Until Q-00024375 02/08/2017 05/09/2017

#### **Quote Prepared For:**

Janessa Stephens, Systems Administrator Williamson County 301 SE Inner Loop Ste. 107 Georgetown, TX 78626 512-943-1175

#### **Professional Services**

#### Services

<b>Product Code</b>	Product Name		Proj Mgmt Installation	Tech Svcs	Training	Impl Svcs	Consulting	Development	<b>Total Services</b>
PS-CD	Development	Ext Price:		-	-	-	-	15,400.00	15,400.00
PS-PM	Project Management	Ext Price:	3,040.00 -	-	-	-	-	-	3,040.00

#### **Product & Services**

	Professional Services:	\$18,440.00
	Subtotal:	\$18,440.00
Discounts		

#### **Professional Services Discount:** \$18,440.00 **Product & Services Totals**

#### Total: \$0.00

#### Comments:

SunGard will add functionality to change incident locations on associated spawned events if the incident location is changed on a single event. The CAD user will be alerted with a message box asking if they are sure they want to change addresses on related events spawned events. The message box will default to "YES". There will be a system switch to turn this option on/off. SCR#1152

#### Payment terms as follows, unless otherwise notated below for Special Payment Terms by Product:

Project Management, Consulting, Technical Services, Conversion, Third Party Product Software and Hardware Fees are due upon execution of this Quote. Project Management Fees will be invoiced as one combined fee. Training fees and Travel & Living expenses are due as incurred monthly. Installation is due upon completion. Custom Modifications, System Change Requests or SOW's for customization, and Third Party Product Implementation Services fees are due 50% on execution of this Quote and 50% due upon invoice, upon completion. Unless otherwise provided, other Professional Services are due monthly, as such services are delivered. Additional services, if requested, will be invoiced at then-current rates. Any shipping charges shown are estimated only and actual shipping charges will be due upon invoice, upon delivery.

#### **Additional Terms:**

This Quote constitutes an Amendment to the Software License & Services Agreement and the Maintenance Agreement (together, the "Contract and Agreement") by and between the parties hereto. The product and pricing information detailed above comprises the "Exhibit 1" schedule attached to this Amendment. Except as otherwise provided herein, all terms and conditions of the Contract and Agreement shall remain in full force and effect.

Any interfaces listed above are interfaces only. Customer shall be responsible for obtaining the applicable software, hardware and system software from the appropriate third party vendor.

Any software applications listed above which are solely owned by SunGard Public Sector are "Component Systems" under the provisions of the Contract and Agreement. Before signing this Quote, please contact your Account manager if you are not certain which software applications are owned by SunGard Public Sector.

Any hardware or other third party products and services listed above, including third party software, are "Pay Agency Products" under the provisions of the Contract and Agreement.

For training and on-site project management sessions which are cancelled at the request of Customer within fourteen (14) days of the scheduled start date, Customer is responsible for entire price of the training or on-site project management plus incurred expenses.

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.

Williamson County		
Authorized Signature:	Date:	Printed Name:

**Meeting Date:** 04/18/2017

Advertisement for rebid Renovations for 355 Texas Avenue

Submitted By: Kerstin Hancock, Purchasing

**Department:** Purchasing

Agenda Category: Regular Agenda Items

#### Information

23.

#### Agenda Item

Discuss, consider, and take appropriate action on rejecting the only proposal received for RFP# 1701-139, Renovations to 355 Texas Avenue Facility in Round Rock, Texas and authorize Purchasing Agent to advertise and receive proposals for RFP# 1704-153, Renovations to 355 Texas Avenue Facility in Round Rock, TX.

#### **Background**

As the only proposal received was over budget, it is the recommendation of the Facilities Department to reject this proposal and re-advertise the RFP. The specifications were amended in order to allow for additional competition. Estimated budget for this project: \$1,900,00.00. Substantial completion: 6 months. Final completion: 7 months.

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount

#### **Attachments**

#### RFP packet

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 11:34 AM

Form Started By: Kerstin Hancock Started On: 04/12/2017 11:05 AM

Final Approval Date: 04/12/2017

### Solicitation 1704-153

# Renovations to 355 Texas Avenue Facility in Round Rock, TX

**Bid Designation: Public** 



Williamson County, Texas

#### Bid 1704-153

#### Renovations to 355 Texas Avenue Facility in Round Rock, TX

Bid Number 1704-153

Bid Title Renovations to 355 Texas Avenue Facility in Round Rock, TX

Expected Expenditure \$1,900,000.00 (This price is expected · not guaranteed)

Bid Start Date In Held

Bid End Date May 10, 2017 2:00:00 PM CDT

Question & Answer

**End Date** 

May 5, 2017 5:00:00 PM CDT

Bid Contact Kerstin N Hancock

512-943-1546

khancock@wilco.org

Contract Duration 7 months

Contract Renewal Not Applicable

Prices Good for 1 year

Pre-Bid Conference Apr 25, 2017 10:00:00 AM CDT

Attendance is optional

Location: The meeting will be held at 355 Texas Avenue, Round Rock, Texas.

Contractors at their option are free to bring any personnel or tradesmen they deem

necessary for clarification to the pre-proposal meeting.

Pre-Bid Conference May 3, 2017 11:00:00 AM CDT

Attendance is optional

Location: The meeting will be held at

355 Texas Avenue Round Rock, Texas

Contractors at their option are free to bring any personnel or tradesmen they deem

necessary for clarification to the pre-proposal 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 RFP1704·153, 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

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

Pre-Proposal Meeting: The meeting will be held at 355 Texas Avenue, Round Rock, Texas.

Additionally, it is suggested that contractor at his/her option is free to bring any tradesmen or personnel they deem necessary for this project.

#### **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.

Desired Substantial Completion Date: Not later than 6 calendar months following Notice to Proceed. Desired Final Completion Date: Not later than 1 calendar month following Substantial Completion.

#### Item Response Form

Item 1704-153--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 1704-153

Renovations to 355 Texas Avenue Facility in Round Rock, TX

#### PROPOSALS MUST BE RECEIVED ON OR BEFORE: May 10, 2017 2:00:00 PM CDT

#### PROPOSAL WILL BE PUBLICLY OPENED: May 10, 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

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."
- o 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.
- o 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.
  - o 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**

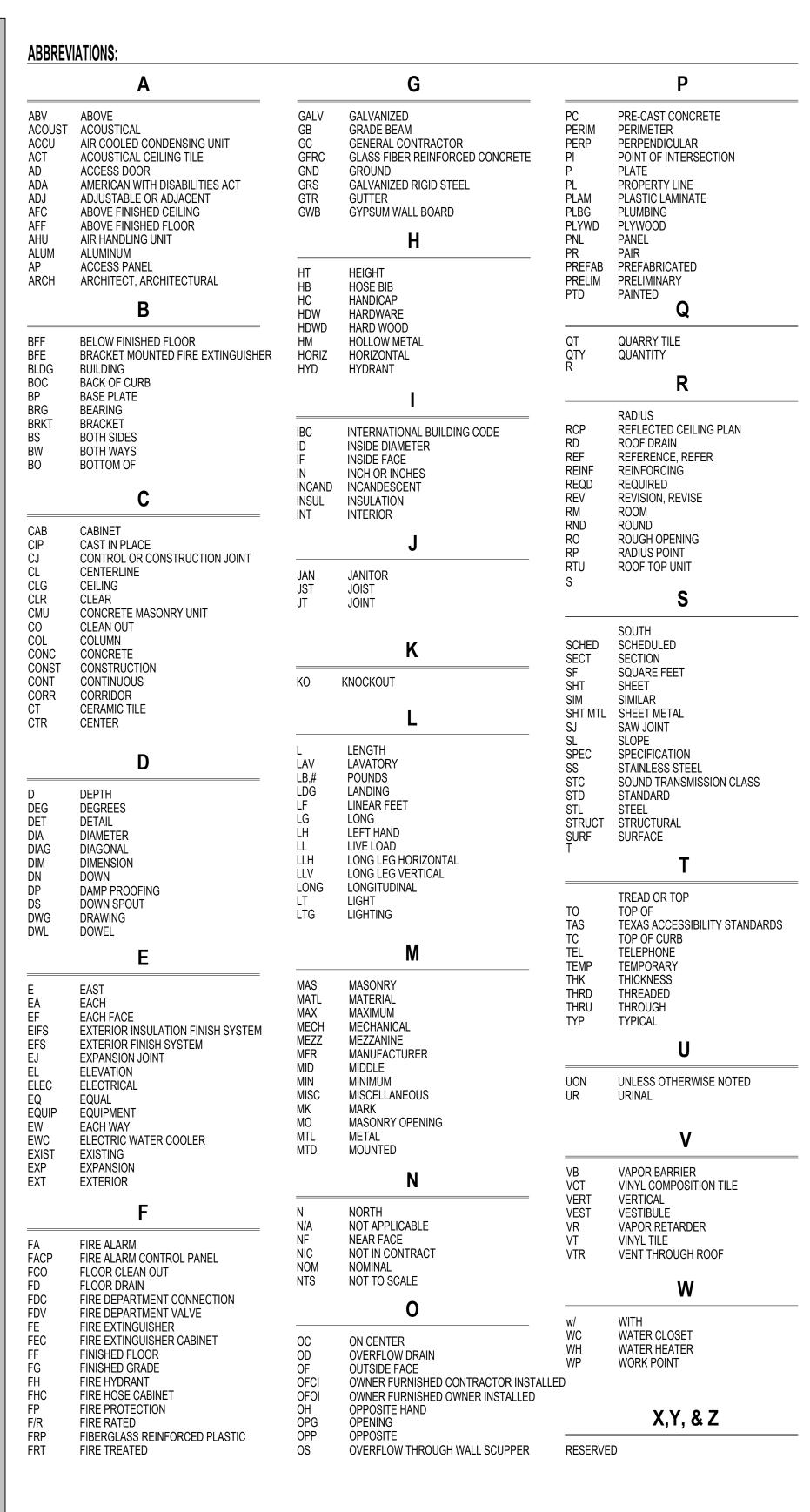
Below is a general overview/summary of the project. This is in no way intended to be diagnostic. Please ensure you fully read and respond based upon the attached specifications, conditions and requirements.

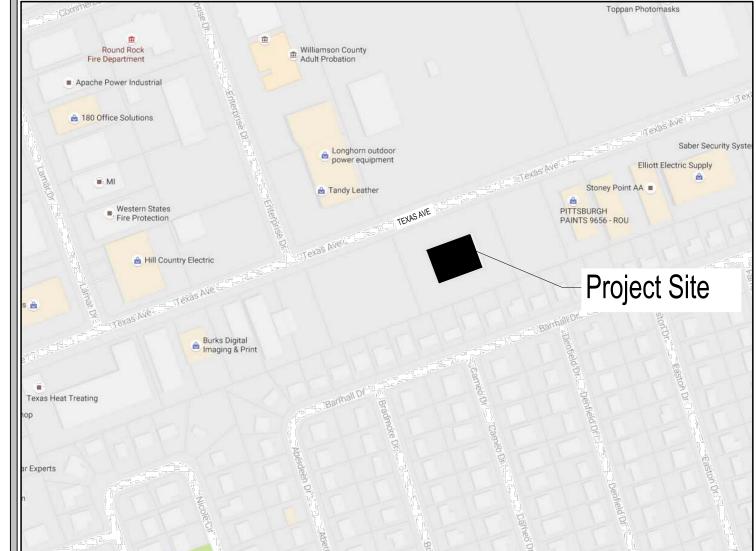
#### Exterior Scope of Work

- 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







Round Rock, Texas

Site Map Vicinity Map

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas

100% Construction Document Issued Bid Set April 7, 2017









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G0.01	LIFE SAFETY PLAN			
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A0.01	1ST FLOOR DEMOLITION PLAN			
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A2.01	1ST FLOOR RENOVATION PLAN			
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T301	TECHNOLOGY DETAILS			
T302	SECURITY DETAILS			
T303	SECURITY DIAGRAMS/SCHEDULES	<u> </u>		
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DM2.02	2ND LEVEL DEMO MECHANICAL PLAN			
	1ST LEVEL DEMO LIGHTING PLAN			
DEL2.02	2ND LEVEL DEMO LIGHTING PLAN			
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E3.01	ELECTRICAL STANDOL & ADDITIONS  ELECTRICAL NOTES, DETAILS & LIGHT FIXTURE SCHEDULE			
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P5.01	PLUMBING SCHEDULES			
P6.01	PLUMBING DETAILS			
CENE	DAI NOTES:			

Bid 1704-153

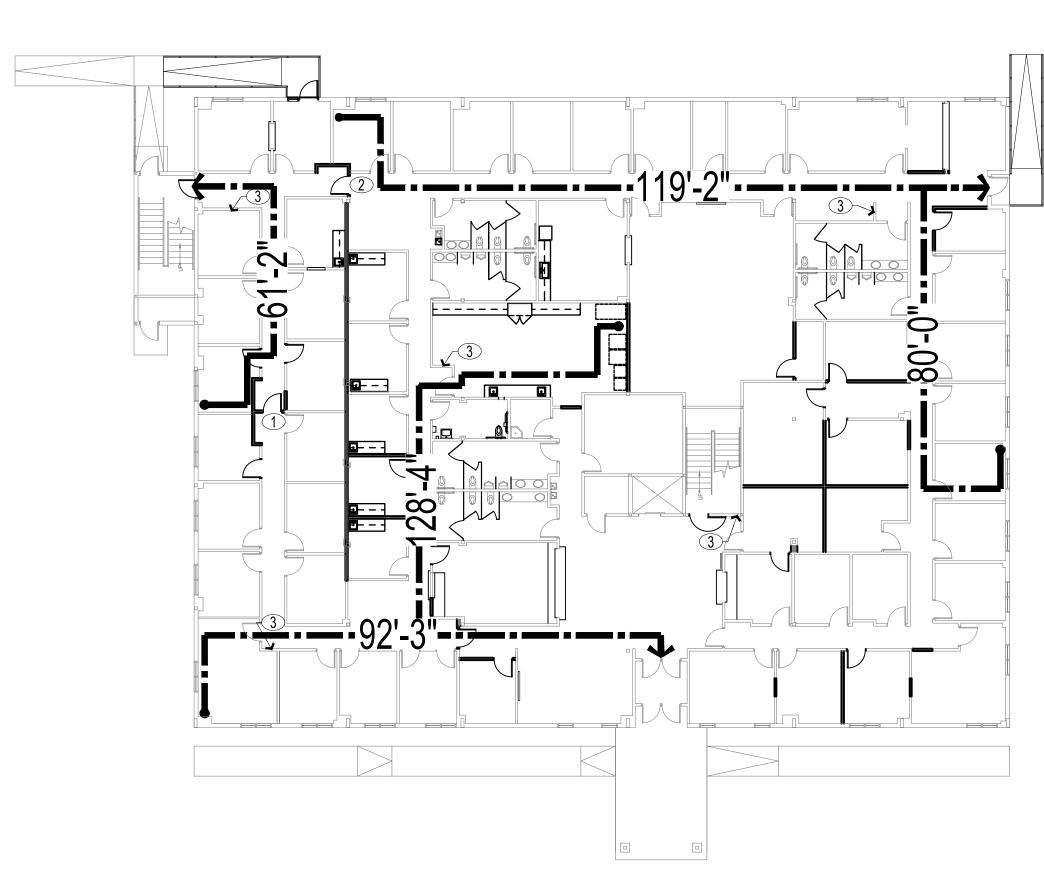
- ALL CONSTRUCTION AND DEMOLITION SHALL BE IN COMPLIANCE WITH THE 2015 INTERNATIONAL BUILDING CODE WITH LOCAL AMENDMENTS AND WITH ALL OTHER CODES. ORDINANCES AND REQUIREMENTS SET FORTH BY THE CITY OF ROUND ROCK, SUBCONTRACTOR TO VERIF
- ALL WORK RELATING TO THIS CONSTRUCTION AND DEMOLITION SHALL COMPLY 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.
- . 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.
- 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.
- 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.
- 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.
- 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.
- CONTACT THE FIRE DEPT. FOR ANY SUBMITTALS, SCHEDULING OF INSPECTIONS OR FIRE FINALS (512-218-6628)

### A COMMENTED/STAMPED SET OF PLANS MUST REMAIN ON SITE UNTIL THE PROJECT IS COMPLETE ARCHITECTURAL SYMBOLS:

WWW			
XXXX	DOOR NUMBER	FINISH FLOOR EL XXX'-X"	ELEVATION TAGS
XX DETAIL NAME   SCALE: X" = 1'-0"	DRAWING TITLE	X/AX.XX X/AX.XX	ELEVATION TAGS
MAIN ENTRY 101	ROOM NAME	X/AX.XX XX	SECTION TAGS
$\langle \! \overline{\mathbf{x}} \! \rangle$	WINDOW TAG	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	
<b>\$</b>	PARTITION TAG	X/AX.XX	PLAN TAGS
	KEYED NOTE TAG		
PT-1G	FINISH NOTE TAG	EL XX'-X"	SPOT ELEVATION
$\triangle$	DELTA SYMBOL	(XX)	COLUMN TAG
	DENOTES SOFFIT		
	DENOTES NEW LIGHT FIXTURE		
	DENOTES GYPSUM CEILING		
	DENOTES NEW CAN LIGHT		

1 1ST FLOOR LIFE SAFETY PLAN

SCALE: 1/16" = 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" (3) FIRE EXTINGUISHER MOUNTED IN SEMI-RECESSED CABINET. EACH UNIT MUST HAVE A CURRENTLY INSPECTED AND TAGGED FIRE EXTINGUISHER. EXTINGUISHER TYPE 3A40/BC MOUNTED ON A VISIBLE WALL OR POST TO PERSONEEL AND PUBLIC, WITH THE HANDLE 4'-0" AFF.

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

OOOLIDANOV		WATER	CLOSETS	URINALS	LAV	ATORIES	
OCCUPANCY		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 FIX	TURES		16 TOTAL FIXTURES		
	FIXTURES PROVIDED	0	0	0	0	0	
		1 UNISEX			1 UNISEX		
		1 TOTAL FIXT	1 TOTAL FIXTURE		1 TOTAL FIX	ΓURE	

PROJECT DATA:

**BUILDING CODES:** 

PROJECT: WCCHD Office Renovations ADDRESS: 355 Texas Avenue Round Rock, Texas

LOCATION ON PROPERTY -GREATER THAN 60'-0" ON THREE SIDES

OCCUPANCY CLASSIFICATION -GROUP "B" BUSINESS CONSTRUCTION CLASSIFICATION -TYPE IIB

PROPOSED RENOVATION: 25,232 SF

FIRE EXTINGUISHING SYSTEM -BUILDING IS SPRINKLERED

THESE RENOVATIONS DO NOT CHANGE THE OCCUPANCY OR USE OF THE FACILITY

2015 INTERNATIONAL ENERGY CONSERVATION CODE

2015 INTERNATIONAL BUILDING CODE

2015 INTERNATIONAL MECHANICAL CODE

2015 INTERNATIONAL PLUMBING CODE

2015 INTERNATIONAL FIRE CODE

2014 NATIONAL ELECTRICAL CODE

TEXAS ACCESSIBILITY STANDARDS

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:

CONSTRUCTION TYPE:

ALLOWED AREA PER FLOOR: 69,000 SF MAXIMUM HEIGHT: 4 STORIES

PROPOSED BUILDING HEIGHT AND AREA:

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:

NON BEARING INTERIOR PARTITIONS

FLOOR CONSTRUCTION

BUILDING ELEMENT FIRE-RESISTANCE RATING STRUCTURAL FRAME BEARING WALLS EXTERIOR INTERIOR NON BEARING EXTERIOR PARTITIONS

ROOF CONSTRUCTION \*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

 100 GROSS
 25,232
 252
 BUSINESS AREA (B)

TOTAL OCCUPANCY

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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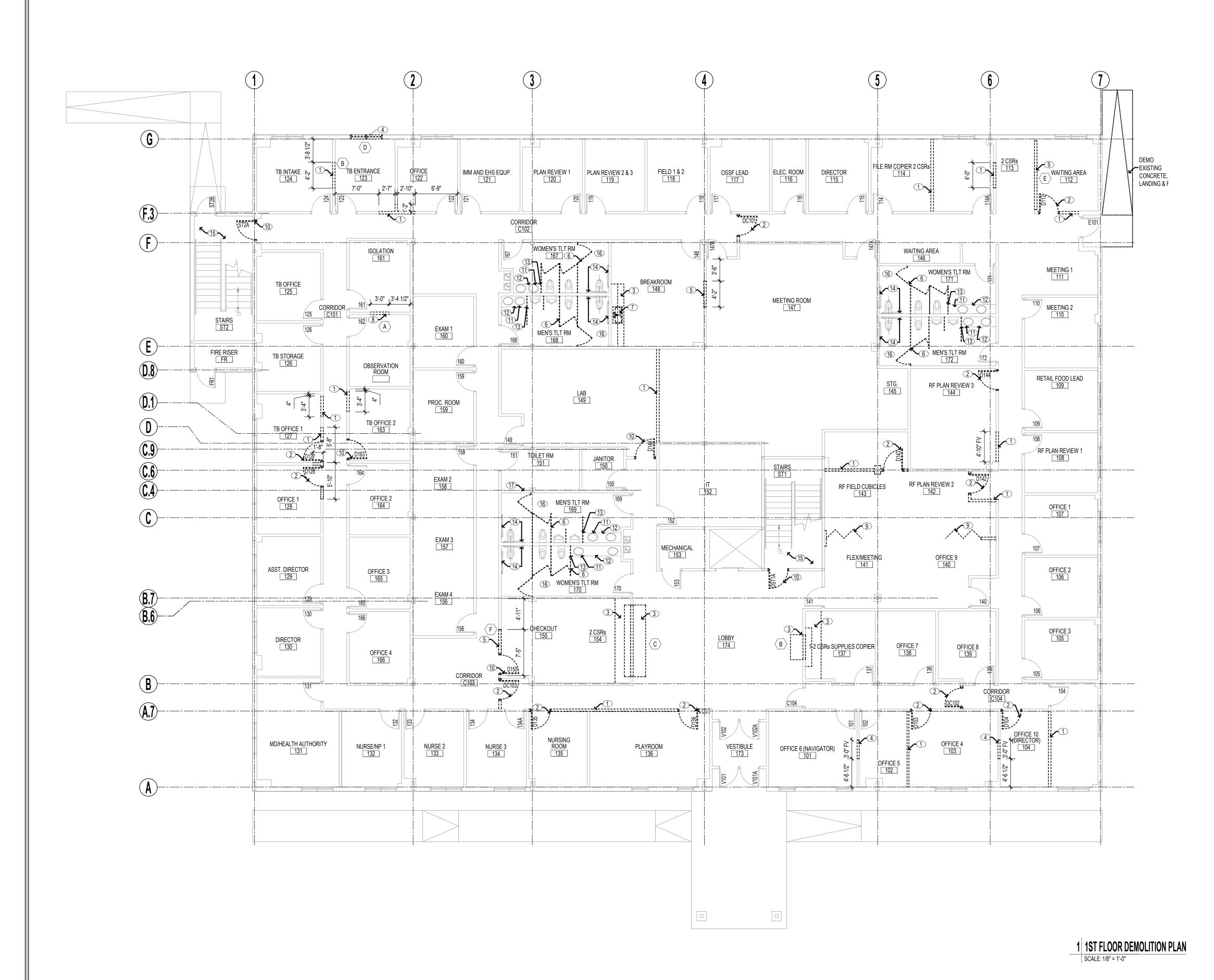
# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



	VISIONS	
No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	1/16"=1'-0"
Orawn	
Checked	
Approved	
	TITLE



**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
- A5.01. THEY ARE TO BE REMOVED AND STORED WITH PROPER CARE FOR 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

CONSTRUCTION TO REMAIN

--- --- CONSTRUCTION TO BE REMOVED --- --- --- ---

## **DEMOLITION KEYED NOTES:**

- 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 A5.01 FOR NEW LOCATION/DESIGNATION.
- 3 MILLWORK TO BE DEMOLISHED INCLUDING HARDWARE, BACKSPLASH, ETC.
- 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
- 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
- 17) DEMO EXISTING WALL AS REQ'D FOR NEW

PLUMBING FIXTURES. REF. PLUMBING







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# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



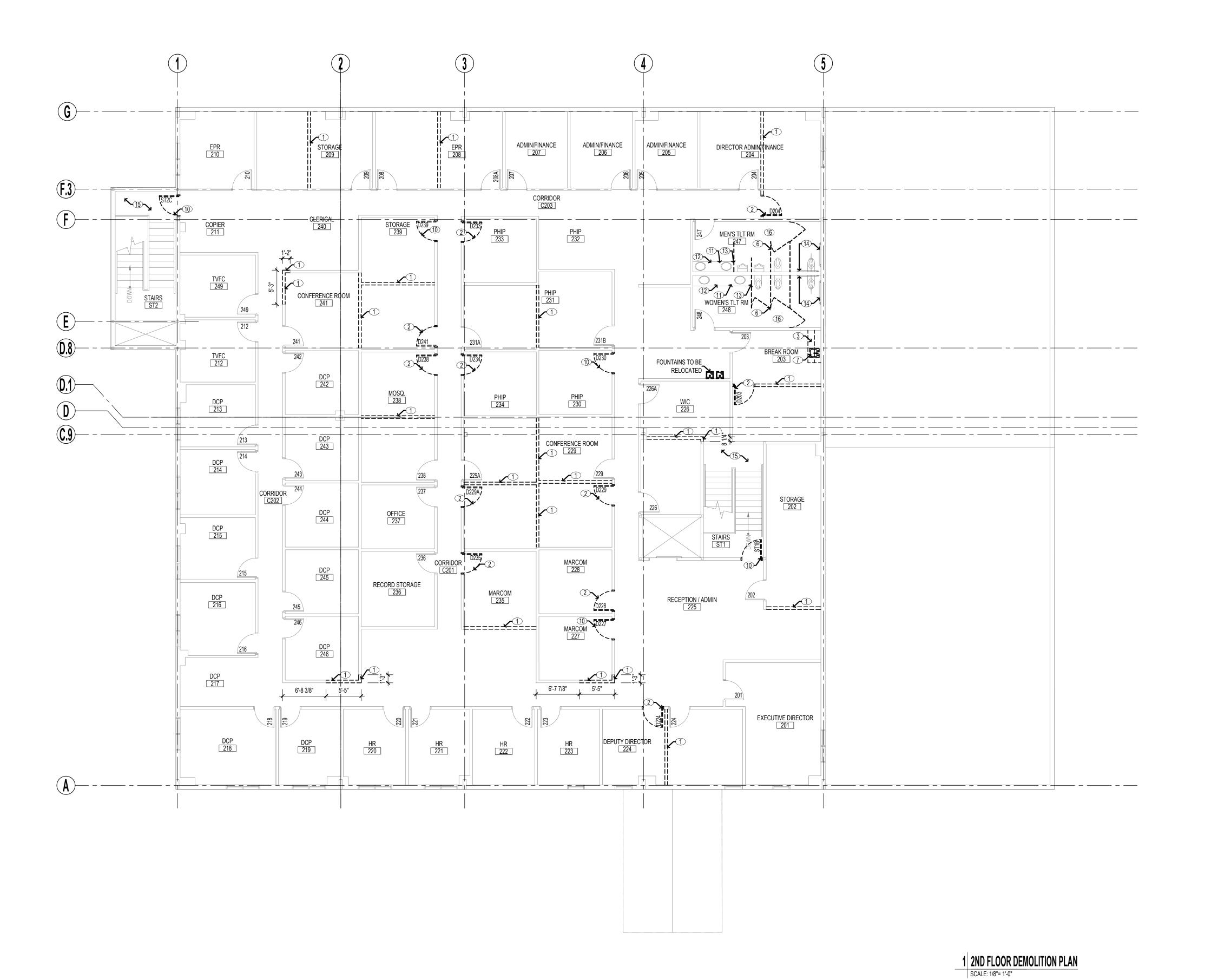
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	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
Drawn	
Checked	
Approved	
	TITLE

1st Floor **Demolition Plan** 

SHEET

**A0.0**1



## **GENERAL NOTES:**

ALL FLOORS, FINISHES, CEILINGS, EXISTING BATT INSULATION ABOVE CEILING, ASSOCIATED LIGHTING, EQUIPMENT & HVAC TO BE REMOVED. REF MEP SHEETS FOR ADDITIONAL INFO
 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 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

## **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

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

PROTECT COUNTERTOP FROM TOILET PARTITION DEMO

DEMO HORIZONTAL PLAM TRIM PIECE DIRECTLY AFF. PROTECT THE

SURROUNDING PLAM BRACING 3 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

17) DEMO EXISTING WALL AS REQ'D FOR NEW PLUMBING FIXTURES. REF. PLUMBING

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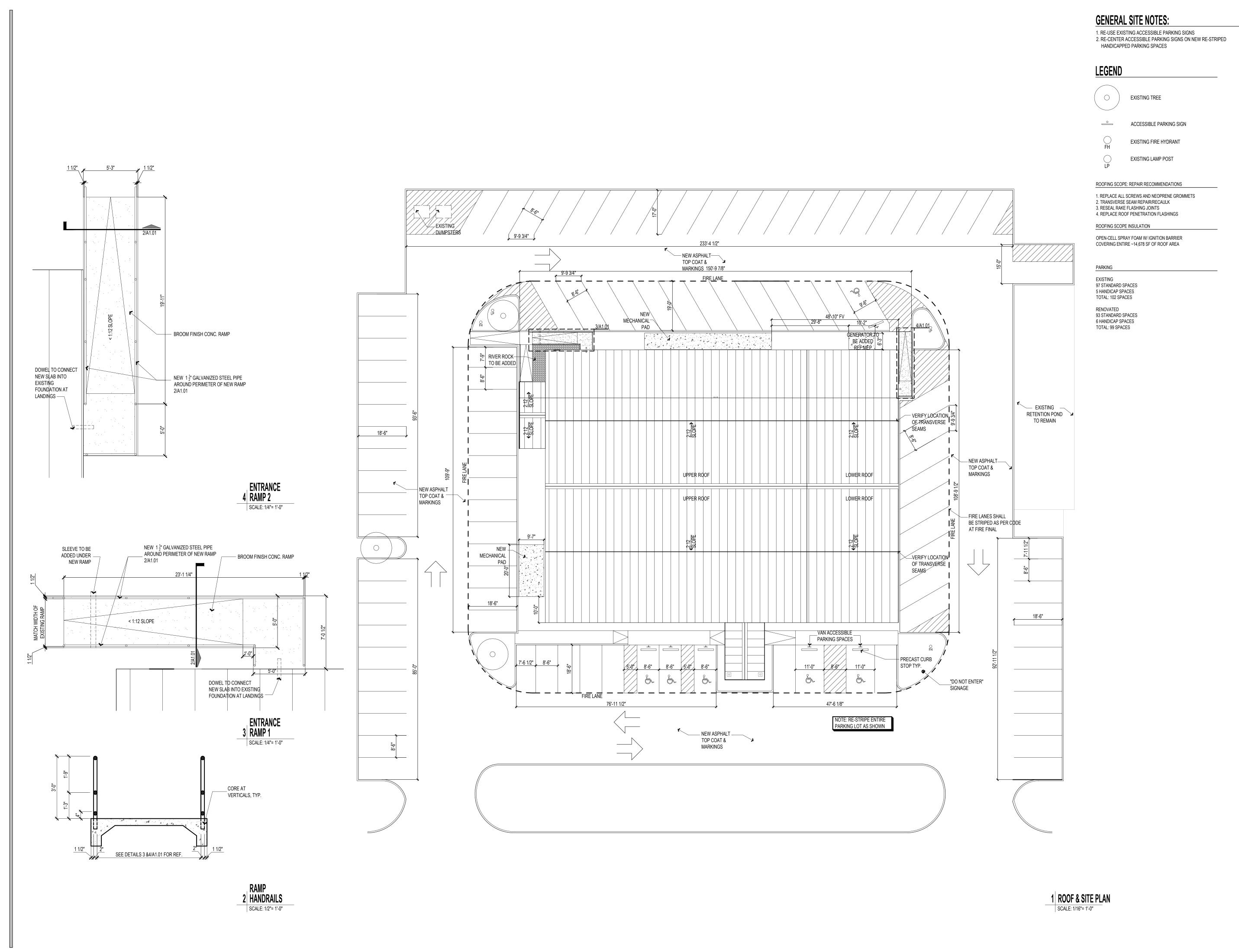
	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	1/8"=1'-0"
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2nd Floor **Demolition Plan** 

A0.02

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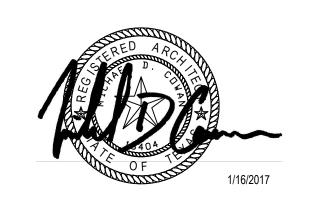
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# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



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	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	Varies
Drawn	
Checked	
Approved	
	TITLE

Roof & Site Plan

SHEET

A1.01







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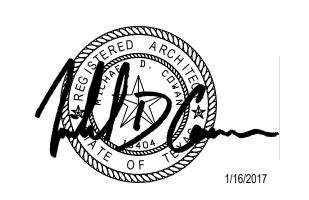
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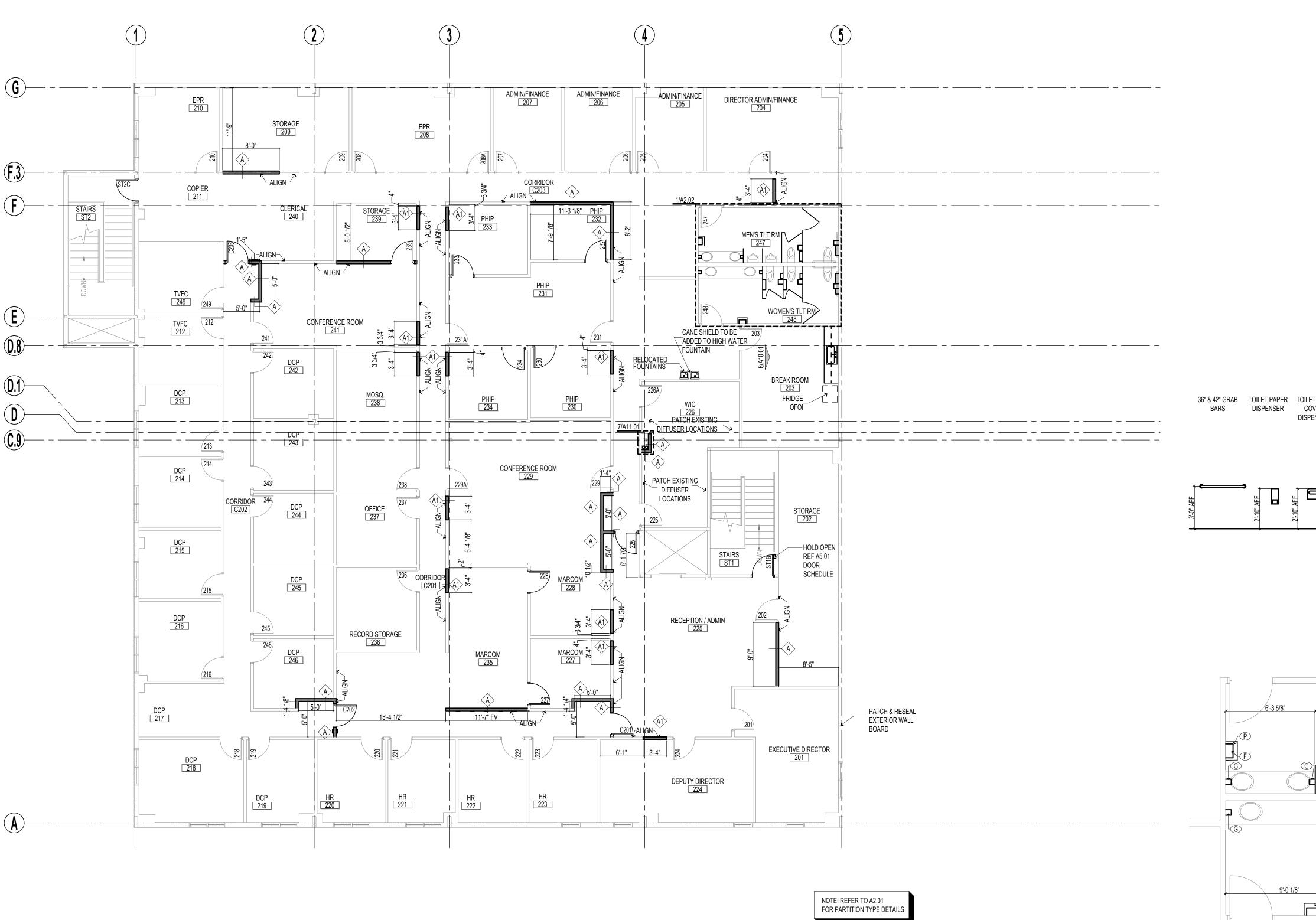
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	SHEET INFORMATION
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b Number	16-1010
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	TITLE

1st Floor **Renovation Plan** 

SHEET

A2.01



**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

4. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DRAWN INFORMATION SHALL NOT SUPERCEDE ACTUAL CONDITIONS.

5. PROTECTION 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 REQ'D

10.REINSTALL SALVAGED PLAM BACKSPLASH IN SAME LOCATION ONTO NEW TOILET PARTITIONS

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

NOTE: REF. 2/A2.02 FOR TOILET ACCESSORY MOUNTING HEIGHTS

A 42" GRAB BAR B 36" GRAB BAR

TOILET PAPER DISPENSER, SAN JAMAR R3590TBK D TOILET SEAT COVER DISPENSER, HEALTH GARDS HALF-FOLD SANITARY NAPKIN DISPOSAL, 1ECK9

PAPER TOWEL DISPENSER, SAN JAMAR T1790TBK G SOAP DISPENSER, SAN JAMAR S890TBK, BOTTOM OF DISPENSER H 24" x 36" GLASS MIRROR

K FLUSH VALVE (L) ADA PIPE WRAP

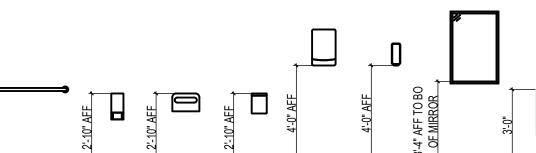
M 42" GRAB BAR TO BE REINSTALLED IN PREVIOUS LOCATION

N 36" GRAB BAR TO BE REINSTALLED IN

PREVIOUS LOCATION P SURFACE MOUNTED WASTE RECEPTACLE

TO BE MOUNTED UNDER PAPER TOWEL
DISPENSER, BOBRICK B-277 CONTURA
SERIES

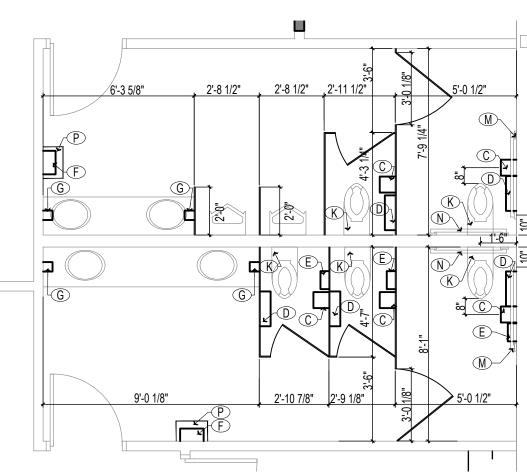
36" & 42" GRAB TOILET PAPER TOILET SEAT SANITARY PAPER SOAP BARS DISPENSER COVER NAPKIN TOWEL DISPENSER 24" X 36" SURFACE MOUNTED MIRROR DISPENSER DISPOSAL DISPENSER TRASH CAN



TLT RM ACCESSORIES

MOUNTING HEIGHTS

SCALE: 1/8" = 1'-0"



3 2ND FLOOR RENOVATION PLAN
SCALE: 1/8" = 1'-0"

TLT RM 247 & 248
1 FLOOR PLAN

SCALE: 1/4" = 1'-0"





SAN ANTONIO

8200 IH-10 West, Ste. 103 901 S. Mopac San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

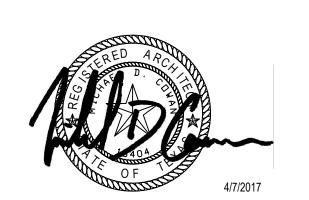
Edwards + Mulhausen

INTERIOR DESIGN 2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

In Association w/

WCCHD Office Renovations

> 355 Texas Avenue Round Rock, Texas



	RE	VISIONS
No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017
	SHEET INFOR	MATION

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	Varies
Drawn	
Checked	
Approved	
	TITLE

2nd Floor **Renovation Plan** 

SHEET

A2.02

FIRE RISER FR

PLAN REVIEW 2 & 3

BREAKROOM

MEETING ROOM

STAIRS ST1

152 

CHAIN HUNG

## **GENERAL NOTES:**

 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. 2. COORDINATE THE LOCATIONS OF THE LIGHTS WITH THE DUCTWORK, AND OTHER CEILING

3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DRAWN

INFORMATION SHALL NOT SUPERSEDE ACTUAL CONDITIONS.

4. PROTECT AREAS NOT SCHEDULED FOR RENOVATION FROM DEMOLITION AND CONSTRUCTION



technology & security

Phone: 512-433-2696

In Association w/

# WCCHD Office Renovations

HADDON+COWAN ARCHITECTS

2301 E. Riverside Drive, Bldg A, Suite 80 Austin, TX 78741 | **haddoncowan.com** 

ENGINEERING CONSULTANTS
7800 Shoal Creek Blvd. | Suite 100-W
Austin, Texas 78757
512.637.4393 p 512.637.4396 f

TBPE Firm Registration No. 2234

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SAN ANTONIO

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355 Texas Avenue Round Rock, Texas



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SHEET INFORMATION
April 7, 2017
16-1010
1/8"=1'-0"

1st Floor Reflected Ceiling Plan

SHEET

A3.0<sub>1</sub>

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"

WAITING AREA

2 TYPICAL SOFFIT SCALE: 3" = 1'-0"

2ND FLOOR REFLECTED CEILING PLAN
SCALE: 1/8" = 1'-0"

## **GENERAL NOTES:**

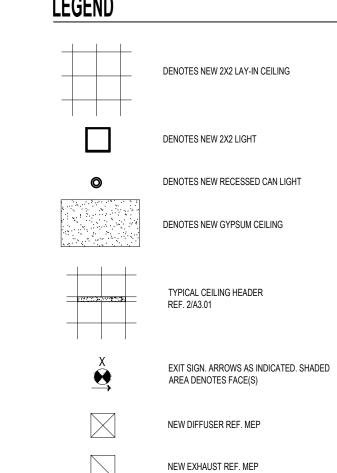
 ALL AREAS SCHEDULED TO RECEIVE NEW FINISHES ARE TO BE INSPECTED FOR ANY PATCHING
 THAT MAY BE REQUIRED DUE TO EXISTING CONDITIONS. PERFORM ALL PATCHING AS REQUIRED PRIOR TO APPLICATION OF NEW FINISHES.

2. COORDINATE THE LOCATIONS OF THE LIGHTS WITH THE DUCTWORK, AND OTHER CEILING

3. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS. DRAWN INFORMATION SHALL NOT SUPERSEDE ACTUAL CONDITIONS.

4. PROTECT AREAS NOT SCHEDULED FOR RENOVATION FROM DEMOLITION AND CONSTRUCTION ACTIVITIES.

## **LEGEND**



NEW WALL MOUNTED FIXTURE



ENGINEERING CONSULTANTS 7800 Shoal Creek Blvd. | Suite 100-W Austin, Texas 78757 512.637.4393 p 512.637.4396 f TBPE Firm Registration No. 2234



8200 IH-10 West, Ste. 103 901 S. Mopac San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone : 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

Edwards + Mulhausen INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

In Association w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# **REVISIONS** Date 1 100% Construction Documents 12/5/2016 2 100% Construction Documents Issued for Bid 4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	1/8"=1'-0'
Drawn	
Checked	
Approved	
	TITLE

2nd Floor Reflected Ceiling Plan

SHEET

A3.02







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, Building A, Suite 80
Austin Texas 78741 Ph. 512 291 6657

Austin, Texas 78741 Ph. 512.291.6657

In Association w

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



REVISION		VISIONS
No.	Issue	Date
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	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	Varies
Drawn	
Checked	
Approved	
	TITLE

Door Schedule & Details

SHEET

A5.01<sub>EX 52.01</sub>

					FOEND		
				ROOM FINISH L			
	1	1		UNTERS AND I	VIILLVVORK	T	
MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
LASTIC LAMINATE	PL-1	WILSONART	4877-38	GREY MESH		4'X8' SHEET	COUNTERTOPS AND BACKSPLASH U.N.O.
LASTIC LAMINATE	PL-2	WILSONART	4941K-18	COSMIC STRANDZ		4'X8' SHEET	VERTICAL SURFACES
LASTIC LAMINATE	PL-3	WILSONART	7975K-12	RAW CHESTNUT		4'X8' SHEET	VERTICAL SURFACES
				FLOORIN	IC		
MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
ARPET TILE	CPT-1	TANDUS CENTIVA / SYLLABUS	10965	POWER GRID 76504		24X24	INSTALLATION
ARPET TILE	CPT-2	TANDUS CENTIVA / OVERLAY ACCENT II	02977	CLEAN COAL 44030		24X24	INSTALLATION
INYL COMPOSITION TILE	VCT-1	ARMSTRONG EXCELON	-	FIELD GRAY 51927		-	FIELD COLOR
INYL 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		20 CHARCOAL	BAMBOO	24X24	STAIRWELL LANDING
NOBBEN TILE	K1-1	FLOORING		20 CHANGOAL	BAWBOO	24724	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"	
ERAMIC WALL BASE	CWB-2	DALTILE WALL SEMI-GLOSS COVE BASE	SANITARY TOP COVE S-34	19TMATTE ARCTIC WHITE	MATTE	4-1/4" X 6"	
	•	•	•	•	•		•
				WALLS			
MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
			Tauran .				
NTERIOR PAINT LATEX	PT-1	SHERWIN WILLIAMS - LATEX	SW7671	ON THE ROCKS	EGGSHELL		FIELD COLOR
NTERIOR PAINT LATEX	PT-2	SHERWIN WILLIAMS - LATEX	SW6710	MELANGE GREEN	EGGSHELL		ACCENT COLOR
NTERIOR PAINT LATEX	PT-3	SHERWIN WILLIAMS - LATEX	SW6493	EBBTIDE	EGGSHELL		ACCENT COLOR
NTERIOR 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
VALL PROTECTION	WP-1	CS ACROVYN WALL PROTECTION		262 DRIFTWOOD	SUEDE		REPLACING EXISTING WALL PROTECTION 48" AFF
	1				<u> </u>		
				CEILING	<u> </u>		
MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
COUSTIC CEILING TILE	ACT-1	ARMSTRONG/ DUNE	1774	WHITE	PROFILE: ANGLED TEGULAR	24"X24"X5/8"	SUSPENDED CEILING GRID: ARMSTRONG PREDLUDE XL EXPOSED TE SYSTEM, COLOR WHITE
	PT-5	SHERWIN WILLIAMS - INTERIOR LATEX	SW7005	PURE WHITE	FLAT FINISH/EPOXY AT CLEAN AREAS		PAINT AT GYP. CEILING - U.N.O.
NTERIOR PAINT LATEX			a.	1	1 : 0==	1	1
NTERIOR PAINT LATEX				N // O O			
				MISC			
MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	MISC	FINISH	DIMENSIONS	REMARKS
MATERIAL PHENOLIC PARTITIONS	PH-1	MANUFACTURE / PATTERN  SCRANTON PRODUCTS HINY HIDERS		COLORS	FINISH ROTARY BRUSHED		TOILET PARTITIONS
MATERIAL			PRODUCT NO.	COLORS		DIMENSIONS 5/16"	
MATERIAL PHENOLIC PARTITIONS	PH-1	SCRANTON PRODUCTS HINY HIDERS		COLORS			TOILET PARTITIONS
MATERIAL  HENOLIC PARTITIONS  RANSITION STRIP	PH-1 TR-1 TR-2	SCRANTON PRODUCTS HINY HIDERS SCHLUTER SYSTEMS RENO-U	EU80	COLORS  NICKEL BRUSHED STAINLESS STEEL	ROTARY BRUSHED		TOILET PARTITIONS  VCT TO CERAMIC TILE
MATERIAL  HENOLIC PARTITIONS  RANSITION STRIP  RANSITION STRIP  RANSITION STRIP	PH-1 TR-1	SCRANTON PRODUCTS HINY HIDERS SCHLUTER SYSTEMS RENO-U JOHNSONITE SLIM LINE TRANSITION JOHNSONITE SLIM LINE TRANSITION	EU80 SLT-121-H	NICKEL BRUSHED STAINLESS STEEL 20 CHARCOAL WG 20 CHARCOAL WG	ROTARY BRUSHED		TOILET PARTITIONS  VCT TO CERAMIC TILE  VCT TO CARPET
MATERIAL  HENOLIC PARTITIONS  RANSITION STRIP  RANSITION STRIP  RANSITION STRIP  RANSITION STRIP	PH-1 TR-1 TR-2 TR-3 TR-4	SCRANTON PRODUCTS HINY HIDERS SCHLUTER SYSTEMS RENO-U JOHNSONITE SLIM LINE TRANSITION JOHNSONITE SLIM LINE TRANSITION JOHNSONITE STAIR NOSING	EU80 SLT-121-H SLT-121-J DTN-80	NICKEL BRUSHED STAINLESS STEEL 20 CHARCOAL WG 20 CHARCOAL WG 20 CHARCOAL	ROTARY BRUSHED		TOILET PARTITIONS  VCT TO CERAMIC TILE  VCT TO CARPET  VCT TO CONCRETE  VCT TO STAIR TREADS
MATERIAL  HENOLIC PARTITIONS  RANSITION STRIP  RANSITION STRIP  RANSITION STRIP  RANSITION STRIP  RANSITION STRIP  LASTIC LAMINATE PARTITIO	PH-1 TR-1 TR-2 TR-3 TR-4 NS PL-4	SCRANTON PRODUCTS HINY HIDERS SCHLUTER SYSTEMS RENO-U JOHNSONITE SLIM LINE TRANSITION JOHNSONITE SLIM LINE TRANSITION JOHNSONITE STAIR NOSING WILSONART	EU80 SLT-121-H SLT-121-J DTN-80 4878-38	NICKEL BRUSHED STAINLESS STEEL 20 CHARCOAL WG 20 CHARCOAL WG 20 CHARCOAL PEWTER MESH	ROTARY BRUSHED		TOILET PARTITIONS  VCT TO CERAMIC TILE  VCT TO CARPET  VCT TO CONCRETE  VCT TO STAIR TREADS  TOILET PARTITIONS
MATERIAL  PHENOLIC PARTITIONS  PRANSITION STRIP  RANSITION STRIP	PH-1 TR-1 TR-2 TR-3 TR-4	SCRANTON PRODUCTS HINY HIDERS SCHLUTER SYSTEMS RENO-U JOHNSONITE SLIM LINE TRANSITION JOHNSONITE SLIM LINE TRANSITION JOHNSONITE STAIR NOSING	EU80 SLT-121-H SLT-121-J DTN-80	NICKEL BRUSHED STAINLESS STEEL 20 CHARCOAL WG 20 CHARCOAL WG 20 CHARCOAL	ROTARY BRUSHED		TOILET PARTITIONS  VCT TO CERAMIC TILE  VCT TO CARPET  VCT TO CONCRETE  VCT TO STAIR TREADS

2	FINISH LEGEND
	SCALE: NTS

	ROOM FINISH SCHEDULE										
	ROOM	FLOOR									
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE	NORTH	EAST	SOUTH	WEST	FINISH	MLWK	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	RR-1	PT-1	PT-1	PT-1	PT-1	ACT-1			

	#:			K	OOM F		SUHE				T
<u>т</u>	ROOM	FLOOF	KS		WA	LLS		CEILING	MILI	_WORK	-
NOMB											
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE	NORTH	EAST	SOUTH	WEST	FINISH	MLWK	CTR TOPS	NOTES
30	DIRECTOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	IVIEVVI	OII TOTO	NOTES
32 32	MD/HEALTH AUTHORITY NURSE/NP 1	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1 PT-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	ACT-1			
134 135	NURSE 3 NURSING ROOM	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1		PT-1 PT-1	PT-1 PT-1	ACT-1			
136	PLAYROOM	VCT-1 / VCT-2	RB-1	PT-1		PT-1	PT-4	ACT-1	DI O	DI 4	
37 38	1-2 CSRs SUPPLIES COPIER OFFICE 7	VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-3 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1	PL-2	PL-1	
39	OFFICE 8	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
140 141	OFFICE 9 FLEX/MEETING	VCT-1 / VCT-2 VCT-1	RB-1	PT-1 PT-1		PT-1 PT-1	PT-1 PT-1	ACT-1			
42	RF PLAN REVIEW 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
43 44	RF FIELD CUBICLES RF PLAN REVIEW 3	VCT-1 / VCT-2	RB-1	PT-1 PT-1		PT-1 PT-1	PT-1 PT-1	ACT-1			
45	STG.	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
46 47	WAITING AREA MEETING ROOM	VCT-1 / VCT-2 CPT-1 / CPT-2	RB-1	PT-1 PT-4	PT-1 PT-1	PT-3 PT-1	PT-1 PT-1	ACT-1			
48	BREAK ROOM	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1	PL-3	PL-1	
49	LAB	VCT-1	RB-1	PT-1		PT-1	PT-1	ACT-1	PL-2	PL-1	
50 51	JANITOR TOILET ROOM	VCT-1 CT-1	RB-1 CWB-1 / -2	PT-1 PT-1	PT-1 CT-2 / -3	PT-1 CT-2 / -3	PT-1 PT-1	ACT-1			
52	IT	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
53 54	MECHANICAL 2 CSRs	VCT-1	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-2	ACT-1	PL-2	PL-1	
55	CHECKOUT	VCT-1	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
56 57	EXAM 4 EXAM 3	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-2 PT-2	ACT-1	PL-2 PL-2	PL-1 PL-1	
57 58	EXAM 2	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
59	PROC. ROOM	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1	PL-2	PL-1	
60 61	EXAM 1 ISOLATION	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-2	PT-1 PT-1	PT-1 PT-1	PT-2 PT-1	ACT-1	PL-2 PL-2	PL-1 PL-1	
62	ANTEROOM	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
63 64	TB OFFICE 2 OFFICE 2	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1		PT-1 PT-1	PT-1 PT-1	ACT-1			
65	OFFICE 3	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
66 67	OFFICE 4 WOMEN'S TLT RM	VCT-1 / VCT-2 EXISTING	RB-1 EXISTING	PT-1 PT-1		PT-1 PT-1 / WP-1	PT-1 PT-1	ACT-1 PT-5	PH-1		TOILETS PARTITION TO BE PH-1
67 68	MEN'S TLT RM	EXISTING	EXISTING	PT-1 / WP-1	PT-1 / WP-1	PT-1 / WP-1	PT-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
69 70	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
70 71	WOMEN'S TLT RM WOMEN'S TLT RM	EXISTING EXISTING	EXISTING EXISTING	EXISTING PT-1	PT-1	PT-1 PT-1 / WP-1	PT-1 / WP-1 PT-1 / WP-1	PT-5 PT-5	PH-1 PH-1		TOILETS PARTITION TO BE PH-1 TOILETS PARTITION TO BE PH-1
72	MEN'S TLT RM	EXISTING	EXISTING	PT-1 / WP-1		PT-1	PT-1	PT-5	PH-1		TOILETS PARTITION TO BE PH-1
73 74	VESTIBULE LOBBY	VCT-1 / VCT-2	RB-1	PT-1 PT-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			
202 203	STORAGE BREAK ROOM	VCT-1	RB-1	PT-1 PT-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	ACT-1	FL-3	FL-1	
205	ADMIN/FINANCE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
206 207	ADMIN/FINANCE ADMIN/FINANCE	CPT-2 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
208	EPR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
209 210	STORAGE EPR	VCT-1 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-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			
12	TVFC DCP	CPT-2 CPT-2	RB-1	PT-1 PT-1		PT-1 PT-1	PT-1 PT-1	ACT-1			
14	DCP	CPT-2	RB-1	PT-1		PT-1	PT-1	ACT-1			
15	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
16 17	DCP DCP	CPT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-2	ACT-1			
18	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
19 20	DCP HR	CPT-2 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-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 HR	CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-3 PT-1	PT-1 PT-1	ACT-1			
23 24	DEPUTY DIRECTOR	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
25 26	RECEPTION / ADMIN	VCT-1 / VCT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-3 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
26 27	WIC MARCOM	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
28	MARCOM	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
29 30	CONFERENCE ROOM PHIP	CPT-1/ CPT-2 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1			
31	PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
32 33	PHIP PHIP	CPT-2 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1			
34	PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
35 36	MARCOM RECORD STORAGE	CPT-2 VCT-1	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
36 37	OFFICE OFFICE	CPT-2	RB-1	PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1	<u> </u>	<u> </u>	
38	MOSQ.	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
39 40	STORAGE CLERICAL	VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-2	PT-1 PT-1	ACT-1			
41	CONFERENCE ROOM	CPT-1 / CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
42 43	DCP DCP	CPT-2 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1			
43 44	DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
45 46	DCP	CPT-2	RB-1	PT-1	PT-1 PT-1	PT-1 PT-1	PT-1	ACT-1			
46 47	DCP MEN'S TLT RM	CPT-2 EXISTING	RB-1 EXISTING	PT-1 PT-1	PT-1 PT-1 / WP-1	PT-1 PT-1 / WP-1	PT-1	ACT-1 PT-5	PL-4		TOILETS PARTITION TO BE PL-4
48	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
49 101	TVFC CORRIDOR	CPT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1			
102	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-3	PT-1	ACT-1			
103	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1			
	CORRIDOR	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1		PT-1 PT-1	PT-1 PT-1	ACT-1			
202	CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
	CORRIDOR STAIRS	VCT-1 / VCT-2 VCT-2	RB-1	PT-1 PT-4		PT-1 / PT-3 PT-1	PT-1 PT-1	ACT-1			
- 1 1	STAIRS	VCT-2	RB-1	PT-1		PT-4	PT-1	ACT-1	+		<del> </del>

1 FINISH SCHEDULE SCALE: NTS







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

291.6657

# In Association w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



## REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	Varies
Drawn	
Checked	
Approved	
	TITLE

Room Finish Schedule & Legend

SHE

47.01

STAIR TREADS

WINDOW BLINDS

					FOEND		
				ROOM FINISH L	EGEND		
			CO	UNTERS AND N	<b>IILLWORK</b>		
MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
DI ACTIC I AMINIATE	IDL 4	WILCONART	4877-38	GREY MESH		4'X8' SHEET	COUNTERTORS AND RACKED ACTUAN O
PLASTIC LAMINATE PLASTIC LAMINATE	PL-1 PL-2	WILSONART WILSONART	4941K-18	COSMIC STRANDZ		4'X8' SHEET	COUNTERTOPS AND BACKSPLASH U.N.O.  VERTICAL SURFACES
PLASTIC LAMINATE	PL-3	WILSONART	7975K-12	RAW CHESTNUT		4'X8' SHEET	VERTICAL SURFACES
				FLOORIN	G		
MATERIAL	CODE	MANUFACTURE / PATTERN	PRODUCT NO.	COLORS	FINISH	DIMENSIONS	REMARKS
OADDET THE	lone 4	Tanana aanan ka	Lange	DOWED OND TOTAL		la wa	INOTAL ATION
CARPET TILE CARPET TILE	CPT-1 CPT-2	TANDUS CENTIVA / SYLLABUS TANDUS CENTIVA / OVERLAY ACCENT II	10965 02977	POWER GRID 76504		24X24 24X24	INSTALLATION INSTALLATION
VINYL COMPOSITION TILE	VCT-1	ARMSTRONG EXCELON	- 02911	CLEAN COAL 44030 FIELD GRAY 51927		24^24	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	ВАМВОО	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-34	119T 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
DUENOUS DARTITIONS		CODANTON PROPUSATO LINAVALIDERO		MICKE	DOTABY BRIGHTS		TOILET DADTITIONS
PHENOLIC PARTITIONS	PH-1	SCRANTON PRODUCTS HINY HIDERS	LIIOU	NICKEL PRINCES STEEL	ROTARY BRUSHED	E/16"	TOILET PARTITIONS
TRANSITION STRIP TRANSITION STRIP	TR-1 TR-2	SCHLUTER SYSTEMS RENO-U  JOHNSONITE SLIM LINE TRANSITION	EU80 SLT-121-H	BRUSHED STAINLESS STEEL 20 CHARCOAL WG	-	5/16"	VCT TO CERAMIC TILE VCT TO CARPET
TRANSITION STRIP	TR-3	JOHNSONITE SLIM LINE TRANSITION  JOHNSONITE SLIM LINE TRANSITION	SLT-121-H SLT-121-J	20 CHARCOAL WG	-		VCT TO CONCRETE
TRANSITION STRIP	TR-4	JOHNSONITE STAIR NOSING	DTN-80	20 CHARCOAL WG	-		VCT TO STAIR TREADS
PLASTIC LAMINATE PARTITIC		WILSONART	4878-38	PEWTER MESH	-		TOILET PARTITIONS
STAIR TREADS	ST-1	JOHNSONITE VISUALLY IMPAIRED RUBBER	VIBMTRS	20 CHARCOAL	ВАМВОО		STAIR TREAD WITH SOLID COLOR RUBBER INSERT 55 SILVER GREY

2	FINISH LEGEND
-	SCALE: NTS

STAIR TREAD WITH SOLID COLOR RUBBER INSERT 55 SILVER GREY

LOCATED ON ALL EXTERIOR WINDOWS

				F	ROOM F	FINISH	SCHE	DULE			
	ROOM	FLOOR	FLOORS WALLS						MILL	WORK	
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE	NORTH	EAST	SOUTH	WEST	FINISH	MLWK	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		1	

20 CHARCOAL

BRUSHED ALUMINUM 121

JOHNSONITE VISUALLY IMPAIRED RUBBER VIBMTRS

STAIR TREAD WITH INTEGRATED BALI HORIZONTAL MINI BLINDS

			F							
ROOM NAMBER SOOM NAME	FLOOR FINISH	RS BASE	NORTH	EAST	VALLS SOUTH	WEST	CEILING	MLWK	LWORK  CTR TOPS	NOTES
130 DIRECTOR  131 MD/HEALTH AUTHORITY	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1	PT-1 PT-1	PT-1	PT-1	ACT-1	IVILVVI	CIKTOPS	NOTES
132 NURSE/NP 1 133 NURSE 2	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1 PT-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 136 PLAYROOM	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1	PT-1 PT-4	ACT-1			
137 1-2 CSRs SUPPLIES COPIER 138 OFFICE 7	VCT-1 VCT-2	RB-1 RB-1	PT-1 PT-1	PT-3 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1	PL-2	PL-1	
139 OFFICE 8	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
<ul><li>140 OFFICE 9</li><li>141 FLEX/MEETING</li></ul>	VCT-1 / VCT-2 VCT-1	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1	PT-1	ACT-1			
<ul><li>142 RF PLAN REVIEW 2</li><li>143 RF FIELD CUBICLES</li></ul>	VCT-1 / VCT-2 VCT-1	RB-1	PT-1 PT-1	PT-1 PT-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. 146 WAITING AREA	VCT-1 VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-3	PT-1 PT-1	ACT-1 ACT-1			
<ul><li>147 MEETING ROOM</li><li>148 BREAK ROOM</li></ul>	CPT-1 / CPT-2 VCT-1	RB-1	PT-4 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1	PL-3	PL-1	
149 LAB 150 JANITOR	VCT-1	RB-1	PT-1 PT-1	PT-1	PT-1 PT-1	PT-1	ACT-1	PL-2	PL-1	
151 TOILET ROOM	CT-1	CWB-1 / -2	PT-1	CT-2 / -3	CT-2 / -3	PT-1	ACT-1			
152 IT 153 MECHANICAL	VCT-1	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1			
154 2 CSRs 155 CHECKOUT	VCT-1	RB-1	PT-1	PT-1 PT-1	PT-1 PT-1	PT-2 PT-2	ACT-1	PL-2 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 3 158 EXAM 2	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-2 PT-2	ACT-1	PL-2 PL-2	PL-1 PL-1	
159 PROC. ROOM 160 EXAM 1	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1	PT-1 PT-1	PT-2 PT-2	ACT-1 ACT-1	PL-2 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-2	PL-1	
162 ANTEROOM 163 TB OFFICE 2	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1	PT-1 PT-1	ACT-1			
164 OFFICE 2 165 OFFICE 3	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1	PT-1 PT-1	PT-1	ACT-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 168 MEN'S TLT RM	EXISTING EXISTING	EXISTING EXISTING	PT-1 / WP-1	PT-1 / WP-1 PT-1 / WP-1	PT-1 / WP-1 PT-1	PT-1 PT-1	PT-5 PT-5	PH-1 PH-1		TOILETS PARTITION TO BE PH-1 TOILETS PARTITION TO BE PH-1
169 MEN'S TLT RM 170 WOMEN'S TLT RM	EXISTING EXISTING	EXISTING EXISTING	PT-1 EXISTING	PT-1 PT-1	EXISTING PT-1	PT-1 / WP-1 PT-1 / WP-1	PT-5 PT-5	PH-1 PH-1		TOILETS PARTITION TO BE 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 173 VESTIBULE	EXISTING VCT-1	EXISTING RB-1	PT-1 / WP-1 PT-1	PT-1 / WP-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-5 ACT-1	PH-1		TOILETS PARTITION TO BE PH-1
174 LOBBY	VCT-1 / VCT-2	RB-1	PT-1 PT-1	PT-1	PT-1 PT-1	PT-1	ACT-1			
201 EXECUTIVE DIRECTOR 202 STORAGE	CPT-2 VCT-1	RB-1	PT-1	PT-1	PT-1	PT-1 PT-1	ACT-1 ACT-1			
<ul><li>203 BREAK ROOM</li><li>204 DIRECTOR ADMIN/FINANCE</li></ul>	VCT-1 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1	PL-3	PL-1	
205 ADMIN/FINANCE 206 ADMIN/FINANCE	CPT-2 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
207 ADMIN/FINANCE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
208 EPR 209 STORAGE	CPT-2 VCT-1	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1			
210 EPR 211 COPIER	CPT-2 VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-2	PT-1 PT-1	ACT-1 ACT-1			
212 TVFC	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
213 DCP 214 DCP	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1	ACT-1			
215 DCP 216 DCP	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
217 DCP	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-2	ACT-1			
218 DCP 219 DCP	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
220 HR 221 HR	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
222 HR	CPT-2	RB-1	PT-1	PT-1	PT-3	PT-1	ACT-1			
223 HR 224 DEPUTY DIRECTOR	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
225 RECEPTION / ADMIN 226 WIC	VCT-1 / VCT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-3 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
227 MARCOM	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
228 MARCOM 229 CONFERENCE ROOM	CPT-2 CPT-1/ CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1			
230 PHIP 231 PHIP	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
232 PHIP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
233 PHIP 234 PHIP	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
235 MARCOM 236 RECORD STORAGE	CPT-2 VCT-1	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1	+		
237 OFFICE	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
238 MOSQ. 239 STORAGE	CPT-2 VCT-1	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
240 CLERICAL 241 CONFERENCE ROOM	VCT-1 / VCT-2 CPT-1 / CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-2 PT-1	PT-1 PT-1	ACT-1 ACT-1			
242 DCP	CPT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
243 DCP 244 DCP	CPT-2 CPT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
245 DCP	CPT-2 CPT-2	RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-1	ACT-1 ACT-1			
240 III.P	EXISTING	EXISTING	PT-1	PT-1 / WP-1	PT-1 / WP-1	PT-1	PT-5	PL-4		TOILETS PARTITION TO BE PL-4
246 DCP 247 MEN'S TLT RM	EXISTING	EXISTING	PT-1 / WP-1	PT-1 / WP-1	PT-1 PT-1	PT-1 PT-1	PT-5 ACT-1	PL-4		TOILETS PARTITION TO BE PL-4
	CPT-2	RB-1	PT-1	PT-1	<u> </u>					<u> </u>
247 MEN'S TLT RM 248 WOMEN'S TLT RM 249 TVFC C101 CORRIDOR	VCT-1 / VCT-2	RB-1	PT-1	PT-1	PT-1	PT-1	ACT-1			
247 MEN'S TLT RM 248 WOMEN'S TLT RM 249 TVFC C101 CORRIDOR C102 CORRIDOR C103 CORRIDOR	VCT-1 / VCT-2 VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1 RB-1 RB-1	PT-1 PT-1 PT-1	PT-1 PT-1 PT-1	PT-1 PT-3 PT-1	PT-1 PT-1 PT-2	ACT-1 ACT-1 ACT-1			
247 MEN'S TLT RM 248 WOMEN'S TLT RM 249 TVFC C101 CORRIDOR C102 CORRIDOR C103 CORRIDOR C104 CORRIDOR	VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1 RB-1	PT-1 PT-1	PT-1 PT-1	PT-1 PT-3	PT-1 PT-1	ACT-1 ACT-1			
247 MEN'S TLT RM 248 WOMEN'S TLT RM 249 TVFC C101 CORRIDOR C102 CORRIDOR C103 CORRIDOR C104 CORRIDOR	VCT-1 / VCT-2 VCT-1 / VCT-2 VCT-1 / VCT-2 VCT-1 / VCT-2	RB-1 RB-1 RB-1 RB-1	PT-1 PT-1 PT-1 PT-1	PT-1 PT-1 PT-1 PT-1	PT-1 PT-3 PT-1 PT-1	PT-1 PT-1 PT-2 PT-1	ACT-1 ACT-1 ACT-1 ACT-1			

1 FINISH SCHEDULE
SCALE: NTS

A7.01 MA E23

& Legend

HADDON+COWAN ARCHITECTS

2301 E. Riverside Drive, Bldg A, Suite 80 Austin, TX 78741 | haddoncowan.com

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COMBS
Consulting Group
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

Edwards + Mulhausen

WCCHD Office

Renovations

355 Texas Avenue

Round Rock, Texas

100% Construction Documents

Job Number

100% Construction Documents Issued for Bid 4/7/2017

**Room Finish Schedule** 

SHEET INFORMATION

INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

Phone: 512-433-2696

In Association w/

**REVISIONS** 

Date

12/5/2016

April 7, 2017

16-1010 1/8"=1'-0"





Edwards + Mulhausen

INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas

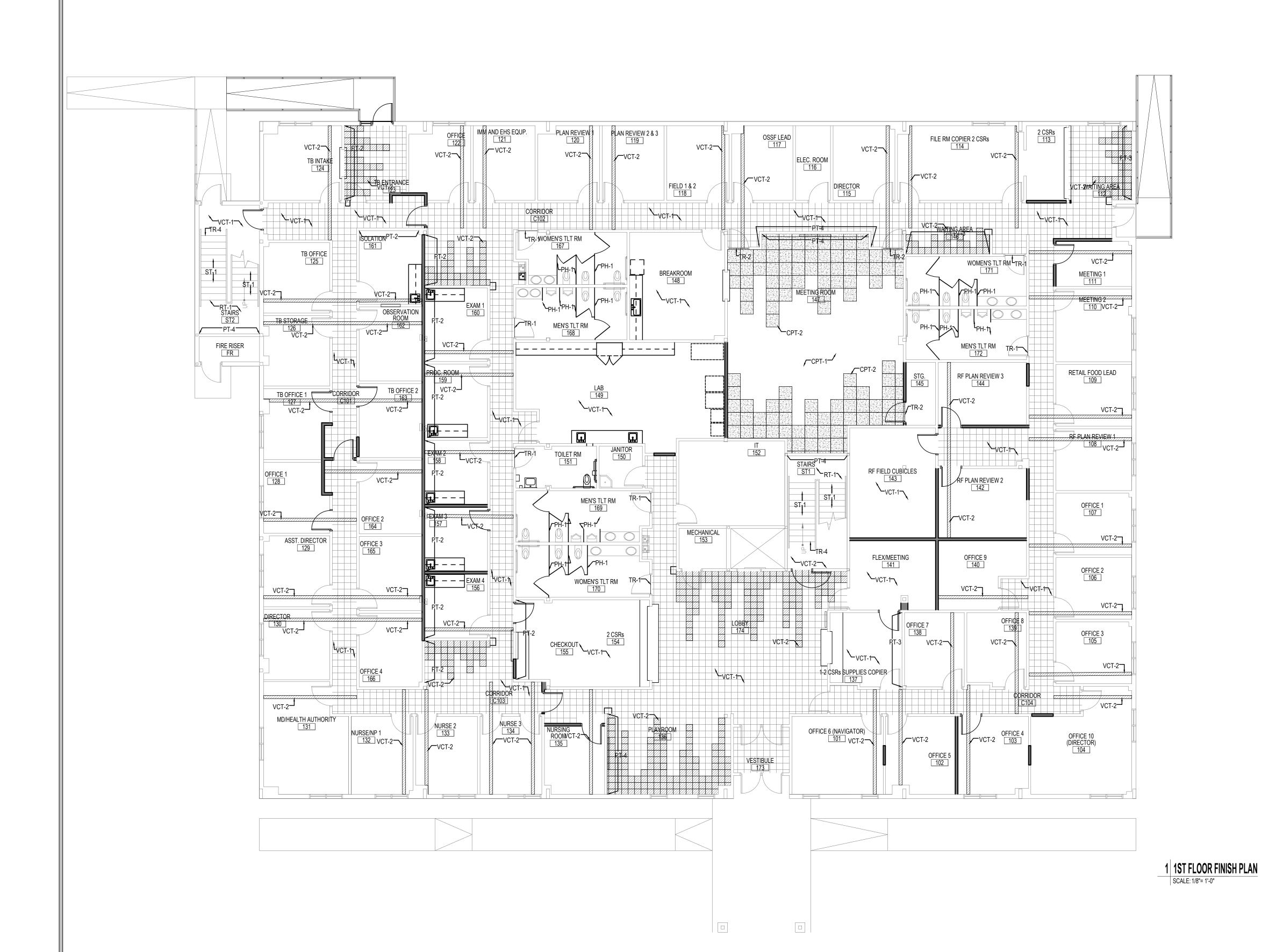


	RE	VISIONS
No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

SHEET INFORMATION
April 7, 2017
16-1010
1/8"=1'-0"
TITLE

1st Floor Finish Plan

A7.02



	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	1/8"=1'-0
Drawn	
Checked	
Approved	

SHEET

A7.03

ADMIN/FINANCE 207 ADMIN/FINANCE 206 ADMIN/FINANCE 205 DIRECTOR ADMIN/FINANCE
204 EPR 208 √VCT-1√¹ RT-1 CONFERENCE ROOM

241 BREAK ROOM 203 DCP 213 MOSQ. 238 PHIP 230 DCP 215 STAIRSTR-4 DCP 216 RECORD STORAGE
236 EXECUTIVE DIRECTOR 201 DCP 218

1 2ND FLOOR FINISH PLAN
SCALE: 1/8" = 1'-0"

## **GENERAL NOTES:**

INSTALL ALL FINISHES PER MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS
 FINISHES ON SCHEDULE TO BE LOCATED PER PLAN NORTH, NOT DIRECTION NORTH
 ALL WINDOWS TO THE EXTERIOR TO HAVE BLINDS (WB-1)

HADDON+COWAN ARCHITECTS 2301 E. Riverside Drive, Bldg A, Suite 80 Austin, TX 78741 | **haddoncowan.com** 





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INTERIOR DESIGN 2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

TITLE

2'-0"

RM 123/124
16 RECEPTION DESK
SCALE: 3/8"= 1'-0"

7'-7"

RM 113
14 RECEPTION DESK
SCALE: 3/8"= 1'-0"



A 42" GRAB BAR
B 36" GRAB BAR

H 24" x 36" GLASS MIRROR

FLUSH VALVE

ADA PIPE WRAP





Phone : 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

Edwards + Mulhausen INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

In Association w/

MΕ

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



	REVISION	
No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017
•		
	•	

	SHEET INFORMATION
ate	April 7, 2017
ob Number	16-1010
cale	3/8"=1'-0"
rawn	
hecked	
pproved	
	TITLE

**Interior Elevations** 

CWB-1

TLT RM
1 151 A

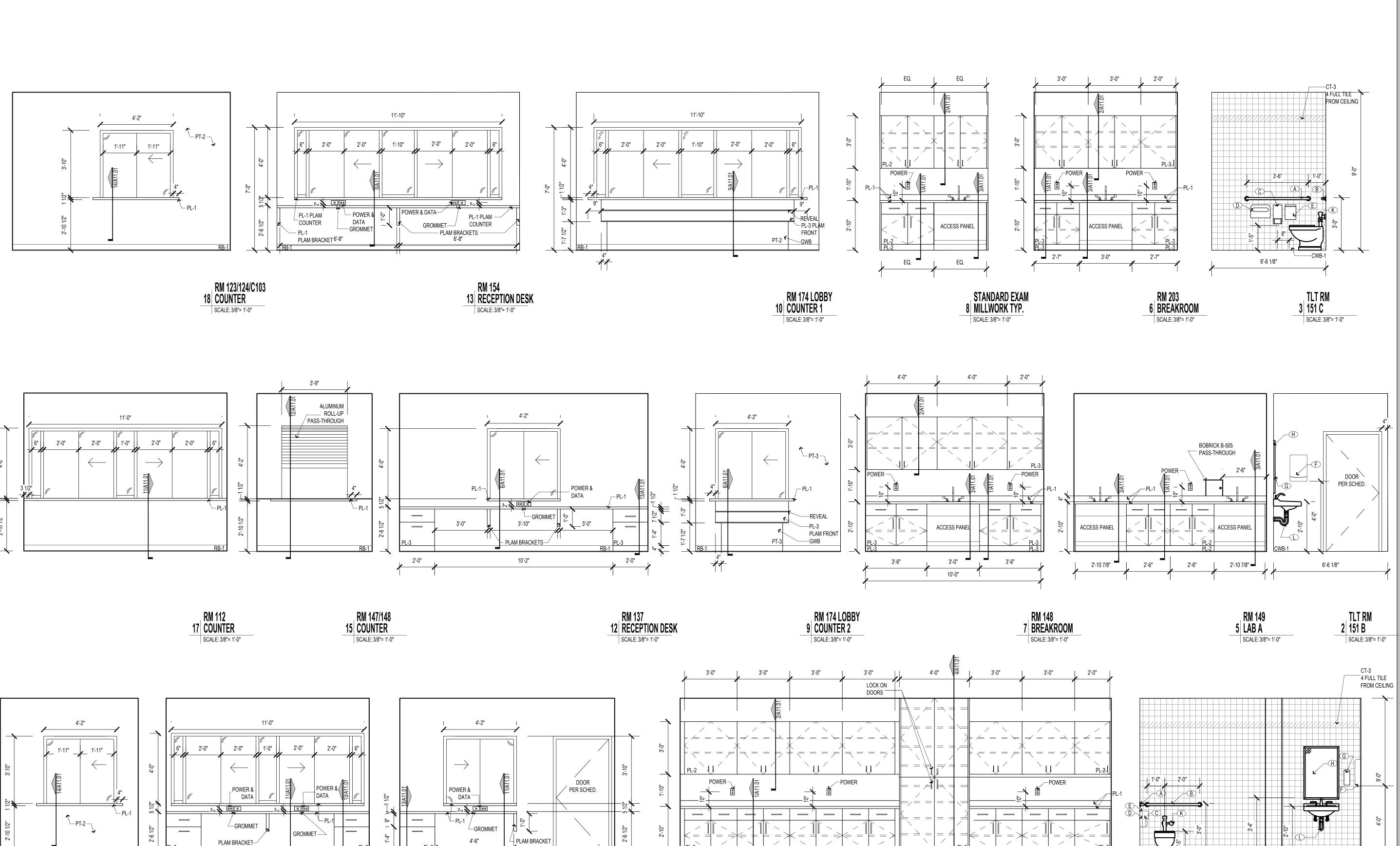
SCALE: 3/8"= 1'-0"

12'-7 1/8"

RM 149 4 LAB B SCALE: 3/8"= 1'-0"

SHEET

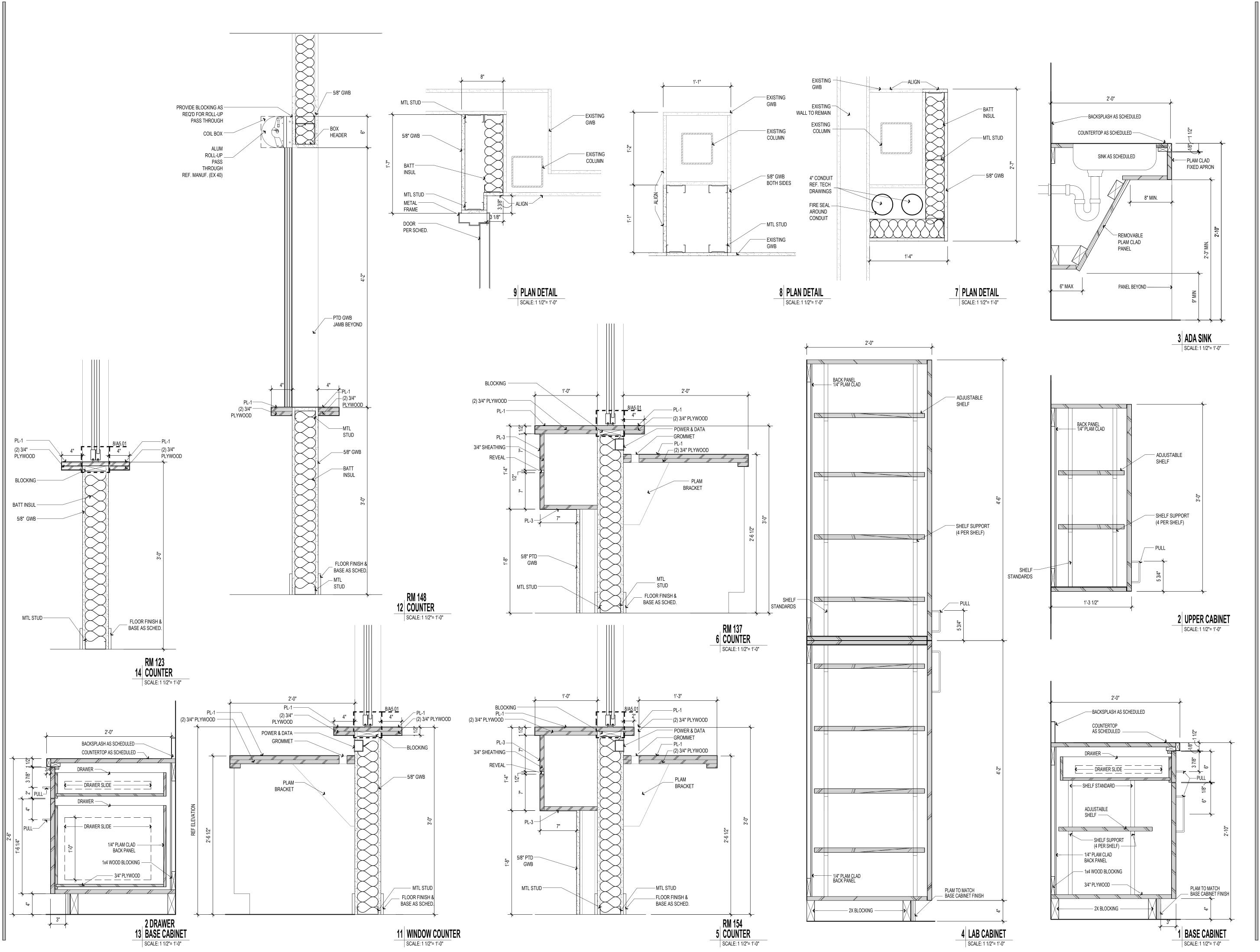
A10.01



3'-0"

RM 155
11 RECEPTION DESK
SCALE: 3/8"= 1'-0"

24'-7"









SAN ANTONIO
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Bldg. 3, Ste. 400

Edwards + Mulhausen INTERIOR DESIGN

醞 2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

WCCHD Office Renovations

> 355 Texas Avenue Round Rock, Texas



No.	Issue	Date
1	100% Construction Documents	12/5/201
2	100% Construction Documents Issued for Bid	4/7/201

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	1 1/2"=1'-0"
Drawn	
Checked	
Approved	
	TITLE

**Millwork Sections** & Plan Details

SHEET

A11.01

Phone: 210-698-7887 Austin, Texas 78746

Phone: 512-433-2696

Date

12/5/2016

	MATION

100% Construction Documents Issued for Bid 4/7/2017

100% Construction Documents

	SHEET INFORMATION
	April 7, 2017
ber	16-1010
	VARIES
	EC
	MT
d	MT
	TITLE

T001

# TECHNOLOGY/SECURITY SYMBOL LEGEND

# **VOICE SYMBOLS** SINGLE VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS

<b>▼</b> <sup>X</sup>	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.
<b>▼</b> <sup>X</sup>	VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +6-INCHES ABOVE COUNTER OR SPLASH UNLESS NOTED OTHERWISE, X-NUMBER OF CABLE TERMINATIONS PER LOCATION INDICATED.

8	POWER/COMMUNICATIONS POLE WITH A SINGLE VOICE TERMINATION PER LOCATION, CABLE TYPE AS SPECIFIED.
<b>▼</b> <sup>X</sup>	POWER/COMMUNICATIONS POLE WITH X-NUMBER OF VOICE TERMINATIONS PER LOCATION, CABLE TYPE AS SPECIFIED.

·	Grade The End of Edities.
V	SINGLE VOICE OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED.
×	VOICE OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED WITH X-NUMBER OF VOICE TERMINATIONS PER LOCATION.
<b>▼</b> W	SINGLE VOICE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +52-INCHES A.F.F. UNLESS NOTED OTHERWISE.

₹	DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +2-INCHES ABOUNLESS NOTED OTHERWISE, X-NUMBER OF CABLE TERMINATIONS FINDICATED.
δ	POWER/COMMUNICATIONS POLE WITH A SINGLE DATA TERMINATION TYPE AS SPECIFIED.
$\Delta_{x}$	POWER/COMMUNICATIONS POLE WITH X-NUMBER OF DATA TERMINA CABLE TYPE AS SPECIFIED.
abla	SINGLE DATA OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED
<sup>X</sup>	DATA OUTLET, CABLE TYPE AS SPECIFIED, FLOOR MOUNTED WITH X TERMINATIONS PER LOCATION.
-\$-	SINGLE CEILING DATA OUTLET, CABLE TYPE AS SPECIFIED.
-\phi^x	CEILING DATA OUTLET, CABLE TYPE AS SPECIFIED WITH X-NUMBER PER LOCATION.
	EXISTING DATA OUTLET. CABLE TO BE DEMOLISHED, CONDUIT AND I

SPLASH UNLESS NOTED OTHERWISE.

### ROUGH-IN & MISC. SYMBOLS

\ <b>₹</b>	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.
М/М	MULTIMEDIA OUTLET. CABLING AND INSERTS AS SPECIFIED.

$\overline{\forall}$	ROUGH-IN LOCATION, INFRASTRUCTURE AS SPECIFIED, MOUNTED +6-INCHES ABOVE COUNTER OR SPLASH UNLESS NOTED OTHERWISE.	
V	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.	
	MULTIMEDIA OUTLET, CARLING AND INCEPTO AC OREGISED	

	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.

CHES ABOVE	AP	PROVIDE ANNUNCIAT
<b>)</b> .	AV	PROVIDE AUDIO VISU
	(B)	PROVIDE GLASS BRE
	GB	PROVIDE GLASS BRE
	KP	PROVIDE PERSONAL
	( <u>N</u>	PROVIDE SOUND DE
		PROVIDE 360° MOTIO
	MD	PROVIDE MOTION SE

		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.

(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.

GENERAL SYMBOLS

DRAWING TITLE CALLOUT, # = DETAIL NUMBER.

DRAWING TITLE

# **ELECTRONIC SURVEILLANCE SYMBOLS**

Ē	FIXED SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.	# DRAWING SHEET SCALE: SCALE
	PAN, TILT & ZOOM SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.	# SHEET
	180° SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.	# SHEET
	360° SURVEILLANCE CAMERA, CAMERA MODEL AND MOUNTING HEIGHT AS SPECIFIED.	SHEET #
VMMV	VIDEO MONITORING CLIENT WORKSTATION.	#

	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.

# # SHEET DETAIL CALLOUT, # = DETAIL NUMBER. SECTION CALLOUT, # = DETAIL NUMBER. ELEVATION CALLOUT, # = DETAIL NUMBER. KEYED NOTE. # REVISION TRIANGLE, # = REVISION NUMBER (PER SHEET).

# INTRUSION DETECTION SYMBOLS

AL	PROVIDE ALARM ANNUNCIATOR LIGHT MOUNTED 96" A.F.F.		
АР	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.		

#### PAIR PRIVATE BRANCH EXCHANGE POLYVINYL CHLORIDE SINGLE MODE

A.F.G.

SERVICE PROVIDER SHIELDED TWISTED PAIR

MULTIMODE

PULLBOX

**ABBREVIATIONS** 

ABOVE FINISHED FLOOR

ABOVE FINISHED GRADE

COMMUNITY ANTENNA TELEVISION

CLOSED CIRCUIT TELEVISION

DOUBLE PULL DOUBLE THROW ELECTRIC METALLIC TUBE

BURIED

CATEGORY 3/5

CENTRAL OFFICE

DEMARCATION POINT

FIBER OPTIC CABLE

GALVANIZED IRON PIPE PA/INTERCOM HEAD-END

INTERMEDIATE RIGID CONDUIT INSIDE CABLE PLANT

MAIN DISTRIBUTION FRAME

OUTSIDE CABLE PLANT

INTERMEDIATE DISTRIBUTION FRAME

TERMINAL BLOCK UNSHIELDED TWISTED PAIR

## NOTES

- CONTRACTOR SHALL REVIEW DRAWINGS AND SPECIFICATIONS THAT MAKE UP THE CONTRACT DOCUMENTS AND COMPLETE ALL WORK INCLUDED THEREIN.
- SCALE OF TECHNOLOGY DRAWINGS IS PROVIDED FOR REFERENCE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER CABLE LENGTHS, SIZE OF PATHWAYS, DIMENSIONS, ETC.
- TECHNOLOGY DRAWINGS SHALL BE USED TO COMPLEMENT THE WRITTEN SPECIFICATIONS.
- 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
- IN THE EVENT OF A DISCREPANCY BETWEEN THE TECHNOLOGY DRAWINGS AND SPECIFICATIONS THE GREATER QUANTITY AND COST SHALL BE
- VERIFY THE EXACT MOUNTING LOCATION OF ALL DEVICES WITH ARCHITECT.
- THE MOUNTING HEIGHTS ARE TO THE CENTERLINE OF THE DEVICE UNLESS NOTED
- SEE THE SECURITY CONDUIT DRAWINGS FOR SECURITY DEVICE BACKBOXES AND
- CONDUIT PROVIDED BY THE ELECTRICAL CONTRACTOR. 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

- TECHNOLOGY SYMBOLS & LEGEND T101 1ST FLOOR PLAN - TECHNOLOGY
- T102 2ND FLOOR PLAN TECHNOLOGY TECHNOLOGY DETAILS T302 SECURITY DETAILS

# Date Job Number Scale Drawn Checked Approved T303 DIAGRAMS/SCHEDULES - SECURITY

ABOVE COUNTER OR SPLASH S PER LOCATION AS ON PER LOCATION, CABLE INATIONS PER LOCATION, X-NUMBER OF DATA TION SENSOR MOUNTED TO CEILING. SINGLE PUBLIC TELEPHONE OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED HEIGHT AS R OF CABLE TERMINATIONS STING DATA OUTLET. CABLE TO BE DEMOLISHED, CONDUIT AND BACK BOX TO REMAIN AND BE COVERED WITH CONTRACTOR PROVIDED BLANK PLATE, UNLESS OTHERWISE NOTED.

DATA SYMBOLS

SINGLE DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS

DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +18-INCHES A.F.F. UNLESS NOTED

SINGLE DATA OUTLET, CABLE TYPE AS SPECIFIED, MOUNTED +2-INCHES ABOVE COUNTER OR

OTHERWISE. X-NUMBER OF CABLE TERMINATIONS PER LOCATION AS INDICATED.

REQUEST-TO-EXIT IS INTEGRAL WITH ELECTRIFIED LOCKING HARDWARE.

INTERFACE TO 24VDC FAIL SECURE ELECTRIC STRIKE.

ACCESS CONTROL SYMBOLS ACCESS CONTROL SYMBOLS

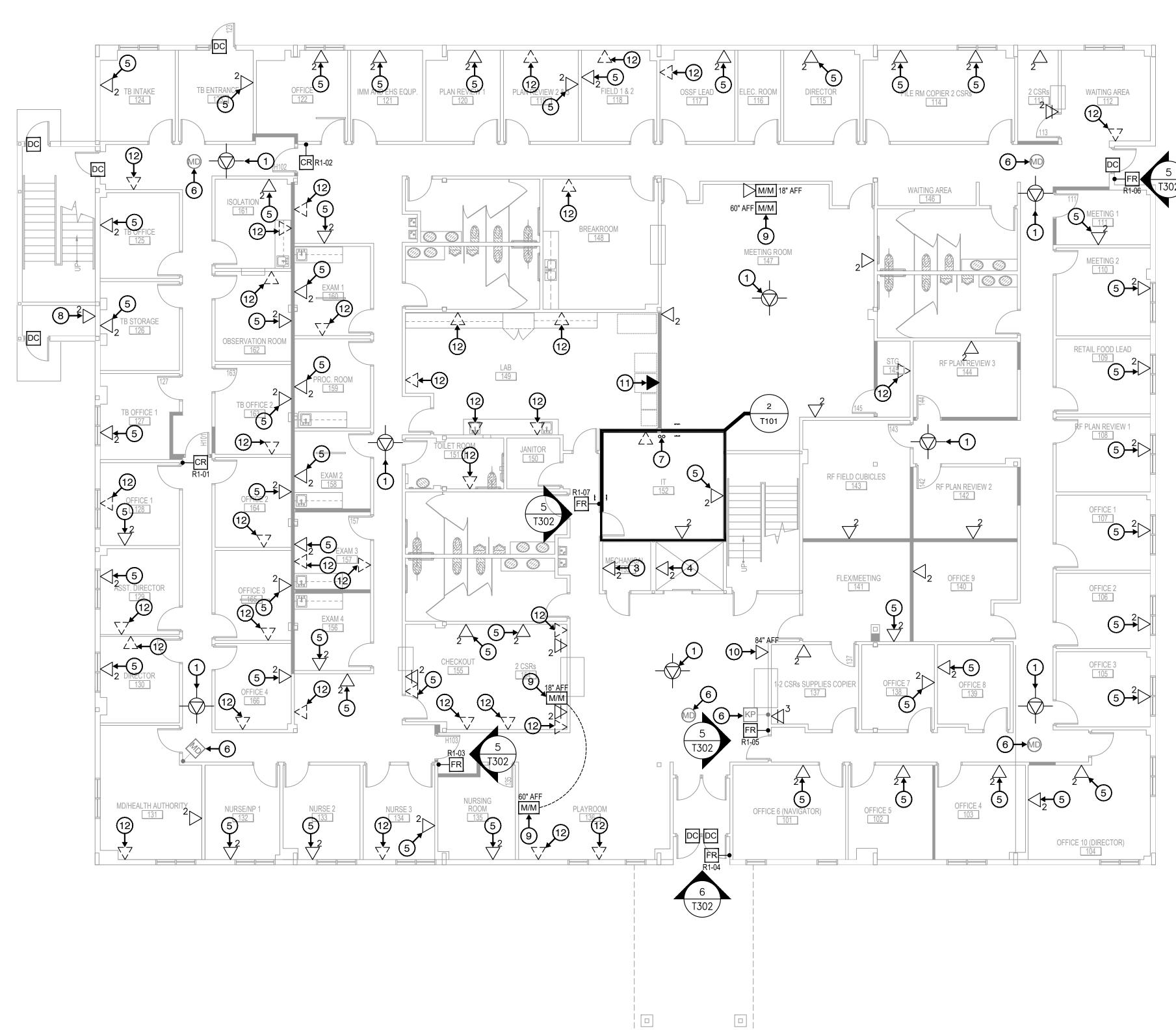
DC	PROVIDE CONCEALED DOOR POSITION SWITCH FLUSH MOUNTED IN HEAD OF DOOR FRAME 6" FROM STRIKE SIDE OF FRAME.
DR	PROVIDE SINGLE DOOR RELEASE PUSHBUTTON MOUNTED IN KNEE SPACE OF DESK, TABLE OR COUNTER PROVIDE ARMORED CABLE FROM PUSHBUTTON TO JUNCTION BOX.
DR1	PROVIDE MULTIPLE DOOR RELEASE UNIT, AS INDICATED 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.

INTERFACE TO AUTOMATIC DOOR CONTROL AND MONITORING.

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.
МН	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.

TABLE OR COUNTER	SD	INTERFACE TO SLIDING DOOR CONTROL/MONITORING.
EE SPACE OF DESK, BOX.	SR	SECURITY SYSTEM RISER, DATA GATHERING PANEL AND LOCATION.
FER.	VI	PROVIDE VIDEO INTERCOM SUBSTATION MOUNTED 54" A
	VM	PROVIDE DESKTOP VIDEO INTERCOM MASTER STATION.
	WD	PROVIDE WIRELESS DURESS BUTTON MOUNTED IN KNEE
SFER HINGE.	WR	PROVIDE WIRELESS DURESS BUTTON RECEIVER ABOVE
OR POSITION SWITCH.		PROVIDE PRE-WIRE AND BLANK COVER PLATE FOR FUTU
	ACMW	ACCESS CONTROL MONITORING CLIENT WORKSTATION.
ITCH.		

SECURITY SYSTEM RISER, DATA GATHERING PANEL AND LOW VOLTAGE POWER SUPPLY DISTRIBUTION PROVIDE VIDEO INTERCOM SUBSTATION MOUNTED 54" A.F.F. PROVIDE DESKTOP VIDEO INTERCOM MASTER STATION. PROVIDE WIRELESS DURESS BUTTON MOUNTED IN KNEE SPACE OF DESK, TABLE, OR COUNTER. PROVIDE WIRELESS DURESS BUTTON RECEIVER ABOVE SUSPENDED CEILING. PROVIDE PRE-WIRE AND BLANK COVER PLATE FOR FUTURE DEVICE. ACCESS CONTROL MONITORING CLIENT WORKSTATION.



## 1ST FLOOR 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.
- 4. ALL CONDUITS FOR DATA AND VOICE SHALL ROUTE FROM THE DEVICE LOCATION AND TERMINATE ABOVE AN 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 DATA ROOM TO MINIMIZE THE CABLE LENGTH.
- 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.
- 7. ALL CONDUITS SHALL HAVE A PULL STRING INSTALLED FOR PULLING OF CABLE.
- 8. ALL SPARE CONDUITS OR CONDUITS FILLED WITH LESS THAN THE MAXIMUM ALLOWED

- FILL RATIO SHALL HAVE A PULL STRING INSTALLED AND LEFT FOR FUTURE PULLING OF CABLE. CLEARLY LABEL AS "PULL STRING" INDICATING OPPOSITE END LOCATION.
- 9. ALL CABLING INSTALLED IN OR BELOW SLAB, REGARDLESS OF THE USE OF CONDUIT, SHALL BE RATED FOR USE IN A WET ENVIRONMENT.
- 10. ALL EXISTING DATA/VOICE CABLING SHALL BE REMOVED ENTIRELY, FROM END-TO-END. NO ABANDONED DATA CABLING SHALL REMAIN ABOVE CEILING. ANY EXISTING CONDUIT(S) AND/OR JUNCTION BOXES SERVING DATA DROPS SHALL REMAIN. EXISTING JUNCTION BOXES SHALL BE COVERED WITH A BLANK FACEPLATE - COLOR TO MATCH NEW DATA FACEPLATES SPECIFIED.
- 11. ALL NEW DATA CABLING SHALL ORIGINATE IN IT ROOM 152 ON LEVEL 1.

### FLOOR PLAN KEYED NOTES

- (1) DATA CABLE WITH 20-FEET OF SLACK NEATLY COILED AND STORED ON J-HOOK ABOVE ACCESSIBLE CEILING FOR OWNER PROVIDED / OWNER INSTALLED CEILING MOUNTED WIRELESS ACCESS POINT. CONTRACTOR SHALL PLACE A GREEN ADHESIVE DOT ON THE CEILING GRID DIRECTLY BELOW THE OUTLET LOCATION FOR FUTURE IDENTIFICATION OF THE OUTLET.
- DATA CABLE WITH 20-FEET OF SLACK NEATLY COILED AND STORED ON J-HOOK ABOVE ACCESSIBLE CEILING FOR OWNER PROVIDED / OWNER INSTALLED CEILING MOUNTED IP CAMERA. CONTRACTOR SHALL PLACE A GREEN ADHESIVE DOT ON THE CEILING GRID DIRECTLY BELOW THE OUTLET LOCATION FOR FUTURE IDENTIFICATION OF THE OUTLET.
- DATA CABLE FOR MECHANICAL CONTROLS. COORDINATE EXACT CONDUIT ROUGH-IN LOCATION, HEIGHT AND TERMINATION REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.

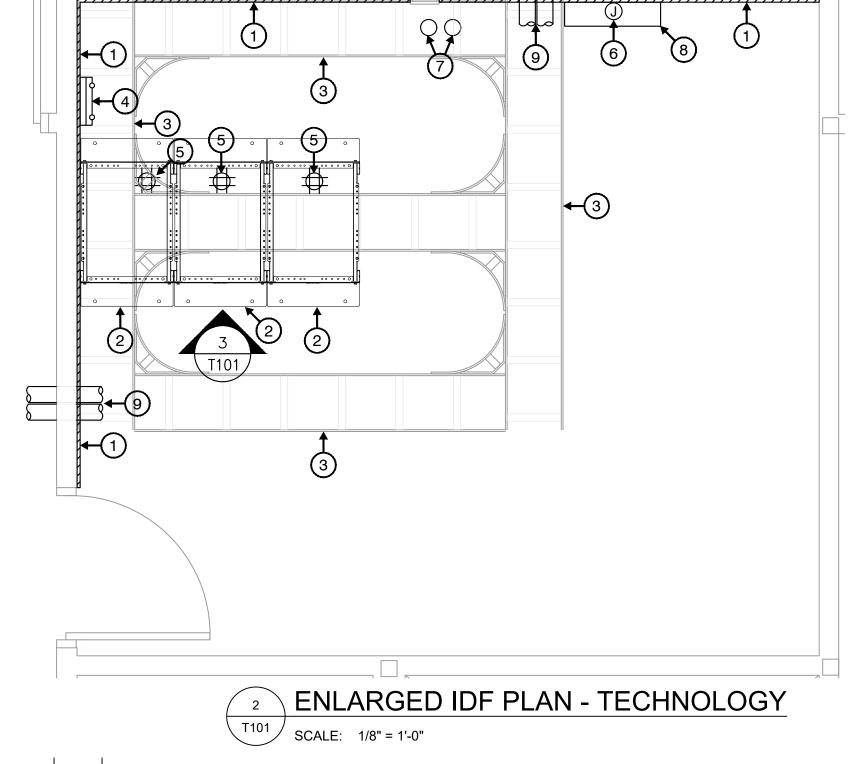
- 4) VOICE CABLE FOR ELEVATOR EMERGENCY TELEPHONE. COORDINATE EXACT CONDUIT ROUGH-IN LOCATION, HEIGHT AND TERMINATION REQUIREMENTS WITH THE ELEVATOR CONTRACTOR PRIOR TO INSTALLATION.
- EXISTING ROUGH-IN LOCATION TO REMAIN. CONTRACTOR SHALL DEMOLISH EXISTING DATA CABLES FEEDING THIS OUTLET IN THEIR ENTIRETY, FROM END-TO-END, AND PROVIDE NEW CATEGORY-6 DATA CABLES IN THE QUANTITY INDICATED, TERMINATED ON NEW INFORMATION OUTLETS WITH A NEW FACEPLATE.
- (6) EXISTING INTRUSION DETECTION DEVICE TO BE DEMOLISHED. DEVICE AND ALL ASSOCIATED CABLING SHALL BE REMOVED FROM END TO END.
- (7) (2) TWO 4-INCH EMT CONDUIT SLEEVES THROUGH SLAB OF LEVEL 2 TO FEED DATA DEVICES ON LEVEL 2.
- (8) DATA CABLE FOR IRRIGATION CONTROLLER. COORDINATE EXACT CONDUIT ROUGH-IN LOCATION, HEIGHT AND TERMINATION REQUIREMENTS WITH THE OWNER / IRRIGATION CONTROL CONTRACTOR PRIOR TO INSTALLATION.
- 9 MULTIMEDIA OUTLET LOCATION WITH HDMI PLATE LOCATED AT 18-INCHES ABOVE FINISHED FLOOR, AND HDMI PLATE LOCATED AT 60-INCHES ABOVE FINISHED FLOOR WITH PLENUM RATED HDMI CABLE BETWEEN THE TWO.

PROVIDE NEW BLANK FACEPLATE.

- DATA OUTLET MOUNTED AT 84" AFF FOR OWNER PROVIDED / OWNER INSTALLED WALL MOUNTED DISPLAY.
- ANALOG LINE FOR OWNER PROVIDED / OWNER INSTALLED LAB EQUIPMENT. TERMINATE CATEGORY 6 CABLE ON NEW 24-PORT RACK MOUNTED PATCH PANEL.

DATA CABLES FEEDING THIS OUTLET IN THEIR ENTIRETY, FROM END-TO-END, AND

(7) (2) FOUR INCH EMT CONDUIT SLEEVES ROUTED THROUGH LEVEL 2 SLAB TO (12) EXISTING ROUGH-IN LOCATION TO REMAIN. CONTRACTOR SHALL DEMOLISH EXISTING



SPACE RESERVED FOR OWNER PROVIDED/INSTALLED DATA NETWORK EQUIPMENT

> ELEVATION PLAN - TECHNOLOGY SCALE: 1/8" = 1'-0"

### **ENLARGED/ELEVATION PLAN KEYED NOTES**

- 4-FEET X 8-FEET X 34-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)
- 19-INCH WIDE X 84-INCH TALL X 29-INCH DEEP 4-POST EQUIPMENT RACK . (BY
- 3 12-INCH LADDER RACK MOUNTED AT 84-INCH ABOVE FINISHED FLOOR. (BY DIV.
- GROUND BUS BAR MOUNTED AT 84-INCHES ABOVE FINISHED FLOOR. (BY DIV.
- 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)
- 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)
- RACK MOUNTED 24-PORT PATCH PANEL FOR ANALOG TIE CABLING. ALL ANALOG DROPS SHALL TERMINATE ON THIS PATCH PANEL. (BY DIV 27)
- RACK MOUNTED 2U FIBER OPTIC ENCLOSURE FOR INCOMING FIBER SERVICE.

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# WCCHD Office Renovations

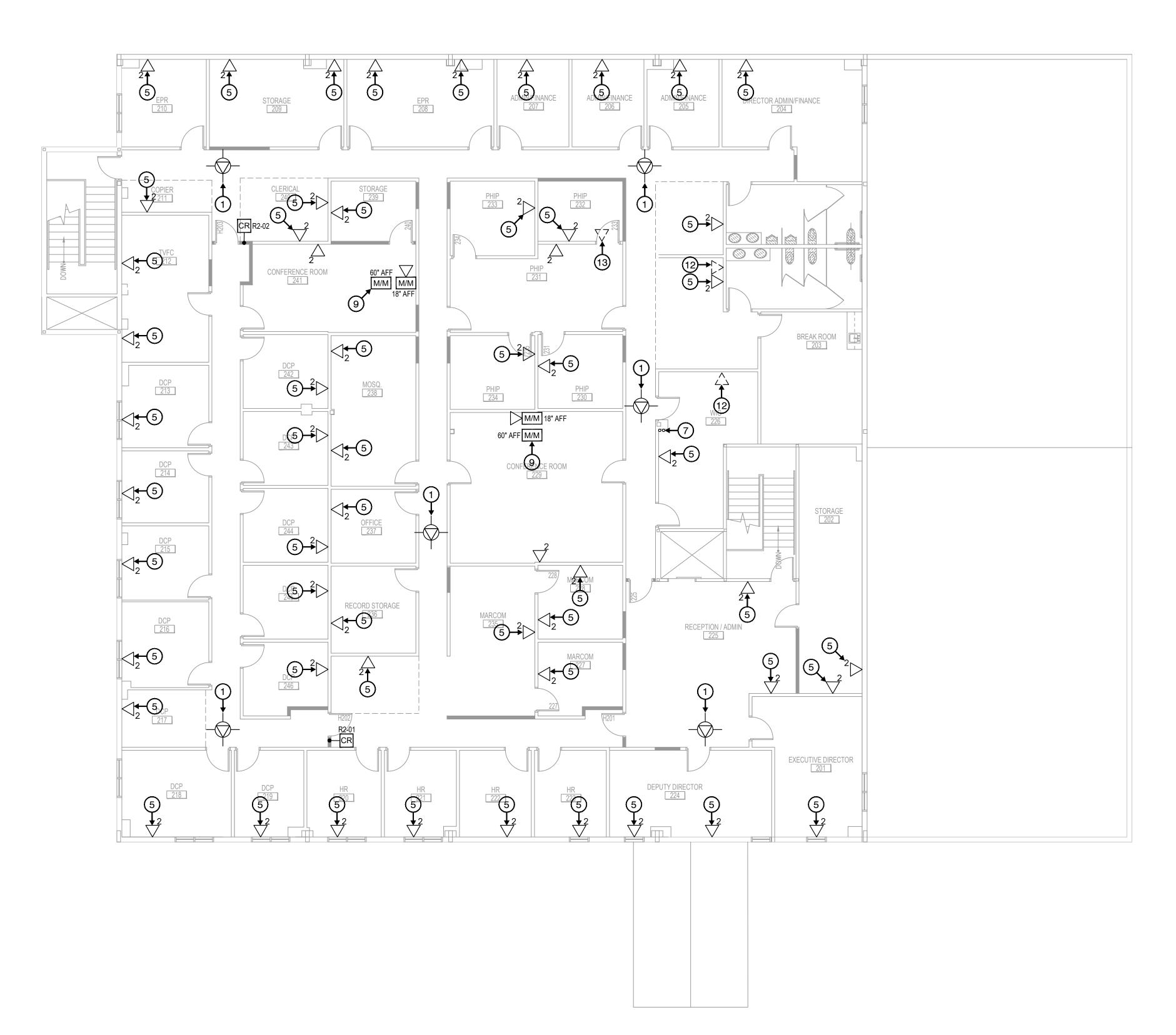
355 Texas Avenue Round Rock, Texas

	RE	VISION
No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	OUEET INCODMATION
	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	VARIES
Drawn	EC
Checked	MT
Approved	MT

1st Floor Plan -Technology

T101



2ND FLOOR PLAN - TECHNOLOGY

T102 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.
- 4. ALL CONDUITS FOR DATA AND VOICE SHALL ROUTE FROM THE DEVICE LOCATION AND TERMINATE ABOVE AN 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 DATA ROOM TO MINIMIZE THE CABLE LENGTH.
- 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.
- 7. ALL CONDUITS SHALL HAVE A PULL STRING INSTALLED FOR PULLING OF CABLE.
- 8. ALL SPARE CONDUITS OR CONDUITS FILLED WITH LESS THAN THE MAXIMUM ALLOWED FILL RATIO SHALL HAVE A PULL STRING INSTALLED AND LEFT FOR FUTURE PULLING OF CABLE. CLEARLY LABEL AS "PULL STRING" INDICATING OPPOSITE END LOCATION.
- 9. ALL CABLING INSTALLED IN OR BELOW SLAB, REGARDLESS OF THE USE OF CONDUIT, SHALL BE RATED FOR USE IN A WET ENVIRONMENT.
- 10. ALL EXISTING DATA/VOICE CABLING SHALL BE REMOVED ENTIRELY, FROM END-TO-END. NO ABANDONED DATA CABLING SHALL REMAIN ABOVE CEILING. ANY EXISTING CONDUIT(S) AND/OR JUNCTION BOXES SERVING DATA DROPS SHALL REMAIN. EXISTING JUNCTION BOXES SHALL BE COVERED WITH A BLANK FACEPLATE - COLOR TO MATCH NEW DATA FACEPLATES SPECIFIED.
- 11. ALL NEW DATA CABLING SHALL ORIGINATE IN IT ROOM 152 ON LEVEL 1.

#### FLOOR PLAN KEYED NOTES

- 1 DATA CABLE WITH 20-FEET OF SLACK NEATLY COILED AND STORED ON J-HOOK ABOVE ACCESSIBLE CEILING FOR OWNER PROVIDED / OWNER INSTALLED CEILING MOUNTED WIRELESS ACCESS POINT. CONTRACTOR SHALL PLACE A GREEN ADHESIVE DOT ON THE CEILING GRID DIRECTLY BELOW THE OUTLET LOCATION FOR FUTURE IDENTIFICATION OF
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- 3 DATA CABLE FOR MECHANICAL CONTROLS. COORDINATE EXACT CONDUIT ROUGH-IN LOCATION, HEIGHT AND TERMINATION REQUIREMENTS WITH THE MECHANICAL CONTRACTOR PRIOR TO INSTALLATION.
- VOICE CABLE FOR ELEVATOR EMERGENCY TELEPHONE. COORDINATE EXACT CONDUIT ROUGH-IN LOCATION, HEIGHT AND TERMINATION REQUIREMENTS WITH THE ELEVATOR CONTRACTOR PRIOR TO INSTALLATION.
- 5 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 CATEGORY-6 DATA CABLES IN THE QUANTITY INDICATED, TERMINATED ON NEW INFORMATION OUTLETS WITH A NEW FACEPLATE.
- (6) EXISTING INTRUSION DETECTION DEVICE TO BE DEMOLISHED. DEVICE AND ALL ASSOCIATED CABLING SHALL BE REMOVED FROM END TO END.
- (2) TWO 4-INCH EMT CONDUIT SLEEVES THROUGH SLAB OF LEVEL 2 TO FEED DATA DEVICES ON LEVEL 2.
- DATA CABLE FOR IRRIGATION CONTROLLER. COORDINATE EXACT CONDUIT ROUGH-IN LOCATION, HEIGHT AND TERMINATION REQUIREMENTS WITH THE OWNER / IRRIGATION CONTROL CONTRACTOR PRIOR TO INSTALLATION.
- MULTIMEDIA OUTLET LOCATION WITH HDMI PLATE LOCATED AT 18-INCHES ABOVE FINISHED FLOOR, AND HDMI PLATE LOCATED AT 60-INCHES ABOVE FINISHED FLOOR WITH PLENUM RATED HDMI CABLE BETWEEN THE TWO.
- DATA OUTLET MOUNTED AT 84" AFF FOR OWNER PROVIDED / OWNER INSTALLED WALL MOUNTED DISPLAY.
- ANALOG LINE FOR OWNER PROVIDED / OWNER INSTALLED LAB EQUIPMENT. TERMINATE CATEGORY 6 CABLE ON NEW 24-PORT RACK MOUNTED PATCH PANEL IN IDF.
- 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.
- EXISTING ROUGH-IN LOCATION TO BE DEMOLISHED COMPLETELY, FROM END-TO-END, INCLUDING BACK BOX AND CONDUIT.



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San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas

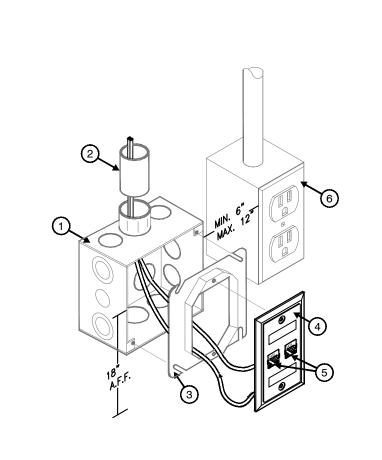
**REVISIONS** 

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	VARIES
Drawn	EC
Checked	MT
Approved	MT
	TITLE

2nd Floor Plan -Technology

SHEET

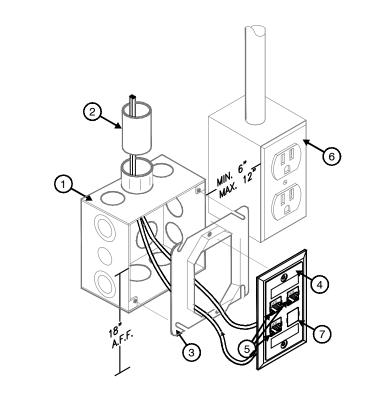


KEYED NOTES:

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 SINGLE GANG REDUCER RING (BY DIV 26)
- 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

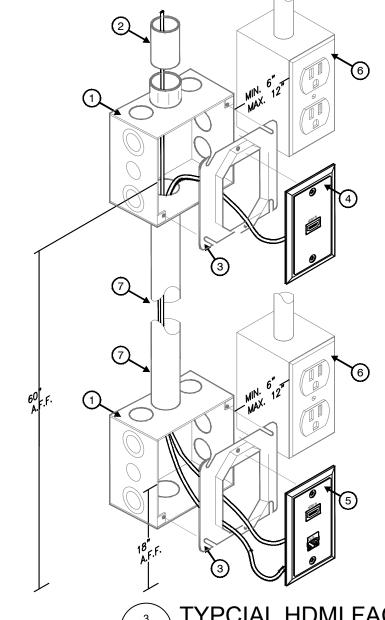


KEYED NOTES:

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 SINGLE GANG REDUCER RING (BY DIV 26)
- 4) SINGLE GANG WALL PLATE WITH DESIGNATION IN WINDOW
- 5 DATA INSERTS (BY DIV 27)
- 6 ELECTRICAL RECEPTACLE, GANG BOX AND CONDUIT SHOWN FOR REFERENCE ONLY (REFER TO DIV 26)
- 7 BLANK INSERT (BY DIV 27)



KEYED NOTES:

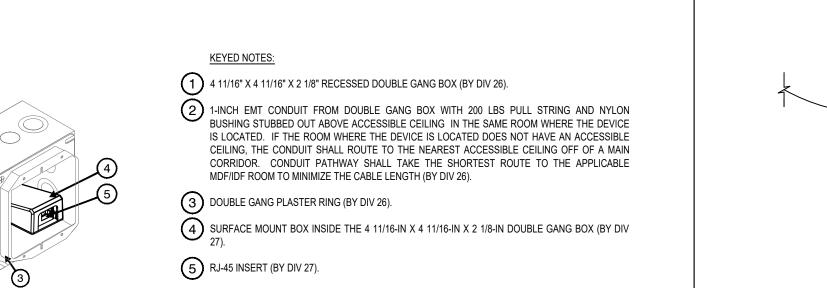
- 1 4 11/16" x 4 11/16" x 2 1/8" RECESSED DOUBLE GANG BOX (BY DIV 26)
- 2 1-INCH EMT CONDUIT FROM DOUBLE GANG BOX WITH 200 LBS PULL STRING AND NYLON BUSHING STUBBED OUT ABOVE ACCESSIBLE CEILING IN THE SAME ROOM WHERE THE DEVICE IS LOCATED. IF THE ROOM WHERE THE DEVICE IS LOCATED DOES NOT HAVE AN ACCESSIBLE 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 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

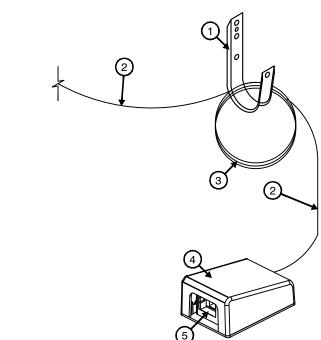
## TYPCIAL DUAL DATA OUTLET CONFIGURATION T301 SCALE: N.T.S.

# T301 SCALE: N.T.S.

TYPCIAL THREE DATA OUTLET CONFIGURATION

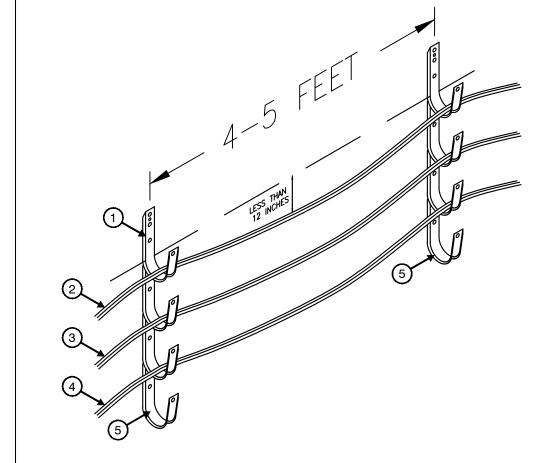
TYPCIAL HDMI FACEPLATE CONFIGURATION T301 SCALE: N.T.S.





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)



KEYED NOTES:

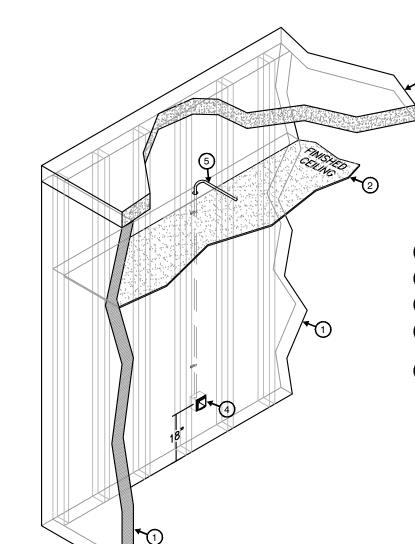
- 1 J-HOOK ABOVE ACCESSIBLE CEILING (BY DIV 27).
- 2 DATA CABLE ABOVE ACCESSIBLE CEILING (BY DIV 27).
- (3) AV CABLE ABOVE ACCESSIBLE CEILING
- 4 SECURITY CABLE ABOVE ACCESSIBLE CEILING (BY DIV 28).
- 5 SPARE J-HOOK (BY DIV 27).

TYPICAL CONDUIT ROUGH-IN FOR SURVEILLANCE

CAMERA/ACCESS POINT WITHOUT ACCESSIBLE CEILING

TYPICAL ABOVE CEILING DATA OUTLET

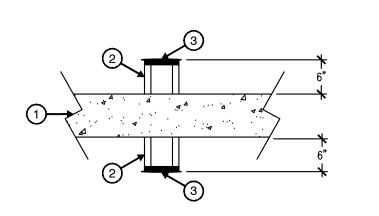
**6** TYPICAL J-HOOK CABLE PATHWAY T301 SCALE: N.T.S.



KEYED NOTES:

- 1 SCHEDULED WALL.
- 2 SCHEDULED CEILING. 3 SCHEDULED DECK ABOVE.
- 4 11/16" x 4 11/16" x 2 1/8" RECESSED DOUBLE GANG BOX WITH DOUBLE GANG PLASTER RING (BY DIV 26)
- 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)





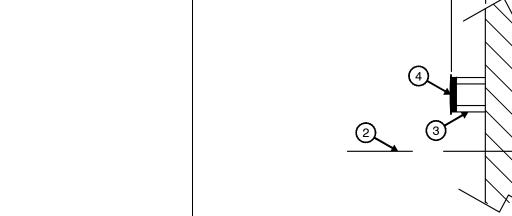
T301 SCALE: N.T.S.

TYPICAL CONDUIT SLEEVE

THROUGH FLOOR OR DECK DETAIL

KEYED NOTES:

- 1 SCHEDULED FLOOR OR DECK. 2 CONDUIT SLEEVE (BY DIV 26).
- 3 NYLON BUSHING (BY DIV 26).



KEYED NOTES:

- 1 SCHEDULED WALL.
- 2 SCHEDULED CEILING. (3) CONDUIT SLEEVE (BY DIV 26).
- 4 NYLON BUSHING (BY DIV 26).

TYPICAL CONDUIT

SLEEVE GOING THROUGH WALL T301 SCALE: N.T.S.

**REVISIONS** 

Date

SHEET INFORMATION April 7, 2017 16-1010 VARIES

Issue 100% Construction Documents

100% Construction Documents Issued for Bid 4/7/2017

2301 E. Riverside Dr. #80

SAN ANTONIO

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Round Rock, Texas

technology & security

Phone: 512-433-2696

**Technology Details** 

T301

SHEET

T302 SCALE: SCALE

KEYED NOTES:

(1) SCHEDULED PARTITION.

HEAD OF DOOR FRAME. PROVIDE TAB AT DOOR FRAME TO SECURE CONDUIT DIRECTLY ABOVE DOOR POSITION

3 SCHEDULED DOOR.

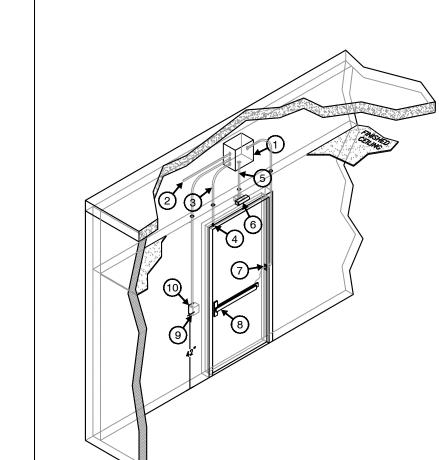
(4) 15/16" DIAMETER HOLE IN THE HEAD OF FRAME FOR CONCEALED DOOR CONTACT.

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)

DOOR CONTACT (REFERENCE SPECIFICATION).

DOOR CONTACT DOUBLE DOOR RECESSED DOOR CONTACT -SINGLE DOOR RECESSED

SCALE: SCALE



#### KEYED NOTES:

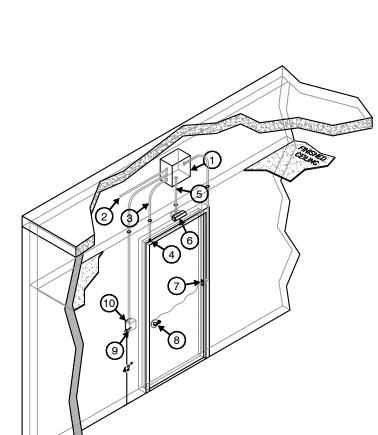
- (1) (1) 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR (BY DIV. 26).
- (1) 1-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR FOR ACCESS CONTROL CABLE (BY DIV. 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
- 4 CONCEALED DOOR POSITION SWITCH (BY DIV. 28).

GROUTED DOORS (BY DIV. 26).

- (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).
- (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).
- (1) ELECTRIFIED EXIT DEVICE ON SECURE SIDE OF DOOR (BY DIV. 8).
- (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).
- (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

T302 SCALE: N.T.S.



WALL MOUNTED CARD READER WITH

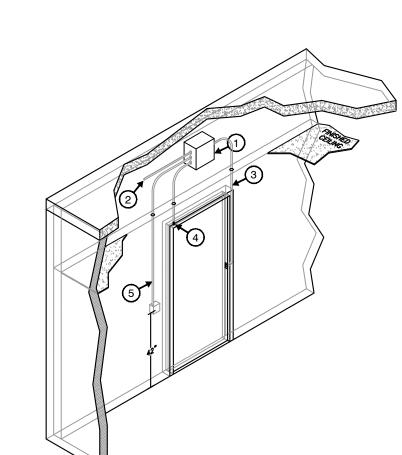
ELECTRIFIED LEVERSET AND WALL

MOUNTED REQUEST TO EXIT MOTION SENSOR

SECURE SIDE OF DOOR (BY DIV. 26).

(1) 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING ON

- (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).
- (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). CONCEALED DOOR POSITION SWITCH (BY DIV. 28).
- (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
- (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
- (1) CARD READER ON UNSECURE SIDE OF DOOR (BY DIV. 28).



(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).

KEYED NOTES:

1 SCHEDULED PARTITION.

(3) SCHEDULED DOOR.

6 DOOR (BY DIV 26).

2 HEAD OF DOOR FRAME. PROVIDE TAB AT DOOR FRAME

4 15/16" DIAMETER HOLE IN THE HEAD OF FRAME FOR CONCEALED DOOR CONTACT.

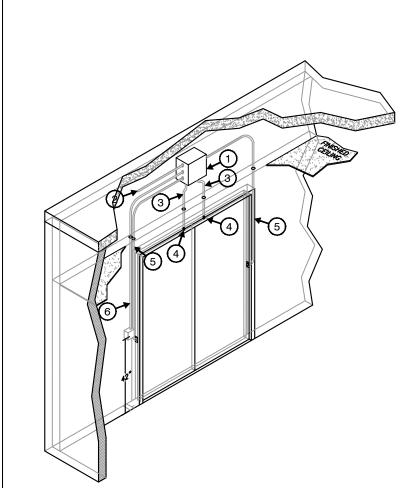
5 15/16" DIAMETER X 1 5/8" DEEP HOLE IN TOP OF DOOR FOR CONCEALED DOOR CONTACT MAGNET.

DOOR CONTACT (REFERENCE SPECIFICATION).

1/2" CONDUIT FROM 6" X 6" X 4" JUNCTION BOX ABOVE

TO SECURE CONDUIT DIRECTLY ABOVE DOOR POSITION

- (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.
- (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).

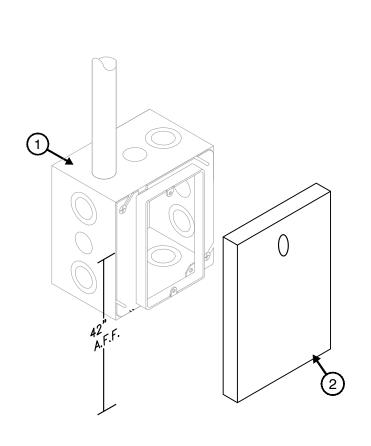


- (1) 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX MOUNTED ABOVE ACCESSIBLE CEILING ON SECURE SIDE OF DOOR (BY DIV. 26).
- (1) 1-INCH EMT CONDUIT FROM 12-INCH WIDE X 12-INCH HIGH X 8-INCH DEEP JUNCTION BOX TO ABOVE
- ACCESSIBLE CEILING ON SECURE SIDE OF DOOR FOR FUTURE ACCESS CONTROL CABLE (BY DIV. 26). (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
- 4 CONCEALED DOOR POSITION SWITCH (BY DIV. 28).
- (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).
- (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 SCALE: N.T.S.



YEAR SINGLE DOOR CARD READER ROUGH-IN



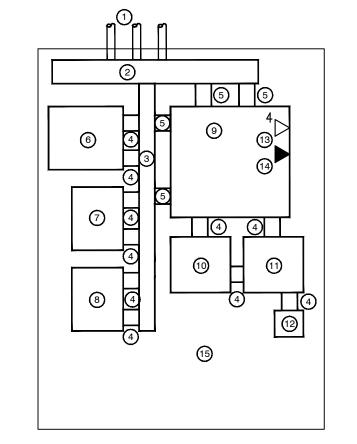
SCALE: N.T.S.

CARD READER 
WALL MOUNTED DETAIL

T302 SCALE: N.T.S.

KEYED NOTES:

- (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)
- CARD READER ON UNSECURED SIDE OF DOOR (BY DIV.



KEYED NOTES: (1) CONDUIT FEEDS FROM FIELD. 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.

10 DEVICE POWER SUPPLY.

7 INTRUSION DETECTION CONTROL PANEL. 8 INPUT/OUPUT PANEL. 9 DEMARCATION ENCLOSURE.

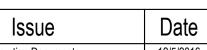
1 LOCK POWER SUPPLY. 120VAC EMERGENCY POWER QUAD RECEPTACLE, NON-SWITCHED, DEDICATED 20AMP.

NETWORK OUTLET (BY DIV 27). 14) TELEPHONE INTERFACE (BY DIV 27).

8-FT H X 4-FT W 3/4 -IN FIRE RATED PLYWOOD BACKBOARD.

TYPICAL SECURITY RISER BACKBOARD DETAIL T302 SCALE: N.T.S.





**REVISIONS** 

100% Construction Documents 100% Construction Documents Issued for Bid 4/7/2017

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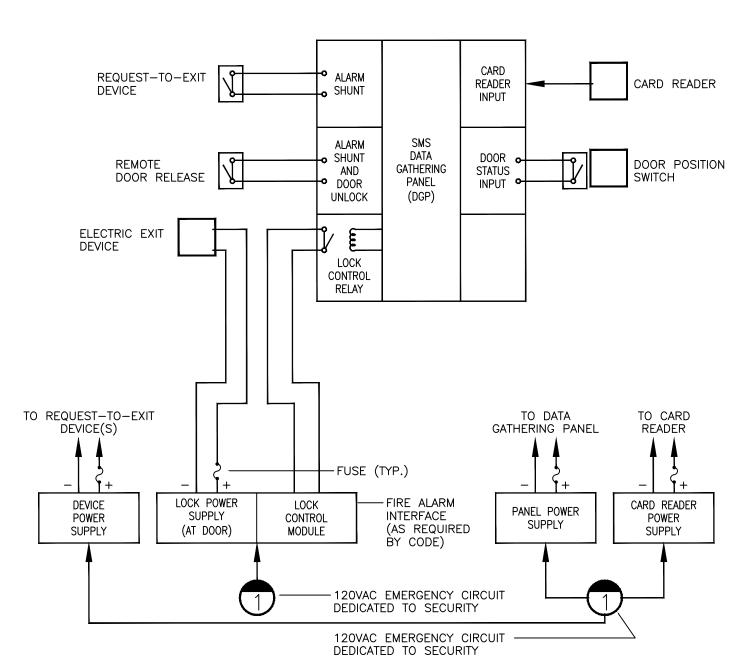
Round Rock, Texas

SHEET INFORMATION April 7, 2017 16-1010

Security Details

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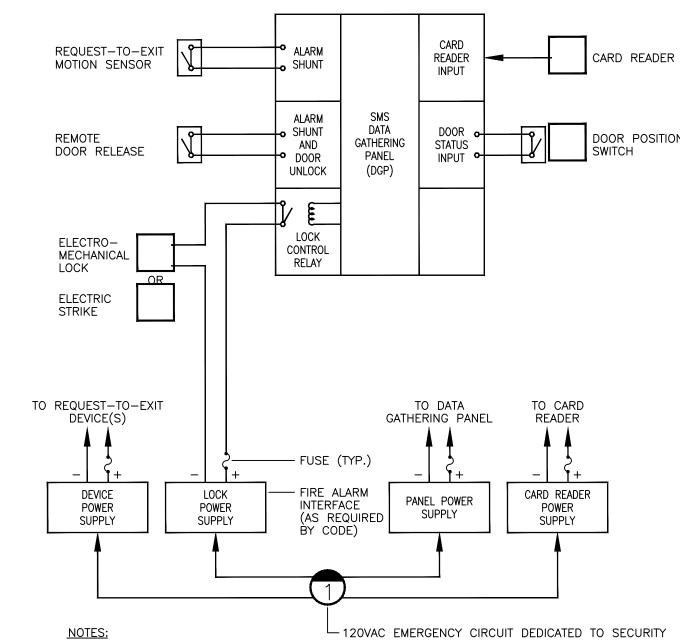


#### NOTES:

- 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.

CARD READER - ELECTRIC EXIT DEVICE BLOCK DIAGRAM

SCALE: N.T.S.



- 1. BLOCK DIAGRAM REPRESENTS TYPICAL CONTROLLED DOOR WITH ELECTROMECHANICAL LOCK OR ELECTRIC STRIKE. SEE THE PLANS FOR THE
- 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.

EXACT DEVICES ASSOCIATED WITH EACH DOOR.

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.

CARD READER - ELECTROMECHANICAL

LOCK OR ELECTRIC STRIKE BLOCK DIAGRAM

T303 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 (AH.J).
- 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.

FIRE ALARM/SECURITY SYSTEM INTERFACE

SCALE: N.T.S.

WILLIAMSON COUNTY - ACCESS CONTROL SYSTEM SCHEDULE TERMINATION | DOOR DETAIL CARD READER SHEET **ARCHITECTURAL** ROOM NAME NOTES POINT NUMBER NUMBER DOOR NUMBER ROOM NUMBER NUMBER REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT. T101 LEVEL 1 CORRIDOR C101-SOUTH IT 152 3/T302 R1-01 C101 CORRIDOR C101-NORTH IT 152 REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT. T101 LEVEL 1 C102 4/T302 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 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. T101 LEVEL 1 IT 152 R1-06 E101 WAITING 112 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. CORRIDOR C202-SOUTH R2-01 T102 LEVEL 2 C202 IT 152 4/T302 REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT R2-02 CORRIDOR C203-NORTH REQUEST TO EXIT INTEGRAL TO LOCK. DO NOT PROVIDE HEADER MOUNTED PIR REQUEST TO EXIT. T102 LEVEL 2 C203 IT 152 4/T302

ACCESS CONTROL SYSTEM SCHEDULE

SCALE: N.T.S.



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In Association w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas

REVISIONS

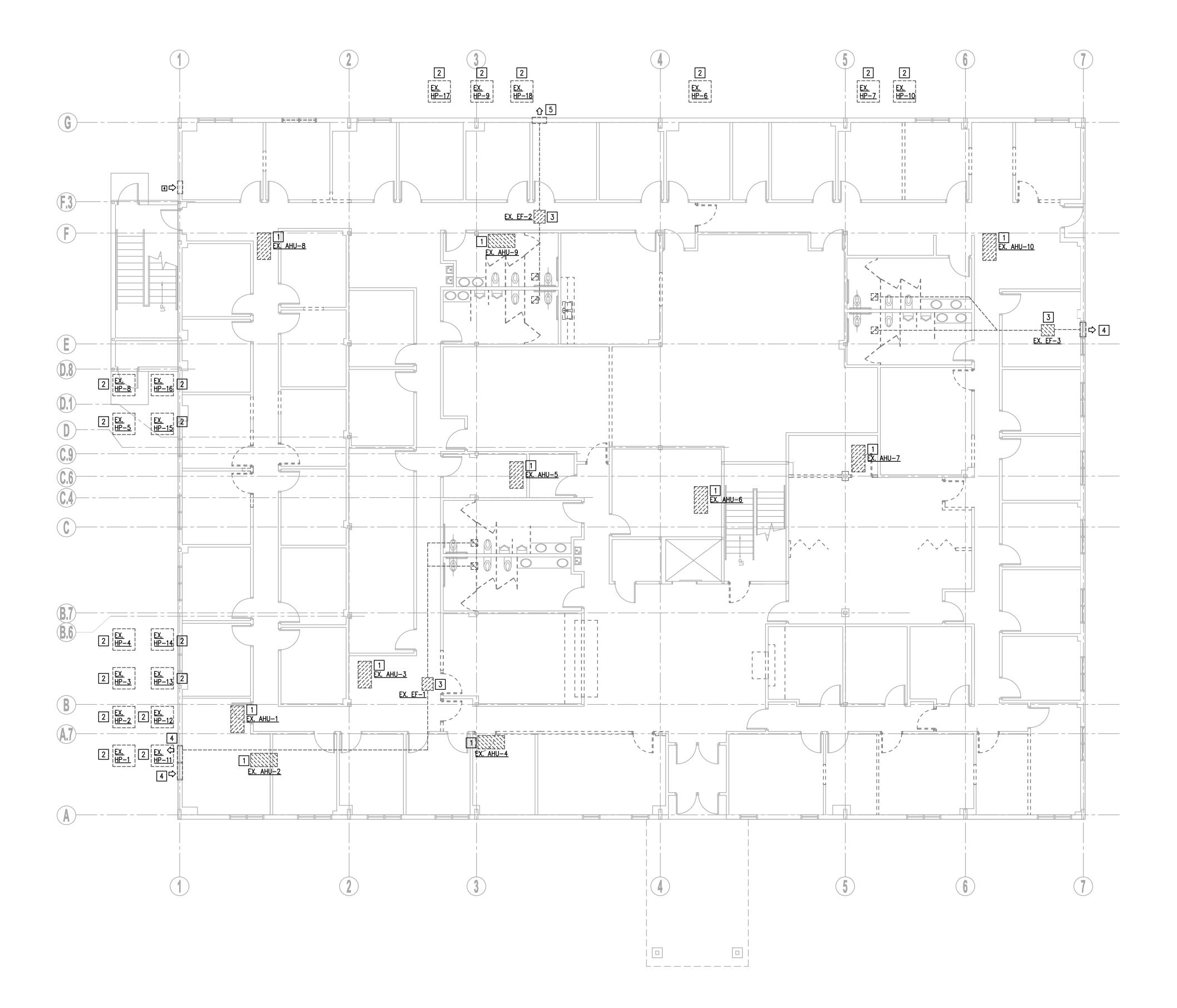
No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION	
Date	April 7, 201	
Job Number	16-101	
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Checked	M <sup>-</sup>	
Approved	M <sup>-</sup>	

Security Siagrams/Schedules

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## MECHANICAL GENERAL NOTES:

- 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
- C. PROTECTION OF FURNISHINGS AND SYSTEMS FROM HAZARD AND/OR CONTAMINATION ASSOCIATED WITH DEMOLITION AND
- STRUCTURE. OBTAIN APPROVAL OF OWNER'S REPRESENTATIVE BEFORE DISPOSING OF ITEMS. ITEMS TO KEEP SHALL BE DELIVERED TO THE OWNER.

- REMOVE EXISTING AIR HANDLING UNIT AND ASSOCIATED DUCTWORK, PIPING, AND DIFFUSERS.
- MATCH EXISTING.

EXISTING DUCTWORK, DIFFUSER, AND DAMPER TO BE REMOVED OR RELOCATED. (WORK SHOWN IN DASHED LINES)

- A. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS BEFORE ANY DEMOLITION WORK BEGINS.
- ACCESS, SCHEDULING, AND/OR SECURITY.
- 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

## MECHANICAL KEYED NOTES:

- REMOVE EXISTING CONDENSING UNIT, EQUIPMENT SUPPORT AND ASSOCIATED PIPING AT GRADE LEVEL. PATCH WALL OPENING WATER TIGHT AND RE-FINISH TO
- 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 REMAIN. (WORK SHOWN IN SOLID LINES)







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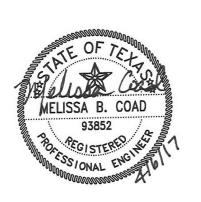
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INTERIOR DESIGN 2301 E. Riverside Drive, Building A, Suite 80

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# **REVISIONS**

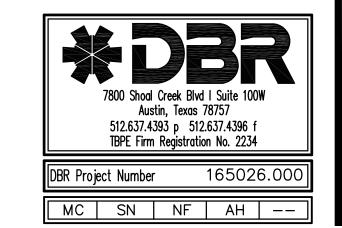
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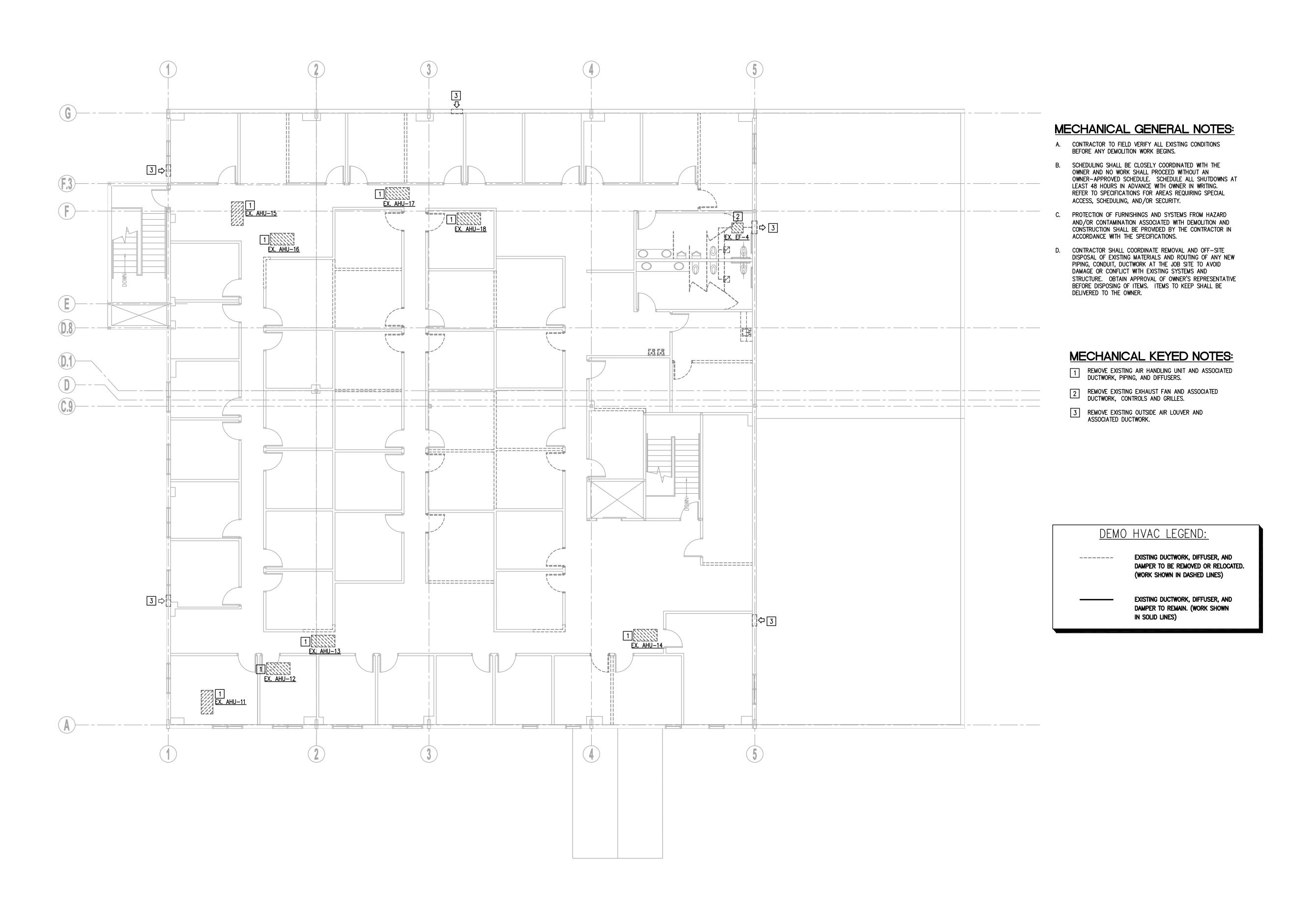
**1ST LEVEL DEMO MECHANICAL PLAN** 

DM2.01

1ST LEVEL DEMO MECHANICAL PLAN
1/8"=1'-0"

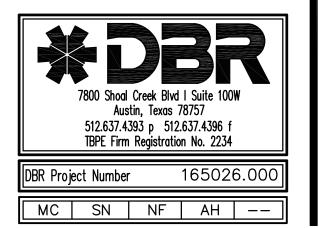


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2ND LEVEL DEMO MECHANICAL PLAN

1/8"=1'-0"









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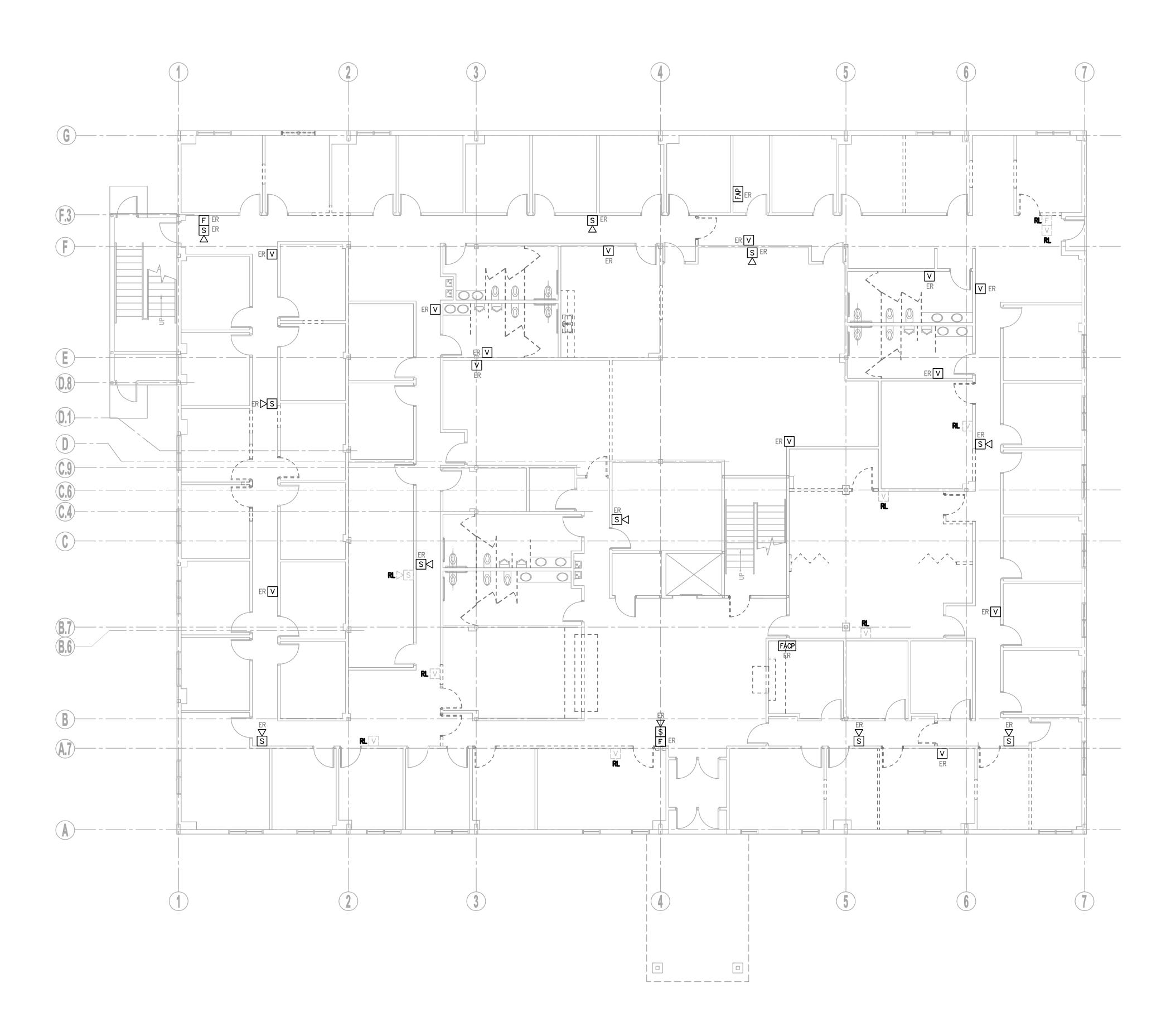
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2ND LEVEL DEMO MECHANICAL PLAN

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DM2.02



## GENERAL LIGHTING DEMOLITION NOTES:

- DEMOLITION TO BE PERFORMED.
- E. CONTRACTOR SHALL REMOVE ALL DEVICES WITHIN DEMOLISHED WALLS INCLUDING SWITCHES, FIRE ALARM DEVICES, CONDUIT AND WIRING. REMOVE CONDUIT AND WIRING BACK TO PANEL
- 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
- G. CONTRACTOR SHALL REMOVE AND SALVAGE ALL EXISTING FIRE ALARM DEVICES. PROVIDE ADDITIONAL DEVICES AS REQUIRED PER NEW FIRE ALARM DESIGN. EXISTING FIRE ALARM
- 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.

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.

- 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.



- 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
- C. ELECTRICAL CONTRACTOR SHALL CONSULT ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF
- D. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT AND CABLING REMOVED DURING DEMOLITION.
- OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMO PLAN.
- IN A MANNER THAT WILL PREVENT DAMAGE TO ADJACENT SURFACES AND AREAS.
- CONTROL PANEL SHALL BE SALVAGED AND REINSTALLED. PROVIDE 120V POWER.
- J. COORDINATE ALL DEMO ACTIVITIES WITH OWNER AND ARCHITECT. PROVIDE 10 DAYS NOTICE
- K. ALL DEVICES INDICATED 'ER' ARE EXISTING TO REMAIN. DEVICES INDICATED 'RL' ARE RELOCATED EXISTING. DEVICES INDICATED 'RE' ARE TO BE REMOVED.







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**1ST LEVEL DEMO LIGHTING PLAN** 

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**DEL2.01** 

1ST LEVEL DEMO LIGHTING PLAN
1/8"=1'-0"

Austin, Texas 78757 512.637.4393 p 512.637.4396 f TBPE Firm Registration No. 2234 165026.000 DBR Project Number MC SN NF AH --

## **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
- E. CONTRACTOR SHALL REMOVE ALL DEVICES WITHIN DEMOLISHED WALLS INCLUDING SWITCHES, FIRE ALARM DEVICES, CONDUIT AND WRING. REMOVE CONDUIT AND WRING 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
- 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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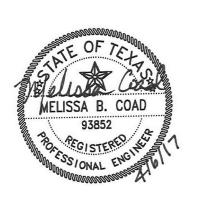
Edwards + Mulhausen
INTERIOR DESIGN

2301 E. Riverside Drive, Austin, Texas 78741 Building A, Suite 80 Ph. 512.291.6657

In Association

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# REVISIONS Date

INO.	issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 201
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Drawn	
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Approved	
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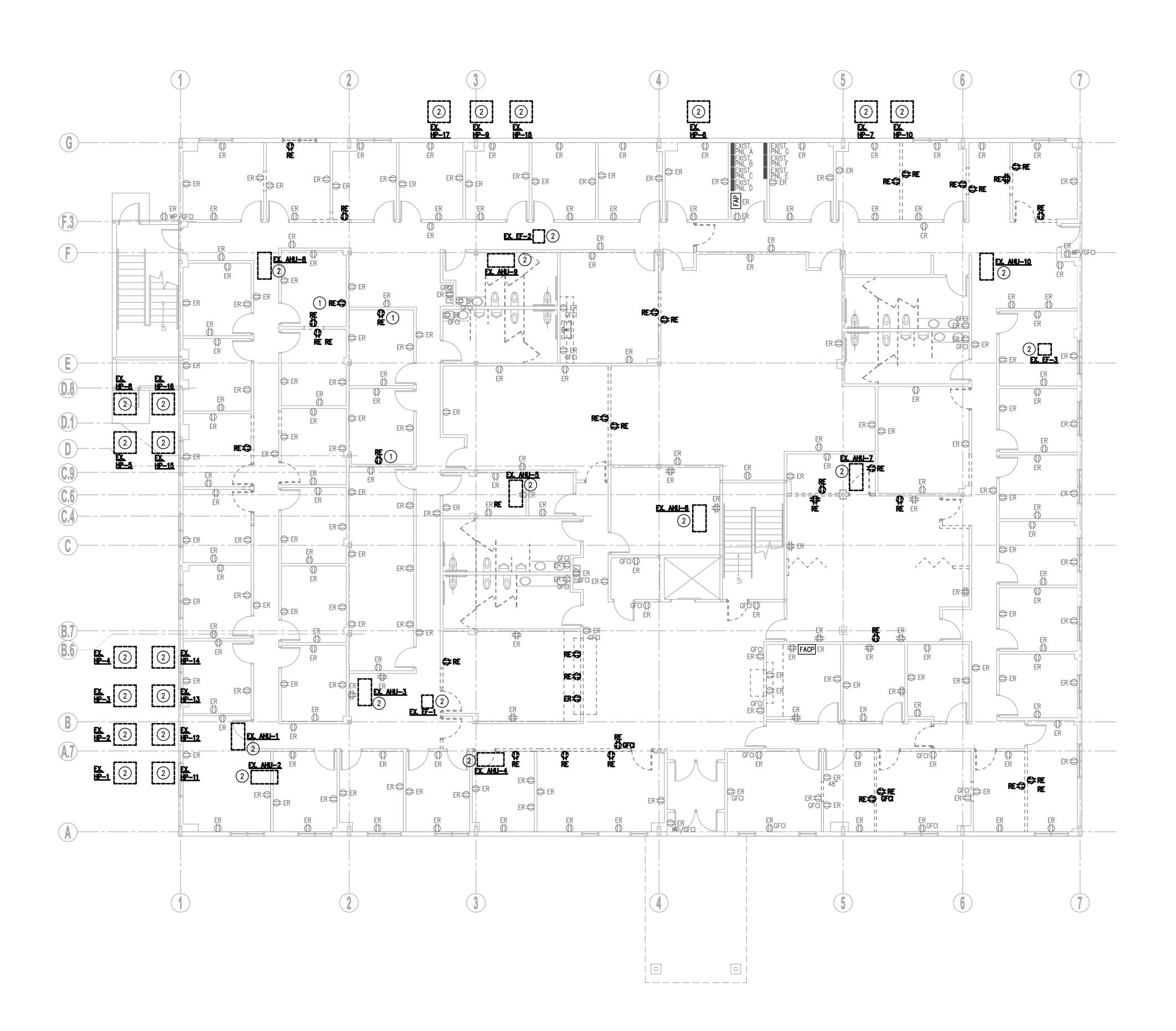
2ND LEVEL DEMO LIGHTING PLAN

**DEL2.02** 

2ND LEVEL DEMO LIGHTING PLAN

1/8"=1'-0"





# 1 IST LEVEL DEMO POWER PLAN 1/8"=1'-0"

## 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 WRING. REMOVE CONDUIT AND WRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMOPLAN.
- 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:**

- DISCONNECT EXISTING WIRING AND CONDUIT TO EXISTING RECEPTACLE TO BE REMOVED. LEAVE EXISTING WIRING AND CONDUIT IN PLACE FOR CONNECTION TO NEW RECEPTACLE.
- 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.







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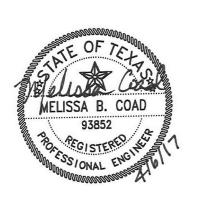
Edwards + Mulhausen
INTERIOR DESIGN

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In Association

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



## REVISIONS

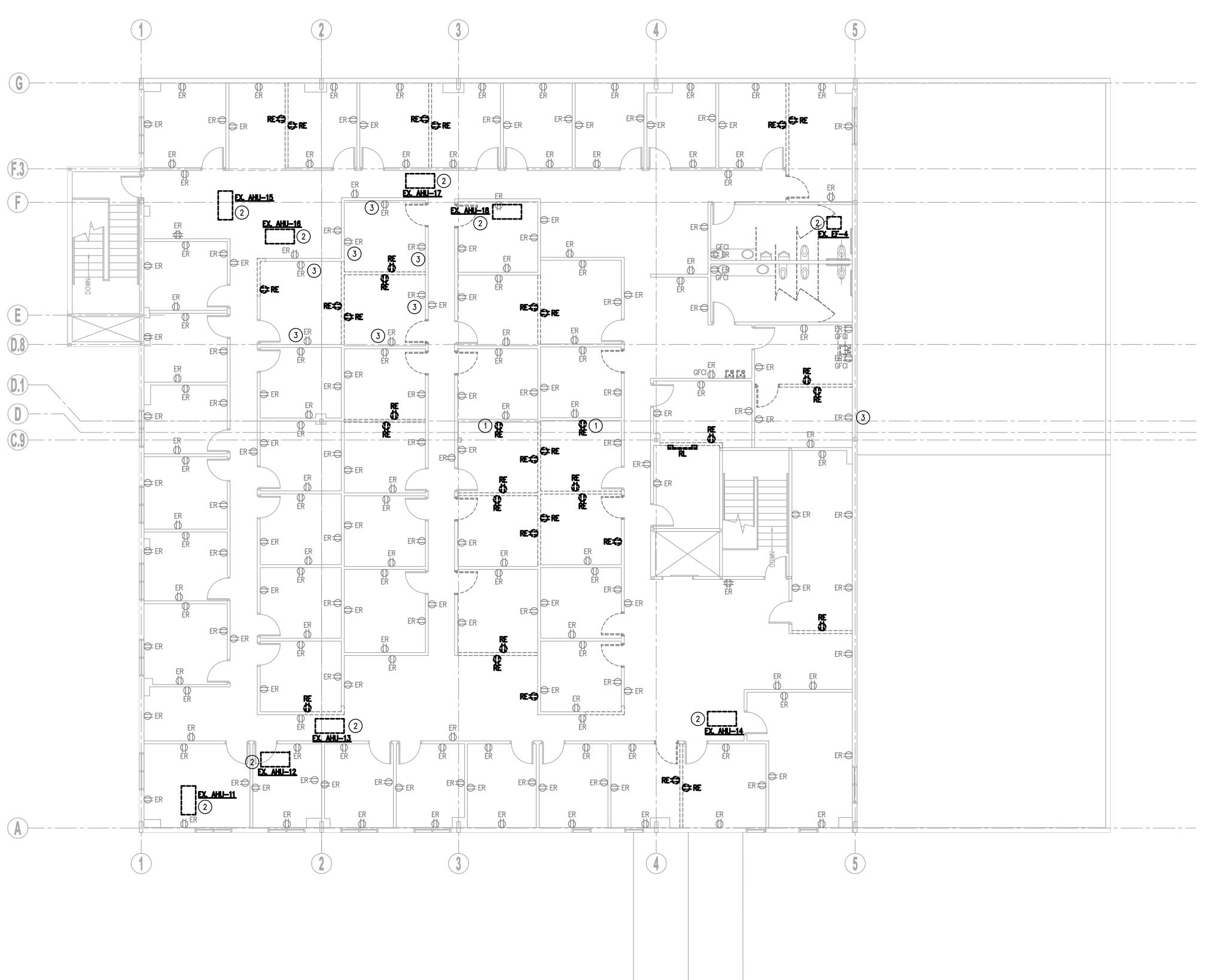
No.	Issue	Date
1	100% Construction Documents	12/5/2016
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	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	
	TITLE

1ST LEVEL DEMO POWER PLAN

SHEET

**DEP2.01** 



## GENERAL POWER DEMOLITION NOTES:

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- D. OWNER SHALL RESERVE THE RIGHT TO CLAIM ALL EQUIPMENT AND CABLING REMOVED DURING DEMOLITION.
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- COORDINATE ALL DEMO ACTIVITIES WITH OWNER AND ARCHITECT. PROVIDE 10 DAYS NOTICE FOR ANY POWER OUTAGES.
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- WIRING BACK TO PANEL OR LAST ACTIVE JUNCTION BOX. REFER TO ARCHITECTURAL DEMO
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Edwards + Mulhausen

INTERIOR DESIGN 2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



## **REVISIONS**

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATIO
Date	April 7, 201
Job Number	16-101
Scale	
Drawn	
Checked	
Approved	
	7171

2ND LEVEL

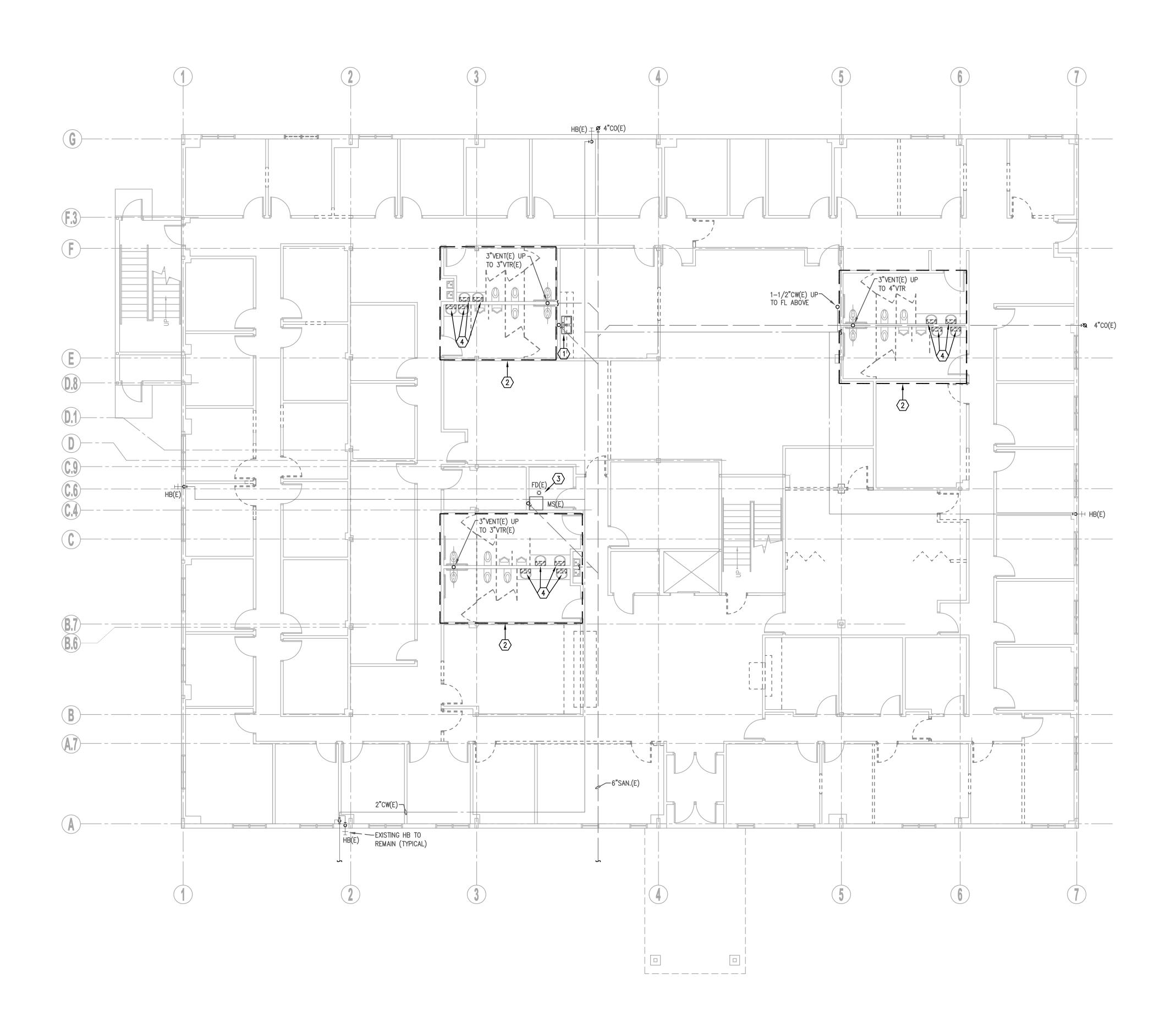
**DEMO POWER PLAN** 

SHEET

**DEP2.02** 

2ND LEVEL DEMO POWER PLAN

Austin, Texas 78757 512.637.4393 p 512.637.4396 f TBPE Firm Registration No. 2234 165026.000 DBR Project Number MC SN NF AH --



# 1 IST LEVEL DEMO PLUMBING PLAN 1/8"=1'-0"

## **GENERAL NOTES:**

- 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.
- 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.
- 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.
- 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.
- 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
- $\stackrel{\textstyle \leftarrow}{\text{H}}$  coordinate demolition of plumbing systems as required with all other trades.

## PLUMBING DEMO KEYED NOTES:

- 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
- 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.
- 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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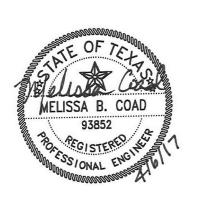
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1ST LEVEL DEMO PLUMBING PLAN

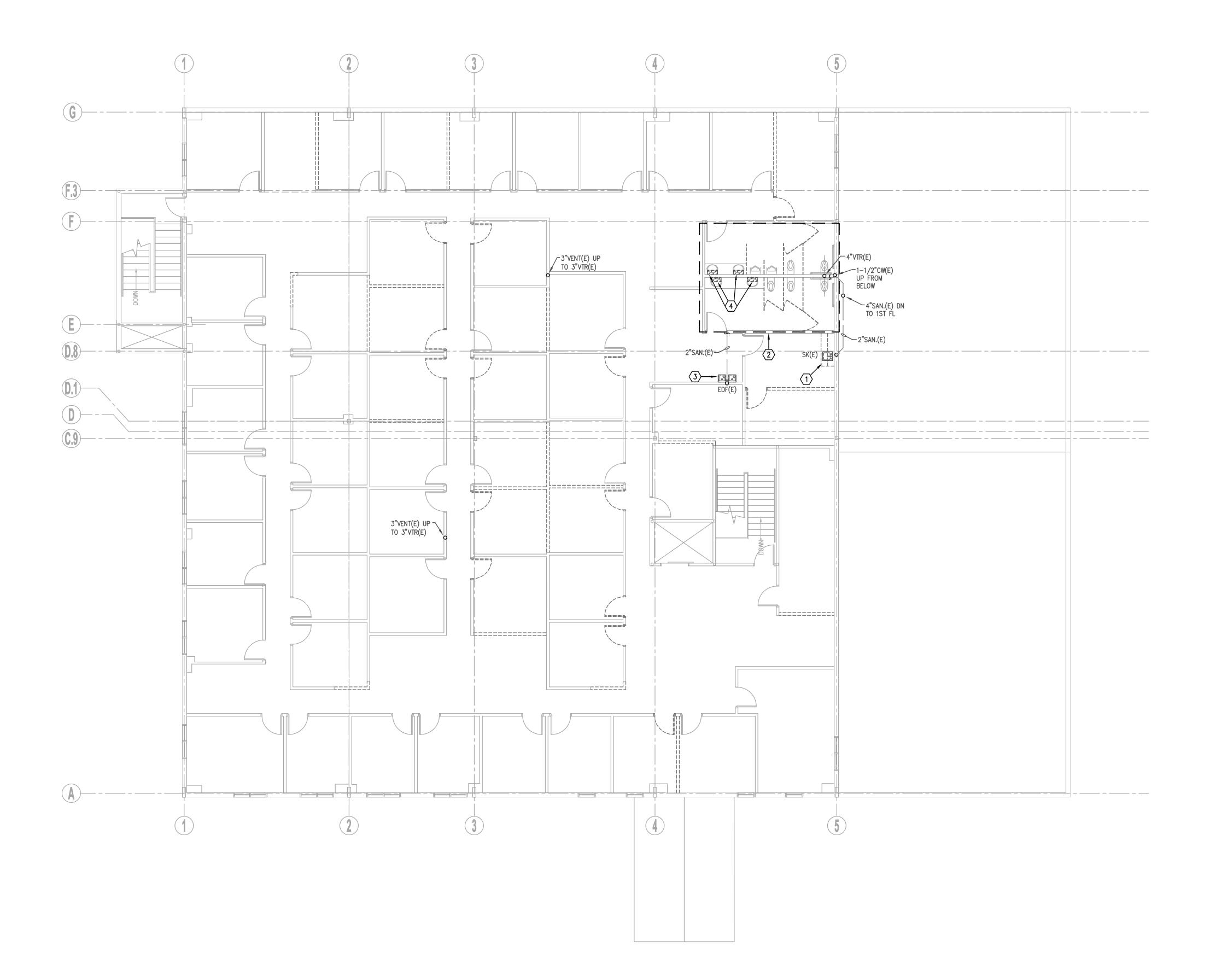
SHEET

DP2.01

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 ——



2ND LEVEL DEMO PLUMBING PLAN

1/8"=1'-0"

## **GENERAL NOTES:**

- ALL FIXTURES, EQUIPMENT AND PLUMBING LINES SHOWN WITH (E) ARE EXISTING TO REMAIN. UNLESS NOTED OTHERWISE.
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- (H) COORDINATE DEMOLITION OF PLUMBING SYSTEMS AS REQUIRED WITH ALL OTHER TRADES.

## PLUMBING DEMO KEYED NOTES:

- 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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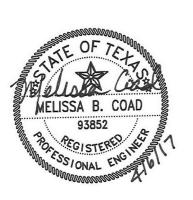
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In Accord

w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



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2ND LEVEL DEMO PLUMBING PLAN

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**DP2.02** 

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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 ——

OJE

	Α
A	AIR (COMPRESSED)
ABV	ABOVE
A/C	AIR CONDITIONING
ACCU	ALTERNATING CURRENT AIR COMPRESSOR
ACCH ACCU	AIR COOLED CHILLER  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 AP	AMBIENT  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  AMERICAN SOCIETY OF TESTING AND
ASTM	MATERIALS
AVC	ACID VENT, AIR VENT
AVG AWS	AVERAGE  AMERICAN WELDING SOCIETY
AWS	AUXILIARY
	В
3	BOILER
ВС	BELOW COUNTER
3/C	BACK OF CURB
3FV	BUTTERFLY VALVE
BH	BOX HYDRANT
BLDG BM	BUILDING BENCHMARK
BOF	BOTTOM OF FOOTING
BOS	BOTTOM OF STRUCTURE
BT	BATH TUB, BREAK TANK
BTU	BRITISH THERMAL UNIT
ВV	BALL VALVE
BWV	BACK WATER VALVE
	<u> </u>
<u> </u>	CELSIUS
CAB	CABINET
CB CD	CATCH BASIN  CONDENSATE DRAIN LINE
CFM	CUBIC FEET PER MINUTE
OFS	CUBIC FEET PER SECOND
CH	CHILLER
CHW	CHILLED WATER
CHWP	CHILLED WATER PUMP
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
) 	CAST IRON
CIRC	CIRCULATING
CL CLC	CENTERLINE
CLG CLR	CLEAR
	OLLAIN .
	CORRUGATED METAL PIPE
CMP	CORRUGATED METAL PIPE CONCRETE MASONRY UNIT
CMP CMU	
CMP CMU CPI	CONCRETE MASONRY UNIT
CMP CMU CPI CPVC	CONCRETE MASONRY UNIT CAST IRON PIPE INSTITUTE
CMP CMU CPI CPVC CO	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE
CMP CMU CPI CPVC CO COL	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT
CMP CMU CPI CPVC CO COL COMB COMP	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYMNYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR
CMP CMU CPI CPVC CO COL COMB COMP	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER
CMP CMU CPI CPVC CO COL COMB COMP CON CON CONC	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC
CMP CMU CPI CPVC CO COL COMB COMP CONC CONC	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE
CMP CMU CPI CPVC CO COL COMB COMP CONC CONC	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION
CMP CMU CPI CPVC CO COL COMB COMP CONC CONC COND CONT	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION  CONTINOUS, CONTINUATION
CMP CMU CPI CPVC CO COL COMB COMP CONC COND CONN CONT CONTR	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION
CMP CMU CPI CPVC CO COL COMB COMP CONC COND CONT CONT CONTR CRAC	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION  CONTINOUS, CONTINUATION  CONTROLLER, CONTRACTOR  COMPUTER ROOM A/C UNIT
CMP CMU CPI CPVC CO COL COMB COMP CONC COND CONT CONT CONTR CRAC	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYWNYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION  CONTINOUS, CONTINUATION  CONTROLLER, CONTRACTOR
CMP CMU CPI CPVC CO COL COMB COMP CONC COND CONT CONTR CONTR CRAC CRT	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION  CONTINUUS, CONTINUATION  CONTROLLER, CONTRACTOR  COMPUTER ROOM A/C UNIT  CATHODE RAY TUBE
COMP COMU CODE COMB COMP COND CONT CONTR CONTR CORT COTR COTR COTR COTR COTR COTR CO	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION  CONTINUATION  CONTINUATION  CONTROLLER, CONTRACTOR  COMPUTER ROOM A/C UNIT  CATHODE RAY TUBE  COOLING TOWER
CMP CMU CPI CPVC CO COL COMB COMP CONC COND CONT CONT CONTR CRAC CRT CTR CU	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION  CONTINOUS, CONTINUATION  CONTROLLER, CONTRACTOR  COMPUTER ROOM A/C UNIT  CATHODE RAY TUBE  COOLING TOWER  CENTER
CMP CMU CPI CPVC CO COL COMB CONC CONC COND CONT CONT CONTR CRAC CRT CT CTR	CONCRETE MASONRY UNIT  CAST IRON PIPE INSTITUTE  CHLORINATED POLYVINYL CHLORIDE  CLEAN OUT  COLUMN  COMBINATION  COMPRESSOR  CONVERTER  CONCRETE, CONCENTRIC  CONDENSER, CONDENSATE  CONNECTION  CONTINUOUS, CONTINUATION  CONTROLLER, CONTRACTOR  COMPUTER ROOM A/C UNIT  CATHODE RAY TUBE  COOLING TOWER  CENTER  COPPER

	D
D	DEPTH, DRAIN, DRYER
DB	DRY BULB
DC	DOUBLE DUCT CONSTANT VOLUME, DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DESIG DTL	DESIGNATION DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIFF	DIFFUSER
DIM	DIMENSION
DISC	DISCONNECT
DN	DOWN
DPR	DAMPER
DS	DOWNSPOUT, DOUBLE SUCTION
DW DW	DOUBLE DUCT VAV  DISHWASHER
DWG	DRAWNG
DWH	DOMESTIC WATER HEATER
DWP	DOMESTIC WATER PUMP
DX	DIRECT EXPANSION
	<b>_</b>
	<b>E</b>
EA	EACH
EAT	ENTERING AIR TEMPERATURE
EC	ELECTRICAL CONTRACTOR
ECC	ECCENTRIC
EDB	ENTERING DRY BULB
EDF	ELECTRIC DRINKING FOUNTAIN
EDH	ELECTRIC DUCT HEATER
EF FFF	EXHAUST FAN  EFEICIENCY
EFF EJ	EFFICIENCY  EXPANSION JOINT
 EL	ELEVATION JOINT
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
<u> </u>	EXPANSION TANK
ETR	EXISTING TO REMAIN
EVAP EWB	EVAPORATOR  ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
= EX	EXPLOSION-PROOF
EXT	EXTERNAL
EXTG	EXISTING
	F
 F	- FAUDENHIELT FIDE
	FAHRENHEIT, FIRE
FB0	FURNISHED BY OTHERS
-co	FLOOR CLEAN OUT
FCS FCU	FLOOR CONTROL STATION
FCU FD	FAN COIL UNIT FLOOR DRAIN, FIRE DAMPER
FDS	FICOR DRAIN, FIRE DAMPER FIRE DEPARTMENT SIAMESE
-DS -DV	FIRE DEPARTMENT VALVE
FH	FIRE HYDRANT
HC	FIRE HOSE CABINET
THR	FIRE HOSE RACK
TXT	FIXTURE
-LA	FULL LOAD AMPS
FLEX	FLEXIBLE
-L	FLOW LINES
ELR	FLOOR
ъ	FIRE PUMP
	FAN POWERED TERMINAL
PT	
RZR	FREEZER
FRZR	FLOW SWITCH, FIRE SPRINKLER
FRZR FS	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK
FRZR FS FSK FT	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK FOOT, FEET
FRZR FS FSK	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK
FRZR FS FSK	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK FOOT, FEET
FRZR FS FSK FT FUT	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK FOOT, FEET
FRZR FS FSK FT FUT	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK FOOT, FEET FUTURE
FRZR FS FSK FT FUT G G GA	FLOW SWITCH, FIRE SPRINKLER  FLOOR SINK  FOOT, FEET  FUTURE  GAS
FRZR FS FSK FT FUT G GA GAL	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK FOOT, FEET FUTURE  G GAS GAUGE
FRZR FS FSK FT FUT  G GA GAL GALV	FLOW SWITCH, FIRE SPRINKLER  FLOOR SINK  FOOT, FEET  FUTURE  G  GAS  GAUGE  GALLON
FRZR FS FSK FT FUT  G GA GAL GALV GC	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK FOOT, FEET FUTURE  G GAS GAUGE GALLON GALVANIZED
FRZR FS FSK FT FUT  G GA GAL GALV GC GLV	FLOW SWITCH, FIRE SPRINKLER FLOOR SINK FOOT, FEET FUTURE  G GAS GAUGE GALLON GALVANIZED GENERAL CONTRACTOR
FRZR FS FSK FT FUT  G GAL GALV GC GLV GND	FLOW SWITCH, FIRE SPRINKLER  FLOOR SINK  FOOT, FEET  FUTURE  GAS  GAUGE  GALLON  GALVANIZED  GENERAL CONTRACTOR  GLOBE VALVE
FRZR FS FSK FT FUT  G GA GAL GALV GC GLV GND GPD	FLOW SWITCH, FIRE SPRINKLER  FLOOR SINK  FOOT, FEET  FUTURE  GAS  GAS  GAUGE  GALLON  GALVANIZED  GENERAL CONTRACTOR  GLOBE VALVE  GROUND
FRZR FS FSK FT FUT  G GAL GALV GCC GLV GND GPD GPH	FLOW SWITCH, FIRE SPRINKLER  FLOOR SINK  FOOT, FEET  FUTURE  GAS  GAUGE  GALLON  GALVANIZED  GENERAL CONTRACTOR  GLOBE VALVE  GROUND  GALLONS PER DAY
FRZR FS FSK FT FUT  GG GAL GGALV GCC GLV GND GPD GPH GPH GSH	FLOW SWITCH, FIRE SPRINKLER  FLOOR SINK  FOOT, FEET  FUTURE  GAS  GAUGE  GALLON  GALVANIZED  GENERAL CONTRACTOR  GLOBE VALVE  GROUND  GALLONS PER DAY  GALLONS PER HOUR  GALLONS PER MINUTE  GRAND SENSIBLE HEAT
FPT FRZR FS FSK FT FUT  G GA GAL GALV GC GLV GND GPD GPH GPM GSH GTH	FLOW SWITCH, FIRE SPRINKLER  FLOOR SINK  FOOT, FEET  FUTURE  GAS  GAS  GAUGE  GALLON  GALVANIZED  GENERAL CONTRACTOR  GLOBE VALVE  GROUND  GALLONS PER DAY  GALLONS PER HOUR  GALLONS PER MINUTE

GATE VALVE

	11	
	H	
<del>I</del> B	HOSE BIBB	
HD	HEAD, HUB DRAIN	
HE	HEAT EXCHANGER	
HF HODIZ	HUMIDIFIER	
HORIZ	HORIZONTAL	
-1P 	HORSEPOWER, HALON PANEL HEAT PUMP UNIT	
HKP	HOUSEKEEPING PAD	
HSC	HORIZONTAL SPLIT CASE	
HSTAT	HUMIDISTAT	
łT	HEIGHT	
HTG	HEATING	
HTR	HEATER	
₩	HOT WATER	
HWC	HOT WATER CIRCULATOR	
HWP	HEATING WATER PUMP	
HWR	HOT WATER RETURN	
HWS	HOT WATER SUPPLY	
ΗZ	HERTZ •	
	I	
D	INSIDE DIAMETER	
E	INVERT ELEVATION	
Н	INFRARED HEATER	
N	INCH	
NSUL	INSULATION	
NT 	INTERNAL, INTERIOR	
W	INDIRECT WASTE	
	J	
JB	JUNCTION BOX	
JP	JOCKEY PUMP	
	K	
KEC	KITCHEN EQUIPMENT CONTRACTOR	
KVA	KNOCKOUT  KILOVOLT- AMPS	
KW	KILOWATT	
···	I I	
	L	
_	LENGTH, LAVATORY	
_AT	LEAVING AIR TEMPERATURE	
_AV	LAVATORY	
LF	LINEAR FEET	
_P	LOW PRESSURE	
_RA	LOCKED ROTOR AMPS	
LVL LWB	LEVEL LEAVING WET BULB	
-WCO	LOW WATER CUT OFF	
LWT	LEAVING WATER TEMPERATURE	
	1.4	
	M	
TAN	MIXED AIR TEMPERATURE	
MAX	MAXIMUM	
MBTUH	THOUSAND OF BTU'S	
MC	MECHANICAL CONTRACTOR	
MECH	MECHANICAL	
MFR MH	MANUFACTURER  MANHOLE	
м <del>н</del> МI	MANHOLE  MALLEABLE IRON	
MIN	MINIMUM	
viii\ VIP	MEDIUM PRESSURE	
w/S	MOP SINK	
MTD	MOUNTED	
MU	MAKE-UP	
MVD	MANUAL VOLUME DAMPER	
_	N	
N.C		
N.C.	NORMALLY CLOSED  NATIONAL FIRE PROTECTION	
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION	
NIC	NOT IN CONTRACT	
N.O.	NORMALLY OPEN	
NO.	NUMBER	
NTS	NOT TO SCALE	
	0	
OA	OUTSIDE AIR	
OAF	OUTSIDE AIR FAN	
DAHU	OUTSIDE AIR HANDLING UNIT	
OBD	OPPOSED BLADE DAMPER	
oc	ON CENTER	
20	OUTSIDE DIAMETER, OVERFLOW DRAIN	
JU		
OD OFCU OPG	OUTSIDE AIR FAN COIL UNIT OPENING	

OS&Y

OPEN STEM AND YOLK

	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 PNTH	PANEL PENTHOUSE
PP	
PPM	POLYPROPYLENE 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 DVC	PLUG VALVE
PVC	POLYVINYL CHLORIDE
	Q
QTY	QUANTITY
	R
	<del></del>
RA	RETURN AIR
RAD RAF	REFRIGERATED AIR DRYER
RAF RAG	RETURN AIR FAN 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 RL	RUNNING KILOWATTS  REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RM	ROOM, REFRIGERATION MACHINE
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
RV	RELIEF VALVE
	S
<u> </u>	
S	STEAM SUPPLY AIR
ς <u>Δ</u>	SUFFLI AIR
	SUPPLY AIR FAN
SAF	SUPPLY AIR FAN SUPPLY AIR GRILLE
SAF SAG	
SAF SAG SAN	SUPPLY AIR GRILLE
SAF SAG SAN SAR	SUPPLY AIR GRILLE SANITARY SEWER
SAF SAG SAN SAR	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER
SAF SAG SAN SAR SC SCHED	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE
SAF SAG SAN SAR SC SCHED	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED
SAF SAG SAN SAR SC SCHED SCR	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER
SAF SAG SAN SAR SC SCHED SCR SD SE	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY
SAF SAG SAN SAR SC SCHED SCR SD SE SEC SECT	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION
SA SAF SAG SAN SAR SC SCHED SCR SD SE SEC SECT SENS	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE
SAF SAG SAN SAR SC SCHED SCR SD SE SEC SECT SENS	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET
SAF SAG SAN SAR SC SCHED SCR SD SE SEC SECT SENS SF	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION
SAF SAG SAN SAR SC SCHED SCR SD SE SECT SENS SF SFCS SH	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION SHOWER
SAF SAG SAN SAR SC SCHED SCR SD SE SEC SECT SENS SF SFCS SH	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION SHOWER SHEET
SAF SAG SAN SAR SC SCHED SCR SD SE SECT SENS SF SFCS SH	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION SHOWER SHEET
SAF SAG SAN SAR SC SCHED SCR SD SE SECT SENS SF SFCS SH SHT SIM	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION SHOWER SHEET
SAF SAG SAN SAR SC SCHED SCR SD SE SEC SECT SENS SF SFCS SH SHT SIM	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION SHOWER SHEET SIMILAR SINK
SAF SAG SAN SAR SC SCHED SCR SD SE SEC SECT SENS SF SFCS SH SHT SIM SK	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION SHOWER SHEET SIMILAR SINK STARTING KILOVOLT-AMPS
SAF SAG SAN SAR SC SCHED SCR SCHED SEC SECT SENS SF SFCS SH SHT SIM SK SKVA	SUPPLY AIR GRILLE SANITARY SEWER SUPPLY AIR REGISTER STEAM CONDENSATE SCHEDULED SILICON CONTROLLED RECTIFIER STORM DRAIN SEWAGE EJECTOR SECONDARY SECTION SENSIBLE SQUARE FEET SPRINKLER FLOOR CONTROL STATION SHOWER SHEET SIMILAR SINK STARTING KILOVOLT-AMPS STARTING KILOWATTS

SPECIFICATION SPRINKLER SQUARE

SERVICE SINK SUBSURFACE DRAIN

STANDARD STEEL

STRAINER SURFACE

SUSPEND

SANITARY VENT

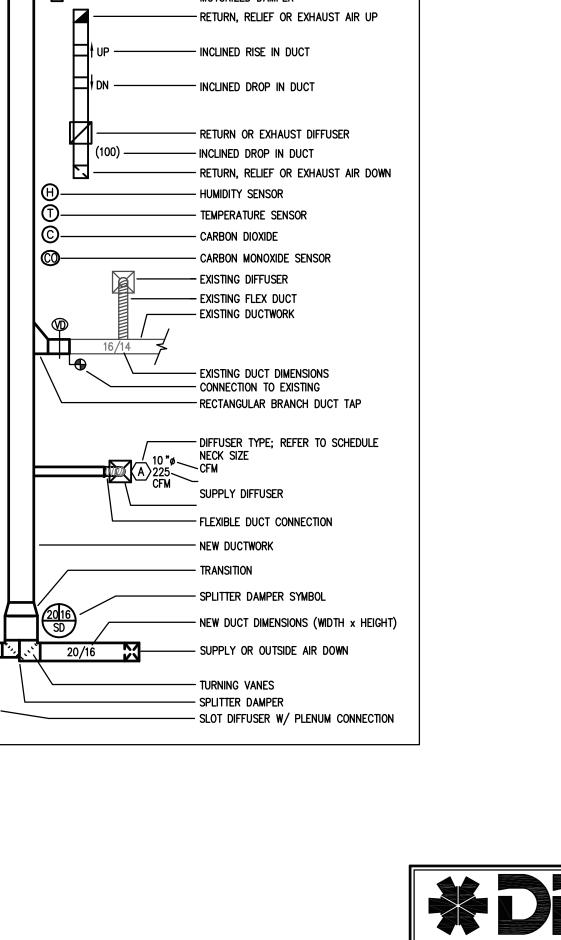
SANITARY SEWER FIXTURE UNITS

ZONE

SOLID STATE SPEED CONTROL

- CWS	CONDENSER WATER SUPPLY		CTDAINED WITH DIOW DOWN VALVE
CWR	CONDENSER WATER RETURN		STRAINER WITH BLOW DOWN VALVE
CHS	CHILLED WATER SUPPLY	<b>──┴─</b>	GATE VALVE, HVAC BALANCING/STOP VALVE
CHR	CHILLED WATER RETURN		GLOBE VALVE
—CD——	CONDENSATE DRAIN LINE	<b>──</b> ₩ <b>─</b>	BALL VALVE
	CAP ON END OF PIPE	<b>──</b>	BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS
<del></del> 0	ELBOW UP	<b>A</b>	OS&Y VALVE
<del></del>	ELBOW DOWN		CHECK VALVE
÷√₁	VALVE IN DROP		BUTTERFLY VALVE
	VALVE IN RISE		TWO-WAY MODULATING CONTROL VALVE
<del></del>	DIRECTION OF FLOW	<u> </u>	THREE-WAY MODULATING CONTROL VALVE
	DIRECTION OF SLOPE DOWN		SOLENOID VALVE
<del></del>	CONCENTRIC REDUCER  ECCENTRIC REDUCER		PRESSURE REDUCING VALVE
	TEE OUTLET UP		GAS REGULATOR
	TEE OUTLET DOWN	— <u> </u>	GAS COCK
——————————————————————————————————————	UNION	FCS —	SPRINKLER FLOOR CONTROL STATION
	FLANGE	<u></u>	MANUAL AIR VENT
	PIPE ANCHOR	<del>-</del>	AUTOMATIC AIR VENT
<i>/</i> ////-	EXPANSION JOINT	<u> </u>	T&P RELIEF VALVE
	PRESSURE AND TEMPERATURE TAP		PRESSURE GAUGE WITH GAUGE COCK
—₩—	FLOW VENTURI	$\overline{}$	STEAM TRAP
	VACUUM BREAKER		WATER METER
	VACUUM RELIEF VALVE		FLEXIBLE CONNECTION
->< <u>2222</u> > </td <td>BACKFLOW PREVENTOR</td> <td></td> <td>FLEABLE CONNECTION</td>	BACKFLOW PREVENTOR		FLEABLE CONNECTION
Q I	THERMOMETER		
<u>'</u>	CIRCULATING PUMP		

<u> </u>	CIRCULATING PUMP		
	T	DUCTWORK SY	'MBOLS - NEW
TC	TEMPERATURE CONTROL		
TCC	TEMPERATURE CONTROL COMPRESSOR		
TD	TRENCH DRAIN		SUPPLY OR OUTSIDE AIR U
TF	TRANSFER FAN	SD SD	CHOKE DETECTOD
TDH	TOTAL DYNAMIC HEAD		SMOKE DETECTOR
TH BLK	THRUST BLOCK		OPPOSED BLADE DAMPER
TP	TRAP PRIMER		VOLUME DAMPER
TPD	TRAP PRIMER DEVICE		
TSP	TOTAL STATIC PRESSURE		FIRE DAMPER
TSTAT	THERMOSTAT		
TYP	TYPICAL		
	- 11		FIRE/SMOKE DAMPER
		<b></b>	MOTORIZED DAMPER
U	URINAL		RETURN, RELIEF OR EXHAL
UCD	UNDER CUT DOOR	<b></b>	HETOMA, HELLI ON EXITA
UG 	UNDERGROUND	──┤│       ┃ ┃	INCLINED RISE IN DUCT
UH 	UNIT HEATER	——	MAINIPA 88.88 *** 5.47
UL	UNDERWRITERS LABORATORIES, INC.		INCLINED DROP IN DUCT
UNO	UNLESS NOTED OTHERWISE	——	
U/F	UNDERFLOOR	<u> —                                      </u>	RETURN OR EXHAUST DIFF
U/S	UNDERSLAB	(100) —	INCLINED DROP IN DUCT
	V		RETURN, RELIEF OR EXHAU
V	VOLT, VENT	$ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $ $	HUMIDITY SENSOR
VA VA	VOLT- AMPERE		TEMPERATURE SENSOR
VAC	VACUUM		CARBON DIOXIDE
VAV	VARIABLE AIR VOLUME		CARBON MONOXIDE SENSO
VB	VALVE BOX, VACUUM BREAKER		EXISTING DIFFUSER EXISTING FLEX DUCT
/CP	VITRIFIED CLAY PIPE		EXISTING DUCTWORK
/D	VOLUME DAMPER		
VEL	VELOCITY	16/14	$\rightarrow$
VERT	VERTICAL		EXISTING DUCT DIMENSIONS CONNECTION TO EXISTING
VFD	VARIABLE FREQUENCY DRIVE	<del></del>	RECTANGULAR BRANCH DU
VIB	VALVE IN BOX	<del> </del>	
VOV	VALVE ON VERTICAL	<del> </del>	DIFFUSER TYPE; REFER TO
VP.	VACUUM PUMP		10 "ø NECK SIZE CFM
VR	VARIABLE AIR VOLUME REHEAT		225 CFM SUPPLY DIFFUSER
VTR	VENT THRU ROOF	<del> </del>         \	<del></del>
	\A/		FLEXIBLE DUCT CONNECTIO
	VV		NEW DUCTWORK
w	WATT, WASTE, WIDTH, WASHER		TRANSITION
W/	WITH	$\Box$ $\Box$ $\Box$ $\Box$ $\Box$	SPLITTER DAMPER SYMBOL
<b>W/</b> 0	WITHOUT	2016 (SD)	NEW DUCT DIMENSIONS (W
WB	WET BULB		·
WC	WATER CLOSET	20/16	JULIET UN OUTSIDE AIR L
WCO	WALL CLEAN OUT	🚪   \	TURNING VANES
WH	WALL HYDRANT		SPLITTER DAMPER
WM	WATER METER		SLOT DIFFUSER W/ PLENU
WP	WEATHERPROOF		
WPD	WATER PRESSURE DROP		
WWF	WELDED WIRE FABRIC		
WT	WATERTIGHT, WEIGHT		
	Υ		
Y	YARD HYDRANT		
	7		









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Edwards + Mulhausen INTERIOR DESIGN

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In Association

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# **REVISIONS**

No.	Issue	Date		
1	100% Construction Documents	12/5/2016		
2	2 100% Construction Documents Issued for Bid			

SHEET INFORMATION
April 7, 2017
16-1010

**MECHANICAL** SYMBOLS AND **ABBREVIATIONS** 

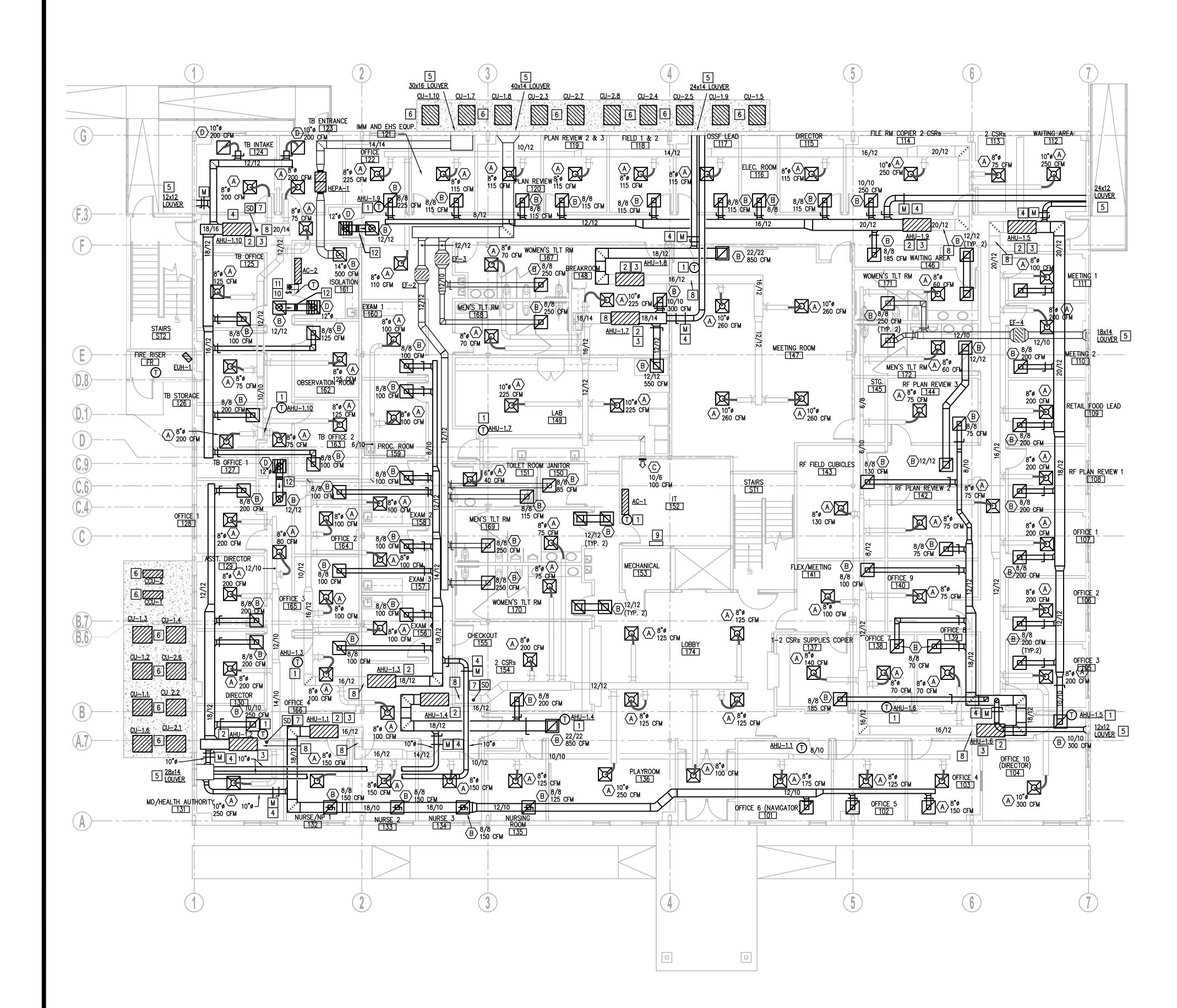
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Austin, Texas 78757
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TBPE Firm Registration No. 2234 165026.000 DBR Project Number MC SN NF AH --

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SHEET



# 1 1ST LEVEL MECHANICAL PLAN 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

- PROVIDE WALL MOUNTED THERMOSTAT. COORDINATE WITH ARCHITECT FOR FINAL LOCATION AND MOUNTING HEIGHT. TYP. ALL.
- 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.
- 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.
- 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
- PROVIDE ALUMINUM STATIONARY LOUVER WITH MIN. 50% FREE AREA, BACK DRAFT DAMPER AND BIRD SCREEN. LOUVER SHALL BE RUSKIN ELF375DX 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.
- 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).

DE-ENERGIZED.

- 9 AUTOMATED LOGIC HVAC MAIN CONTROL PANEL. COORDINATE WITH ELECTRICAL FOR POWER REQUIRMENTS AND IT VENDOR FOR DATA REQUIREMENTS.
- 10 ON/OFF SWITCH FOR <u>HEPA-1</u> EXHAUSTING TB CLINIC ISOLATION ROOM.
- NEGATIVE PRESSURE VISUAL—ONLY INDICATOR MOUNTED ON WALL OUTSIDE OF ISOLATION ROOM. PROVIDE AND INSTALL "BALL—IN—THE—WALL" TECHNOLOGY SIMLIAR TO DEVICE FROM AIRFLOW DIRECTION INCORPORATED (WWW.AIRFLOWDIRECTION.COM).
- LOW-LEAKAGE MOTORIZED DAMPER TO BE INTERLOCKED WITH ISOLATION ROOM EXHAUST UNIT <u>HEPA-1</u>. WHEN <u>HEPA-1</u> IS ENERGIZED, DAMPER SHALL OPEN. WHEN <u>HEPA-1</u> 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.

# 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.









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Phone: 512-433-2696

Edwards + Mulhausen

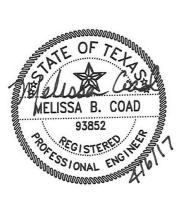
INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80
Austin, Texas 78741 Ph. 512.291.6657

In Association

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

SHEET INFORMATION
April 7, 2017
16-1010

1ST LEVEL MECHANICAL PLAN

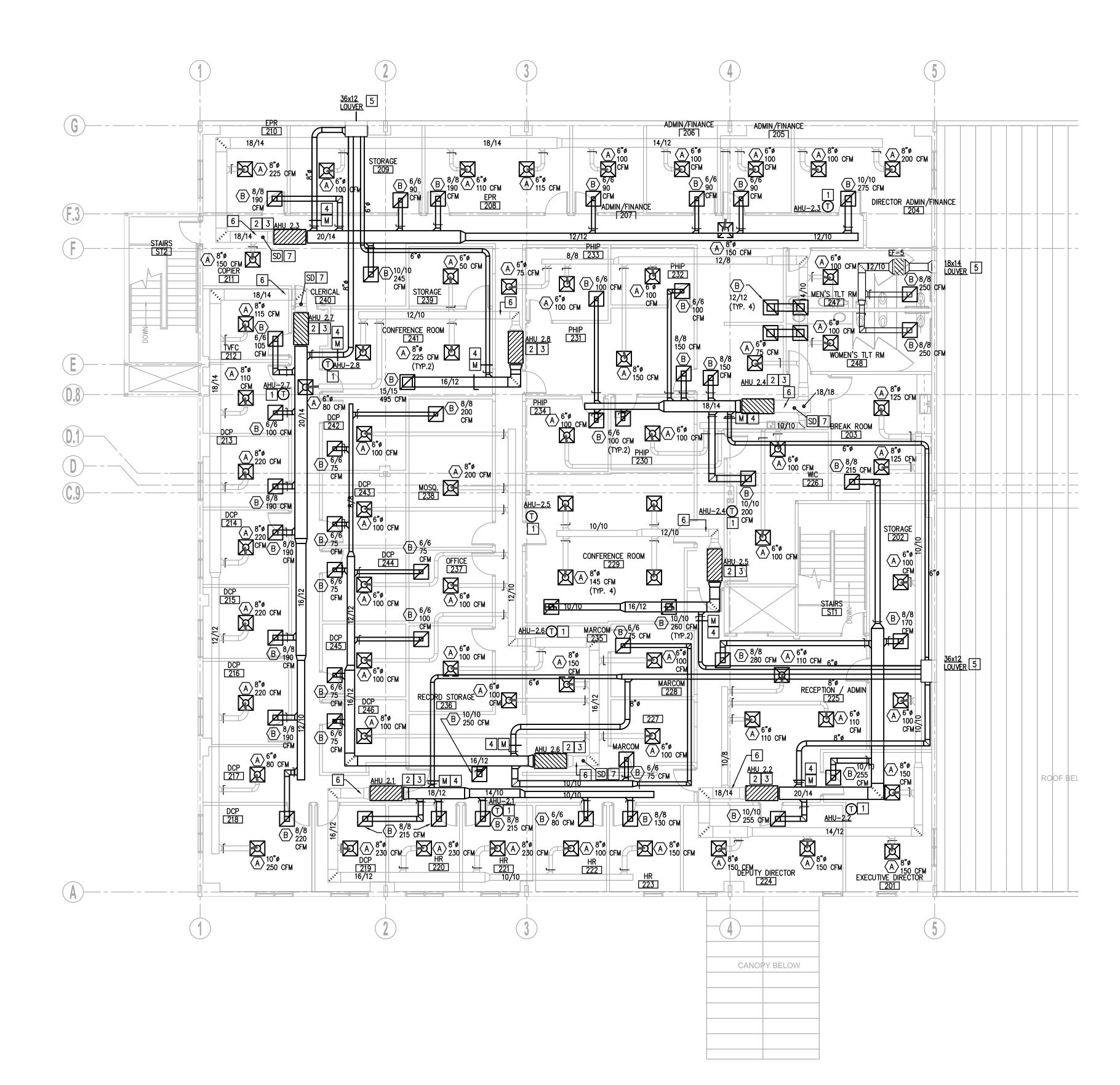
SHEET

TITLE

M2.01

4/12/2017 10:23 AM

p. 38



# 2ND LEVEL MECHANICAL PLAN 1/8"=1'-0"

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 Austin, Texas 787

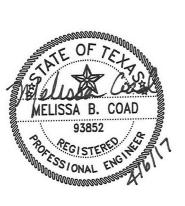
Edwards + Mulhausen
INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80
Austin, Texas 78741 Ph. 512.291.6657

In Association w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



## REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATIO
Date	April 7, 20
Job Number	16-10
Scale	
Drawn	
Checked	
Approved	

2ND LEVEL MECHANICAL PLAN

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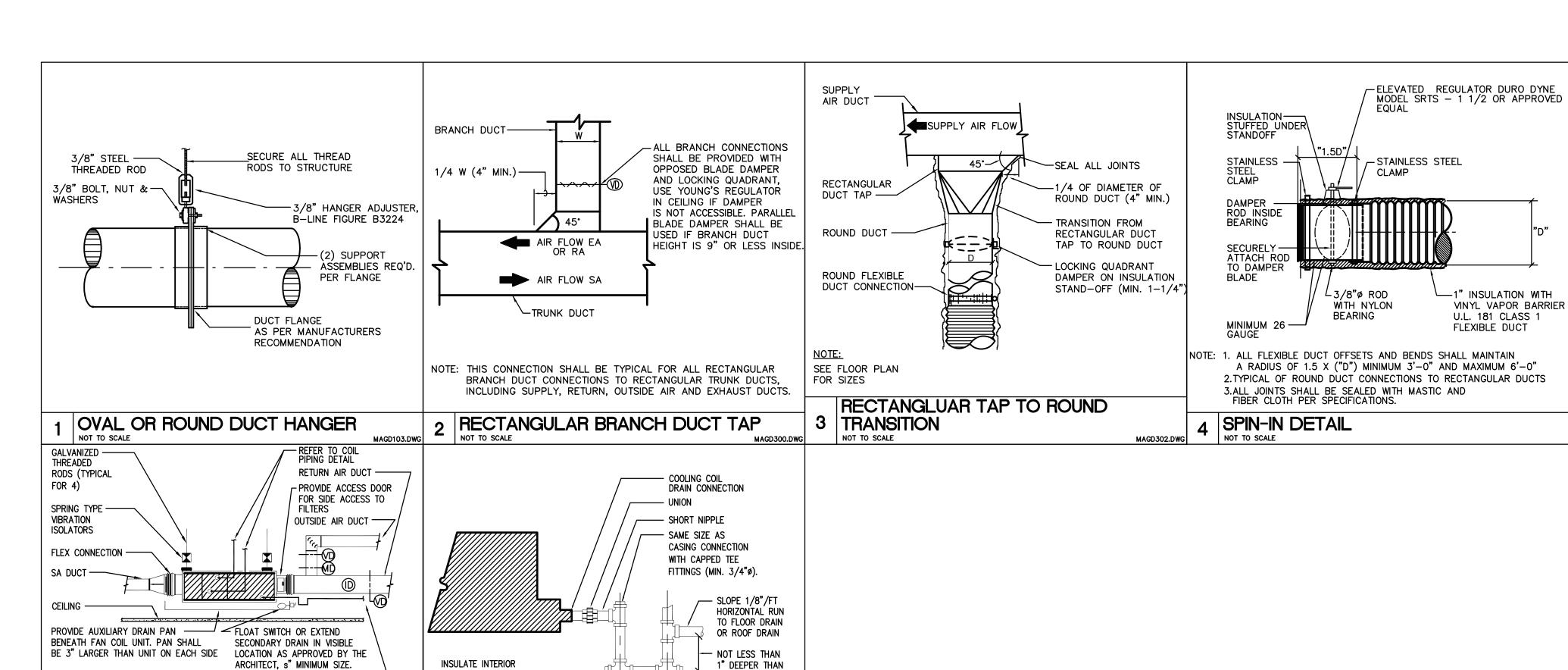
SHEET

M2.02

7800 Shool Creek Blvd | 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 ——



TOTAL FAN STATIC

PRESSURE

PROVIDE CHROME ESCUTCHEON

EXTEND INSULATED PRIMARY CONDENSATE DRAIN LINE

TO DRAIN, s" MINIMUM

SIZE; INSULATE W/

(25/50) \_

ARMAFLEX AP-2000

PLATE CEILING PENETRATION.

NOTES:
1. PROVIDE MISC. GALV. SUPPORT ANGLE OR

CHANNEL AS REQ'D. TO BRIDGE STRUCTURE

2. ALL CONDENSATE DRAIN PIPING SHALL BE COPPER

5 FAN COIL UNIT MOUNTING

CONDENSATE DRAIN WITH

6 DRAIN
NOT TO SCALE

ARMAFLEX AP-2000 (25/50) -

MALLABLE IRON SCREWED FITTINGS.

1. MAINTAIN MINIMUM 1" AIR GAP AT FLOOR DRAIN OR ROOF DRAIN.

COOLING COIL CONDENSATE

2. ALL CONDENSATE DRAIN PIPING SHALL BE SCHEDULE 40 GALVANIZED WITH







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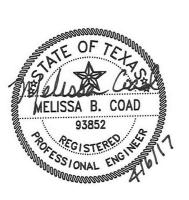
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INTERIOR DESIGN

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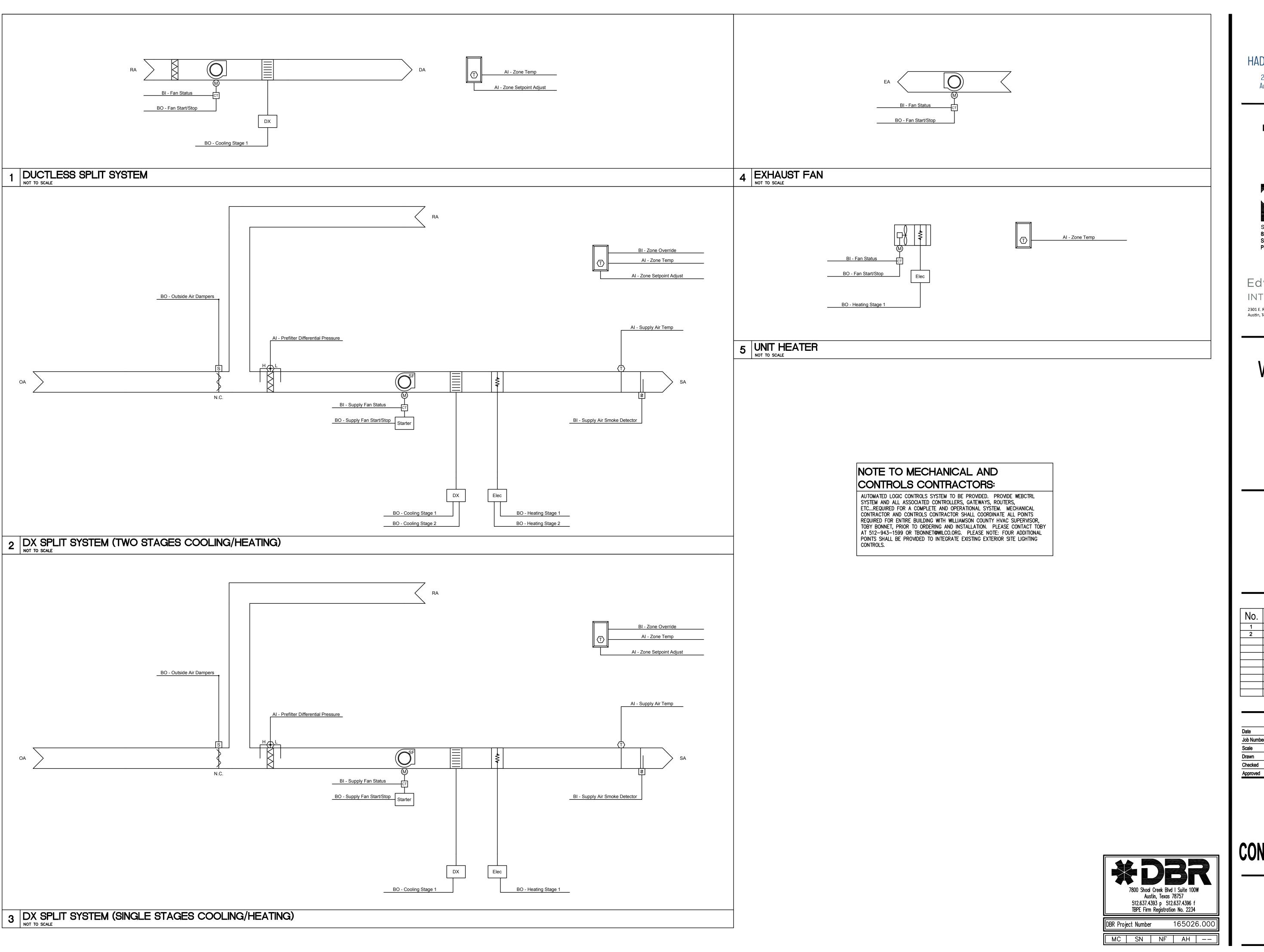
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No.	Issue	Date
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	SHEET INFORMATION
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	TITLE

MECHANICAL DETAILS

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M3.01









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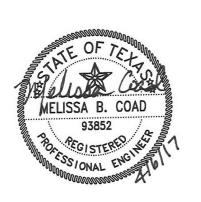
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MECHANICAL CONTROL SCHEMATICS

SHEET

M3.02

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

- Basis of Design: Global Plasma Solutions: Approved equals by Airgenics and Bioxgen subject to specification compliance
- Mount bi-polar ion generator where indicated on schedule
- . If contractor substitutes basis of design with another manufacturer, contractor shall coordinate all electrical and mechanical changes
- Bi-polar ionization systems requiring perishable glass tubes are not acceptable
- . All manufacturers must pass UL-867-2007 ozone chamber testing by either UL or ETL

OUTSIDE AIR (	SALCULATION	<u> </u>	3LE 6.1	<u>ASHR</u>	AE 62.	1 2013		
SPACE DESIGNATION	USAGE TYPE	AREA (FT <sup>2</sup> )	PEOPLE / 1,000 FT <sup>2</sup>	PEOPLE	PEOPLE OVERRIDE	CFM / PERSON	CFM / FT <sup>2</sup>	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
							QUIRED:	2,312

DX SPLIT SYSTEM HEAT PUMP SCHEDULE (ELECTRIC HEAT)

TOTAL OA CFM DESIGNED: 3,220

4TWA7036 4TWA7048

1, 2, 3,6, 7

1, 2, 3,

4TW R5030

**2.5 TONS** 

4TW R5030

4TW R5030

4TWA7036

	DUCTLES	S SPLIT SY	STEM SCH	HEDULE	
	MARK	AC-1	AC-2		
	TYPE	WALL	WALL		
	AIRFLOW (CFM)	700	320		
	TOTAL COOLING (MBH)	24	18		
	VOLTS/PHASE/HERTZ	208/1/60	208/1/60		
	TOTAL HEATING (MBH)	N/A	19 (5.6 KW)		
OOR	TOTAL INPUT (HEATING)	N/A	1970 WATTS		
Š	МСА	1	1		
	МОСР	15	15		
	SEER / COP	17 / N/A	15.3 / 2.8		
	REFRIGERANT	410A	410A		
	MANUFACTURER	MITSUBISHI	MITSUBISHI		
NUTDOOR UNIT INDOOR UNIT INDOOR UNIT INDOOR UNIT	MODEL NUMBER	PKA-24KA6	PKA-A18HA6		
	MARK	CCU-1	CCU-2		
L	VOLTS/PHASE/HERTZ	208/1/60	208/1/60		
OR L	MCA	18	15		
TDO	МОСР	30	20		
8	MANUFACTURER	MITSUBISHI	MITSUBISHI		
	MODEL NUMBER	PUY-A24NHA6-BS	PUZ-A18NHA6		
NOTE	ES:	1, 2, 3,4	1, 2, 3, 4		

- PROVIDE REFRIGERANT AND DRAIN PIPING IN ACCORDANCE WITH MFR'S RECOMMENDATIONS.
- PROVIDE UNIT WIND BAFFLE AND DISCONNECT SWITCH.
- PROVIDE WALL MOUNTED THERMOSTAT AND CONDENSATE PUMP.
- . DUE TO ANTICIPATED REFRIGERANT PIPING LENGTH. MFR. TO VERIFY RQUIRED REFRIGERANT CHARGE.

AIR	DEVICE SCHEDU	ILE	
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.

- 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.

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		соок	соок	соок	соок
MODEL NUMBER		GN-842	GN-720	GN-720	GN-720
NOTES		1,2	1,2	1,2	1,2

I I F E/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		соок	соок	соок	соок
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, BACKDRAI 2. UNIT CONTROL BY TIME CLOCK. 3. FAN SHALL RUN CONTINUOUSLY.	FT DAMPER, AND				

#### SUPPLY AIR (CFM) 930 930 1,050 1,600 930 1,380 1,440 1,100 1,440 180 OUTSIDE AIR (CFM) 180 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 0.6 8.0 0.6 0.6 0.6 0.8 0.6 0.6 0.6 0.6 EXT. SP. (IN W.G.) 1/2 1/3 0.75 0.75 FAN MOTOR HORSEPOWER 1/3 1/2 0.75 1/3 0.75 0.75 0.75 0.75 3 TONS 4 TONS 2.5 TONS 2.5 TONS 3 TONS 4 TONS 4 TONS 4 TONS 4 TONS 3 TONS 1.5 TONS 4 TONS 4 TONS 1.5 TONS 3 TONS 2.5 TONS 2.5 TONS **2.5 TONS** NOMINAL TONS AHRI COOLING CAPACITY (MBH) 7.2 7.2 7.2 7.2 7.2 7.2 10.8 7.2 10.8 10.8 7.2 10.8 7.2 10.8 10.8 ELECTRIC HEAT (KW) @ 208 V 10.8 3.6 32.7 32.7 28.1 32.7 32.7 16.7 16.7 HEAT PUMP CAPACITY (MBH) @ 47°F 28.1 28.1 28.1 28.1 46 HEAT PUMP COP 4.3 4.3 4.3 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 MANUFACTURER TRANE **TRANE** TRA NE TEM6A0C36 | TEM6A0B30 | TEM6A0B30 | TEM6A0C36 | TEM6A0D48 | TEM6A0B30 | TEM6A0B30 | TEM6A0C36 TEM6A0D48 | TEM6A0D48 | TEM6A0C36 | TEM6A0D48 TEM6A0D48 TEM6A0D48 | TEM6A0C48 | TEM6A0B30 | TEM6A0B24 TEM6A0B24 WEIGHT (LBS) 126 4,5,7 4,5,6,7 4,5,6,7 4,5,6,7 4,5,6,7 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 CU-1.1 CU-1.7 CU-2.3 CU-2.7 CU-2.8 CU-1.2 CU-1.3 CU-1.4 CU-1.5 CU-1.8 CU-1.9 CU-1.10 CU-2.1 CU-2.2 CU-2.4 15.25 / 12.5 | 15.25 / 12.5 17.5 / 13 | 15.25 / 12.5 | 15.25 / 12.5 17.5 / 13 17.5 / 13 17.5 / 13 17.5 / 13 15.25 / 12.5 17.5 / 13 17.5 / 13 17.5 / 13 17.5 / 13 17.5 / 13 MIN. SEER/EER (ARI) 17.5 / 13 15 / 12.5 15 / 12.5 AMBIENTAIR 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 / 1 / 60 208 / 3 / 60 208 / 3 / 60 208 / 3 / 60 25 MOCP MANUFACTURER TRANE **TRANE TRANE** TRANE TRANE

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

4TWA7048 4TWA7048 4TWR5030

4 TONS

4TWA7048

4 TONS

4TWA7048 4TWA7036

4TWR5019

4TWA7048

4TWA 7048

4 TONS

4TWR5019

1.5 TONS

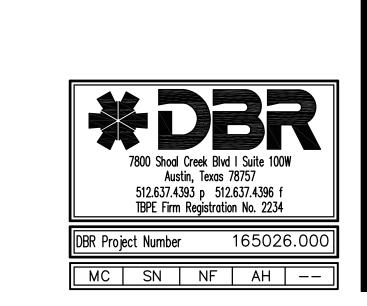
NOMINAL TONS

WEIGHT (LBS)

- PROVIDE CONDENSER COIL HAIL GUARDS.
- . PROVIDE LOW AMBIENT CONTROL.
- . INSTALL REFRIGERANT PIPING IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- . PROVIDE SECONDARY DRAIN PAN WITH FLOAT SWITCH UNDER UNIT TO DISENGAGE THE UNIT.
- PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION AND EXTERNAL FILTER WITH FILTER RACK.
- . PROVIDE UNIT WITH TWO STAGES HEATING AND TWO STAGES COOLING. INSTALL LITTLE GIANT VCMA-15ULS CONDENSATE PUMP ON ALL UNITS. REFER TO M2.01 AND M2.02, KEYED NOTE 3.

4TWA7036 4TWR5030

MARK	EUH-1
CFM	400
KW	3.3
VOLTS/PHASE/HERTZ	208/1/60
AMPS	16
MANUFACTURER	MARKEL
MODEL NO.	F1FUH03003
NOTES	1
NOTES:	









SAN ANTONIO 8200 IH-10 West, Ste. 103 901 S. Mopac

San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746

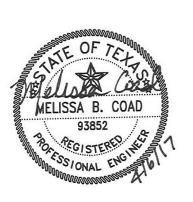
Edwards + Mulhausen INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

Bid 1704-153

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



## **REVISIONS**

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

MECHANICAL **SCHEUDULES** 

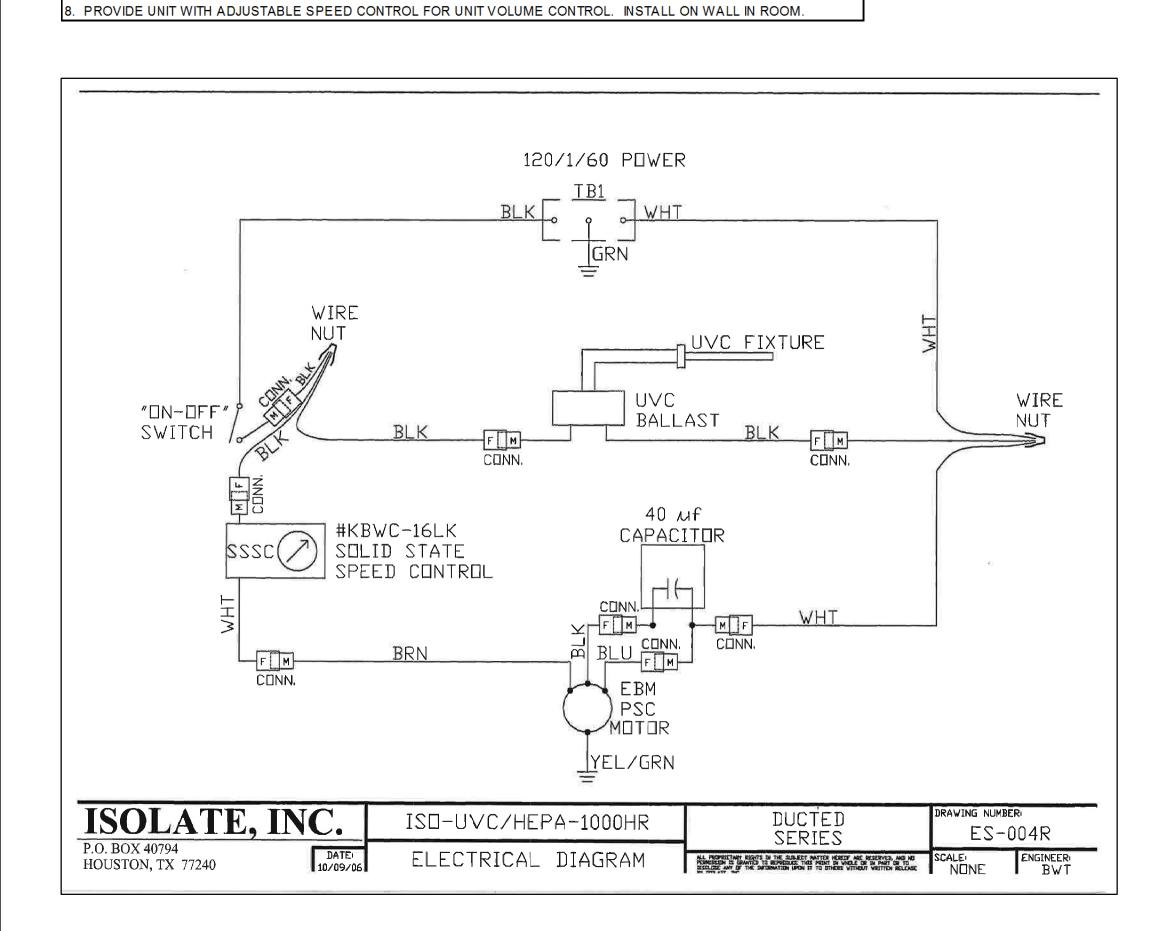
SHEET

M4.01

4/12/2017 10:23 AM

p. 42

	DUCTED UVC/HE	PA AIR FILTRAT	ION UNIT,	FAN POWE	ERED
	MARK	HEPA-1			
	TYPE	ABOVE CEILING INSTALL			
	AIRFLOW (CFM)	500			
NDOOR UNIT	FAN VOLTS/PHASE/HERTZ	120/1/60			
SOR	TOTAL WATTS	560 W			
ND	MCA	1			
	моср	20			
	MANUFACTURER	ISOLATE, CORP.			
	MODEL NUMBER	ISO-HEPA-500HR			
NOTE	ES:	ALL NOTES APPLY			
NOTE	ES:				
1. P	ROVIDE UNIT WITH 99.97% EFFICIEN	IT HIGH EFFICIENCY HEPA A	IR FILTER (TO 0.3 I	MICRON PARTICLE	SIZE), UL CLASS 2.
2. P	ROVIDE UNIT WITH HIGH INTENSITY	ULTRAVIOLET (UVC FIXTURE	) FROM MANUFAC	TURER.	
	ISTALL UNIT TO ALLOW FOR SIDE A S WITH NYLON LOCK-NUT FASTENE		USPEND UNIT FRO	M STRUCTURE WI	TH 5/16" HANGER
	NIT SHALL BE PROVIDED WITH FAC D WITH PLUG.	TORY WIRED ON-OFF SWITC	H TO AN INTERNAL	L UNIT JUNCTION B	OX OR POWER
1	ROVIDE WITH MODEL H800 CURREN HEPA ELEMENT, MODEL UVC/HEPA		OTE INDICATION. F	PROVIDE WITH ONE	SPARE
6. P	ROVIDE UNIT WITH 12 MONTH WARF	RANTY FROM DATE OF COM	MISSIONING.		
7. C	ONTRACTOR SHALL OBTAIN WIRING	DIAGRAM FROM MANUFAC	TURER FOR INSTA	LLATION.	
I					









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, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

In Association

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# **REVISIONS**

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	
	TITLE

**MECHANICAL SCHEDULES** 

SHEET

M4.02

Austin, Texas 78757
512.637.4393 p 512.637.4396 f
TBPE Firm Registration No. 2234 165026.000 DBR Project Number MC SN NF AH --

			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	VAV Minimum %	Main Coil Heating Sensible Btu/h	Heating Fan Max SA cfm	Percent OA	
Alterna			11,-	*	DUU/II	DLWIII	Cilli	acronic	cfm	70	DIU/II	GIIII	Clg	Htq
AILEITIA	101 OFFICE 6	Rm Peak	172	1.0	3,639	4,209	154	5.97	0	0	-2,501	154	9.9	9.
	102 OFFICE 5	Rm Peak	130	1.0	1,870	2,437	73		0	0	-1,450	73	17.5	17
	103 OFFICE 4	Rm Peak	130	1.0	3,292	3,801	142		0	0	-2,241	142	9.0	9
	132 NURSE 1	Rm Peak	116	1.0	3,186	3,675	138		0	0	-2,159	138	8.7	8
	133 NURSE 2	Rm Peak	116	1.0	3,186	3,675	138		0	0	-2,159	138	8.7	8
	134 NURSE 3	Rm Peak	116	1.0	3,186	3,675	138		0	0	-2,159	138	8.7	8
	135 NURSING RM	Rm Peak	116	2.0	2,340	3,453	81		0	0	-2,222	81	33.1	33
HU-01	100 1401401140 1401	Svs Peak	896	8.0	20,700	24,924	865		0	0	-14,891	865	12.0	12
HU-01		Sys Block	896	8.0	20,680	24,586	865				-14,891	865	12.0	12
110-01	123 TB ENTRANCE	Rm Peak	115	0.0	4,078	4,093	190		0	0	-2,491	190	3.6	3
	124 TB INTAKE	Rm Peak	115	2.0	5,395	6,416	241	13.95	0	0	-4,025	241	11.2	11
	125 OFFICE	Rm Peak	115	1.0	1,771	2,323	67		0	0	-1,332	67	17.7	17
	126 TB STORAGE	Rm Peak	115	0.0	1,052	1,488	30		0	0	-1,005	30	45.6	45
	127 TB OFFICE 1	Rm Peak	115	1.0	4,743	5,105	214		0	0	-3,004	214	5.6	5
	161 ISOLATION	Rm Peak	115	1.0	1,991	3,056	58		0	0	-2,190	58	54.6	54
	162 ANTEROOM	Rm Peak	115	1.0	1,991	3,056	58		0	0	-2,190	58	54.6	54
	163 TB OFFICE 2	Rm Peak	115	1.0	1,540	2,082	58		0	0	-1,234	58	20.4	20
HU-010		Sys Peak	920	7.0	22,561	27,617	917		0	U	-17,470	917	16.0	16
HU-010		Sys Block	920	7.0	19,427		917				-17,470	917	16.0	16
nu-010	128 OFFICE 1	Rm Peak	115	1.0	4,744	<b>24,129</b> 5,106	214		0	0	-3,009	214	5.6	5
	129 ASST DIR	Rm Peak	115		4,744	5,106	214		0	0	-3,009	214	5.6	5
	130 DIR	Rm Peak	115	1.0	•	5,106			0	0	•		5.6	5
	131 MD HEALT AUTH	Rm Peak	200	1.0 1.0	4,744 6,046	6,577	214 265		0	0	-3,009 -3,841	214 265	6.4	6
HU-02	131 WID HEALT AOTH	Sys Peak	545	4.0	•	21,894	907		U	U	-3,641 - <b>12,867</b>	907	5.8	5
HU-02		Sys Block	545	4.0	20,277 20,236	21,094	907				-12,867	907	5.8	5
HU-02	156 EXAM 4	Rm Peak	100	2.0	1,926	2,854	68		0	0	-1,753	68	31.0	31
	157 EXAM 3	Rm Peak	100	2.0	1,926	2,854	68		0	0	-1,753	68	31.0	31
	158 EXAM 2	Rm Peak	100	2.0	1,926	2,854	68		0	0	-1,753	68	31.0	31
	159 PROC RM	Rm Peak	115	2.0	2,012	2,854	71		0	0	-1,753 -1,827	71	31.0	31
	160 EXAM 1	Rm Peak	115	2.0	2,012	2,969	71		0	0	-1,827 -1,827	71	31.0	31
	164 OFFICE 2	Rm Peak	115		1,539	2,969	59		0	0	-1,027 -1,213	59	20.3	20
	165 OFFICE 3	Rm Peak	115	1.0	1,539		59 59		0		-1,213		20.3	
	166 OFFICE 4	Rm Peak		1.0	•	2,081				0		59	20.3	20
			115	1.0	1,539	2,081	59		0	0	-1,213	59 80		20
	CORRIDOR EXAM AREA	Rm Peak	425	0.0	2,457	3,277	80	1.26	0	0	-2,108	80	31.7	31

\* 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

			Floor Area	People	Coll Cooling Sensible Btu/h	Coll Cooling Total Btu/h	Space Design Max SA	Air Changes	VAV Minimum SA	VAV Minimum	Main Coll Heating Sensible	Heating Fan Max SA		cent A
System	Zone Room **		ft²	#			cfm	ach/hr	cfm	%	Btu/h	cfm	Clg	Htg
,	119 PLAN REVIEW 2 3	Rm Peak	115	1.0	1,977	2,452	74		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	228	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.
AHU-21		Sys Block	580	5.0	22,046	24,387	922				-14,213	922	6.5	6.
	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	11.0
AHU-22		Sys Block	1,476	12.0	30,376	36,580	1,213				-22,509	1,213	11.6	11.0
	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.
	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

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

			Floor Area	People	Coll Cooling Sensible	Coll Cooling Total		Air Changes	VAV Minimum SA	VAV Minimum	Main Coil Heating Sensible	Heating Fan Max SA		cent A
	Zone Room **	O D I-	ft²	#	Btu/h	Btu/h	cfm	ach/hr	cfm	%	Btu/h	cfm	Clg	Htg
AHU-03		Sys Peak	1,620	13.0	18,724	26,486	661				-16,248	661	28.3	28.3
AHU-03	100 PL N/POOM	Sys Block	1,620	13.0	18,724	26,486	661	5.00		0	-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	104 055105 40	Sys Block	1,600	23.0	21,962	31,882	818	0.07		•	-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
80-UHA		Sys Peak	735	9.0	15,512	19,274	654				-10,228	654	9.8	9.8
80-UHA		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.

Dataset Name: 165026 WilliamsonHealthDept.trc

TRACE® 700 v6.3.2 calculated at 11:17 AM on 11/30/2016 Load/Airflow Summary Report Page 2 of 4

			Floor Area	People	Coll Cooling Sensible	Coll Cooling Total		Air Changes	VAV Minimum SA	VAV Minimum	Main Coll Heating Sensible	Heating Fan Max SA	0	cent
System	Zone Room ** 229 CONFERENCE	Rm Peak	<b>ft²</b> 460	# 14.0	Btu/h	Btu/h	<b>cfm</b> 350	<b>ach/hr</b> 5.07	<b>cfm</b>	<u>%</u> 0	Btu/h -5,764	<b>cfm</b> 350	<b>Clg</b> 7.9	<b>Htg</b> 7.9
ALIII 05	229 CONFERENCE		460 460	14.0	8,819 <b>8.819</b>	12,269	350 350		U	U	•	350 350	7.9 <b>7.9</b>	7.9 <b>7.9</b>
AHU-25 AHU-25		Sys Peak	460	14.0 14.0	8,819	12,269	350				-5,764 5,764	350 350	7.9 7.9	7.9
AHU-25	227 MARCOM	Sys Block Rm Peak	110	1.0	1.708	<b>12,269</b> 2,246	62		0	0	<b>-5,764</b> -1.382	<b>350</b> 62	7.9 18.6	18.6
	228 MARCOM	Rm Peak	110	1.0	1,708	2,246	62		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	-1,362	127	10.9	10.9
	236 RECORD STORAGE	Rm Peak	130	0.0	1,155	1,637	30		0	0	-1,123	30	51.7	51.7
	237 OFFICE	Rm Peak	110	1.0	1,133	2,246	62		0	0	-1,123	62	18.6	18.6
	238 MOSQ	Rm Peak	110	1.0	1,708	2,246	62		0	0	-1,382	62	18.6	18.6
	239 STORAGE	Rm Peak	130	0.0	1,708	1,637	30		0	0	-1,362	30	51.7	51.7
	242 DCP	Rm Peak	110	1.0	1,708	2,246	62		0	0	-1,123	62	18.6	18.6
	243 DCP	Rm Peak	110	1.0	1,708	2,246	62		0	0	-1,382	62	18.6	18.6
	244 DCP	Rm Peak	110	1.0	1,708	2,246	62		0	0	-1,382	62	18.6	18.6
	244 DCP 245 DCP	Rm Peak	110	1.0	1,708	2,246	62		0	0	-1,382	62	18.6	18.6
	246 DCP	Rm Peak	110	1.0	1,708	2,246	62		0	0	-1,382	62	18.6	18.6
	CORRIDOR DCP AREA	Rm Peak	240	0.0	1,768	2,240	56		0	0	-1,419	56	25.8	25.8
	CORRIDOR MARCOM	Rm Peak	440	0.0	3,396	4,257	102		0	0	-2,601	102	25.8	25.8
AHU-26	CONTIDON MARCOM	Sys Peak	2,160	11.0	26,230	34,174	906		U	U	-2,001 -21,071	906	21.0	21.0
AHU-26		Sys Block	2,160	11.0	26,230	34,174	906				-21,071	906	21.0	21.0
AHU-20	212 TVFC	Rm Peak	2,100	4.0	5,969	7.717	223		0	0	- <b>4</b> ,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		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	210 801	Sys Peak	1,015	10.0	33.650	38,021	1,416		0	<u> </u>	-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
A10-21	241 CONFERENCE	Rm Peak	255	10.0	6,223	8,588	256		0	0	-3,904	256	6.0	6.0
AHU-28	Z-1 COM ENCINOE	Sys Peak	255 255	10.0	6,223	8,588	256		U	J	-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.

Dataset Name: 165026 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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INTERIOR DESIGN 2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

In Association

Bid 1704-153

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# **REVISIONS**

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	
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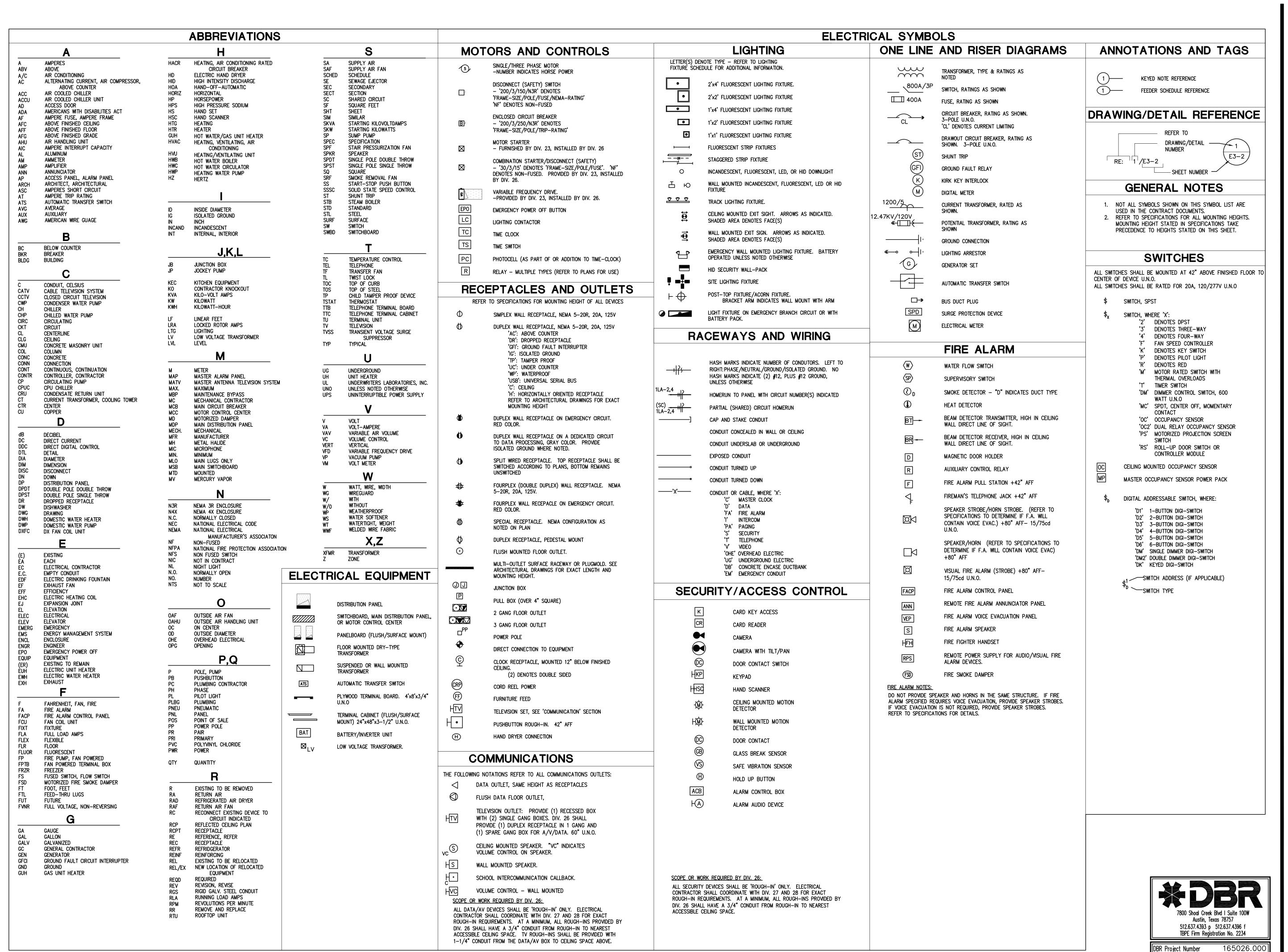
MECHANICAL LOAD **CALCULATIONS** 

SHEET

M4.03

Austin, Texas 78757 512.637.4393 p 512.637.4396 f TBPE Firm Registration No. 2234 165026.000 DBR Project Number MC SN NF AH --

4/12/2017 10:23 AM



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8200 IH-10 West, Ste. 103 901 S. Mopac San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

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INTERIOR DESIGN

In Association

Bid 1704-153

# WCCHD Office Renovations



# **REVISIONS** Date Issue 100% Construction Documents 100% Construction Documents Issued for Bid 4/7/2017

SHEET INFORMATION April 7, 2017 Job Number 16-1010 Checked

> **ELECTRICAL** SYMBOLS AND **ABBREVIATIONS**

MC | SN | NF | AH | --

4/12/2017 10:23 AM

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2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

355 Texas Avenue

Round Rock, Texas

## GENERAL ELECTRICAL SPECIFICATIONS

- 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 WRING SHALL BE COPPER. ALUMINUM WRING IS NOT ACCEPTABLE. MINIMUM WRE 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 THE 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

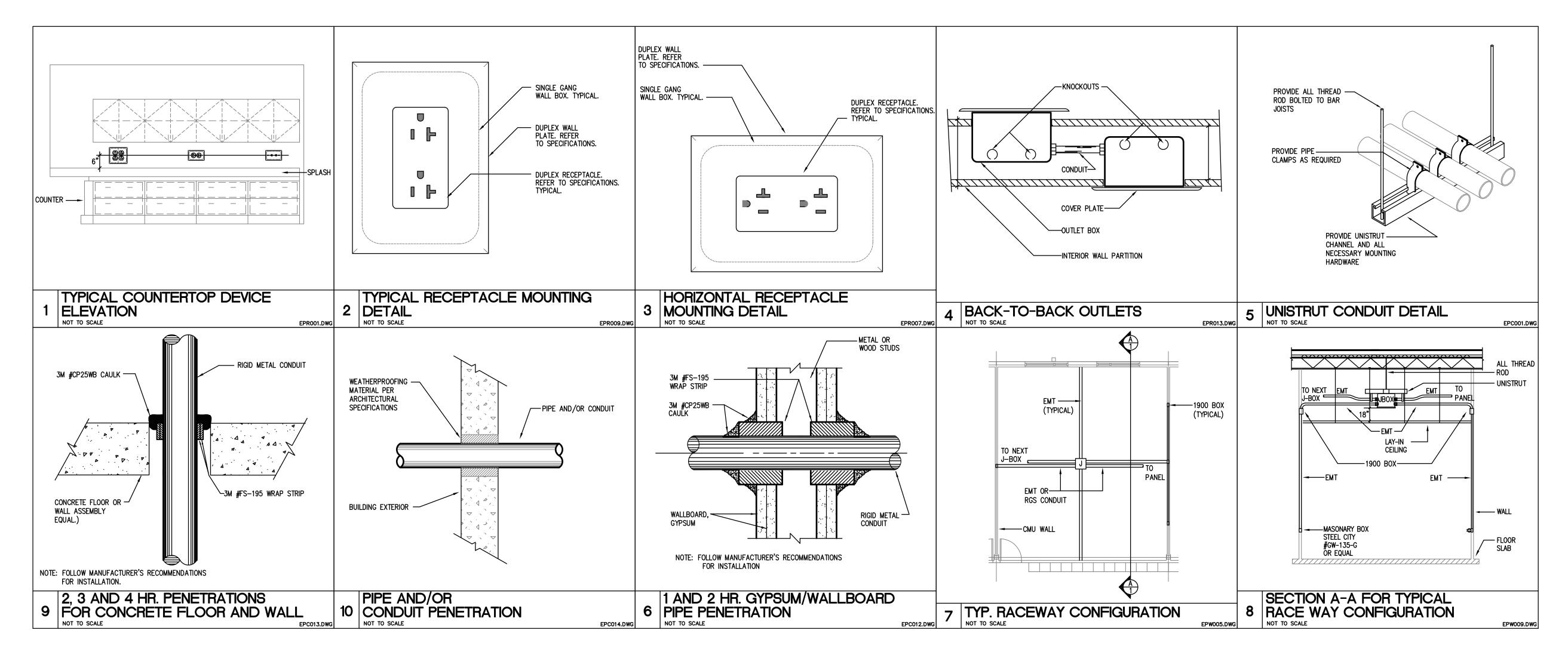
## FIRE ALARM REMODELING NOTES:

- I. 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.
- 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.
- 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-LD4-32-F1-UNV-L835-CD1-U	RECESSED	33W LED	120V	RECESSED 2'X2' LED TROFFER.								
B/BE	HALO COMMERCIAL #PD6-15-ED010-PDM6A-835	RECESSED	17W LED	120V	6" RECESSED DOWNLIGHT.								
C/CE	METALUX #4SWLED-LD436SLLC-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-C6-LED-E1-WQ-TR	SURFACE	108W LED	120V	SURFACE MOUNTED LED CANOPY LIGHT.								
Х	SURE-LITES #LPX-7	SURFACE	LED	120V	SURFACE MOUNTED POLYCARBONATE LED EXIT SIGN.								









TBPE Firm Registration No. 2234



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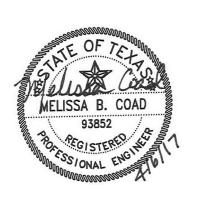
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> In Association w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# REVISIONS ISSUE Date 100% Construction Documents 12/5/2016 100% Construction Documents Issued for Bid 4/7/2017

SHEET INFORMATION

Date April 7, 2017

Job Number 16-1010

Scale

Drawn

Checked

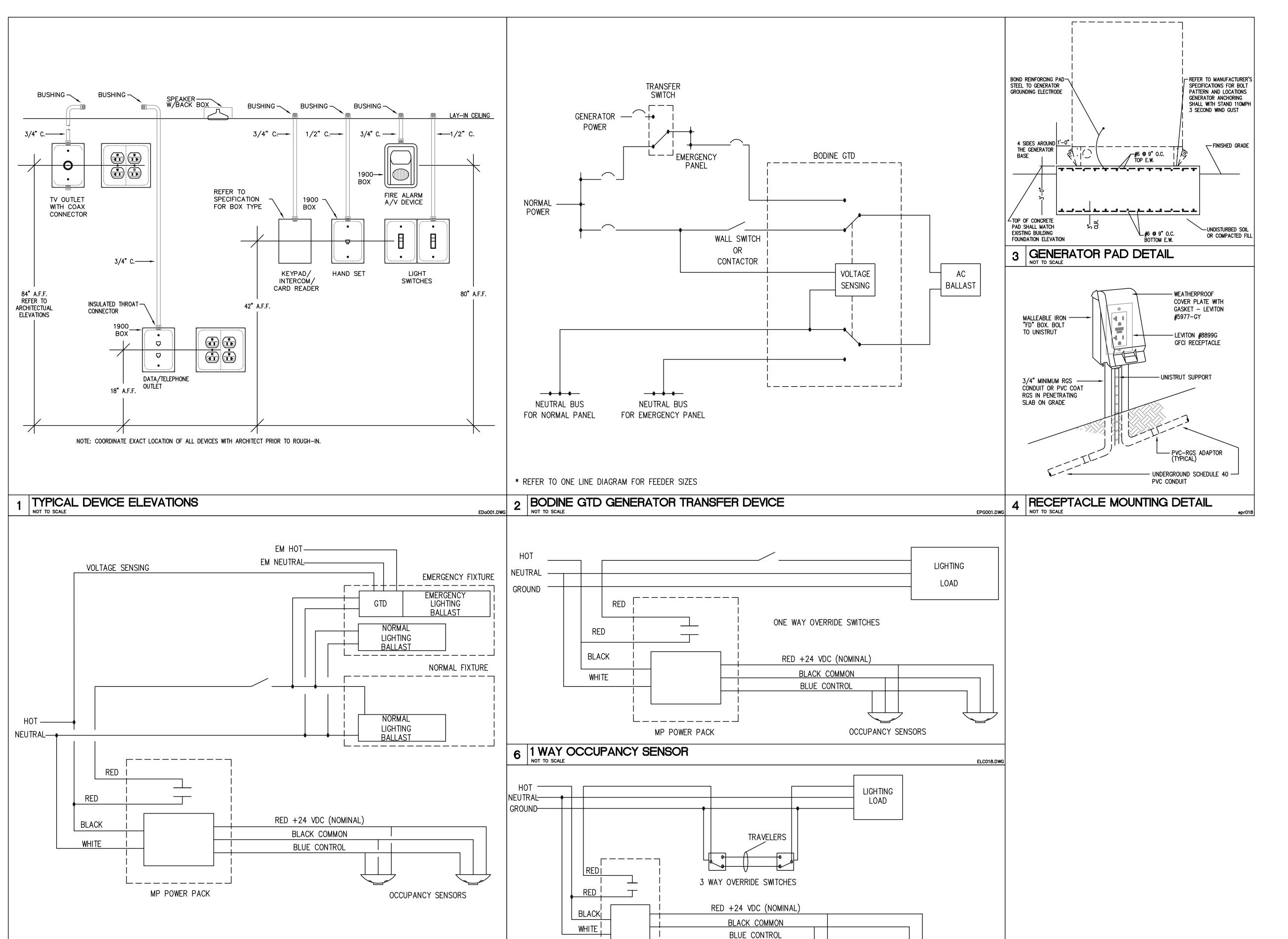
ELECTRICAL NOTES,
DETAILS AND LIGHT
FIXTURE SCHEDULE

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p. 4



MP POWER PACK

7 3 WAY OCCUPANCY SENSOR

OCCUPANCY SENSORS

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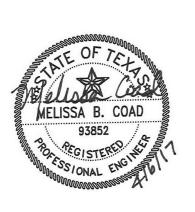
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In Associatio

# WCCHD Office Renovations

Austin, Texas 78741 Ph. 512.291.6657

355 Texas Avenue Round Rock, Texas



	RE	VISIONS
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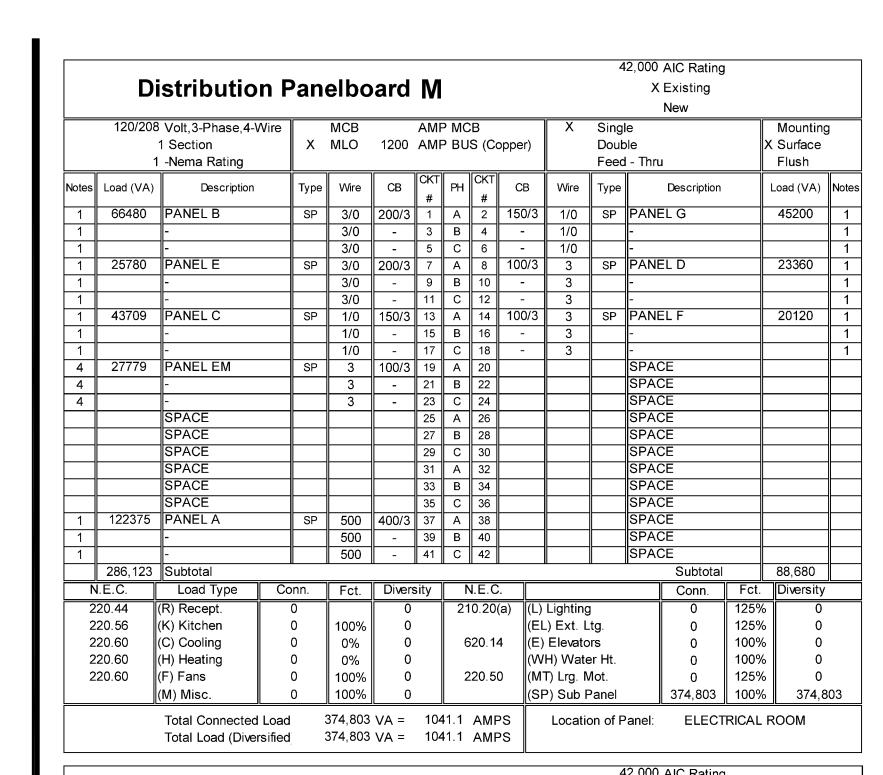
**ELECTRICAL DETAILS** 

SHEET

E3.02

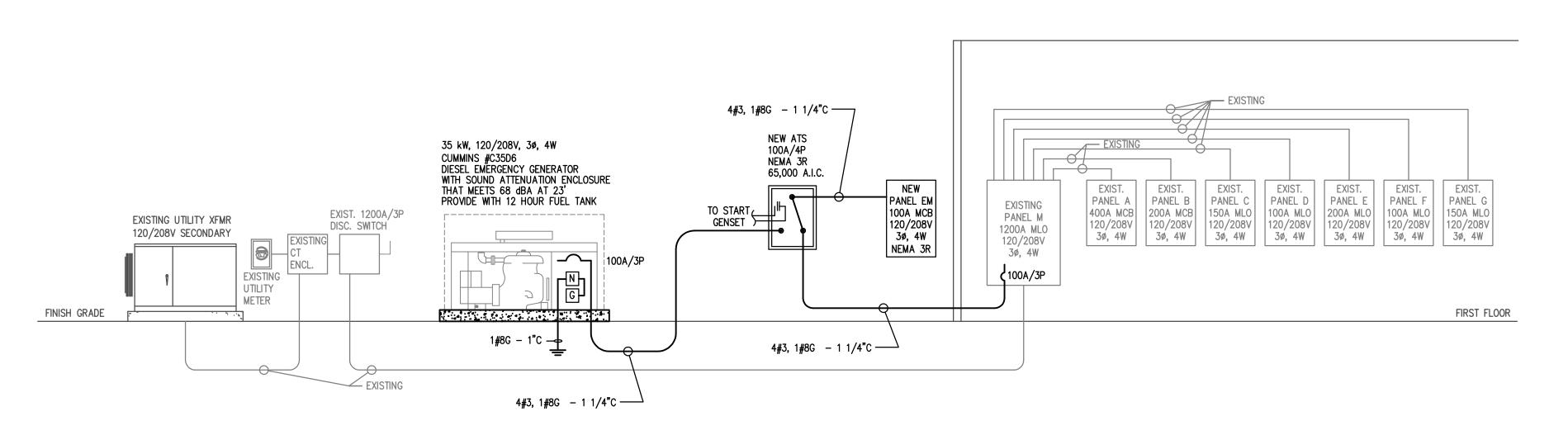
4/12/2017 10:23 AM

5 EMERGENCY GTD WITH OCCUPANCY SENSORS



												4	2,000	AIC Rating	3			
			F	an	elbo	ard	Α				X Existing							
			_			0 0-	•							New				
	120/208	Volt,3-Phase,4-V	Vire		МСВ		AMF	<sup>2</sup> MC	В		X	Sing	le			Mounting	<del></del>	
		1 Section		Х	MLO	400	AMF	P BU	S (C	opper)		Doub				X Surface		
	1	-Nema Rating										Feed	l - Thru	J		Flush		
Notes	Load (VA)	Description		Туре	Wire	СВ	CKT #	РН	CKT #	СВ	Wire	Туре		Description		Load (VA)	Notes	
3,5	2335	AHU-1.1		С	10	30/3	1	Α	2	25/2	10	С	CU-1	.6		1150	3,5	
3,5	2335	-		С	10	-	3	В	4	-	10	С	-			1150	3,5	
3,5	2335	-		С	10	-	5	С	6	45/3	8	С	AHU-	2.3		3510	3,5	
3,5	2185	AHU-1.2		С	10	30/3	7	Α	8	-	8	С	-			3510	3,5	
3,5	2185	-		С	10	-	9	В	10	-	8	С	-			3510	3,5	
3,5	2185	-		С	10	_	11	С	12	45/3	8	С	AHU-	2.7		3510	3,5	
3,5	2185	AHU-1.3		С	10	30/3	13	Α	14	-	8	С	-			3510	3,5	
3,5	2185	-		С	10	_	15	В	16	-	8	С	-			3510	3,5	
3,5	2185	-		С	10	-	17	С	18	25/2	10	С	CU-2	.1		1150	3,5	
3,5	2335	AHU-1.4		С	10	30/3	19	Α	20	-	10	С	-			1150	3,5	
3,5	2335	-		С	10	-	21	В	22	25/3	10	С	CU-1	.3		1150	3,5	
3,5	2335	-		С	10	-	23	С	24	-	10	С	-			1150	3,5	
3,5	3510	AHU-1.5		С	8	45/3	25	Α	26	30/3	10	С	AHU-	2.4		2335	3,5	
3,5	3510	-		С	8	-	27	В	28	-	10	С	-			2335	3,5	
3,5	3510	-		С	8	-	29	С	30	-	10	С	-			2335	3,5	
3,5	3510	AHU-1.9		С	8	45/3	31	Α	32	45/3	8	С	AHU-	2.2		3510	3,5	
3,5	3510	-		С	8	-	33	В	34	-	8	С	-			3510	3,5	
3,5	3510	-		С	8	-	35	С	36	-	8	С	-			3510	3,5	
1	500	EXISTING LOAD	)	М	12	20/1	37	Α	38	20/1	12	М	II	TING LOAD	)	500	1	
4,5	1550	AHU-2.5		С	10	25/2	39	В	40	25/2	10	С	CU-2	.4		1150	4,5	
4,5	1550	-		С	10	ı	41	O	42	-	10	С	-			1150	4,5	
	51,780	Subtotal												Subtotal		48,295		
N	.E.C.	Load Type	Co	onn.	Fct.	Divers	sity	١	N.E.C	).				Conn.	Fct.	Diversity		
2:	20.44	(R) Recept.		0		0		21	0.20	(a) (	L) Lighting	9		0	125%	6 0		
2	20.56	(K) Kitchen		0	100%	0				(	EL) Ext. l	₋tg.		0	125%	6 0		
2	20.60	(C) Cooling	99	,075	100%	99,0	75	6	320.1 <sub>-</sub>	4 <b> </b> (	E) Elevato	ors		0	100%	6 0		
2	20.60	(H) Heating		0	0%	0				<b> </b> (	WH) Wate	er Ht.		0	100%	6 0		
2	20.60	(F) Fans		0	100%	0		2	220.5	0 (	MT) Lrg. I	√lot.		0	125%	6 0		
		(M) Misc.	1,	000	100%	1,00	00				SP) Sub I	⊃anel		0	100%	6 0		
	<u>"</u>	Total Connected Total Load (Diver			100,075 100,075			8.0 8.0	AMI AMI	ll l	Locati	on of F	anel:	ELECT	RICAL	ROOM		

			P	an	elbo	ard	D						1		AIC Rating Existing New	l			
	120/208	Volt,3-Phase,4-W	ire		МСВ		AMF	P MC	В			Х	Singl	e			Mounting	9	
		1 Section		X	MLO	225	AMF	P BU	S (Co	opper	.)	Double					X Surface		
	1	-Nema Rating											Feed	- Thru	I		Flush		
Notes	Load (VA)	Description		Туре	Wire	СВ	CKT #	РН	CKT #	CE	3	Wire	Туре		Description		Load (VA)	Notes	
1	720	REC 113-116,118	,133	R	12	20/1	1	Α	2	20/	1	12	R	REC	110,131,11	9,120	720	1	
1	720	REC 121/2/9,130/	1/7	R	12	20/1	3	В	4	20/	1	12	R	REC	123/5/6/8,1	38/9	720	1	
1	720	REC 154/5/6/9,16	5/6	R	12	20/1	5	С	6	20/	1	12	R	REC	140-143,14	9,150	720	1	
1	720	REC 169-171,177		R	12	20/1	7	Α	8	20/	1	12	R	REC	147,152,16	4,179	720	1	
1	720	R152,163,206-209		R	12	20/1	9	В	10	20/	1	12	R	REC:	210-215		720	1	
1	720	R216/7,232/3/5,24	10	R	12	20/1	11	С	12	20/	′1	12	R	REC:	230/1/6/7/8	,218	720	1	
1	720	219-221,228,239,2	240	R	12	20/1	13	Α	14	20/	′1	12	R	REC:	224-227,24	1/2	720	1	
1	720	REC 243/4,270-27	73	R	12	20/1	15	В	16	20/	′1	12	R	246/7	,268/9,276	77	720	1	
1	720	249/50/66/67/81/8	2	R	12	20/1	17	С	18	20/	′1	12	R	203,2	51,260,263	5-5	720	1	
1	720	RECEPT 204,205		R	12	20/1	19	Α	20	50/	2	8	М	1ST F	LOOR TEL	E RM	3600	1	
1	720	REC 1-FLR TEL F	RM	R	12	20/1	21	В	22	-		8	II II		3600	1			
1	720	REC 2-FLR TEL F	RM	R	12	20/1	23	С	24	20/	′1	12	R REC 2-FLR TEL RM		R TEL RM		1		
1	720	EXISTING LOAD		R	12	20/1	25	Α	26	20/	1	12	R	EXISTING LOAD		,	720	1	
1	720	EXISTING LOAD		R	12	20/1	27	В	28	20/	1	12	R	EXIST	TNG LOAD	)	720	1	
1	720	EXISTING LOAD		R	12	20/1	29	С	30	20/	′1	12	R	EXIST	ING LOAD	)	720	1	
1	720	EXISTING LOAD		R	12	20/1	31	Α	32	20/	′1	12	R	EXIST	ING LOAD	)	720	1	
1	720	EXISTING LOAD		R	12	20/1	33	В	34	20/	2	12	Н	EUH-	1		1650	4	
		SPACE					35	С	36	-		12	Н	-			1650	4	
4	1667	GENERATOR		Н	12	20/3	37	Α	38	20/	2	12	С	CCU-	2		1560	4	
4	1667	WATER JACKET		Н	12	-	39	В	40	-		12	С	-			1560	4	
4	1667	HEATER		Н	12	-	41	С	42					SPAC	Œ				
	17,241	Subtotal													Subtotal		23,700		
N	.E.C.	Load Type	Со	nn.	Fct.	Divers	sity	١	N.E.C	;.					Conn.	Fct.	Diversity	_	
2	20.44	(R) Recept.	22,	320		16,1	60	21	0.20	(a)	(L)	Lighting			0	125%	5 0		
2	20.56	(K) Kitchen	(	0	100%	0					(EL	.) Ext. L	tg.		0	125%	s		
2	20.60	(C) Cooling	3,1	120	0%	0		6	320.1 <sub>0</sub>	4	(E)	Elevato	rs		0	100%	s		
2	20.60	(H) Heating	8,3	301	100%	8,30	)1				(WI	H) Wate	er Ht.		0	100%	s		
2	20.60	(F) Fans	(	0	100%	0		2	220.5	0	(MT	Γ) Lrg. N	lot.		0	125%	s		
		(M) Misc.	7,2	200	100%	7,20	00				(SF	P) Sub F	Panel		0	100%	6 0		
		Total Connected L Total Load (Divers			40,941 31,661			3.7 7.9	AMF AMF			Location	on of P	anel:	ELECT	RICAL	ROOM		



## ONE-LINE DIAGRAM GENERAL NOTES:

10,000 AIC Rating

10,000 AIC Rating

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:

EXISTING LOAD TO REMAIN. CONNECT NEW LOAD TO EXISTING SPARE CIRCUIT BREAKER. DISCONNECT EXISTING CIRCUIT BREAKER AND PROVIDE NEW AS SCHEDULED. 4. PROVIDE NEW CIRCUIT BREAKER IN EXISTING AVAILABLE SPACE.

5. PROVIDE HACR TYPE CIRCUIT BREAKER.

													1	0,000	AIC Rating			
			F	and	elbo	ard	C							Χ	Existing			
															New			
		3 Volt,3-Phase,4-\	Vire		MCB		AMP MCB				X Single						Mounting	
		1 Section		Х	MLO	225	AMF	P BU	S (Co	pper	^)		Doub				X Surface	
	1	1 -Nema Rating											Feed	- Thru			Flush	
Notes	Load (VA)	Description		Туре	Wire	СВ	CKT #	PH	CKT #	CE	3   1	Wire	Туре		Description		Load (VA)	Note
3,5	3510	AHU-2.6		С	8	45/3	1	Α	2	20/	2	12	С	CU-2.	5		810	2
3,5	3510	-		С	10	-	3	В	4	-	ll ll	12	С	-			810	2
3,5	3510	-		С	10		5	С	6	20/	′2	12	С	AC-2			104	3
3,5	1405	CU-2.7		С	10	30/3	7	Α	8	-	ll l	12	С	-			104	3
4,5	1405	-		С	10	-	9	В	10	20/	ll ll	12		HEPA-1			560	2
4,5	1405	-		С	10	-	11	С	12	20/	ll ll	12			UST FANS	- 11	1019	4
1	7100	ELEVATOR		MT	3	100/3	13	Α	14	20/	ll ll	12			LEVATOR CAB LTS		500	1
1 7100 -				MT	3	-	15	В	16	20/	ll ll	12			PUMP		500	1
1	7100	-		MT	3	-	17	С	18	20/	ll ll	12			PIT LT/RE	CEPT	500	1
1	300	F/Q BOOSTER		M	12	20/1	19	Α	20	20/	ll ll	12		FA PANEL 1ST FL COND PMPS			400	1
1	500	EXISTING LOAD		М	12	20/1	21	В	22	20/	ll ll	12	M	_		- 1	800	2
1	500	EXISTING LOAD	)	M	12	20/1	23	С	24	20/	ll ll	12			PUMP AI	ll ll	200	1
1	1200	COPIER #122		M	12	20/1	25	Α	26	20/	ll ll	12			ATION CN	ll ll	400	2
1	500	EXISTING LOAD	,	М	12	20/1	27	В	28	20/	ll ll	12			ING LOAD	- 11	500 640	1
	20.045	SPACE					29	С	30	20/		12	M	ZND F	L COND P	WP5		4
	39,045	Subtotal	<u> </u>			D:			I.E.C						Subtotal		7,847	<u> </u>
	.E.C.	Load Type	<u> </u>	nn.	Fct.	Divers	-								Conn.	Fct.	Diversity	
		(R) Recept.	ll	00		500	)	21	0.20	`′	(L) Lig	-			500	125%	II .	5
		(K) Kitchen	ll	0	100%	0			00.4	- 1	(EL) E		•		0	125%	II .	
		(C) Cooling	'	573	100%	16,5	/3	6	20.14	- 1	` '	levato			0	100%	II .	
		(H) Heating	ll	0	0%	0	,,		00 5		(WH)				0	100%	II .	
22		(F) Fans	'	579	100%	1,57		2	20.50		' '	Lrg. IV			21,800	125%	- 11	50
		(M) Misc.	5,9	940	100%	5,94	łU				(SP)	Sub P	anel		0	100%	5 0	
		Total Connected Total Load (Dive			46,892 52,467				AMF		L	ocatio	n of P	anel:	ELECT	RICAL	ROOM	

			F	an	elbo	ard	Ε	M					1		AIC Rating Existing New	1		
	120/208	Volt,3-Phase,4-V	Vire	Х	МСВ	100	AMI	э мс	В			X	Singl	е			Mounting	9
		1 Section			MLO	100	AMI	P BU	S (Co	opper	)		Doub	ole			X Surface	
	3R	-Nema Rating											Feed	l - Thru	ı	Flush		
lotes	Load (VA)	Description		Туре	Wire	СВ	CKT #	PH	CKT #	СВ	3	Wire	Туре		Description		Load (VA)	Notes
	264	LAB LIGHTING		L	12	20/1	1	Α	2	30/	3	10	С	AHU-	1.7		2185	5
	99	CONF LIGHTING	;	L	12	20/1	3	В	4	-		10	С	-			2185	5
	836	2ND FL EM LIGI	HTS	L	12	20/1	5	С	6	-		10	С	-			2185	5
	1414	1ST FL EM LIGH	HTS	L	12	20/1	7	Α	8	25/	2	10	С	CU-1.	.7		1150	5
	900	LAB RECEPTS		R	12	20/1	9	В	10	-		10	С	-			1150	5
	1200	LAB FRIDGE		К	12	20/1	11	С	12	25/	2	10	С	AHU-	2.8		1150	5
	1200	LAB FRIDGE		К	12	20/1	13	Α	14	-		10	С	-			1150	5
	1200	LAB FRIDGE		K	12	20/1	15	В	16	20/:	2	12	С	CU-2.	.8		810	5
	1200	LAB FRIDGE		K	12	20/1	17	С	18	-		12	С	-			810	5
	900	CONF RECEPTS	S	R	12	20/1	19	Α	20	15/	2	12	С	AC-1			104	5
	720	IT RECEPTS		R	12	20/1	21	В	22	-		12	С	-			104	5
	540	STORAGE REC	EPT	R	12	20/1	23	С	24	30/	3	10	С	CCU-	1		1500	5
	360	IT RACK		R	12	20/1	25	Α	26	-		10	С	-			1500	5
	360	IT RACK		R	12	20/1	27	В	28	20/		12		SPAF				
	360	IT RACK		R	12	20/1	29	С	30	20/	1	12		SPAF				
	500	ACCESS CNTL	PNL	М	12	20/1	31	Α	32					SPA				
		SPARE			12	20/1	33	В	34					SPA				
		SPARE			12	20/1	35	С	36					SPA				
		SPACE					37	Α	38					SPA				
		SPACE					39	В	40					SPA				
		SPACE					41	С	42					SPAC				
	12,053	Subtotal			·										Subtotal		15,983	
N	.E.C.	Load Type	Co	nn.	Fct.	Divers	sity	١	I.E.C	·. [					Conn.	Fct.	Diversity	
	ll l	(R) Recept.		140		4,14		21	0.20	` '		Lighting			2,613	125%	II '	6
	ll l	(K) Kitchen		300	80%	3,84				ll ll	•	.) Ext. L	•		0	125%	III .	
	ll l	(C) Cooling	15,	983	100%	15,9	83	6	20.14	ll ll		Elevato			0	100%	ll l	
		(H) Heating		0	0%	0				ll ll	•	H) Wate			0	100%	ll .	
22	ll l	(F) Fans		0	100%	0		2	20.5		•	Γ) Lrg. <b>N</b>			0	125%	ll l	
		(M) Misc.	5	00	100%	500	0				(SF	P) Sub F	Panel Panel		0	100%	6 0	
		Total Connected	l oad		28,036	VA =	7	7.9	AMF	S		Locatio	on of P	anel.	F	XTERIO	 )R	
		Total Load (Diver			27,729				AMF	ll ll		200000	J/1 OI I	and.	_	, (i = i (i)	J. (	









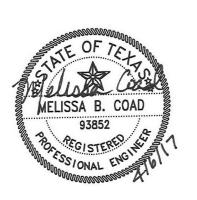
SAN ANTONIO 8200 IH-10 West, Ste. 103 901 S. Mopac San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

Edwards + Mulhausen INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# **REVISIONS**

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	

**ELECTRICAL ONE-LINE** DIAGRAM AND PANEL **SCHEDULES** 

SHEET

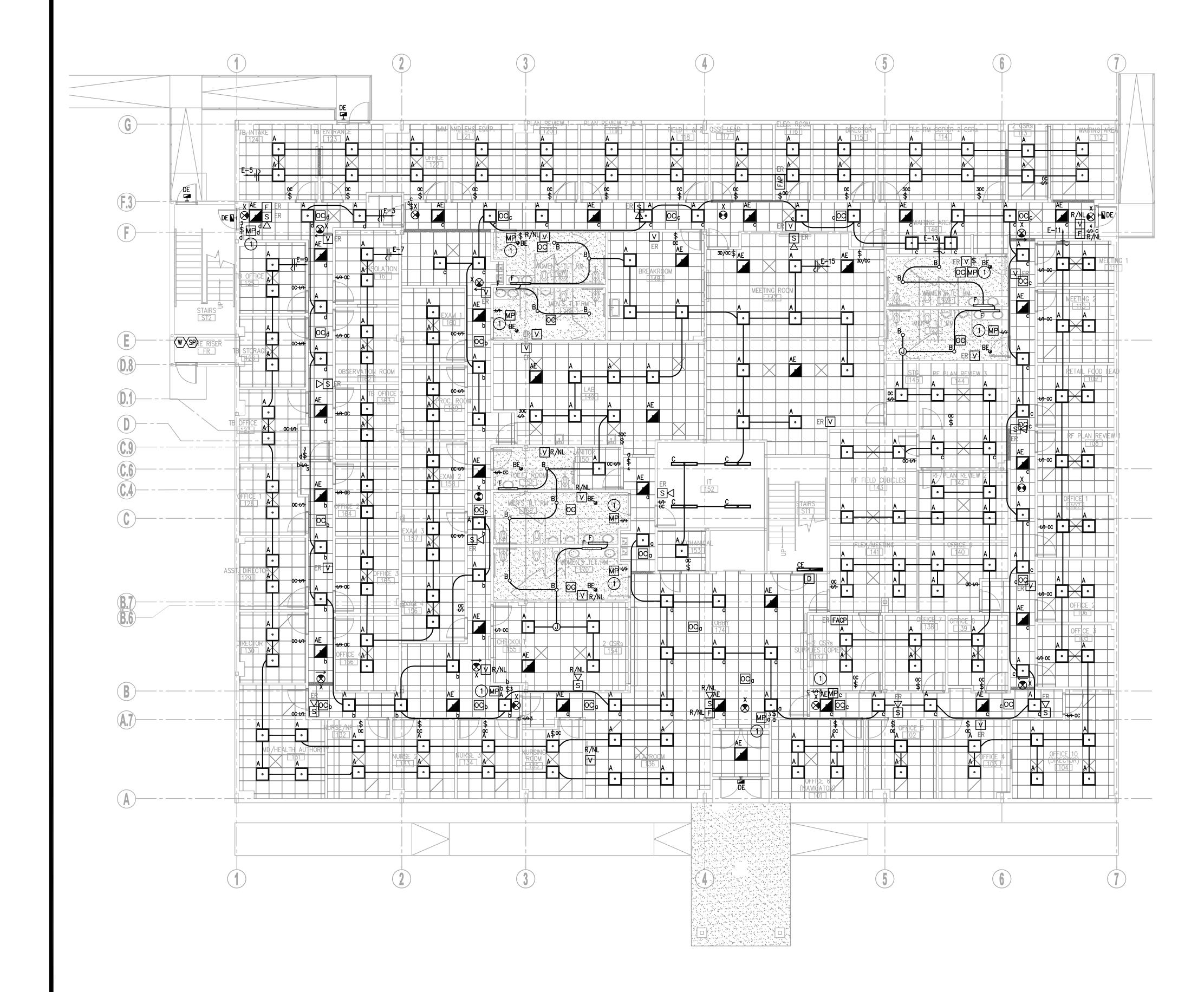
**E4.01** 

			Pan	elbo	ard	В						Х	Existing New			
		3 Volt,3-Phase,4-W 1 Section 1 -Nema Rating	III .	MCB MLO	225		P MC		opper)	Х	Singl Doub Feed		J.		Mounting X Surface Flush	<b>9</b>
Notes	Load (VA)	Description	Туре	Wire	СВ	CKT #	PH	CKT #	СВ	Wire	Туре		Description		Load (VA)	Note
3,5	1170	CU-1.1	С	10	25/3	1	Α	2	45/3	8	С	AHU-	1.10		3510	3,5
3,5	1170	-	С	10	-	3	В	4	-	8	С	-			3510	3,5
3,5	1170	-	С	10	-	5	С	6	-	8	С	-			3510	3,5
3,5	1150	CU-1.2	С	10	25/2	7	Α	8	30/3	10	С	AHU-	1.6		2185	3,5
3,5	1150	-	С	10	-	9	В	10	-	10	С	-			2185	3,5
3,5	1170	CU-2.6	С	10	25/3	11	С	12	-	10	С	-			2185	3,5
3,5	1170	-	С	10	-	13	Α	14	30/3	10	С	AHU-	1.8		2335	3,5
3,5	1170	-		10	-	15	В	16	-	10	С	-			2335	3,5
		SPACE				17	С	18	-	10	С	-			2335	3,5
3,5	1170	CU-1.4	С	10	25/3	19	Α	20	25/3	10	С	CU-1	.8		1170	3,5
3,5	1170	-	С	10	-	21	В	22	-	10	С	-			1170	3,5
3,5	1170	-	С	10	-	23	С	24	-	10	С	-			1170	3,5
3,5	1405	CU-1.5	С	10	30/3	25	Α	26	30/3	10	С	AHU-	2.1		2185	4,5
3,5	1405	1-	С	10	-	27	В	28	-	10	С	-			2185	4,5
3,5	1405	1-	С	10	-	29	С	30	-	10	С	-			2185	4,5
3,5	1405	CU-1.9	С	10	30/3	31	Α	32	30/3	10	С	CU-2	.3		1405	4,5
3,5	1405	-	С	10	-	33	В	34	-	10	С	-			1405	4,5
3,5	1405	-	С	10	-	35	С	36	-	10	С	-			1405	4,5
4,5	1170	CU-1.10	С	10	25/3	37	Α	38	30/3	10	С	CU-2	.2		1405	4,5
4,5	1170	-	С	10	-	39	В	40	-	10	С	-			1405	4,5
4,5	1170	-	С	10	-	41	С	42	•	10	С	-			1405	4,5
	24,770	Subtotal											Subtotal		42,585	
N	l.E.C.	Load Type	Conn.	Fct.	Diver	sity	l l	N.E.C	;.				Conn.	Fct.	Diversity	
2:	20.44	(R) Recept.	0		0		21	0.20	(a) (l	_) Lighting	<del></del>		0	125%	0	
2	20.56	(K) Kitchen	0	100%	0				(E	EL) Ext. l	· · ·			125%	·   0	
220.60 (C) Coolir		(C) Cooling	66,185	100%	66,1	85	6	320.1 <sub>0</sub>	4   (E	E) Elevato	ors		0	100%	·   0	
2	20.60	(H) Heating	0	0%	0				(\	NH) Wat	er Ht.		0	100%	·   0	
2	20.60	(F) Fans	0	100%	0		2	220.5	0   (I	MT) Lrg. I	Vlot.		0	125%	·   0	
		(M) Misc.	0	100%	0				(8	SP) Sub I	Panel		0	100%		
		Total Connected I	Load	66,185	VA =	18	3.8	AMF	PS	Locati	on of P	anel:	ELECT	RICAL	ROOM	

Total Load (Diversified 66,185 VA = 183.8 AMPS

	Panelboard E										X Existing						
											New						
	120/208 Volt,3-Phase,4-Wire				MCB			MC			Х	Singl				Mounting	3
		1 Section		X	MLO	225	AMF	P BU	S (Co	opper	)	Doub				X Surface	
	1	-Nema Rating										Feed - Thru				Flush	
Notes	Load (VA)	Description		Туре	Wire	СВ	CKT #	PH	CKT #	CE	Wire	Туре		Description		Load (VA)	Notes
2	500	CARD READER	S	М	12	20/1	1	A	2	20/	1 12	R	EXTE	RIOR RECE	ĒΡΤ	540	2
2	1419	1ST FLOOR LIG	HTS	L	12	20/1	3	В	4	20/	1 12	R	CHE	CKOUT REC	CEPT	540	2
2	964	1ST FLOOR LIG	HTS	L	12	20/1	5	С	6	20/	1 12	К	REFF	RIGERATOR	₹	1200	2
2	726	1ST FLOOR LIG	HTS	L	12	20/1	7	A	8	20/	1 12	R	MEE.	TING 147 R	ECPT	540	2
2	924	1ST FLOOR LIG	HTS	L	12	20/1	9	В	10	20/	1 12	R	MEE.	TING 147 R	ECPT	540	2
2	858	1ST FLOOR LIG	HTS	L	12	20/1	11	С	12	20/	1 12	R	RECE	PTACLES		720	2
2	860	1ST FLOOR LIG	HTS	L	12	20/1	13	A	14	20/	1 12	R	2CSF	RS RECEPT	S	1080	2
2	1101	1ST FLOOR LIG	HTS	L	12	20/1	15	В	16	20/	1 12	К	REFF	RIGERATOR	₹	1200	2
		SPARE			12	20/1	17	С	18	20/	1 12	R	CON	ER. 229 R	ECPT	540	2
		SPARE			12	20/1	19	A	20	20/	1 12	R	2CSF	S RECEPT	S	540	2
		SPARE			12	20/1	21	В	22	20/	1 12	L	2ND I	FLOOR LIG	HTS	1254	2
		SPARE			12	20/1	23	С	24	20/	1 12	L	2ND I	FLOOR LIG	HTS	1254	2
		SPARE			12	20/1	25	A	26	20/	1 12	L	2ND I	FLOOR LIG	HTS	1683	2
		SPARE			12	20/1	27	В	28	20/	1 12	L	2ND I	FLOOR LIG	HTS	1421	2
1	1200	LIGHT POLES		L	12	20/1	29	С	30	20/	1 12	R	HVA(	IVAC CONT. PANEL		360	2
1	300	CONTACTOR		М	12	20/1	31	A	32	20/	1 12	Н	GEN	GEN COND. HEATER		100	2
		SPARE			12	20/1	33	В	34	20/	1 12		SPAF	RE			
		SPARE			12	20/1	35	С	36	20/	1 12		SPAF	RE			
		SPARE			12	20/1	37	A	38	20/	1 12		SPAF	RE			
		SPACE					39	В	40				SPAC				
		SPACE					41	С	42				SPAC	CE			
	8,852	Subtotal									"			Subtotal		13,512	
N	.E.C.	Load Type	Co	nn.	Fct.	Divers	sity	N	I.E.C	; <u> </u>				Conn.	Fct.	Diversity	1
	20.44	(R) Recept.	5,4	400		5,40	0	21	0.20	(a)	(L) Lighting	<b></b>		13,664	125%		30
2	ll .	(K) Kitchen		400	100%	2,40				`′ 11	(EL) Ext. L			o	125%	6 O	
2	ll .	(C) Cooling		0	0%	o		6	20.14		(E) Elevato			0	100%	6 O	
2	220.60 (H) Heating		1	00	100%	100	o			- 11	(WH) Wate			0	100%	6 O	
` '		(F) Fans		0	100%	0		2	20.50	- 11	(MT) Lrg. N			0	125%	6 O	
	ll l	(M) Misc.	8	00	100%	800	o l			- 11	(SP) Sub I			0	100%	ll .	
	I	Total Connected Total Load (Dive			22,364 25,780				AMF AMF	PS		on of P	anel:	ELECT		. ROOM	

4/12/2017 10:23 AM



# 1 IST 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.
- 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.

ALL DEVICES IN SUBMITTAL.

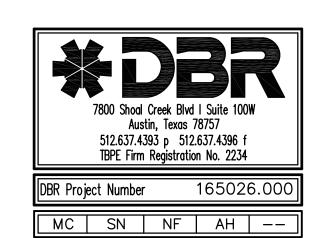
V. ALL WALL BOX DIMMERS SHALL BE LUTRON NT SERIES. CONTRACTOR SHALL NOT REMOVE HEAT SINK FINS PRIOR TO INSTALLATION.

## GENERAL FIRE ALARM NOTES:

- A. ALL CEILING MOUNTED DEVICES SHALL BE CENTERED IN THE CEILING
- 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
- C. ALL VISUAL FIRE ALARM DEVICES SHALL BE 15 CD UNLESS NOTED
- 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:**

PROVIDE SENSOR SWITCH POWER PACK, #nPP-16, ABOVE CEILING. CONNECT ALL OCCUPANCY SENSORS IN THE AREA TO THE POWER









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Edwards + Mulhausen
INTERIOR DESIGN

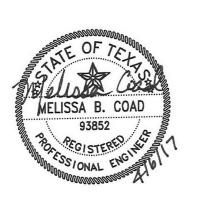
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In Association w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# REVISIONS

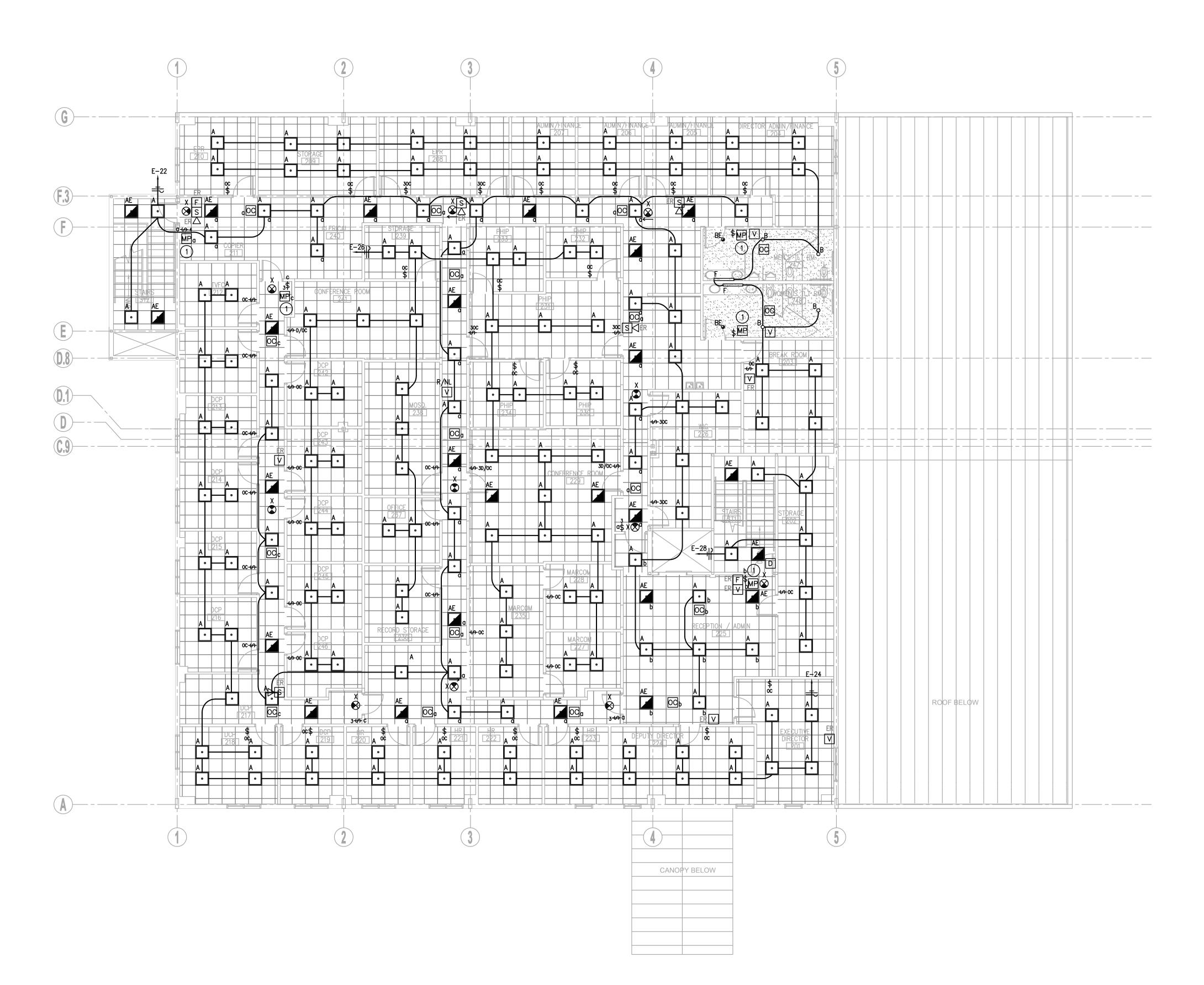
No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	
	TITLE

1ST LEVEL LIGHTING PLAN

SHEET

**EL2.01** 







- 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.
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- 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.
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- 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.
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- 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.
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## GENERAL FIRE ALARM NOTES:

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- 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







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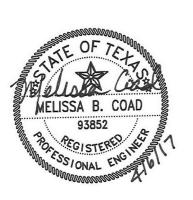
Edwards + Mulhausen INTERIOR DESIGN

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In Association w/

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



## REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
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Approved	
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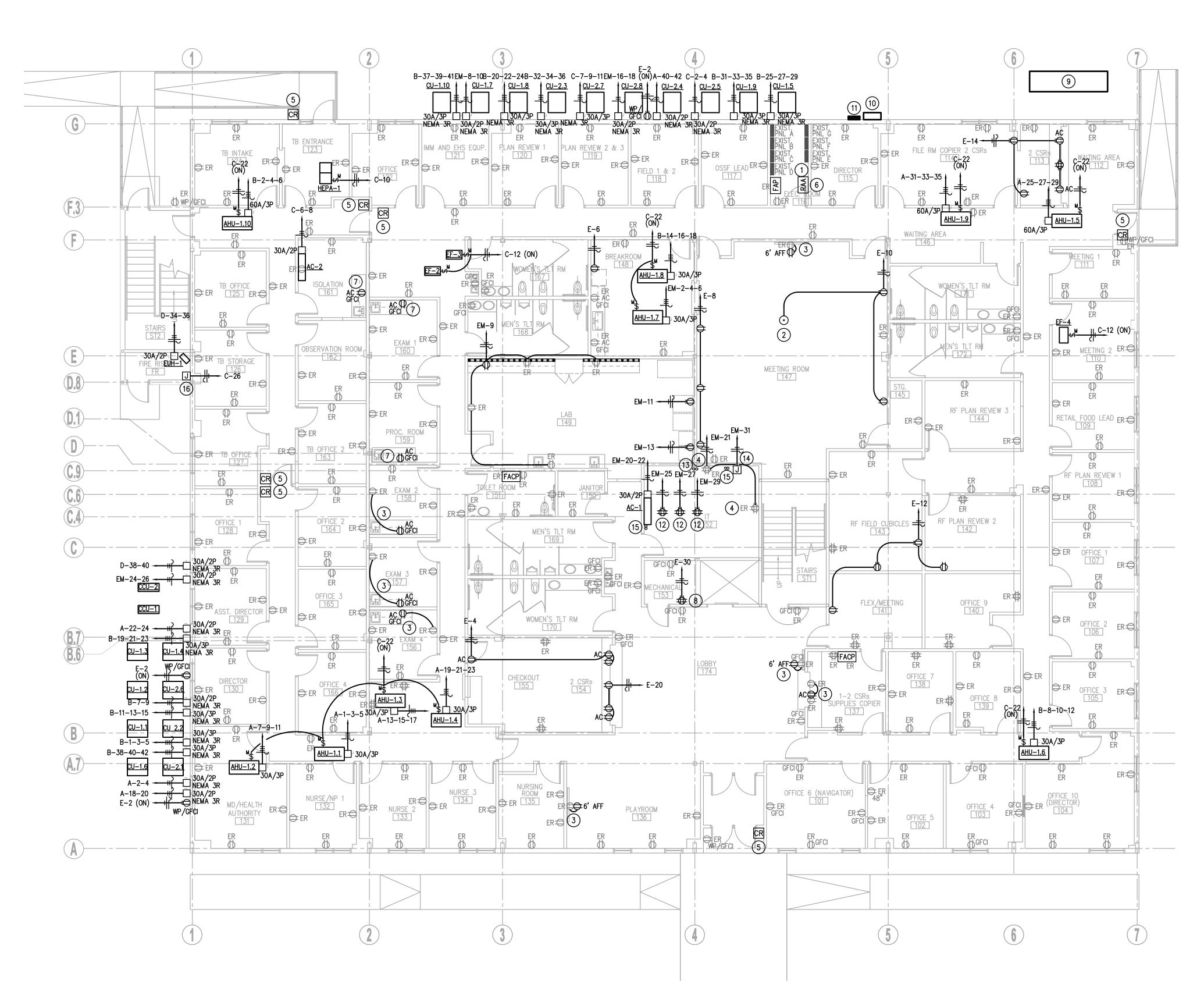
TITL

2ND LEVEL LIGHTING PLAN

SHEET

**EL2.02** 





1 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-WRE 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.
- 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.
- 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
- 7 EXTEND EXISTING WIRING AND CONDUIT LEFT IN PLACE BY DEMOLITION OF EXISTING RECEPTACLES TO FEED NEW RECEPTACLES. PROVIDE NEW WIRING AND CONDUIT AS REQUIRED.
- 8 PROVIDE RECEPTACLE FOR HVAC CONTROL PANEL. COORDINATE INSTALLATION LOCATION AND REQUIREMENTS WITH HVAC CONTRACTOR PRIOR TO ROUGH—IN.
- 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.
- PROVIDE NEW 100A/4P AUTOMATIC TRANSFER SWITCH IN NEMA 3R ENCLOSURE. COORDINATE EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH—IN.
- 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.
- PROVIDE (2) 4" EMT CONDUIT SLEEVES FROM IDF 8311.00 ABOVE. PROVIDE FIRE STOP AS
- PROVIDE 20A/120V POWER FOR ACCESS CONTROL PANEL. VERIFY EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH—IN.
- 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.
- PROVIDE 20A/120V POWER FOR IRRIGATION CONTROLLER. VERIFY EXACT INSTALLATION LOCATION AND REQUIREMENTS PRIOR TO ROUGH—IN.



MC SN NF AH --



Bid 1704-153





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In Association

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# REVISIONS

No.	Issue	Date
1	100% Construction Documents	12/5/2016
2	100% Construction Documents Issued for Bid	4/7/2017

	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	
	7171 7

1ST LEVEL POWER PLAN

SHEET

EP2.01

4/12/2017 10:23 AM

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# DIRECTOR ADMIN/FINANCE <u>AHU 2.3</u> -6' AFF<del>⊕</del> 60A/3P A-26-28-30 ↓ ER 😂 BREAK ROOM 203 ₩6' AFF CONFERENCE ROOM ER 😂 ER 😂 RECEPTION / ADMIN 225 C-1-3-5 A-32-34-36 **⇒** ER 217 ROOF BELOW EXECUTIVE DIRECTOR ER 😂 218

# 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.
- 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.
- 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.
- CONTRACTOR SHALL INDICATE CIRCUIT SERVING EACH RECEPTACLE BY PROVIDING TYPE WRITTEN LABELING LOCATED ON INSIDE FACE OF EACH RECEPTACLE COVER PLATE.
- COORDINATE WITH MECHANICAL CONTRACTOR TO FURNISH INTEGRAL DISCONNECT SWITCH FOR ALL MECHANICAL EQUIPMENT. ELECTRICAL CONNECTIONS SHALL BE PROVIDED BY DIVISION 26.
- 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.
- 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.
- FIRESTOP ALL CONDUIT PENETRATIONS IN RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR WALL RATINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO SHEET ROCK AND
- 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.
- 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
- 7 EXTEND EXISTING WIRING AND CONDUIT LEFT IN PLACE BY DEMOLITION OF EXISTING RECEPTACLES TO FEED NEW RECEPTACLES. PROVIDE NEW WIRING AND CONDUIT AS REQUIRED.
- 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.
- 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.
- PROVIDE (2) 4" EMT CONDUIT SLEEVES FROM IDF 8311.00 ABOVE. PROVIDE FIRE STOP AS
- 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.



MC SN NF AH --







SAN ANTONIO 8200 IH-10 West, Ste. 103 901 S. Mopac San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

Edwards + Mulhausen

INTERIOR DESIGN 2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



## **REVISIONS** Date 100% Construction Documents

	SHEET INFORMATION
Date	April 7, 2017
Joh Mumbo	16 1010

Issue

100% Construction Documents Issued for Bid 4/7/2017

Job Number 16-1010 Checked TITLE

> 2ND LEVEL **POWER PLAN**

> > SHEET

**EP2.02** 

p. 52

4/12/2017 10:23 AM

CANOPY BELOW

# PLUMBING SYMBOLS AND ABBREVIATIONS

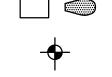
		(NOT ALL ITEM	IS INDICATED APPLY TO THIS PROJECT)		
	ABBREVIATIONS			SYMBOLS	
A AIR (COMPRESSED) ABV ABOVE AC ABOVE CEILING AD ACCESS DOOR, AREA DRAIN ADJ ADJUSTABLE AFF ABOVE FINISHED FLOOR AFG ABOVE FINISHED GRADE AHU AIR HANDLING UNIT AL ALUMINUM AP ACCESS PANEL ARCH ARCHITECT, ARCHITECTURAL AS AIR 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  B  B  B  B  BOILER BC	F F FARENHEIT, FIRE FBO FURNISHED BY OTHERS FCO FLOOR CLEAN OUT FCS FLOOR CONTROL STATON FD FLOOR DRAIN, FIRE DAMPER FDSC FIRE DEPARTMENT SAMESE CONNECTION FDV FIRE DEPARTMENT SAMESE 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 G G GAL GALLON GALV GALVANIZED GC GENERAL CONTRACTOR GLV GROUND GPD GALLONS PER DAY GPH GALLONS PER HONU GPM GATE VALVE GND GPM GATE VALVE GN GATE VALVE	N.C. NORMALLY CLOSED NIFPA NATIONAL FIRE PROTECTION ASSOCIATION NIC NOT IN CONTRACT N.O. NORMALLY OPEN NO. NUMBER NTS NOT TO SCALE  OC  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  P  P  P  P  P  P  P  P  PUMP, PLUMBING EQUIPTMENT PC PLUMBING CONTRACTOR PD  PH PHASE, POST HYDRANT PIV POST INDICATOR VALVE PLBG PLUMBING PNEU PHEUMATIC PNL PNEU PNEUMATIC PNL PNTH PENTHOUSE PP  PP  POLYPROPYLENE PP  PPM PART PER MILLION PRI PRIMARY PRS PRESSURE REDUCING STATION PRV PRSSURE REDUCING STATION PRV PRV PRSSURE REDUCING STATION PRV PRV PRSSURE REDUCING STATION PRV	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 VERT VERTICAL VB VALVE IN BOX VOV VALVE ON VERTICAL VP VACUUM, PUMP VTR 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 WPP WEATHERPROOF WPP WELDED WIRE FABRIC WT WATERTIGHT, WEIGHT	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 UP TEE OUTLET DOWN UNION FLANGE PIPE ANCHOR EXPANSION JOINT STRAINER WITH BLOWDOWN VALVE GATE VALVE, HVAC BALANCING/STOP VALVE GLOBE VALVE BALL VALVE BALL VALVE BALANCING VALVE WITH DIFFERENTIAL PRESSURE TAPS OS&Y VALVE CHECK 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 CONTINUUS, CONTINUATION  CONT CONTROLLER, CONTRACTOR  CRAC COMPUTER ROOM A/C UNIT  CTR CENTER  CU COPPER  CW COLD WATER  DIM DIMENSION  DISC DISCONNECT  DN DOWN  DS DOWNSPOUT, DOUBLE SUCTON  DW DISHWASHER  DWC DRAWING  DWH DOMESTIC WATER PUMP	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  K  KEC KITCHEN EQUIPTMENT CONTRACTOR KO KNOCKOUT KVA KILOVOLT— AMPS KW KILOWATT  L  L  L  L  L  LENGTH, LAWATORY LAY LAVATORY LAY LAVATORY LAY LAVATORY LEP LOW PRESSURE	RCP REFLECTED CEILING PLAN, REINFORCED CONCRETE PIPE  RD ROOF DRAIN  RE REFERENCE, REFER  RECIRC RECIRCULATE  RED REDUCER  REFR REFRIGERATOR  REINIF REININGFORCING  REQU REQUIRED  REV REVISION, REVISE  RM ROOM  RPM REVOLUTIONS PER MINUTE  RTU ROOFTOP UNIT  RV RELIEF VALVE   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	Z Z Z ZONE  SYMBOLS  PLUMBING SYSTEMS  — — SANITARY DRAIN BELOW FLOOR  SANITARY DRAIN ABOVE FLOOR  SANITARY VENT  — GW — GREASE WASTE(ABOVE CEILING)  — SD — STORM DRAIN(ABOVE CEILING)  — SD — STORM DRAIN(BELOW FLOOR)  — OD — OVERFLOW DRAIN(BELOW FLOOR)  AW — ACID WASTE(ABOVE CEILING)  — AW — ACID WASTE(BELOW FLOOR)  — AW — ACID WASTE(BELOW FLOOR)  — AV — — ACID VENT(ABOVE CEILING)  — HOT WATER FINAL DELIVERY TEMPERATURE AS NOTED)  — HOT WATER RECIRCULATION (TEMPERATURE AS NOTED)  — T — 110' — HOT WATER FINAL DELIVERY TEMPERATURE AS NOTED)  — T — 110' — HOT WATER FINAL DELIVERY TEMPERATURE AS NOTED)  — T — 110' — HOT WATER FINAL DELIVERY TEMPERATURE AS NOTED)  — T — 110' — TEMPERED WATER(FINAL DELIVERY TEMPERATURE AS NOTED)  — T — 110' — TEMPERED WATER(FINAL DELIVERY TEMPERATURE AS NOTED)  — T — 110' — TEMPERED WATER(FINAL DELIVERY TEMPERATURE AS NOTED)  — CA — COMPRESSED AIR	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  TAP RELIEF VALVE  LINE CLEANOUT  PRESSURE GAUGE WITH GAUGE COCK  THERMOMETER  WATER METER  FLEXIBLE CONNECTION  PRESSURE AND TEMPERATURE TAP  FLOW VENTUR!  VACUUM BREAKER  VACUUM RELIEF VALVE  BACKFLOW PREVENTOR  CIRCULATING PUMP  DRAIN(TYPE AND SIZE AS NOTED ON PLANS)	
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	LRA LOCKED ROTOR AMPS LVL LEVEL LWCO LOW WATER CUT OFF  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	STR STRAINER SURF SURFACE SUSP SUSPEND SV SANITARY VENT SW SOFT WATER  TD TRENCH DRAIN TDH TOTAL DYNAMIC HEAD TH BLK THRUST BLOCK TP TRAP PRIMER TPD TRAP PRIMER TPD TRAP PRIMER TPD TYPICAL	— 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	ROOF DRAIN OR OVERFLOW DRAIN(FROM ABOVE)	

**MISCELLANEOUS** 

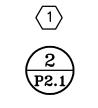
PLUMBING FIXTURES



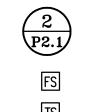
HOSE BIBB WALL HYDRANT



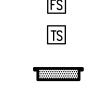
POINT OF NEW CONNECTION TO EXISTING PIPING



PLUMBING DRAWING NOTE REFERENCE

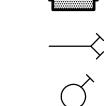


DETAIL NUMBER OR PLAN SHEET WHERE DETAIL OR PLAN IS SHOWN



TAMPER SWITCH FIRE HOSE CABINET

FLOW SWITCH



FIRE DEPARTMENT SIAMESE CONNECTION(WALL MOUNTED)

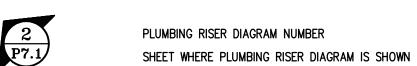
Austin, Texas 78757
512.637.4393 p 512.637.4396 f
TBPE Firm Registration No. 2234

MC SN NF AH --

DBR Project Number

165026.000











Edwards + Mulhausen INTERIOR DESIGN

2301 E. Riverside Drive, Building A, Suite 80

In Association

Bid 1704-153

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



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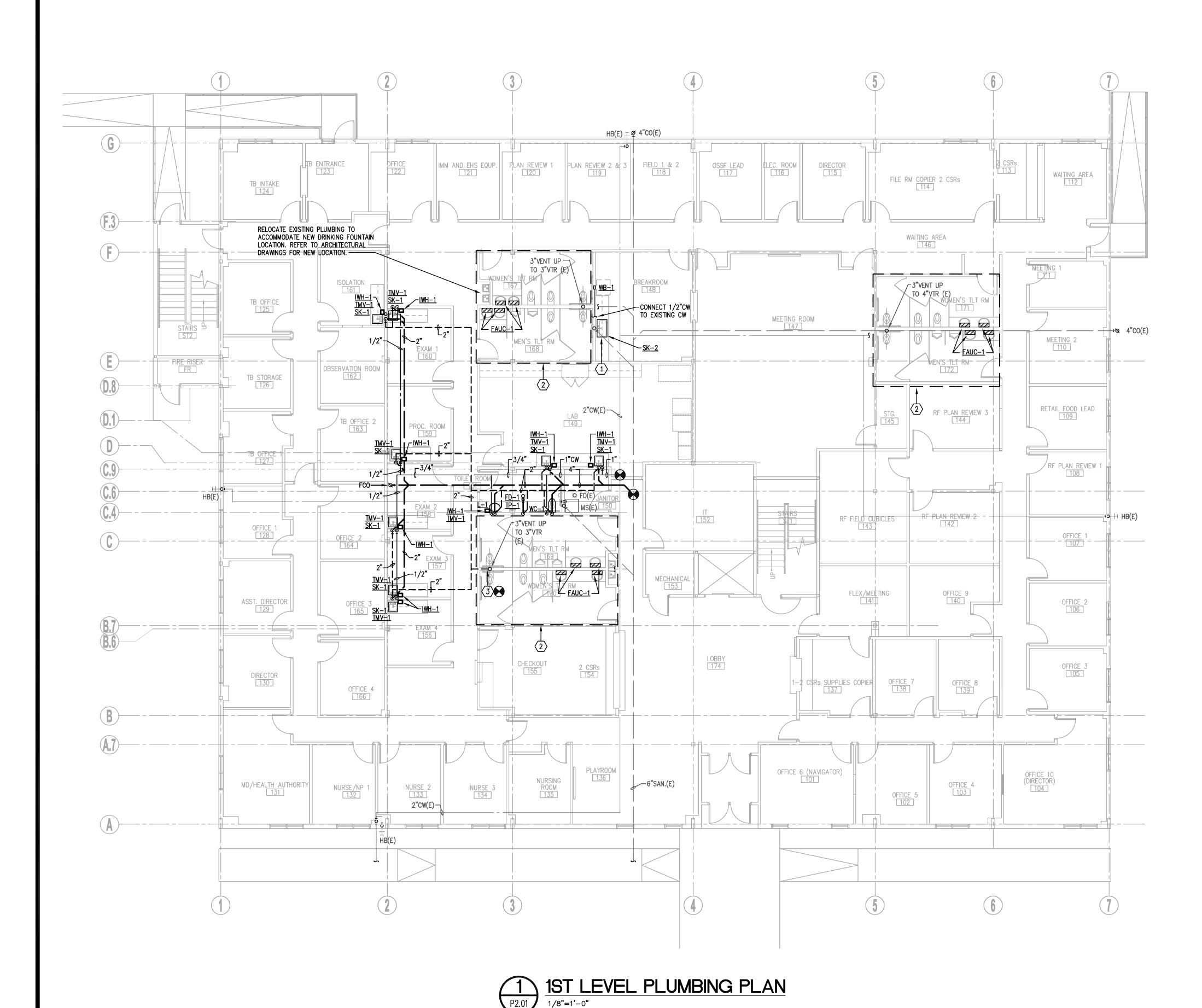
	SHEET INFORMATION
Date	April 7, 2017
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Scale	
Drawn	
Checked	
Approved	
	TITLE

**PLUMBING** SYMBOLS AND **ABBREVIATIONS** 

SHEET

P0.00

4/12/2017 10:23 AM



# **GENERAL NOTES:**

- SIZES AND LOCATION OF EXISTING PIPINGS SHOWN ARE APPROXIMATE LOCATION. CONTRACTOR NEED TO FIELD VERIFY EXACT SIZES, CONDITIONS AND LOCATIONS OF INDICATED EXISTING
- 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.
- 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
- $\langle F \rangle$  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

- 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

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.









8200 IH-10 West, Ste. 103 901 S. Mopac San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

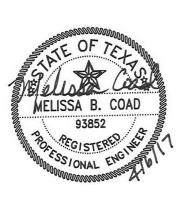
Edwards + Mulhausen

INTERIOR DESIGN 2301 E. Riverside Drive, Building A, Suite 80 Austin, Texas 78741 Ph. 512.291.6657

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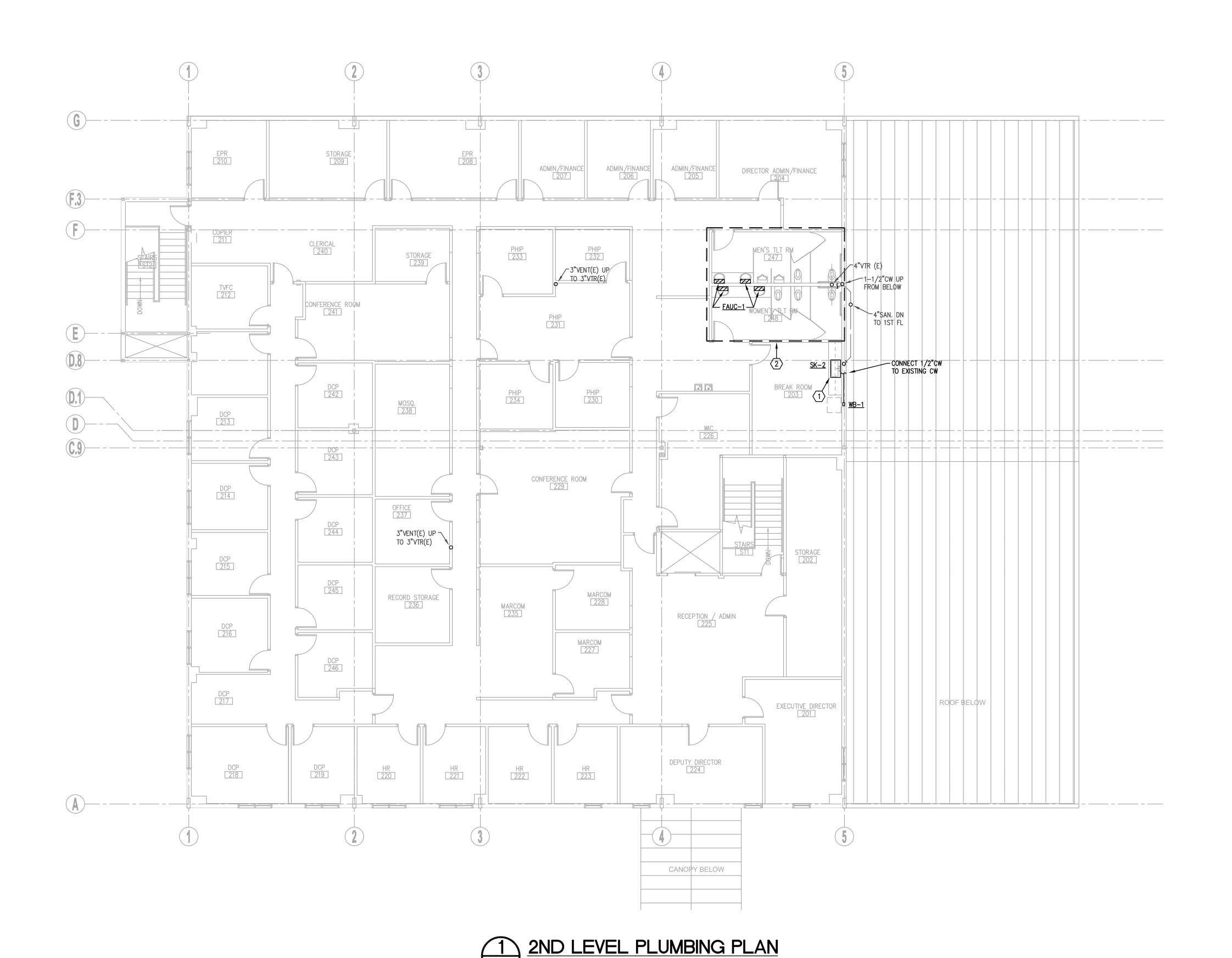
	SHEET INFORMATION
Date	April 7, 2017
Job Number	16-1010
Scale	
Drawn	
Checked	
Approved	
	TITLE

**1ST LEVEL** PLUMBING PLAN

SHEET

P2.01

512.637.4393 p 512.637.4396 f TBPE Firm Registration No. 2234 165026.000 DBR Project Number



1/8"=1'-0"

# **GENERAL NOTES:**

- (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.
- 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
- BUILDING ELEMENTS AND THE WORK OF OTHER TRADES. REFER TO RISER DIAGRAMS FOR MORE SIZING INFORMATION AND OTHER REQUIREMENTS.

# PLUMBING KEYED NOTES

- 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
- EXISTING PLUMBING IN THIS AREA TO REMAIN WITH THE EXCEPTION OF NEW SINK FAUCETS TO BE PROVIDED.

SPRINKLER HEADS AND FIRELINES. CONTRACTOR IS RESPONSIBLE FOR TESTING AND INSPECTING EXISTING SYSTEM AND INSURE THAT WILL BE REQUIRED PRIOR TO BIDDING TO DETERMINE FULL SCOPE

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

(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

- SIZES AND LOCATION OF EXISTING PIPINGS SHOWN ARE APPROXIMATE LOCATION. CONTRACTOR NEED TO FIELD VERIFY EXACT SIZES, CONDITIONS AND LOCATIONS OF INDICATED EXISTING
- (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
- DRAWING IS DIAGRAMMATIC ONLY. CONTRACTOR SHALL COORDINATE EXACT LOCATIONS OF PIPING, DEVICES AND EQUIPMENT WITH

FULL SCOPE OF WORK.

# FIRE PROTECTION NOTES:

CONTRACTOR TO ADJUST/REWORKED LOCATIONS OF ALL AFFECTED

PROVIDE/MODIFY FIRE ALARM SYSTEM AS REQUIRED BY LOCAL, STATE OR FEDERAL CODES TO RECEIVE CERTIFICATE OF OCCUPANCY

# NOTE:

OF REPLACING THEM.

CONTRACTOR SHALL EVALUATE ALL EXISTING PLUMBING FIXTURES









8200 IH-10 West, Ste. 103 901 S. Mopac San Antonio, Texas 78230 Bldg. 3, Ste. 400 Phone: 210-698-7887 Austin, Texas 78746 Phone: 512-433-2696

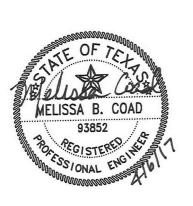
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In Association

# WCCHD Office Renovations

355 Texas Avenue Round Rock, Texas



# **REVISIONS**

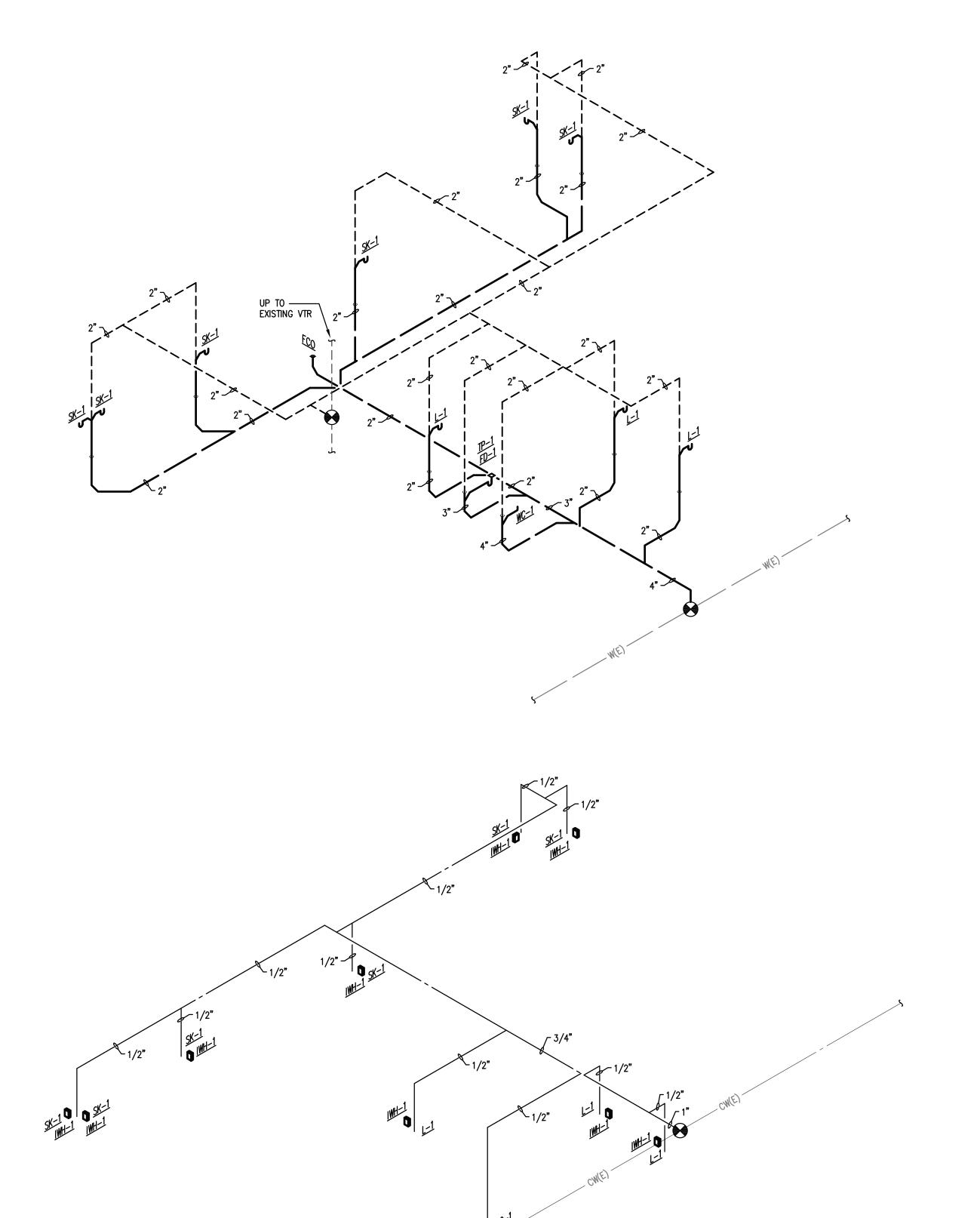
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**2ND LEVEL** PLUMBING PLAN

SHEET

P2.02





## 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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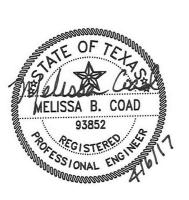
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PLUMBING RISERS

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TBPE Firm Registration No. 2234

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P3.01

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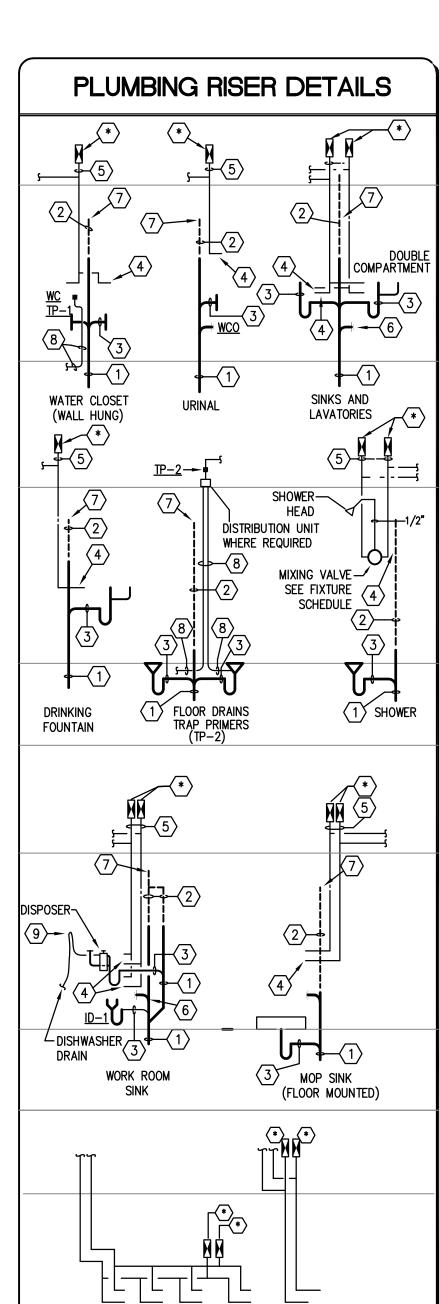
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# KEYED NOTES - RISER DIAGRAM DETAILS:

(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.

(SEE PLUMBING FIXTURE SCHEDULE ON SHEET P3.01)

- 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.
- 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.
- 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 WST SOIL OR WASTE PIPING A.G. ——GW—— GREASE WASTE PIPING GW ---- VENT PIPING ——SD —— STORM DRAIN PIPING SD —OD — OVERFLOW STORM DRAIN PIPING OD —— G—— | GAS LINE ----- DOMESTIC COLD WATER CW ——-- DOMESTIC HOT WATER HW —TW — TEMPERED DOMESTIC HOT WATER ——-▼—— | GATE\_VALVE GV GLV ——⊳≒—— |BALL VALVE BV CKV ──────── | CHECK VALVE — → BALANCING VALVE BAV BTV PLV ——ば—— |PRESSURE REDUCING VALVE PRV T&P PRESSURE RELIEF VALVE STR STRAINER —-l⊢—— | UNION UN ──┴─── | THERMOMETER WELL TW PRESSURE GAUGE PG ------THRM THERMOMETER ——D—— CONDENSATE OR INDIRECT DRAIN oo+o+o- |branch connection, top BRANCH CONNECTION. BOTTOM ---O | ELBOW UP —+⊃ |ELBOW DOWN ─Ø |FLOOR CLEANOUT (INTERIOR) FCO CLEANOUT AT GRADE (EXTERIOR) COG WALL CLEANOUT WCO \_\_\_ **-**FLOOR DRAIN FD ——⇒≣ FLOOR SINK FS HOSE BIBB HB WALL HYDRANT NEW TO EXISTING PIPE CONNECTION PLUMBING RISER IDENTIFICATION DOWNSPOUT RISER IDENTIFICATION | DS/X FIRE RISER IDENTIFICATION ABBR. ABBREVIATIONS ABOVE FINISHED FLOOR ACCESS PANEL BFF BELOW FINISHED FLOOR BOP BOTTOM OF PIPE INDIRECT DRAIN D FIN FINISHED FLOOR FLR INV. EL. INVERT ELEVATION NC NORMALLY CLOSED SOFT WATER SW --TP TRAP PRIMER TYPICAL TYP --VTR VENT THRU ROOF

SHC	OCK ARRESTOR S	CHEDULE
* P.D.I. SYMBOL	FIXTURE UNITS	SIZE
A	1–11	1/2" NPT
B	12-32	3/4" NPT
<u>©</u>	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.

INSTALLATION WITHOUT REQUIREMENT FOR ACCESS PANELS.

SHOCK ARRESTORS SHALL HAVE LIFETIME WARRANTY AND SHALL BE CERTIFIED BY THE MANUFACTURER TO BE SUITABLE FOR

### PLUMBING GENERAL PLAN NOTES:

- 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
- (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.
- 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.
- PROVIDE ISOLATION VALVES FOR <u>ALL</u> 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.
- 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

- MOUNTING HEIGHT ELEVATION OF ALL WALL HUNG OR COUNTER MOUNTED FIXTURES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION OF ROUGH-IN WORK.
- 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.
- CONTRACTOR SHALL REFER TO SHOP DRAWINGS OF EQUIPMENT TO BE SUPPLIED FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS BEFORE BEGINNING WORK.
- 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.
- 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.
- 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
- 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
- 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

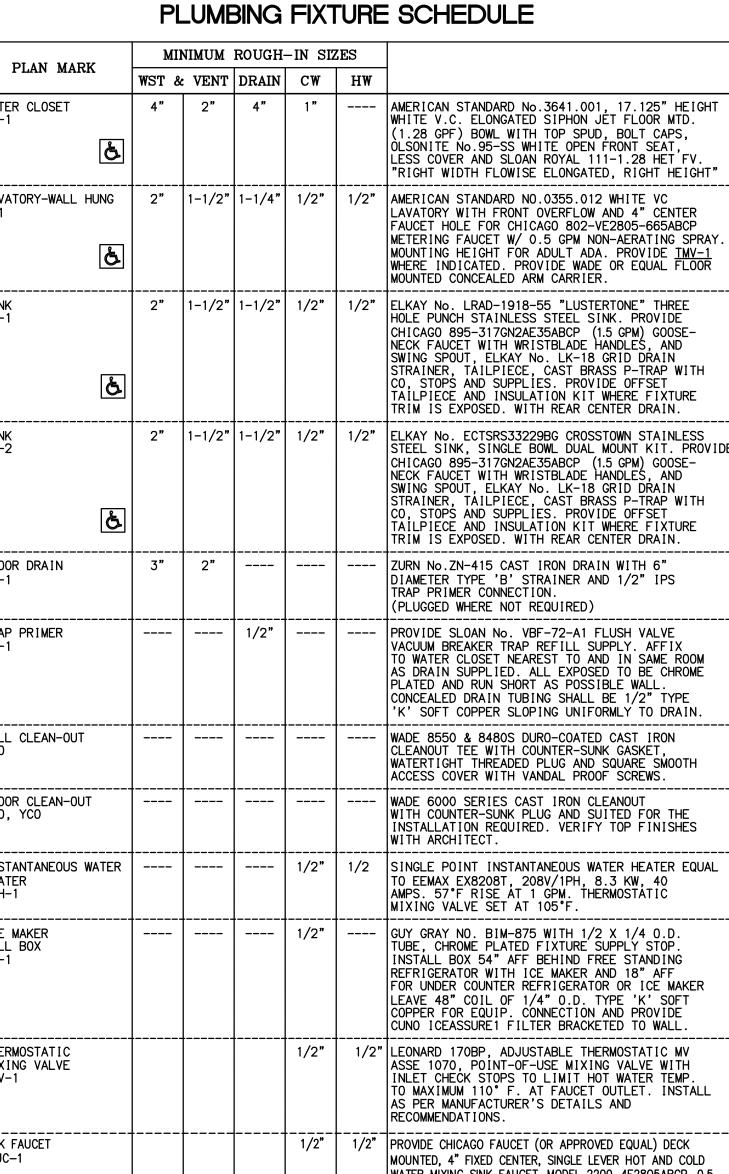
ENTIRE TOILET ROOMS OR OVER AS WIDE AN AREA AS PRACTICAL FOR OPEN AREA FLOOR DRAINS. CONVEX FLOOR SLOPE IN THE IMMEDIATE VICINITY OF THE FLOOR DRAIN IS NOT ACCEPTABLE.

PLAN MARK	M	IINIMUM	ROUGH	-IN SIZ	ZES	
I DAIN MANN	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. PROVID 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 <b>"</b>	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 EX8208T, 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			



# REVISIONS

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**PLUMBING** 

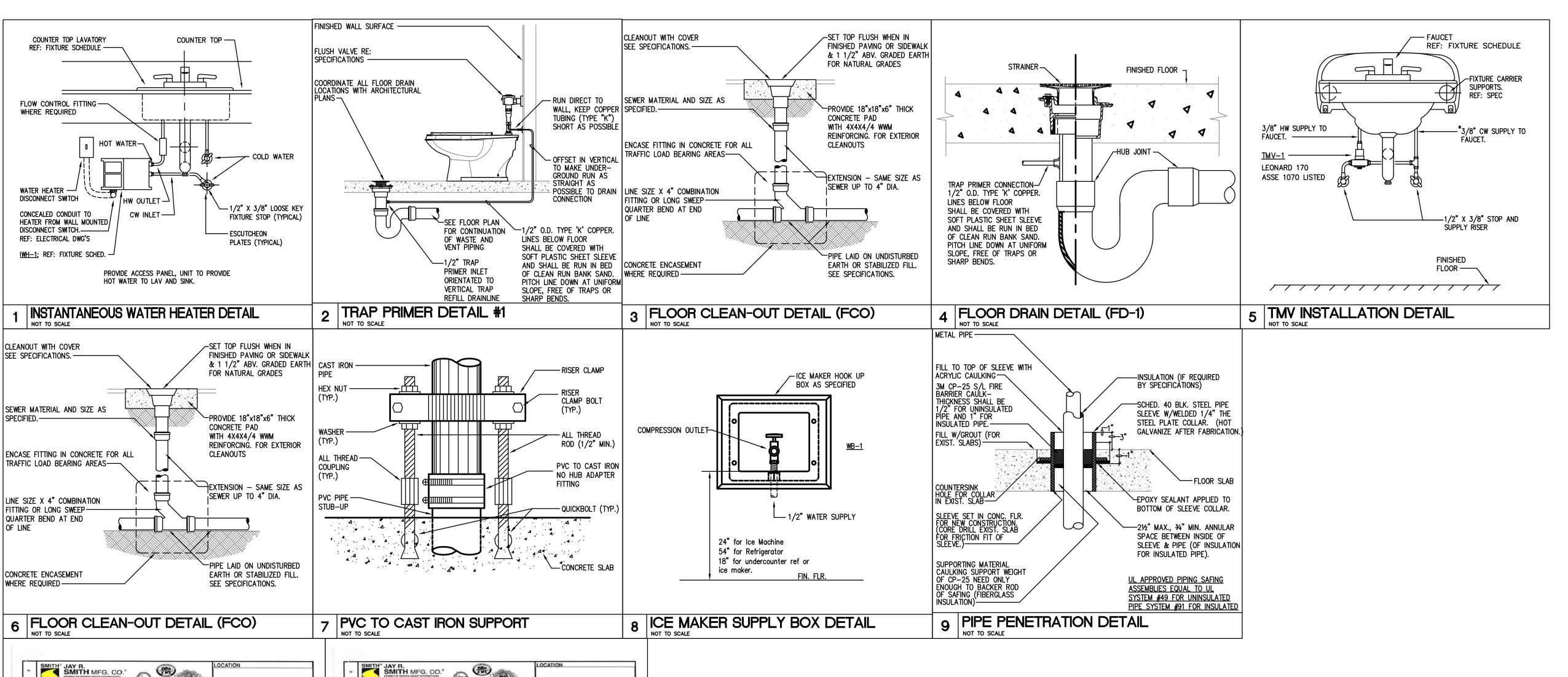
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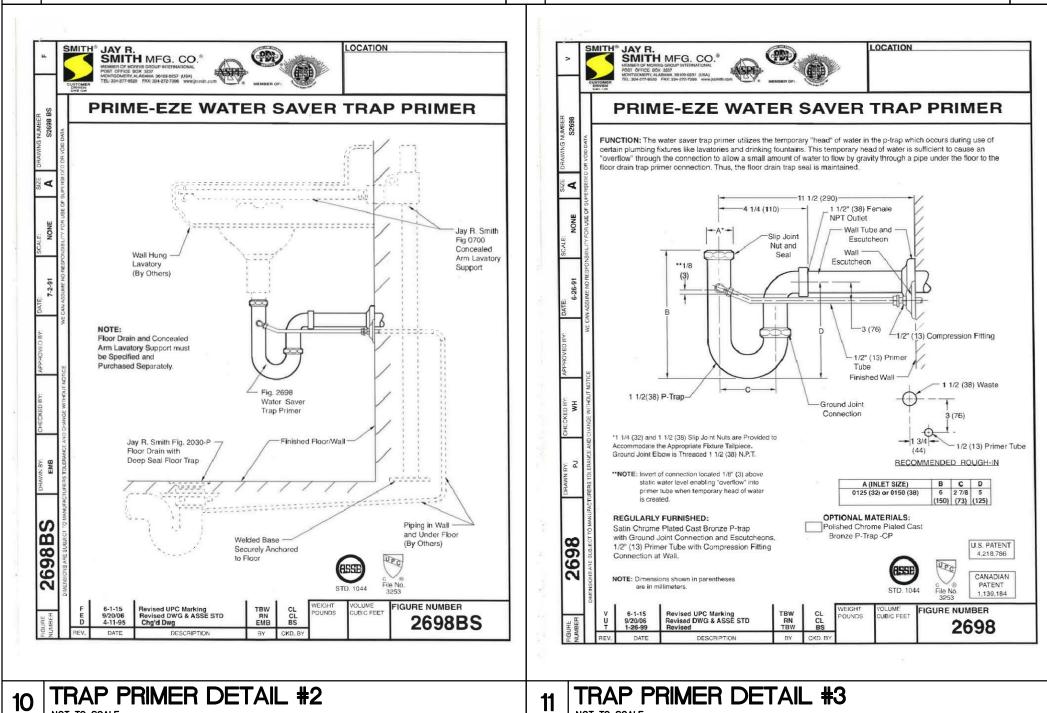
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P5.01

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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	TITLE

PLUMBING DETAILS

SHEET

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# **WCCHD Office Renovations**

355 Texas Avenue Round Rock, Texas 78664

Project Manual Issued 4.7.17





2301 E. Riverside Drive, Bldg A, Suite 80 Austin, TX 78741 | haddoncowan.com





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# 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.

#### 1.05 PROCUREMENT TIMETABLE

- A. Desired Substantial Completion Date: Not later than 6 calendar months following Notice to Proceed.
- B. Desired Final Completion Date: Not later than 1 calendar month following Substantial Completion.
- C. The Owner reserves the right to change the schedule or terminate the entire procurement process at any time.

#### PART 2 PRODUCTS (NOT USED)

### PART 3 EXECUTION (NOT USED)

### **END OF SECTION**

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### 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:
  - 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

#### **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.
- 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

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- 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.
    - 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:
  - Owner.
  - Architect.
  - Contractor.
  - B. Agenda:
    - 1. Execution of Owner-Contractor Agreement.
    - 2. Submission of executed bonds and insurance certificates.
    - 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

- 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.
  - Architect.
  - 4. Contractor's Superintendent.
  - 5. Major Subcontractors as required or requested by Architect/Owner.
- D. Agenda:
  - Review minutes of previous meetings.
  - 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.

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- 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.
  - 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

 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.
  - 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:
  - 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:
  - Project record documents.
  - 2. Operation and maintenance data.
  - 3. Warranties.
  - 4. Bonds.
  - 5. Other types as indicated.

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ADMINISTRATIVE REQUIREMENTS

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.

# 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** 

# 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 quidelines; 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.

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PRODUCT REQUIREMENTS

- 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.
  - 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.

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PRODUCT REQUIREMENTS

- 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**

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PRODUCT REQUIREMENTS

# **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:
  - Concrete.
  - 2. Clay brick.
  - 3. Metals that are plated, anodized, or powder-coated.
  - 4. Glass.
  - 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.
- SCAQMD 1113 South Coast Air Quality Management District Rule No.1113; current edition; www.agmd.gov.
- E. SCAQMD 1168 South Coast Air Quality Management District Rule No.1168; current edition; www.aqmd.gov.

# 1.04 SUBMITTALS

- 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.

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VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

- 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.

# 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

- See Section 01 3000 Administrative Requirements, for submittal procedures.
- B. Cutting and Patching: Submit written request in advance of cutting or alteration that affects:
  - 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.

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#### 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.
  - 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.
  - 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.

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- 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.
  - 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:
  - 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.

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- 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:

- 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.
- 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

- 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

- 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.

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- 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.

# **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.
- 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.

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CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- 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 (cubic meters), 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.
    - 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.
- Meetings: Discuss trash/waste management goals and issues at project meetings, particularly at:
  - 1. Pre-bid meeting.
  - 2. Pre-construction meeting.
  - 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.

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CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

- 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.

# **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.
- 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:
  - 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.
  - 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.
  - Submit two sets of revised final documents in final form within 10 days after final inspection.

# C. Warranties and Bonds:

- For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
- Make other submittals within 10 days after Date of Substantial Completion, prior to final 2. Application for Payment.
- 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

- Maintain on site one set of the following record documents; record actual revisions to the Work:
  - Drawings. 1.
  - 2. Addenda.
  - 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:
  - Field changes of dimension and detail. 1.
  - Details not on original Contract drawings.

**CLOSEOUT SUBMITTALS** 

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#### 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 (216 by 280 mm) three D side ring binders with durable plastic covers; 2 inch (50 mm) maximum ring size. When multiple binders are used, correlate data into related consistent groupings.

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**CLOSEOUT SUBMITTALS** 

- 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** 

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# SECTION 02 4100 DEMOLITION

# **PART 1 GENERAL**

#### 1.01 SECTION INCLUDES

- 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.
  - 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.
  - 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.

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DEMOLITION

- 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.
  - 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.

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DEMOLITION

# 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.

# 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

- 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.
  - 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.

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#### 2.02 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M, Grade 60 (60,000 psi) (420 MPa).

#### 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 (13 mm) thick, height equal to slab thickness, with removable top section that will form 1/2 inch (13 mm) 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 (25 mm) diameter holes for conduit or rebars to pass through at 6 inches (150 mm) 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 (20.7 MPa).

# **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 (150 mm). 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.

CAST-IN-PLACE CONCRETE

- 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 (3 mm) in 10 feet (3 m).
  - 2. Under Seamless Resilient Flooring: 1/8 inch (3 mm) in 10 feet (3 m).
  - 3. Under Carpeting: 1/8 inch (3 mm) in 10 feet (3 m).
- 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:
  - 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:
  - 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.

# **SECTION 06 1000 ROUGH CARPENTRY**

# **PART 1 GENERAL**

# 1.01 SECTION INCLUDES

- 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.
  - 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.
  - 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:
  - Lumber: S4S, No. 2 or Standard Grade.
  - Boards: Standard or No. 3. 2.

#### PART 3 EXECUTION

# 3.01 PREPARATION

A. Coordinate installation of rough carpentry members specified in other sections.

# 3.02 INSTALLATION - GENERAL

- 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.
- 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.

**ROUGH CARPENTRY** 

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- 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**

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# 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

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:
  - 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:
  - 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.

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ARCHITECTURAL WOOD CASEWORK

#### 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 ("U" shaped wire pull, steel with chrome finish, 100 mm 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 (600 mm) 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 (400 mm) 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 (0.79 mm). 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.

# 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.
- 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.im.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.
  - Aged Thermal Resistance: R-value (RSI-value) of 3 (deg F hr sq ft)/Btu (0.5 (K sqm)/W), minimum, when tested at 1 inch (25.4 mm) thickness in accordance with ASTM C518 after aging for 180 days at 41 degrees F (23 degrees C).
  - 2. Air Permeance: 0.004 cfm/sq ft (0.2 L/second sq meter), maximum, when tested at intended thickness in accordance with ASTM E2178 or ASTM E283 at 1.5 psf (75 Pa).
  - 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.

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FOAMED-IN-PLACE INSULATION

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 (RSI-value of \_\_\_\_\_).
- 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.

# **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.agmd.gov.

#### PART 2 PRODUCTS

# 2.01 MANUFACTURERS

Α.	Non	-Sag Sealants: Permits application in joints on vertical surfaces without sagging or
	slum	nping.
	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:

- 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.
  - Other joints indicated below.
- 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.
- 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
  - Joints where installation of sealant is specified in another section. C.
  - Joints between suspended panel ceilings/grid and walls.
- Exterior Joints: Use non-sag non-staining silicone sealant, unless otherwise indicated.
- C. Interior Joints: Use non-sag polyurethane sealant, Type \_\_\_\_, unless otherwise indicated.
  - Wall and Ceiling Joints in Non-Wet Areas: Acrylic emulsion latex sealant.
  - Floor Joints in Wet Areas: Non-sag polyurethane "non-traffic-grade" sealant suitable for continuous liquid immersion.

JOINT SEALANTS

D. Interior Wet Areas: restrooms; fixtures in wet areas include plumbing fixtures and countertops.

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#### 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

- Non-Staining Silicone Sealant: ASTM C920, Grade NS, Uses M and A; not expected to withstand continuous water immersion or traffic.
  - 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.
  - Color: Match adjacent finished surfaces. 2.
- 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 .
  - Movement Capability: Plus and minus 35 percent, minimum. 1.
  - Color: Match adjacent finished surfaces. 2.
- D. Acrylic Emulsion Latex: Water-based; ASTM C834, single component, non-staining, non-bleeding, non-sagging; not intended for exterior use.
  - Color: Standard colors matching finished surfaces, Type OP (opaque).

# 2.05 ACCESSORIES

- 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.
- Backing Tape: Self-adhesive polyethylene tape with surface that sealant will not adhere to and recommended by tape and sealant manufacturers for specific application.
- 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

- 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

- 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.

JOINT SEALANTS

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- 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

- 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.

# 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).
- 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

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PRE-FINISHED STEEL DOOR FRAMES

# 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 <a href="http://www.timelyframes.com">http://www.timelyframes.com</a>.
- B. Dunbarton Door and Entry Systems
   <a href="http://www.cmdgroup.com/companies/2923/dunbarton-door-and-entry-systems/">http://www.cmdgroup.com/companies/2923/dunbarton-door-and-entry-systems/</a>, 1101
   Technology Drive, Dothan, AL 36303

Phone: (334) 794-0661 Fax: (334) 793-3462 Website: www.dunbarton.com <a href="http://www.dunbarton.com/">http://www.dunbarton.com/</a> 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

- 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.

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PRE-FINISHED STEEL DOOR FRAMES

- B. Prepare frames for ASA 4-7/8" strikes where required. Provide minimum 1/4" 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.
- 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
- 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.

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PRE-FINISHED STEEL DOOR FRAMES

- 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.

# 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

- 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 (32 mm) 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 (1.3 mm).
- 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.
  - 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 (10 kg) nominal force to operate.

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#### 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 (1.5 mm).
- C. Maximum Variation From Level: 1/16 inch (1.5 mm).
- D. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10 ft (3 mm per 3 m) 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.

# 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 (5 degrees C). 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 (25 mm) insulating glazing.

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ALUMINUM-FRAMED STOREFRONTS

- 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.
- Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F (95 degrees C) 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 (0.01 mm) 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.

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ALUMINUM-FRAMED STOREFRONTS

- 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.
- 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 (1.5 mm/m) non-cumulative or 1/16 inches per 10 ft (1.5 mm/3 m), whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch (0.8 mm).

#### 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.

# 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.
- Shop Drawings: Indicate configuration, sizes, rough-in, mounting, anchors and fasteners, and installation clearances.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- 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 (3.2 mm) 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 (0.01 mm) 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.

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SERVICE AND TELLER WINDOW UNITS

# 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.

# 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
  - 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 Laboratory
  - 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.
  - 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 supplier, 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:
  - 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.
  - 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. Interior 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. Electric Hinge: Provide 8 wire.
- 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:

IvesIVEwww.ives.ingersollrand.comHagerHAGwww.hagerhinge.comBommerBOMwww.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.
- 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 fasteners 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 DuprinVONwww.vonduprin.com99 SeriesMonarch/FalconFALwww.falconlock.com25 SeriesDetexDETwww.detex.comAdvantex

#### 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.
- Size in accordance with the manufacturers recommendations for door size and condition.
- 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.
- 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.
- Provide kickplate on all wood doors with closers, unless not required for aesthetic reasons.
- 5. Supply from the following list of manufacturers:

IvesIVEwww.ives.ingersollrand.comRockwoodROCwww.rockwoodmfg.comTrimcoTRIwww.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

IvesIVEwww.ives.ingersollrand.comRockwoodROCwww.rockwoodmfg.comTrimcoTRIwww.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: 0	00.01							
DOOR NU	DOOR NUMBER:							
104	114	114A	115	127	129			
130	131	155	137	137A	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 INSTALLED ON EXISTING DOOR FRAME. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW	SE	T:	00	.02	2
DOO	)R	NI	JМ	BI	ΕF

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	<b>IVE</b>

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. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.03 DOOR NUMBER: 135

#### 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 INSTALLED ON EXISTING DOOR FRAME. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD

HW SET: 00	0.04							
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. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.05 DOOR NUMBER: ST1B

EACH TO HAVE:

1 EA ELECTROMAGNETIC SEM7800 SERIES 689 LCN HOLD OPEN

**BALANCE OF HARDWARE EXISTING** 

PROVIDE MAGNETIC HOLD OPEN IN DIMENSION REQUIRED. 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. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD

HW SET: 00.06 DOOR NUMBER: 147 147A

#### EACH TO HAVE:

2.1011 10 1111 2.					
1	EA	PANIC HARDWARE	99-L-07	628	VON
1	FΔ	CYLINDER	1F72	626	RES

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 INSTALLED ON EXISTING DOOR FRAME. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.07 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 EXISITING. NOTIFY A/E IMMEDIATELY IF NEW HARDWARE SPECIFIED CANNOT BE INSTALLED ON EXISTING DOOR FRAME. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

HW SET: 00.08 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 INSTALLED ON EXISTING DOOR FRAME. IN SUBMITTAL, PROVIDE NAME/COMPANY/DATE OF VERIFICATION IN FIELD.

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	<b>IVE</b>
1	EA	PASSAGE SET	73KC 0N 16 D S3	626	BES
1	EA	SURFACE CLOSER	SC81 RW/PA	689	FAL
1	EA	ELECTROMAGNETIC	SEM7800 SERIES	689	LCN
		HOLD OPEN			
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	M490DE	AL	SCE
		MAGNETIC LOCK			
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	93K 7DEU 16 D S3 RQE	626	BES
		RQE			
1	EA	SURFACE CLOSER	SC81 RW/PA	689	FAL
1					
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA EA	WALL STOP	8400 10" X 2" LDW WS407CCV	630 630	IVE 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

- 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 (4 degrees C).
- 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:

16-1010 / WCCHD Renovations

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**GLAZING** 

- 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.
  - Durability: Certified by an independent testing agency to comply with ASTM E2190.
  - 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 (25.4 mm).

#### 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 (6.4 mm), 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.

# 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

- 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 (13 mm).

## 2.03 ACCESSORIES

- A. Acoustic Insulation: ASTM C665; preformed glass fiber, friction fit type, unfaced. Thickness: \_\_\_\_\_ inch (\_\_\_\_ mm).
- B. Joint Materials: ASTM C475/C475M and as recommended by gypsum board manufacturer for project conditions.

#### **END OF SECTION**

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# SECTION 09 3000 TILING

#### **PART 1 GENERAL**

#### 1.01 SECTION INCLUDES

- 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).
- 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.

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TILING

#### 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 (51 by 51 mm), 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 (108 by 108 mm), 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.
  - 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 (3.2 mm) wide and larger; use unsanded grout for joints less than 1/8 inch (3.2 mm) 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.

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TILING

#### 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

# 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

- ASTM C635/C635M Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.
- 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 (16 degrees C), 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 ( by mm).
  - 2. Thickness: 5/8 inches (15.9 mm).
  - 3. Edge: Beveled tegular.
  - 4. Surface Color: White.

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SUSPENDED ACOUSTICAL CEILINGS

# 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 (24 mm) 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.
  - 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.
- Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.
- 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 (150 mm) 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.

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SUSPENDED ACOUSTICAL CEILINGS

- 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 (3 mm in 3 m).
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

# SECTION 09 6500 RESILIENT FLOORING

# **PART 1 GENERAL**

#### 1.01 SECTION INCLUDES

- 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 (\_\_\_ by \_\_\_ mm) 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 (13 degrees C) and 90 degrees F (72 degrees C).

## 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 (21 degrees C) to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F (13 degrees C).

## **PART 2 PRODUCTS**

#### 2.01 TILE FLOORING

- A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness.
  - 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 (305 by 305 mm).
  - Thickness: 0.125 inch (3.2 mm).
  - 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.

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RESILIENT FLOORING

- 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 (\_\_\_ by \_\_\_ mm).
- 5. Total Thickness: 1/8 inch (\_\_\_\_ mm).
- 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 (41 mm) deep.
  - Manufacturers:
    - a. Johnsonite, a Tarkett Company; Visually Impaired Rubber Stair Tread with Integraded Riser: www.johnsonite.com.
  - 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.
  - Height: 4 inch (100 mm).
  - 3. Thickness: 0.125 inch (3.2 mm) 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.

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- 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 (45 mm) 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.

## 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

- 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.
- 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.
  - 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:

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1. Tandus; \_\_\_\_: www.tandus.com.

## 2.02 MATERIALS

A. Tile Carpeting, Type as shown on drawings: Tufted, manufactured in one color dye lot.

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- 1. Product: Overlay Accent II manufactured by Tandus.
- 2. Product: [Syllabus] manufactured by [Tandus].

TILE CARPETING

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- Tile Size: 24 by 24 inch (\_\_\_\_by\_\_\_ mm), nominal. 3.
- 4. Thickness:.187 inch (\_\_\_\_ mm).
- 5. Color: as shown on drawings.
- Primary Backing Material: non woven synthetic fiber.
- 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.
  - 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

- 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**

**TILE CARPETING** 

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# SECTION 09 9123 INTERIOR PAINTING

## **PART 1 GENERAL**

#### 1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints, stains, and varnishes.
- Scope: Finish interior surfaces exposed to view, unless fully factory-finished and unless otherwise indicated.
  - 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:
  - 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.
  - 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 (216 by 279 mm) 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

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(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.
  - Extra Paint and Finish Materials: 1 gallon (4 L) 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 (7 degrees C) and a maximum of 90 degrees F (32 degrees C), 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 (860 lx) 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.

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#### 2.03 PAINT SYSTEMS - INTERIOR

- 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.
  - Two top coats and one coat primer. 1.
  - Top Coat(s): Institutional Low Odor/VOC Interior Latex; MPI #143, 144, 145, 146, 147, or 2. 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.
    - Eggshell: MPI gloss level 3; use this sheen at all locations. C.
    - Satin: MPI gloss level 4; use this sheen for items subject to frequent touching by occupants, including door frames and railings.
    - Semi-Gloss: MPI gloss level 5; use this sheen at all locations. e.
    - Gloss: MPI gloss level 6; use this sheen at all locations.
    - 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:
  - Two top coats and one coat primer. 1.
  - 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.
  - 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
  - Top Coat: Latex Dry Fall; MPI #118, 155, or 226.
  - Paint I-TR -W Transparent Finish on Wood.

## 2.04 PRIMERS

Primers: Provide the following unless other primer is required or recommended by manufacturer of top coats.

## 2.05 ACCESSORY MATERIALS

- Accessory Materials: Provide primers, sealers, cleaning agents, cleaning cloths, sanding materials, and clean-up materials as required for final completion of painted surfaces.
- 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.
- 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.
- Measure moisture content of surfaces using an electronic moisture meter. Do not apply finishes unless moisture content of surfaces are below the following maximums:

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- 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.
- 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.
  - 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.

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**INTERIOR PAINTING** 

- 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 (\_\_\_x\_\_ mm) 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 (25 mm).
  - 2. Door Width: 24 inch (610 mm).
  - 3. Door Width for Handicapped Use: 36 inch (915 mm), out-swinging.
  - 4. Height: 58 inch (1 473 mm).
  - 5. Thickness of Pilasters: 1-1/4 inch (32 mm).
- 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 (75 mm) high, concealing floor fastenings.

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PLASTIC-LAMINATE-CLAD TOILET COMPARTMENTS

- 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 (25 x 41 mm) 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.
  - 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 (9 to 13 mm) 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 (6 mm).
- B. Maximum Variation From Plumb: 1/8 inch (3 mm).

#### 3.04 ADJUSTING

- A. Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch (5 mm).
- 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

- 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 (\_\_\_by\_\_\_mm) 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 (25 mm).
- 2. Width: 24 inch (610 mm).
- 3. Width for Handicapped Use: 36 inch (915 mm), out-swinging.
- 4. Height: 55 inch (1397 mm).

## C. Panels:

- 1. Thickness: 1 inch (25 mm).
- 2. Height: 55 inch (1397 mm).

## D. Pilasters:

- 1. Thickness: 1 inch (25 mm).
- 2. Width: As required to fit space; minimum 3 inch (76 mm).
- E. Screens: Without doors; to match compartments; mounted to wall with two panel brackets.

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PLASTIC TOILET COMPARTMENTS

#### 2.03 ACCESSORIES

- A. Pilaster Shoes: Formed chromed steel with polished finish, 3 in (75 mm) 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.
  - 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

- Install partitions secure, rigid, plumb, and level in accordance with manufacturer's instructions.
- B. Maintain 3/8 to 1/2 inch (9 to 13 mm) 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 (6 mm).
- B. Maximum Variation From Plumb: 1/8 inch (3 mm).

## 3.04 ADJUSTING

- Adjust and align hardware to uniform clearance at vertical edge of doors, not exceeding 3/16 inch (5 mm).
- 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

 Section 06 1000 - Rough Carpentry: Concealed wood blocking for attachment of headrail brackets.

#### 1.03 REFERENCE STANDARDS

 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 (\_\_\_\_ mm) 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.
  - 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

- 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 (12 mm).
  - 2. Thickness: 0.008 inch (0.20 mm).
  - 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.

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HORIZONTAL LOUVER BLINDS

- 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 (76 mm).
  - 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 (6 mm).
- B. Maximum Offset From Level: 1/8 inch (3 mm).

## 3.04 ADJUSTING

A. Adjust blinds for smooth operation.

#### 3.05 CLEANING

A. Clean blind surfaces just prior to occupancy.

#### **END OF SECTION**

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## 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:
  - 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

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WET PIPE SPRINKLER SYSTEM

- 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:
  - 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
- 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
- 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.
- Products:
  - 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

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WET PIPE SPRINKLER SYSTEM

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  $(\pm 1/2")$ . 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

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- 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.

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## 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.

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## 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.
  - 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.
- 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.

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#### 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:

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- 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

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- 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.

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- 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.

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- 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:
  - 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

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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.

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- 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.

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- 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.

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For pipes 2-1/2" and smaller — Type PP10 with roller For pipes 3" through 8" — Type PS For multiple pipes — Type PSE - Custom
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- 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.

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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.

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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
(Stool Dino)		
(Steel Pipe)	71.03	0./0#
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.

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# 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:

<u>NPS</u>	<u>LENGTH</u>	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

- 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.

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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.

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IDENTIFICATION FOR PLUMBING AND EQUIPMENT

- 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:

<u>SYSTEM</u>	COLOR	<u>LEGEND</u>
Sanitary Sewer	Green	Vent
		Sanitary Sewer
Storm Drain	Green	Storm Drain
Domestic Water	Green	Domestic Water
Domestic Hot Water	Yellow	Domestic Hot
Supply		Water Supply
Domestic Hot Water	Yellow	Domestic Hot
Recirculating		Water Return
Fire Protection	Red	Fire Protection
Automatic	Red	Fire
Sprinkler		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:

SystemColorStorm SewerWhiteSanitary Sewer Waste and VentLight GrayDomestic Cold WaterDark BlueDomestic Hot Water Supply and ReturnOrange

#### **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.

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PLUMBING PIPING INSULATION

#### 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.

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PLUMBING PIPING INSULATION

# 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 but 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**

4.02

### 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: 3/4 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

# HIGH TEMPERATURE SURFACES

# MINIMUM INSULATION THICKNESS

A. Hot Water Piping:

Operating temperature 105°F or less: 1 inch
 Operating temperature higher than 105°F 1 inch and pipe size 1½ inch or smaller

3. Operating temperature higher than 105°F 2 inch and pipe size more than 1½ 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.

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- 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

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- 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

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- 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

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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.

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- 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 shutoff 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

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- 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.

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- N. Prepare pipe, fittings, supports, and accessories not pre-finished, ready for finish painting.
- 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.

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- 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.
- Η. 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**

- Prior to starting work, all domestic water systems shall be complete, thoroughly flushed Α. clean and free of all foreign matter or erection residue.
- В. 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.

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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 furredin. 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

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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.
  - 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**

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# 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

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- 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.

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- 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:
  - Guy Gray
  - 2. Mifab

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- 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
  - 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

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# 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
  - Watts
  - 5. Wade
  - 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.

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PLUMBING SPECIALTIES

# B. ACCEPTABLE MANUFACTURERS:

- 1. J.R. Smith
- 2. Zurn
- 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.
- 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

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- 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.
- В. 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:
  - American Gas Association (AGA).
  - 2. National Sanitation Foundation (NSF).
  - American Society of Mechanical Engineers (ASME). 3.
  - 4. National Board of Boiler and Pressure Vessel Inspectors (NBBPVI).
  - 5. National Electrical Manufacturers' Association (NEMA).
  - 6. Underwriters Laboratories (UL).
  - American Society of Plumbing Engineers (ASPE) 7.
- 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.
- В. Conform to ASME Section VIIID for manufacture of pressure vessels for heat exchangers.

#### 1.08 **DELIVERY, STORAGE, AND HANDLING**

- Deliver, store, protect and handle products to site under provisions of Section Division Α.
- 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.
- В. Warranty: Include coverage of domestic water heaters, water storage tanks, and packaged water heating systems.

#### **EXTRA MATERIALS** 1.10

- Α. Furnish under provisions of Division One.
- B. Provide two sets of electric heater elements.

#### 1.11 **OPERATIONS PERSONNEL TRAINING**

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- 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.
  - Principle of how the equipment works 2.
  - 3. Important parts and assemblies
  - How the equipment achieves its purpose and necessary operating conditions 4.
  - Most likely failure modes, causes and corrections 5.
  - 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.
    - State a.
    - b. Rheem.
    - Bradford White. C.
    - d. Bock.
  - В. 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

- Α. 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**

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# 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

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- 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)
- Ο. TAS (Texas Accessibility Standards)

#### 1.05 **QUALITY ASSURANCE**

- A. Manufacturer: For each product specified, provide components by the same manufacturer throughout.
- В. 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**

- Α. Submit under provisions of Division One.
- В. 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**

- Α. 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**

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- 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.
  - 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.

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- 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

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PLUMBING FIXTURES

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

- 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.

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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**

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# 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

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- 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.

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#### 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.

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#### 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",

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- "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

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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.

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- 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:
  - 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.

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- 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.
- 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

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- 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.
  - Pipe Fabrication Drawings.
  - 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.

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- 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

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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

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CERTIFIED RECORD DRAWINGS

DATE:

(NAME OF GENERAL CONTRACTOR)

BY:

(SIGNATURE)

(NAME OF SUBCONTRACTOR)

BY:

(SIGNATURE)

#### 1.16 OPERATING AND MAINTENANCE MANUALS

signed on each sheet as follows:

- 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

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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

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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.

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- 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**

- Provide materials and equipment manufactured by a domestic United States Α. manufacturer and assembled in the United States for all local and Federal Government projects. These materials and equipment shall comply with "Buy American Act."
- В. 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.
  - Drywall Surfaces: Milcor Style DW. 3.
  - 4. Install doors only in locations approved by the Architect.

#### 2.02 **EQUIPMENT PADS (See 2.04 in Section 26 02 00)**

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#### **PART 3 - EXECUTION**

#### 3.01 **ROUGH-IN**

- Α. Verify final locations for rough-ins with field measurements and with the requirements of the actual equipment to be connected via reviewed submittals.
- В. Refer to equipment specifications in Divisions 2 through 48 for additional rough-in requirements.

#### **MECHANICAL INSTALLATIONS** 3.02

- General: Sequence, coordinate, and integrate the various elements of mechanical Α. 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.
  - Sequence, coordinate, and integrate installations of mechanical materials and 5. equipment for efficient flow of the Work. Give particular attention to large equipment requiring positioning prior to closing in the building.
  - Where mounting heights are not detailed or dimensioned, install systems, 6. materials, and equipment to provide the maximum headroom possible.
  - Coordinate connection of mechanical systems with exterior underground and 7. overhead utilities and services. Comply with requirements of governing regulations, franchised service companies, and controlling agencies. Provide required connection for each service.
  - Install systems, materials, and equipment to conform with architectural action 8. 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.
  - Install systems, materials, and equipment level and plumb, parallel and 9. 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.
  - Provide roof curbs for all roof mounted equipment. Coordinate with roof 13. construction for pitched roof. Provide roof curbs which match the roof slope and provides a level top for equipment installation. Refer to Architectural drawings
  - The equipment to be furnished under these Specifications shall be essentially the 14. standard product of the manufacturer. Where two or more units of the same

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- 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 "asbuilt" 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.

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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.
  - 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

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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**

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# 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.
  - Baldor
  - 2. Marathon
  - Siemens-Allis
  - 4. General Electric
- B. TEMPERATURE RATING: Provide insulation as follows:
  - CLASS B: 40 degrees C maximum.
  - 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 zero 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.

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COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

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 C C	93.0			
60	С	93.6			
75		94.1			
100-125	В	94.5			
150-200	В	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	С	93.6			
100-125	С	94.1			
150-200	В	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

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COMMON MOTOR REQUIREMENTS FOR HVAC EQUIPMENT

- 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 undervoltage 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.
  - 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.

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- 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.

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- 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.

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- 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.
- 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"

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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:

<u>NPS</u>	<u>LENGTH</u>	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

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- 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.

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VIBRATION AND SEISMIC CONTROLS FOR HVAC PIPING AND EQUIPMENT

# 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

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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

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commencement of TAB services, shall include the following services of the Contractor:

- 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.
  - 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.
  - 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).
  - Test and adjust blower rpm to design requirements.

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TESTING, ADJUSTING, AND BALANCING

- 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%). Changeout 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 source of high pressure air--a portable rotary blower or a tank type vacuum cleaner.
- 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:
    - 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.
    - 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

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TESTING, ADJUSTING, AND BALANCING

- 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

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

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**DUCT INSULATION** 

- procedures. Include details of joints, attachments, and clearances.
- PRODUCT DATA: Submit schedules, charts, literature, and illustrations to indicate the В. performance, fabrication procedures, product variations, and accessories.

#### 1.07 **DELIVERY, STORAGE AND HANDLING**

- Α. 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.
- В. 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**

- Α. 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.
- В. 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.

#### **ACCEPTABLE MANUFACTURERS** 2.02

- Α. 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.
- В. 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**

- All insulation shall be installed in accordance with the manufacturer's recommendations A. 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.

#### **EXTERNAL DUCT INSULATION** 3.02

- Α. 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.
- В. Seal all joints, fastener penetrations and other breaks in vapor barrier with 3 inch wide

**DUCT INSULATION** 

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- 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•ft²•°F) at 75°F mean temperature.

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- 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.
- 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

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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

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- 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

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- 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.

HVAC PIPING INSULATION

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#### 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.
- В. 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

В. Refrigerant Piping

> 11/2" and smaller 1 inch 1. 2. Larger than 1½ inch 1½ inch

# **END OF SECTION**

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# **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.
- В. Section 23 02 00 - Basic Materials and Methods is included as a part of this Section as though written in full in this document.

#### **SCOPE** 1.02

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.
- В. 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.

- Α. 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-quard 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.

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REFRIGERANT PIPING

## 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**

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# 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.

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METAL DUCTWORK

## 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

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- 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.
- В. 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.
  - For exposed stainless steel ductwork, provide matching stainless steel support materials.
  - 2. For aluminum ductwork, provide aluminum support materials.

#### LOW PRESSURE DUCTWORK 2.03

- Α. 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 airfoilturning 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

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- 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.

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- 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

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- 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.
- 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:
  - 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.
- 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

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- 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**

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# SECTION 23 33 00 DUCTWORK ACCESSORIES

#### PART 1 - GENERAL

#### 1.01 WORK INCLUDED

- 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

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- 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.
  - Assemble center and edge crimped blades in prime coated or galvanized channel frame with suitable hardware.
  - 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

- 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

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frame and blades, oil-impregnated bronze or stainless steel sleeve bearings and plated steel axles,  $1/8 \times 1/2$  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.

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- 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.
- 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.

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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

- 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.
  - 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**

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# **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.
- В. Section 23 02 00 - Basic Materials and Methods is included as a part of this Section as though written in full in this document.

#### **WORK INCLUDED** 1.02

Ceiling and inline ventilators.

#### 1.03 **RELATED SECTIONS**

- A. Section 23 05 13 - Common Motor Requirements for HVAC Equipment
- В. 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**

- UL Compliance: Fans shall be designed, manufactured, and tested in accordance with UL Α. 705 "Power Ventilators."
- В. 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."
- Sound Power Level Ratings: Comply with AMCA Standard 301 "Method for Calculating F. 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**

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- General: Submit the following in accordance with Conditions of Contract and Division 1 A. Specification Sections:
- В. Product data for selected models, including specialties, accessories, and the following:

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**HVAC FANS** 

- Certified fan performance curves with system operating conditions indicated.
- 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:

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**HVAC FANS** 

- 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.
  - Dampers:
    - a. Aluminum backdraft damper.

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**HVAC FANS** 

- 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

- 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.

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AIR DISTRIBUTION DEVICES

- 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

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- 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 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.
  - 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.
  - 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.

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# 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.
  - 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:
    - 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.

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- 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-

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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**

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# 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.

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- 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

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- 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

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- 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.

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- 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.
- Abbreviations and Symbols: The language of Specifications and other Contract L. 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.

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- 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.
- 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

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- 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:

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- 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.
    - 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

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- 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

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- 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:
  - 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.

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- 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.
- 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

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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

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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:
  - 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.

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# 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.

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- 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.

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#### 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

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- 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

- 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

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- documents. Report discrepancies to Owner before disturbing existing installation.
- D. Beginning of demolition means installer accepts existing conditions.

#### 3.02 **PREPARATION**

- Disconnect electrical systems in walls, floors, and ceilings scheduled for removal. Α.
- В. 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.

#### **DEMOLITION AND EXTENSION OF EXISTING ELECTRICAL WORK** 3.03

- Demolish and extend existing electrical work under provisions of Section 01120, Section Α. 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.
- Repair adjacent construction and finishes damaged during demolition and extension H. 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

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- 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,

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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
  - Alpha
  - 4. Tappan Southwire

# B. FLEXIBLE CABLE SYSTEMS

- 1. AFC Modular Cable Systems
- C. CONNECTORS
  - 1. Ilsco
  - 2. Cooper
  - AMP TYCO
  - 4. Burndy
  - 5. Ideal
  - 6. 3M
  - 7. O.Z. Gedney
  - 8. Thomas & Betts
  - 9. Buchanan

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WIRE, CABLE AND RELATED MATERIALS

# 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.
- 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

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WIRE, CABLE AND RELATED MATERIALS

# 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.
- 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.
- 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

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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:
  - Electrical.
  - 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**

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- 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

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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
  - 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**

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# 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:

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**RACEWAYS** 

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.

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**RACEWAYS** 

**RACEWAYS** 

- 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.
- 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, roughins, 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.

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- 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.

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- 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.

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**RACEWAYS** 

- 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**

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**RACEWAYS** 

## 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:
  - Cut sheets of all devices indicating NEMA configuration, rating, materials, color, and all accessories.
  - 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.

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WIRING DEVICES

- 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:
  - SINGLE POLE SWITCHES: Leviton 1221-2, Hubbell 1221, P&S PS20AC1
  - 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:
  - 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.
- 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.

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WIRING DEVICES

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.
  - 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**

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WIRING DEVICES

#### 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.
  - 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:
  - 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

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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 60°C and 75°C 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

- 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.
- 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**

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## 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.
  - 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:
  - 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

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- 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

- 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

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- 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 threering 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:
  - Engine sets
    - a. Caterpillar
    - b. Cummins
    - c. Detroit Diesel Allison
  - Generators
    - a. IEC Baylor
    - b. Kato
    - c. Marathon
    - d. Cummins Power Generation/Onan

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- 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 shutoff, 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

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- 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.

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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:
  - 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
  - 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

26 32 13 16 - 1 DIESEL ENGINE DRIVEN STANDBY GENERATOR

#### A. Scope

 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

- 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

26 32 13 16 - 1 DIESEL ENGINE DRIVEN STANDBY GENERATOR

- 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.
- 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

- 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 companyemployed 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.

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#### 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 <u>rated load and power factor</u> for performance and proper functioning of control and interfacing circuits. Testing at unity power factory only (resistance banks only) is <u>not acceptable</u>, 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

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#### 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:
  - 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

- 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

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- 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

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- 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**

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#### 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. Al 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: Al 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**

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## 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.
  - 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 (34 MPa) 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

- 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.
- Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
  - 1. Extra Paint: 2 containers, 1 gallon (4 liter) size, of each type and color.

#### 1.05 DELIVERY, STORAGE, AND HANDLING

- Deliver paint in containers of at least 5 gallons (18 L) 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.
  - Completely remove rubber deposits, existing paint markings, and other coatings adhering
    to the pavement, by scraping, wire brushing, sandblasting, mechanical abrasion, or
    approved chemicals.

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PAINTED PAVEMENT MARKINGS

- 3. Sandblasting: Use equipment of size and capacity necessary, providing not less than 150 cfm (0.08 cu m per second) of air at pressure not less than 90 psi (625 kPa) 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 (10 degrees C) or more than 95 degrees F (35 degrees C).
- 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 (0.4 mm), minimum.
  - 3. Width Tolerance: Plus or minus 1/8 inch (3 mm).
- 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**

# Evaluation of Respondents and Selection Criteria for

# Texas Avenue Facility Located at 355 Texas Avenue, Round Rock, TX RFP 1704-153

#### **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 1704-153					
	Criteria	Maximum Points	Score can range from0-15		N/A	N/A
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



### 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).
- 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 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 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 a 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 <a href="https://www.bidsync.com\_forfurther">www.bidsync.com\_forfurther</a> 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 a 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 at request modification or clarification of the document.

Modifications will be made by issuing Addenda. If the Respondent fails to notify the County prior to a 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 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 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 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<sup>th</sup>) 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 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 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 (31 st) 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 (1<sup>st</sup>) 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 ligal 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 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
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 (15<sup>th</sup>) 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<sup>th</sup>) 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.

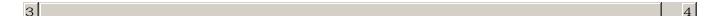
If an arbitrator determines that a violation has occurred, the arbitrator shall assess and award against the contractor or subcontractor the amount of penalty as provided above and the amount owed the worker. The County may use any amounts retained hereunder to pay the worker the amount as designated 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' is 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.



# Proposal References

Reference 1

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.

Client Name:		Location:	
Contact Name:		Title:	
Phone:		E-mail	
Contract Date To:	Contract Date From:	Contract Value: \$	
Scope of Work:			
		5	
Reference 2			
Client Name:		Location:	
Contact Name:		Title:	
Phone:		E-mail	
Contract Date To:	Contract Date From:	Contract Value: \$	
Scope of Work:			
		5	

# Reference 3

Client Name:		Location:
Contact Name:		Title:
Phone:		E-mail
Contract Date To:	Contract Date From:	Contract Value: \$
Scope of Work:		
		5

CONFLICT OF INTEREST QUESTIONNAIRE  For vendor or other person doing business with local governmental entity				Form CIQ	
		onnaire is being filed in accordance with chapter 176 of the Local at Code by a person doing business with the governmental entity.	OFFICE USE	ONLY	
lo:	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.				
	•	commits an offense if the person violates Section 176.006, Local t Code. An offense under this section is a Class C misdemeanor.			
1		me of person doing business with local governmental entity.			
	[				
2		Check this box if you are filing an update to a previously t	filed questionnaire		
		(The law requires that you file an updated completed questionnaire with the at than September 1 of the year for which an activity described in Section 176.00 pending and not later than the 7th business day after the date the originally incomplete or inaccurate.)	opropriate filing autho 06(a), Local Governn	ority not later nent Code, is	
3		each affiliation or business relationship with an employee or contraction makes recommendations to a local government officer of the local government of money.			
				6	
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.					
				5	

# **CONFLICT OF INTEREST QUESTIONNAIRE**

For vendor or other person doing business with local governmental entity

Form CIQ Page 2

	entity	1 age 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 wit has affiliation or other relationship. Attach additional pages to this Form CIQ as ne		
	A. Is the local government officer named in this section receiving or likely to receive taxal the filer of the questionnaire?	ole income from	
	☐ Yes ☐ No		
	B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at th local government officer named in this section AND the taxable income is not fro governmental entity?		
	☐ Yes ☐ No		
	C. Is the filer of this questionnaire affiliated with a corporation or other business entity government officer serves as an officer or director, or holds an ownership of 10 per Yes  \text{No}		
	D. Describe each affiliation or business relationship.		
	B. Bescribe each annuation of business relationship.	5	
		6	
	6. Describe any other affiliation or business relationship that might cause conflict	_	
		.5_	
		6	
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:				
<u>Cooperative Purchasing Program</u> 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 a	all authorized entities during the term of the County's Contract.			
☐ I will not offer the quoted prices	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 off	icer 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			
No	tary Public in and for			
Th	e State of			
	e County of			



# UNIFORM GENERAL CONDITIONS FOR WILLIAMSON COUNTY

### TABLE OF ARTICLES

- 1 GENERAL PROVISIONS
- 2 OWNER
- 3 CONTRACTOR
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- 8 TIME
- 9 PAYMENTS AND COMPLETION
- 10 PROTECTION OF PERSONS AND PROPERTY
- 11 INSURANCE AND BONDS
- 12 UNCOVERING AND CORRECTION OF WORK
- 13 MISCELLANEOUS PROVISIONS
- 14 TERMINATION OR SUSPENSION OF THE CONTRACT
- 15 CLAIMS AND DISPUTES

### 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 <u>Appropriation of Funds by Owner.</u> 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 <u>Prevailing Wage Schedule</u>. 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 <u>Complaints of Violations of Prevailing Wage Rates</u>. 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 <u>Arbitration Required if Violation not Resolved</u>. 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 <u>Arbitration Award</u>. 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 <u>No Extension of Time</u>. 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 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 PERSONAL INJURY CLAIMS. 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, subsubcontractors, 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 <u>Claims on Payment Bonds</u>. 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.



## AGREEMENT BETWEEN OWNER AND CONTRACTOR

The <b>Owner</b> :	Williamson County
	710 Main Ctroot Cto 1

710 Main Street, Ste. 101 Georgetown, Texas 78626

and <b>Contractor</b>	

for the **Project**: Williamson County Texas Avenue Facility

(RFP 1701-139 WCCHD Office Renovations)

355 Texas Avenue Round Rock, Texas

**Architect:** Haddon+Cowan Architects

2301 E. Riverside Drive Building A, Suite 80 Austin, Texas 78741

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 Williamson County Texas Avenue Facility [RFP 1701-139 WCCHD Office Renovations] (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 Architect. 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 or Special 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;
  - g. Minimum Insurance Coverages and Minimum Coverage Amounts, which is attached here to as **Exhibit 1**;
  - h. Williamson County Vendor Reimbursement Policy, which is attached here to as **Exhibit 2**; and
  - i. The Drawings, Specifications, details and other documents developed by Architect to describe the Project and accepted by Owner, which are attached hereto **Exhibit 3**.
- **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 **One Hundred Eighty (180) 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 **Thirty (30) 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

- 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 Architect written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Architect 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; OWNER'S CONSTRUCTION CONTINGENCY

- **5.1 Contract Price.** Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents a lump sum amount of:
- **5.2 Contract Payments.** Method and terms of payment of the Contract Price shall be in accordance with the Contract Documents.
- **5.3 Owner's Construction Contingency.** The following lump sum amount shall serve as the Owner's Construction Contingency from which changes in the Work are to be paid in accordance with the General Conditions:



The Owner's Construction Contingency is controlled solely by the Owner. Expenditures from the Owner's Construction Contingency must be made by Change Order issued by the Architect and approved by the Owner in accordance with the General Conditions. Contractor shall not be entitled to any compensation from the any unused amounts of the Owner's Construction Contingency.

## 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:	
	<u></u>

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:

Bob Lubecker, Project Manager Williamson County Facilities 3101 SE Inner Loop Georgetown, TX 78626 Phone: 512-943-1625

The Contractor's designated representative authorized to act on the Contractor's behalf and bind the Contractor with respect to the Project is:



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 the date of the last party's execution below (the "Effective Date").

WILLIAMSON COUNTY Williamson County, Texas,	Texas, a
By:	By:
Printed Name:	Printed Name:
Title:	Title:
Date:, 20	Date:, 20

#### **EXHIBIT 1**

# Minimum Insurance Coverages and

## **Minimum Coverage Amounts**

- A. All policies of insurance provided by the Contractor must comply with the requirements of this Exhibit, the Contract Documents and the laws of the State of Texas.
- B. The Contractor shall provide and maintain, until the Work covered in the Agreement Between Owner and Contractor is completed and accepted by the Owner, the minimum insurance coverages 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

Worker's Compensation Statutory

2. 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

3. Comprehensive general liability including completed operations and contractual liability insurance for bodily injury, death, or property damages in the following amounts:

COVERAGE PER OCCURRENCE

Comprehensive

General Liability \$1,000,000

(including premises, completed operations and contractual)

Aggregate policy limits: \$2,000,000

4. 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

5. Builder's Risk Insurance (all risks)

An all risk policy, in the amount equal at all times to 100% of the Contract Price or Contract Sum. The policy shall be issued in the name of the Contractor and shall name its Subcontractors as additional insureds. The Owner shall be named as a loss payee on the policy. The builders risk policy shall have endorsements as follow:

- a. This insurance shall be specific as to coverage and not considered as contributing insurance with any permanent insurance maintained on the present premises. If off-site storage is permitted, coverage shall include transit and storage in an amount sufficient to protect property being transported or stored.
- This insurance shall be on an "all-risk" or equivalent policy form and b. shall include, without limitation, insurance against the perils of fire (with extended coverage) and physical loss or damage including, without duplication of coverage, caused by certified acts of terrorism as defined in the Terrorism Risk Insurance Act, 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 shall include a waiver of subrogation in accordance with the requirements of Section 11.3.4 of the General Conditions.
- C. For renovation projects and or portions of work contained within an existing structure, the Owner waives subrogation for damage by fire to existing building structure(s), if the Builder's Risk Policy has been endorsed to include coverage for existing building structure(s) in the amount described in the Special Conditions. However, Contractor shall not be required to obtain such an endorsement unless specifically required by the

- Special Conditions in the Contract Documents. The aforementioned waiver of subrogation shall not be effective unless such endorsement is obtained.
- 6. Flood insurance when specified in Supplementary General Conditions or Special Conditions.
- 7. Umbrella coverage in the amount of not less than \$5,000,000.

## C. Workers' Compensation Insurance Coverage:

## 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 Project.
- (2) Duration of the Project includes the time from the beginning of the work on the Project until the Contractor's/person's work on the Project 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 on the Project ("subcontractor") 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.
- 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 on the Project, for the duration of the Project.
- c. The Contractor must provide a certificate of coverage prior to execution of the Agreement Between Owner and Contractor, and in no event later than ten (10)

- days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.
- 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 the Owner showing that coverage has been extended.
- e. The Contractor shall obtain from each person providing services on a project, and provide to the Owner:
  - (1) a certificate of coverage, prior to that person beginning work on the Project, so the Owner 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 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 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 who 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:
  - a. a certificate of coverage, prior to the other person beginning work on the Project; and
  - 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 certificate of coverage on file for the duration of the Project and for one year thereafter;
- (6) notify the Owner in writing by certified mail or personal delivery, within 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 the Agreement Between Owner and Contractor 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 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 Owner to declare the Agreement Between Owner and Contractor void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.
- D. If insurance policies are not written for the amounts specified in this Exhibit, Contractor shall carry Umbrella or Excess Liability Insurance for any differences in amounts specified. If Excess Liability Insurance is provided, it shall follow the form of primary coverage.
- E. The furnishing of the above listed insurance coverage, as may be modified by the Contract Documents, must be tendered prior to execution of the Agreement Between Owner and Contractor, and in no event later than ten (10) days from Notice of Award. Failure to provide the insurance in a timely fashion may result in loss of Contractor's bid bond.

- F. Owner shall be entitled, upon request and without expense, to receive copies of the policies and all endorsements as they apply to the limits set out in this Exhibit.
- G. Contractor shall be responsible for payment of premiums for all of the insurance coverages required under this Exhibit. 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 \$75,000 in the Contractor's insurance must be declared and approved in writing by Owner in advance.

#### Exhibit 2

# 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

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- 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 3 - DRAWINGS AND SPECIFICATIONS**

#### **FOR**

WILLIAMSON COUNTY TEXAS AVENUE FACILITY (RFP 1701-139 WCCHD OFFICE RENOVATIONS)
355 TEXAS AVENUE
ROUND ROCK, TEXAS

Haddon+Cowan Architects 2301 E. Riverside Drive Building A, Suite 80 Austin, Texas 78741

LIST OF DRAWINGS

**DWG DRAWING TITLE** 

**ISSUE DATE** 

# TABLE OF CONTENTS For TECHNICAL SPECIFICATION SECTIONS

DIVISION 1

**END OF TECHNICAL SPECIFICATIONS** 

# Question and Answers for Bid #1704-153 - Renovations to 355 Texas Avenue Facility in Round Rock, TX

#### **Overall Bid Questions**

There are no questions associated with this bid.

**Meeting Date:** 04/18/2017

Animal Shelter Donations BA 04-18-2017

Submitted For: Melanie Denny

**Department:** County Auditor

Agenda Category: Regular Agenda Items

Submitted By: Angela Schmidt, County Auditor

24.

#### 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 budget amendment acknowledging additional revenues for Animal Shelter Donations:

#### **Background**

This is for donation collections from January 2017 through March 2017.

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0546.0000.367404	Animal Shelter Donations	\$20,278.17
	0546.0000.367440	Jane's Fund Donations	\$18,090.69
	0546.0000.367441	ASPCA Donations	\$0.00
	0546.0000.367442	Play Yard Donation	\$140.00
	0546.0000.367443	Heart Worm Trmt Donations	\$6,791.78
	0546.0000.367445	Sit Team Donations	\$405.00
	0546.0000.370150	Sale of Pet Care Products	\$543.31

### **Attachments**

No file(s) attached.

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Angela Schmidt Started On: 04/10/2017 04:07 PM Final Approval Date: 04/12/2017

Submitted By: Angela Schmidt, County Auditor

**Meeting Date:** 04/18/2017

Animal Shelter Donations BA 04-18-2017

Submitted For: Melanie Denny

**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 budget amendment acknowledging additional expenditures for the use of Animal Shelter Donations:

#### **Background**

This is for donation collections from January 2017 through March 2017.

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0546.0546.003510	Purchase for Resale	\$543.31
	0546.0546.003670	Use of Donations	\$20,278.17
	0546.0546.004100	Professional Services	\$18,090.69
	0546.0546.004109	Special Needs	\$0.00
	0546.0546.004232	Training	\$405.00
	0546.0546.004509	Facility Enhancements	\$140.00
	0546.0546.004975	Animal Medical Care	\$6,791.78

#### **Attachments**

No file(s) attached.

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Angela Schmidt Started On: 04/10/2017 04:22 PM Final Approval Date: 04/12/2017

**Meeting Date:** 04/18/2017 Park Donations BA 04-18-2017 **Submitted For:** 

Melanie Denny

**Department: County Auditor** 

Agenda Category: Regular Agenda Items

# Information

26.

Submitted By: Angela Schmidt, County Auditor

#### Agenda Item

Discuss, consider and take appropriate action on an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve budget amendment to acknowledge additional revenues for Park Donations:

# **Background**

Donations include \$271.80 for firewood from various patrons.

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0100.0000.367403	Park Donations	\$271.80

#### **Attachments**

No file(s) attached.

#### Form Review

**Reviewed By** Inbox Date

Wendy Coco County Judge Exec Asst. 04/12/2017 08:51 AM

Started On: 04/11/2017 03:49 PM Form Started By: Angela Schmidt Final Approval Date: 04/12/2017

27.

**Meeting Date:** 04/18/2017 Park Donations BA 04-18-2017

Submitted For: Melanie Denny

**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 expenditures for Park Donations:

#### **Background**

Donations include \$271.80 for firewood from various patrons.

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0100.0510.003670	Use of Donations	\$271.80

#### **Attachments**

No file(s) attached.

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 08:51 AM

Form Started By: Angela Schmidt Final Approval Date: 04/12/2017 Started On: 04/11/2017 03:52 PM

Submitted By: Angela Schmidt, County Auditor

**Meeting Date:** 04/18/2017

Williamson County EMS Trauma Distribution Funds transfer

Submitted For: Michael Knipstein Submitted By: Theresia Carter, EMS

**Department:** EMS

Agenda Category: Regular Agenda Items

#### Information

28.

#### Agenda Item

Consider an order declaring an emergency and grave necessity due to unforeseeable circumstances and approve a budget amendment for the Williamson County EMS share of the FY 16 Capital Area Trauma Advisory Council (CATRAC) Trauma System Funds.

#### **Background**

CATRAC Trauma Distribution Funds for FY 16, WCEMS participation in the Department of State Health Services (DSHS) trauma registry.

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0100.0000.333220	Payment from Other Entities	\$25523.18

#### **Attachments**

No file(s) attached.

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 09:48 AM

Form Started By: Theresia Carter Started On: 04/12/2017 09:02 AM

Final Approval Date: 04/12/2017

**Meeting Date:** 04/18/2017

Williamson County EMS Trauma Distribution funds FY 16

Submitted For: Michael Knipstein Submitted By: Theresia Carter, EMS

**Department:** EMS

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 expenditures for EMS.

### **Background**

CATRAC trauma distribution funding from FY 16 for participation in the Department of State Health Services trauma registry.

#### **Fiscal Impact**

From/To	Acct No.	Description	Amount
	0100.0540.004232	Training, Conf. & Seminars	\$4400.00
	0100.0540.003311	Uniforms	\$4176.00
	0100.0540.005000	Capital Outlay	\$12779.61
	0100.0540.004350	Printed Mat. & Binding	\$1097.98
	0100.0540.003010	Computer Equipment	\$2313.85
	0100.0540.003001	Small Equip & Tools	\$755.74

#### **Attachments**

No file(s) attached.

#### Form Review

Inbox Reviewed By Date

County Judge Exec Asst. Wendy Coco 04/12/2017 09:48 AM

Form Started By: Theresia Carter Started On: 04/12/2017 09:13 AM Final Approval Date: 04/12/2017

**Meeting Date:** 04/18/2017

**Economic Development** 

Submitted For: Charlie Crossfield Submitted By: Charlie Crossfield, Road Bond

**Department:** Road Bond

Agenda Category: Executive Session

#### Information

30.

#### 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
- e) Mega Site

#### **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 04/12/2017 08:51 AM

Form Started By: Charlie Crossfield Started On: 04/12/2017 08:42 AM Final Approval Date: 04/12/2017

**Meeting Date:** 04/18/2017

**Executive Session** 

Submitted For: Charlie Crossfield Submitted By: Charlie Crossfield, Road Bond

**Department:** Road Bond **Agenda Category:** Executive Session

#### Information

31.

#### 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.
- I) 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.
- g) Discuss the acquisition of real property for US 183.
- r) Discuss the acquisition of real property for Hairy Man Rd.
- s) Discuss the acquisition of real property for SW Bypass.
- t) Discuss the acquisition of real property for Crossroad Acres.
- 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
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# Form Review

Inbox

County Judge Exec Asst.

Form Started By: Charlie Crossfield Final Approval Date: 04/12/2017

Reviewed By Date

Wendy Coco 04/12/2017 08:51 AM

Started On: 04/12/2017 08:41 AM