

NOTICE TO THE PUBLIC
WILLIAMSON COUNTY COMMISSIONER'S COURT
FEBRUARY 1ST, 2011
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 Unified System.
3. Hear County Auditor concerning invoices, bills, Quick Check Report, and Wire Transfers 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 – 7)

5. Consider and take appropriate action on authorizing the transfer of various items through inter-office transfer to County Departments and/or auction/donation/destruction. See attached list.
6. Consider approving donation to Victim Assistance from GRC Wireless, Inc. (Shelter Alliance Cell Phone Fundraiser) in the amount of \$115.50.
7. Discuss and consider preliminary plat approval for The Parsley Subdivision, Pct. 3.

REGULAR AGENDA

8. Hear presentation regarding Williamson County Parking Facilities, Discuss and take appropriate action regarding any related issues.

9. Discuss and take appropriate action on road bond program.
10. Discuss and considering approving Change Order No. 7 in the amount of \$56,647.61 for US 183, a Pass Through Financing Project in Precinct Two.
11. Discuss and consider approving Change Order No. 12 in the amount of \$235,322.81 for US 183, a Pass Through Financing Project in Precinct Two.
12. Consider authorizing County Judge to execute a Utility Letter Agreement with CWC Properties, LLC related to SH 195 expansion project. (P119)
13. Consider authorizing County Judge to execute a Real Estate Agreement with Alice Beth Lee regarding right-of-way need for the SH 29 Safety Improvement Project. (P1)
14. To consider authorization of County participation in the City of Cedar Park's Spring Hazardous Materials Clean Up Day
15. Consideration and action with respect to "Order Authorizing Redemption of Certain of the County's General Obligation and Refunding Bonds, Series 2001A.
16. Consider approving request to issue a call for projects that will utilize FY11 Community Development Block Grant funds as well as reallocate unused CDBG funds from previous years.
17. Discuss and consider approving a stipend for MOT
18. Discuss and take appropriate action regarding Texas legislative issues and bills that relate to county business.
19. Discuss and take appropriate action on electing an official to the General Assembly of CAPCOG.
20. Consider awarding bids received for Crack Sealing Services to the lowest and best bid meeting specifications, primary vendor - RHB Construction; secondary vendor - DIJ Construction
21. Discuss and consider approving RFQ#10WCRFQ1004 to Fugro Consultants for Geotechnical Services for the Emergency Operations Center site location
22. Consider awarding bids received for San Gabriel Parkway (CR 274 Phase II), bid number 11WC903, to the lowest and best bidder- Ranger Excavating, L.P.
23. Consider awarding bids received for Bid # 11WC901, CONSTRUCTION AND INSTALLATION OF SIX HD-5 PROPANE STATIONS FOR WILLIAMSON COUNTY FACILITIES, to the lowest and best bidder- Ferrellgas Operating, L.P.
24. Consider authorizing advertising and setting date of February 22, 2011 at 2:00 p.m. in the Purchasing Department to receive proposals for the Coin Less Inmate Telephone System for the Williamson County Jail - proposal number 11WCAP107.

25. Consider awarding bids received for Printing Services for Williamson County Bid Number 11WCA024 to the bid meeting specifications and best value for Williamson County Primary vendor Speedy Gonzales Printing and Secondary Safeguard Business Systems.
26. Consider authorizing advertising and setting date of March 8, 2011 at 1:30pm in the Purchasing Department to receive bids for the Regional Park Headquarters project, Bid # 11WC907.
27. Consider an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge additional revenues for January 2011 Extra Duty and Voluntary Duty:

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq
	0100.0000.341220	Vol Duty Revenue, SO	\$10,049.28	01
	0100.0000.341240	Ex Duty Revenue, SO	\$28,831.22	02
	0100.0000.341221	Revenue, Const 1	\$1,790.48	03
	0100.0000.341222	Revenue, Const 2	\$1,538.93	04
	0100.0000.341224	Revenue, Const 4	\$405.54	05
	0100.0000.341226	Revenue, Juv	\$168.98	06

28. Consider an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge additional expenditures for January 2011 Extra Duty and Voluntary Duty pay:

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq
	0100.0551.001118	Payroll, Const 1	\$1,443.35	01
	0100.0551.002010	FICA, Const 1	\$110.42	02
	0100.0551.002020	Retirement, Const 1	\$164.54	03
	0100.0551.002050	Worker's Comp, Const 1	\$72.17	04
	0100.0552.001118	Payroll, Const 2	\$1,240.57	05
	0100.0552.002010	FICA, Const 2	\$94.90	06
	0100.0552.002020	Retirement, Const 2	\$141.42	07
	0100.0552.002050	Worker's Comp, Const 2	\$62.03	08
	0100.0554.001117	Payroll, Const 4	\$360.00	09
	0100.0554.002010	FICA, Const 4	\$27.54	10
	0100.0554.002050	Worker's Comp, Const 4	\$18.00	11
	0100.0560.001117	Vol Duty, SO	\$7,145.30	12
	0100.0560.001118	Extra Duty, SO	\$23,241.61	13
	0100.0560.002010	FICA, SO	\$2,324.60	14

	0100.0560.002020	Retirement, SO	\$2,649.54	15
	0100.0560.002050	Worker's Comp, SO	\$1,519.35	16
	0100.0570.001117	Payroll, Jail	\$1,775.50	17
	0100.0570.002010	FICA, Jail	\$135.83	18
	0100.0570.002050	Worker's Comp, Jail	\$88.78	19
	0100.0576.001117	Payroll, Juv	\$150.00	20
	0100.0576.002010	FICA, Juv	\$11.48	21
	0100.0576.002050	Worker's Comp, Juv	\$7.50	22

29. Discuss and take appropriate action regarding Burn Ban.

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. Discuss real estate matters (EXECUTIVE SESSION as per VTCA Govt. Code sec. 551.0721 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.)
1. Proposed or potential purchase of lease of property by the County:
 - a) Discuss proposed acquisition of property for right-of-way for RM 2338 Phase II.
 - b) Discuss proposed acquisition of property for right-of-way for SH 195 0.805 South of Bell County Line to IH 35.
 - c) Discuss proposed acquisition of property for right-of-way for US 183 Extension from 1,000 feet South of San Gabriel to 1,000 feet North of SH 29.
 - d) Discuss proposed acquisition of property for right-of-way for O'Connor Boulevard and 620 project.
 - e) Discuss proposed acquisition of property for right-of-way for Ronald Reagan Blvd. Phase II project from FM 3405 to Reagan Blvd.
 - f) Discuss proposed acquisition of property for right-of-way for Ronald Reagan Blvd. Phase III and Phase IV.
 - g) Discuss proposed acquisition of property for proposed SH 29 project.

h) Discuss proposed acquisition of property for right-of-way on CR 274/San Gabriel Parkway.

i) Discuss proposed acquisition of property for right-of-way along Lakeline extension.

j) Discuss proposed acquisition of property for right-of-way along SW By-Pass.

k) Discuss proposed acquisition of property for right-of-way along Pearson and Neenah.

l) Discuss proposed Northwoods Road District.

m) Discuss conveyance of University Boulevard right-of-way.

n) Discuss proposed acquisition of property for right-of-way for US 79 Section 3 from East of Hutto to CR 402.

o) Discuss proposed realignment project along FM 1660.

p) Discuss proposed acquisition of property for right-of-way along Pond Springs Road.

31. 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) Cause No. 10-1166-C277; GTE Southwest Incorporated d/b/a Verizon Southwest vs. Williamson County, in the District Court of Williamson County, Texas, 277th Judicial District.

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) Cause No. 06-453-C277; Kerry Heckman et al. v. Williamson County, et al., In the District Court of Williamson County, Texas, 277th Judicial District

d) Cause No. 10-1107-C368; Jana Duty, County Attorney of Williamson County, Texas vs. Dan A. Gattis, County Judge of Williamson County, Lisa Birkman, Cynthia Long, Valerie Covey, and Ron Morrison County Commissioners, David Flores, County Auditor, and Ashlie Koenig, Budget Officer; In the District Court, Williamson County, Texas, 368th Judicial District.

e) Cause No. 1:10-cv-869-LY; Heather Clark, David Claxton & David M. Compton v. Williamson County; In the United States District Court for the Western District of Texas, Austin Division

f) Cause No. 1:10-cv-905; Kimberly Lee & Sharon McGuyer v. Williamson County; In the United States District Court for the Western District of Texas, Austin Division

g) Employment related matters.

h) Other confidential attorney-client matters, including contracts.

- 33.** Discuss and take appropriate action on real estate.
- 34.** 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) Cause No. 06-453-C277; Kerry Heckman et al. v. Williamson County, et al., In the District Court of Williamson County, Texas, 277th Judicial District
 - d) Cause No. 10-1107-C368; Jana Duty, County Attorney of Williamson County, Texas vs. Dan A. Gattis, County Judge of Williamson County, Lisa Birkman, Cynthia Long, Valerie Covey, and Ron Morrison County Commissioners, David Flores, County Auditor, and Ashlie Koenig, Budget Officer; In the District Court, Williamson County, Texas, 368th Judicial District.
 - e) Cause No. 1:10-cv-869-LY; Heather Clark, David Claxton & David M. Compton v. Williamson County; In the United States District Court for the Western District of Texas, Austin Division
 - f) Cause No. 1:10-cv-905; Kimberly Lee & Sharon McGuyer v. Williamson County; In the United States District Court for the Western District of Texas, Austin Division
 - g) Employment related matters.
 - h) Other confidential attorney-client matters, including contracts.
- 35.** Comments from Commissioners.

Dan A. Gattis, County Judge

This notice of meeting was posted in the locked box located on the south side of the Williamson County Courthouse, a place readily accessible to the general public at all times, on the _____ day of _____, 2011 at _____ and remained posted for at least 72 continuous hours preceding the scheduled time of said meeting.

Consent Agenda

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Lisa Maraden, Purchasing
Submitted For: Bob Space
Department: Purchasing
Agenda Category: Consent

Information

Agenda Item

Consider and take appropriate action on authorizing the transfer of various items through inter-office transfer to County Departments and/or auction/donation/destruction. See attached list.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Asset Status Forms](#)

Form Routing/Status

Form Started By: Lisa Maraden Started On: 01/27/2011 11:19 AM
Final Approval Date: 01/27/2011

Williamson County

Asset Status Change Form

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

- ☐ TRANSFER bet ween county departments
 ☐ TRADE-IN for new assets of similar type for the county
 ☐ DESTRUCTION due to Public Health / Safety
☒ SALE at the earliest auction *
 ☐ DONATION to a non-county entity

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Dell Optiplex GX520	DC9PA-766D7-CXJRW-HK7R4-7R8R6 Service Tag: DSC12C1	C01488	Working
1	Dell Optiplex GX520	Service Tag: GTP9791 Service Code: 14856669109	C01135	Working
1	Dell Optiplex GX520	Service Tag: 6VC12C1 Service Code: 14955350545	C01485	Working
1	Dell Optiplex GX520	Service Tag: BVP9791 Service Code: 25861513141	C01136	Working
1	Dell Optiplex GX520	Service Tag: 6SC12C1 Service Code: 14773952017	C01491	Working

Parties involved:

FROM (Transferor Department):

Transferor - Elected Official/Department Head/

Authorized Staff:

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

Transferee - Elected Official/Department Head/

Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

Forward to County Auditor's Office

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

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

Williamson County

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Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Dell Optiplex GX520	Service Tag: 5W0C12C1 Service Code: 12839034385	C01483	Working
1	Dell Optiplex GX520	Service Tag: 6bDGZ91 Service Code: 35213941621	C01137	Working
1	Dell Dimension 4550	Product Key: V4RVV-6D44H- RB2BH-C6PHD-3WBB8	C00277	Working
1	Dell Optiplex GX520	Service Tag: 4VC12C1 Service Code: 10601785873	C01492	Working
1	Dell Optiplex GX520	Service Tag: BSC12C1 Service Code: 25657863697	C01490	Working

Parties involved:

FROM (Transferor Department):

Transferor - Elected Official/Department Head/

Authorized Staff:

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

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Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Dell Optiplex GX520	Service Tag: 2TC12C1 Service Code: 6127288849	C01489	Working
1	Dell Optiplex GX520	Service Tag: 7VC12C1 Service Code: 17132132881	C01487	Working
1	GoVideo w/ Remotes (2) Dual Video Cassette Recorder	Model # DDV3110 234311000147		NonWorking
1	Power Macintosh G3 Power PC	XB803056BBV		NonWorking
1	Power Mac G4 Model# m8570	Serial# XB2321mJmMA		Working

Parties involved:

FROM (Transferor Department):

Transferor - Elected Official/Department Head/
Authorized Staff:

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

Transferee - Elected Official/Department Head/

Authorized Staff OR Donee - Representative: (If being
approved for Sale or Trade-in, no signature is necessary.)

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Harman/Kardon Soundsticks Speakers	S/N: 020521520025		Working
1	Apple Monitor Studio Display	N521402MKPW emc#1864		Working
11	Dell keyboards			Working
9	Dell Mouse			Working
6	Dell Speakers(sets)			Working

Parties involved:

FROM (Transferor Department):

County Attorney
Transferor - Elected Official/Department Head/
Authorized Staff:

Contact Person:

See below

Print Name

Print Name

Signature

Date Phone Number

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

Transferee - Elected Official/Department Head/

Authorized Staff OR Donee - Representative: (If being approved for Sale or Trade-in, no signature is necessary.)

Contact Person:

Jana Duty

Print Name

Vicki Vickers

Print Name

Signature

943-1112

Date Phone Number

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☐ DESTRUCTION due to Public Health / Safety

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Lucent Telephone	SN: 969TL67002844		Unknown
1	Dell Dimension 4400	KU: K6BD9-9HBT4-9T2KB-782VT-DJ3C3	C00116	Working
1	Dell Monitor	CN-0P0151-64180-426-0BVG		Working
1	Dell Monitor	8DS-NM4-08J854-46632-21B-80MV		Working
1	Keyboard tray			Unknown

Parties involved:

FROM (Transferor Department):

Transferor - Elected Official/Department Head/

Authorized Staff:

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

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Contact Person:

Print Name

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Signature

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☒ SALE at the earliest auction *

☐ DONATION to a non-county entity

☐ DESTRUCTION due to Public Health / Safety

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
2	Dell Speakers			
1	HP LaserJet 4	JPTH010735	100244	NonWorking
304	Keyboards			Working
32	Mouse			Working
1	Calculator TI	139965	A103727	Working

Parties involved:

FROM (Transferor Department):

Transferor - Elected Official/Department Head/

Authorized Staff:

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

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☐ DESTRUCTION due to
Public Health / Safety

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	Optiplex 6X520	000-693-021-238	C01480	Working
5#	Chairs(~~Swivel~~)	A103673		NonWorking
1#	HP OfficeJet 9130 Fax machine	CN-45P6106S		Working
3	Chairs			Working
1	Dell Optiplex 6X520	Service Tag: HRC12C1 Service Code: 38658091531	C01493	Working

Parties involved:

FROM (Transferor Department):

County Attorney

Transferor - Elected Official/Department Head/
Authorized Staff:

Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

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 ☐ DONATION to a non-county entity

Asset List:

Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
1	underdesk mount computer key board tray	n/a	n/a	Working

Parties involved:

FROM (Transferor Department): District Attorney

Transferor - Elected Official/Department Head/**Authorized Staff:**

Sandi Andrews

Print Name

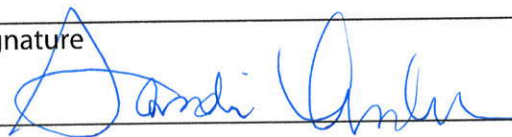
Contact Person:

Sandi Andrews

Print Name

Signature

Date Phone Number



1-19-11

943-1234

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

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

Print Name

Print Name

Signature

Date Phone Number

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RECEIVED

JAN 21 2011

AUDITOR'S OFFICE
WILLIAMSON COUNTY, TEXAS

Williamson County

Asset Status Change Form

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 ☐ TRADE-IN for new assets of similar type for the county
 ☐ DESTRUCTION due to Public Health / Safety
☒ SALE at the earliest auction *
 ☐ DONATION to a non-county entity

Asset List:

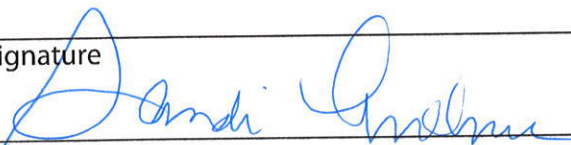
Quantity	Description (year, make, model, etc.)	Manufacturer ID# (serial, service tag, or VIN)	County Tag#	Condition of Assets (Working, Non-Working)
3	gray swivel secretary chair	n/a	n/a	Working
1	cloth covered side chair	n/a	n/a	Working
1	wood chair	n/a	n/a	Non-Working
1	cubicle panel	n/a	n/a	Working

Parties involved:**FROM** (Transferor Department): District Attorney
**Transferor - Elected Official/Department Head/
Authorized Staff:**

 Sandi Andrews
 Print Name
Contact Person:
 Sandi Andrews
 Print Name

Signature

Date Phone Number


 1-18-11 943-1234
TO (Transferee Department/Auction/Trade-in/Donee):
**Transferee - Elected Official/Department Head/
Authorized Staff OR Donee - Representative:** (If being
approved for Sale or Trade-in, no signature is necessary.)
Contact Person:

Print Name

Print Name

Signature

Date Phone Number

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

Forward to County Auditor's Office

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

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

Victim Assistance donation
Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Peggy Braun, Sheriff
Submitted For: Peggy Braun
Department: Sheriff
Agenda Category: Consent

Information

Agenda Item

Consider approving donation to Victim Assistance from GRC Wireless, Inc. (Shelter Alliance Cell Phone Fundraiser) in the amount of \$115.50.

Background

Check (#219688) from GRC Wireless, Inc. in the amount of \$115.50.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

No file(s) attached.

Form Routing/Status

Form Started By: Peggy Braun
Started On: 01/27/2011 08:31 AM
Final Approval Date: 01/27/2011

Preliminary Plat The Parsley Subdivision Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Nickey Lawrence, Unified Road System
Submitted For: Joe England
Department: Unified Road System
Agenda Category: Consent

Information

Agenda Item

Discuss and consider preliminary plat approval for The Parsley Subdivision, Pct. 3.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Projects Parsley Subdivision](#)

Form Routing/Status

Form Started By: Nickey Lawrence
Started On: 01/27/2011 11:29 AM
Final Approval Date: 01/27/2011

G:\Projects\22202R\dwg\Survey\22202R-PLAT.dwg 1/27/2011 10:24:43 AM CST

DRIVEWAY ACCESS NOTE:

THE 0.047-ACRE REMAINDER TRACT CREATED BY THIS SUBDIVISION DOES NOT MEET THE CURRENT ACCESS MANAGEMENT SPACING CRITERIA OF THE TEXAS DEPARTMENT OF TRANSPORTATION AND WILL NOT HAVE DIRECT ACCESS TO FM 487. THEREFORE, THIS REMAINDER TRACT SHALL GAIN ITS ACCESS THROUGH THE 165.300-ACRE TRACT OWNED BY DIONYSUS GROUP, L.L.L.P.

AREA: 1.220 ACRES
SURVEY: JOSEPH TOM SURVEY, ABSTRACT NO. 615,
WILLIAMSON COUNTY, TEXAS
NO. OF LOTS: 1
PROPOSED USE: RESIDENTIAL
DATE: JANUARY 2011

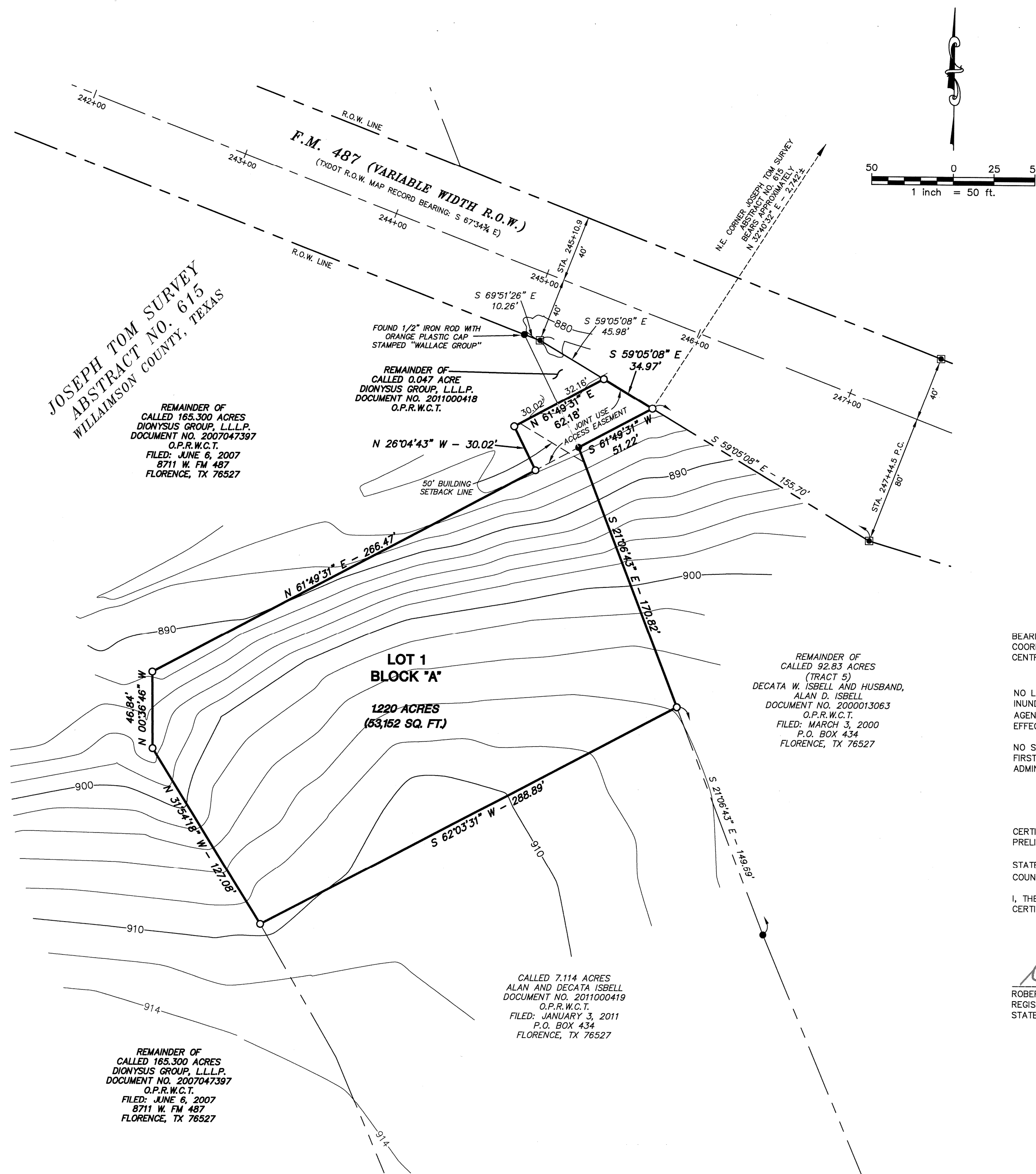
OWNER:
DIONYSUS GROUP, L.L.L.P.
8711 W. FM 487
FLORENCE, TEXAS 76527-4165
PH. (512)924-7447, FAX (254)793-2567

ENGINEERED BY: ROBERT W. SIMS, P.E.
THE WALLACE GROUP, INC.
ONE CHISHOLM TRAIL, STE. 130
ROUND ROCK, TEXAS 78681
PH. (512) 248-0065
FAX (512) 246-0359

SURVEYED BY: DANIEL M. FLAHERTY, R.P.L.S.
THE WALLACE GROUP, INC.
ONE CHISHOLM TRAIL, STE. 130
ROUND ROCK, TEXAS 78681
PH. (512) 248-0065
FAX (512) 246-0359

LEGEND

O.P.R.W.C.T. = OFFICIAL PUBLIC RECORDS WILLIAMSON COUNTY, TEXAS
● = 1/2" IRON ROD FOUND (UNLESS OTHERWISE NOTED)
◐ = TXDOT TYPE I RIGHT-OF-WAY MONUMENT FOUND
○ = 1/2" IRON ROD WITH ORANGE PLASTIC CAP STAMPED "WALLACE GROUP" SET



Williamson County Parking Facilities Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Lydia Linden, Unified Road System
Submitted For: Robert Daigh
Department: Unified Road System
Agenda Category: Regular Agenda Items

Information

Agenda Item

Hear presentation regarding Williamson County Parking Facilities, Discuss and take appropriate action regarding any related issues.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

No file(s) attached.

Form Routing/Status

Form Started By: Lydia Linden Started On: 01/27/2011 09:30 AM
Final Approval Date: 01/27/2011

US 183 (Project No 09WC720) Change Order No 7 Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Tiffany Mcconnell, Road Bond
Submitted For: Tiffany Mcconnell
Department: Road Bond
Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss and considering approving Change Order No. 7 in the amount of \$56,647.61 for US 183, a Pass Through Financing Project in Precinct Two.

Background

This change order provides payment to reimburse the contractor for costs associated with addressing unanticipated soil conditions in Parcel 1. The work items included consturction of a French drain, over-excavating the area and replacing the upper layer of high plasticity materials with low plasticity materials directly under the pavement section, and pumping water from the over-excavation of saturated clays until the French drain was in service.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [09WC720 - CO #7](#)

Link: [09WC720 - CO #7 Backup](#)

Form Routing/Status

Form Started By: Tiffany Mcconnell
Started On: 01/27/2011 11:24 AM
Final Approval Date: 01/27/2011

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 7

1. CONTRACTOR: Dan Williams Construction Company

2. Change Order Work Limits: Sta. 3073+00 Sta. 3080+34

3. Type of Change(on federal-aid non-exempt projects): Minor (Major/Minor)

4. Reasons: 2E (3 Max. - In order of importance - Primary first)

5. Describe the work being revised:

2E: Differing Site Conditions. Miscellaneous differences in site conditions (unforeseeable). This change order provides payment to reimburse the contractor for costs associated with addressing unanticipated soil conditions in Parcel 1. The work items included construction of a French drain, over-excavating the area and replacing the upper layer of high plasticity materials with low plasticity materials directly under the pavement section, and pumping water from the over-excavation of saturated clays until the French drain was in service.

6. Work to be performed in accordance with Items: See attached.

7. New or revised plan sheet(s) are attached and numbered: Sheets 363, 364, 381, and 382 dated 7/15/2010

8. New Special Provisions to the contract are attached: ☐ Yes ☒ No

9. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

<i>The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.</i>	The following information must be provided
THE CONTRACTOR _____ Date _____	Time Ext. #: <u>N/A</u> Days added on this CO: <u>0</u>
By _____	Amount added by this change order: <u>\$56,647.61</u>
Typed/Printed Name _____	
Typed/Printed Title _____	

RECOMMENDED FOR EXECUTION:

_____ Project Manager	_____ Date	_____ County Commissioner Precinct 1	_____ Date
		☐ APPROVED	☐ REQUEST APPROVAL

_____ N/A Design Engineer	_____ Date	_____ County Commissioner Precinct 2	_____ Date
		☐ APPROVED	☐ REQUEST APPROVAL

_____ Program Manager	_____ Date	_____ County Commissioner Precinct 3	_____ Date
		☐ APPROVED	☐ REQUEST APPROVAL

Design Engineer's Seal: See Revised Sheets	_____ County Commissioner Precinct 4	_____ Date
	☐ APPROVED	☐ REQUEST APPROVAL

_____ APPROVED	_____ County Judge	_____ Date

WILLIAMSON COUNTY, TEXAS

CHANGE ORDER NUMBER: 7

Project # 09WC720

TABLE A: Force Account Work and Materials Placed into Stock

	LABOR	HOURLY RATE			HOURLY RATE

TABLE B: Contract Items

				ORIGINAL + PREVIOUSLY REVISED		ADD or (DEDUCT)	NEW		
ITEM	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
110-2001	EXCAVATION (ROADWAY)	CY	\$3.00	106,221.00	\$318,663.00	5,874.00	112,095.00	\$336,285.00	\$17,622.00
132-2003	EMBANKMENT (FINAL)(ORD COMP)(TY B)	CY	\$3.00	157,967.00	\$473,901.00	5,874.00	163,841.00	\$491,523.00	\$17,622.00
432-2035	RIPRAP (CONC)(6 IN)	CY	\$300.00	0.90	\$270.00	1.50	2.40	\$720.00	\$450.00
COA-509-S-1	TRENCH SAFETY	LF	\$1.00	6,916.00	\$6,916.00	802.00	7,718.00	\$7,718.00	\$802.00
999-0003	NON PERFORATED PIPE	LF	\$12.90	0.00	\$0.00	222.00	222.00	\$2,863.80	\$2,863.80
999-0004	6" PERFORATED PIPE, 1" CONC ROCK/FILTER FABRIC TY 1-180	LF	\$27.14	0.00	\$0.00	580.00	580.00	\$15,741.20	\$15,741.20
999-0005	PUMP WATER FROM BOG	LS	\$1,546.61	0.00	\$0.00	1.00	1.00	\$1,546.61	\$1,546.61
TOTALS					\$799,750.00			\$856,397.61	\$56,647.61

CHANGE ORDER REASON(S) CODE CHART

1. Design Error or Omission	1A. Incorrect PS&E 1B. Other
2. Differing Site Conditions (unforeseeable)	2A. Dispute resolution (expense caused by conditions and/or resulting delay) 2B. Unavailable material 2C. New development (conditions changing after PS&E completed) 2D. Environmental remediation 2E. Miscellaneous difference in site conditions (unforeseeable)(Item 9) 2F. Site conditions altered by an act of nature 2G. Unadjusted utility (unforeseeable) 2H. Unacquired Right-of-Way (unforeseeable) 2I. Additional safety needs (unforeseeable) 2J. Other
3. County Convenience	3A. Dispute resolution (not resulting from error in plans or differing site conditions) 3B. Public relations improvement 3C. Implementation of a Value Engineering finding 3D. Achievement of an early project completion 3E. Reduction of future maintenance 3F. Additional work desired by the County 3G. Compliance requirements of new laws and/or policies 3H. Cost savings opportunity discovered during construction 3I. Implementation of improved technology or better process 3J. Price adjustment on finished work (price reduced in exchange for acceptance) 3K. Addition of stock account or material supplied by state provision 3L. Revising safety work/measures desired by the County 3M. Other
4. Third Party Accommodation	4A. Failure of a third party to meet commitment 4B. Third party requested work 4C. Compliance requirements of new laws and/or policies (impacting third party) 4D. Other
5. Contractor Convenience	5A. Contractor exercises option to change the traffic control plan 5B. Contractor requested change in the sequence and/or method of work 5C. Payment for Partnering workshop 5D. Additional safety work/measures desired by the contractor 5E. Other
6. Untimely ROW/Utilities	6A. Right-of-Way not clear (third party responsibility for ROW) 6B. Right-of-Way not clear (County responsibility for ROW) 6C. Utilities not clear 6D. Other

Williamson County Pass Through Financing

US 183 Riva Ridge Drive to SH 29 Williamson County Project No. 09WC720

Change Order No.7

Reason for Change

This change order provides payment to reimburse the contractor for work associated with addressing unanticipated soil conditions encountered in Parcel 1.

During construction, the area of the proposed southbound lanes from approximately Sta 3070+00 to Sta 3078+00 was found to have surface soils of high plasticity clays in a typically saturated condition. In response to RFI No. 13, Dannenbaum designed a French drain to intercept groundwater that was creating saturated soil conditions in the southbound lanes from Sta 3073+00 to Sta 3080+34.

After investigating the soil conditions, TxDOT developed a design to address the high plasticity clays. First, the surface clays were excavated and stockpiled. Underlying low plasticity soils of an approximately equal volume were then excavated and stockpiled separately. The high plasticity soils were then embanked at the bottom of the exposed excavation and the lower plasticity soils placed on top to provide a subgrade that could be used with the project design pavement section. The intent was to have a layer of low plasticity soils with a minimum depth of 2 feet below the final subgrade elevation. The quantity of excavation and subsequent re-embankment of the soils were determined by survey. The associated costs of pumping water from the overexcavation of saturated soils until the French drain was in service is also included in this change order.

Following is a summary of new items required for this Change Order:

Item	Description	Quantity	Unit
999-0003	NON PERFORATED PIPE	222	LF
999-0004	6" PERFORATED PIPE, 1" CONC ROCK/ FILTER FABRIC TY 1-180 N	580	LF
999-0005	PUMP WATER FROM SATURATED AREA	1	LS

This Change Order results in a net increase of \$56,647.61 to the Contract amount, for an adjusted total Contract amount of \$14,908,649.62. The original Contract amount was \$14,677,727.84. As a result of this and all Change Orders to date, \$230,921.78 has been added to the Contract, resulting in a 1.6% net increase in the Contract Cost. No additional days will be added to or deducted from the Contract as a result of this Change Order.

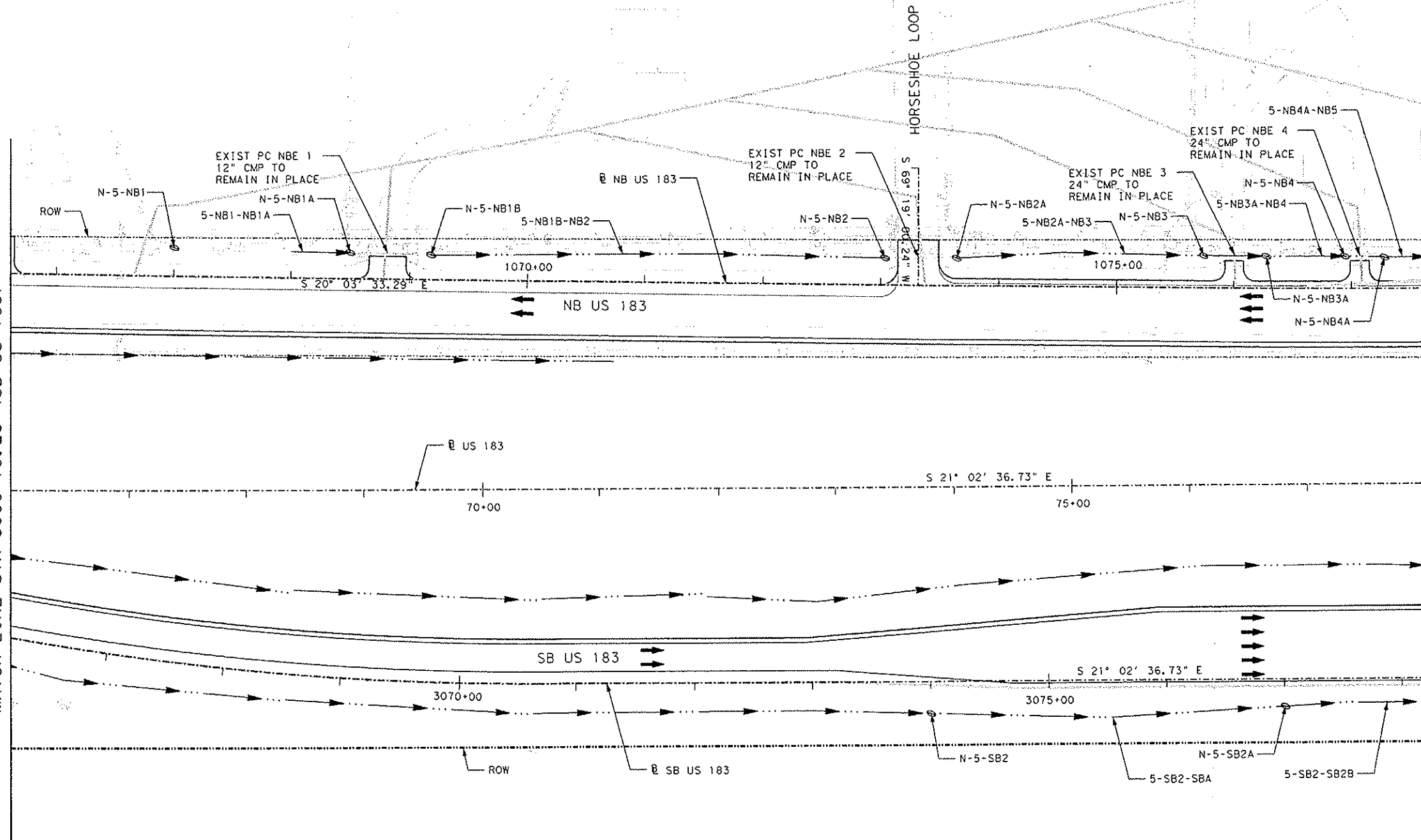
HDR Engineering, Inc.

J. Paul Bowen, S.E.T
Resident Representative

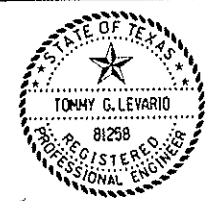
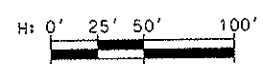
DATE: 07/21/2009 TIME: 12:59:43 PM
C:\1410\4320-01\DESIGN\DRAWING\4320DR03.dgn

USER: COLLINSK
STATUS: 100% SUBMITTAL

MATCH LINE STA 66+00.00 (US 183)
MATCH LINE STA 1065+61.38 (NB US 183)
MATCH LINE STA 3066+18.25 (SB US 183)



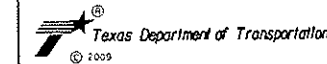
- LEGEND**
- INTERIOR DRAINAGE AREA BOUNDARY
 - PAVEMENT
 - TRAFFIC FLOW
 - DITCH



Tommy G. Levario
7-21-09

DATE	BY	REV	REVISION

DANNENBAUM
ENGINEERING COMPANY - AUSTIN, LLC
T.B.P.E. FIRM REGISTRATION #0995
3409 EXECUTIVE CENTER DR., STE 120 AUSTIN, TX 78751 (512) 344-5505



US 183

DRAINAGE PLAN

STA 66+00 TO STA 78+00

SCALE: HORIZONTAL 1"=100'

SHEET 3 OF 18

ED. NO.	FEDERAL AID PROJECT NO.	SHEET NO.
6	PTF 2009(886)	13
STATE	COUNTY	
TEXAS	WILLIAMSON	
CONT.	SECT.	JOB
0151	04	063, ETC US 183

LIBERTY HILL
CITY LIMITS

US 183 (Project No. 09WC720) Change Order No. 12

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Tiffany Mcconnell, Road Bond
Submitted For: Tiffany Mcconnell
Department: Road Bond
Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss and consider approving Change Order No. 12 in the amount of \$235,322.81 for US 183, a Pass Through Financing Project in Precinct Two.

Background

This change order compensates the contractor for the work associated with the placement of hot mix asphalt concrete and embankment for temporary pavement on the project. The contract documents have no provisions for payment of construction of the required temporary pavement. These are plan items that were inadvertently omitted from the bid quantities by the design engineer, not additional work added after construction commenced.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [09WC720 - CO #12](#)

Form Routing/Status

Form Started By: Tiffany Mcconnell
Started On: 01/27/2011 11:31 AM
Final Approval Date: 01/27/2011

Received

Received

OCT 14 2010 WILLIAMSON COUNTY, TEXAS

NOV 3 2010

Hultt Zollars, Inc.

OCT 14 2010 7:28 AM

CHANGE ORDER NUMBER: 12

HNTB Corporation
Round RockHNTB Corporation
Round Rock

1. CONTRACTOR: Hunter Industries, LTD
2. Change Order Work Limits: Sta. 1052+00 to Sta. 1375+00
3. Type of Change (on federal-aid non-exempt projects): Major (Major/Minor)
4. Reasons: 1B, 3H, 5B (3 Max. - In order of importance - Primary first)

Project: 08WC619
US 79
 Roadway: Section 5A

CSJ
 Number: 0204-04-040

5. Describe the work being revised:

1B: Design Error or Omission. Other. The original plans did not include adequate quantities for the Type B level-up asphalt. **3H: County Convenience. Cost savings opportunity discovered during construction.** This change order replaces the Stone-Matrix Asphalt (SMA) pavement with a Permeable Friction Course (PFC) pavement, which creates a cost savings to the project. The PFC increases visibility during wet weather by reducing the amount of water on the roadway surface. **5B: Contractor Convenience. Contractor requested change in the sequence and/or method of work.** The contractor requested to use additional flex base in lieu of lime stabilized subgrade on certain areas of the project, which created a cost savings to the project.

6. Work to be performed in accordance with Items: See Attached
7. New or revised plan sheet(s) are attached and numbered: N/A
8. New Special Provisions to the contract are attached: ☐ Yes ☒ No
9. New Special Provisions to Item N/A No. N/A, Special Specification Item N/A are attached.

Each signatory hereby warrants that each has the authority to execute this Change Order (CO).

The contractor must sign the Change Order and, by doing so, agrees to waive any and all claims for additional compensation due to any and all other expenses; additional changes for time, overhead and profit; or loss of compensation as a result of this change.

The following information must be provided

Time Ext. #: N/A Days added on this CO: 0Amount added by this change order: \$230,946.86

For TxDOT use only:

Days FHWA non-participating: _____

CO portion FHWA non-participating: _____

CO portion financed by 3rd party funding: _____

THE CONTRACTOR Date 10/13/10By Bruce Bayless P.E.Typed/Printed Name Bruce BaylessTyped/Printed Title Engineer

RECOMMENDED FOR EXECUTION:

Reviewed and APPROVED for State Participation:

James D. K. P.E. 10/19/10
 Project Manager Date
 Construction Observer

Texas Department of Transportation Date

N/A
 Design Engineer Signature & Seal Date

Print Name

M. W. 10/29/2010
 Program Manager Date

APPROVED:

APPROVED:

County Judge Date

Federal Highway Administration Date

Print Name

TABLE B: Contract Items									
ITEM		DESCRIPTION	UNIT	UNIT PRICE	ORIGINAL + PREVIOUSLY REVISED			NEW	
					QUANTITY	ITEM COST	QUANTITY	ITEM COST	OVERRUN/ UNDERRUN
247-2044		FL BS (CMP IN PLC)(TY A GR 4)(FNAL POS)	CY	\$28.12	90,732.00	\$2,551,383.84	3,910.77	\$2,681,354.69	\$109,970.85
260-2027		LIME TRT (EXST MATL)(8")	SY	\$1.25	210,172.00	\$262,715.00	(51,147.12)	\$198,781.10	(\$63,933.90)
260-2033		LIME (HYD OR COM)(SLURRY) OR QK (DRY)	TON	\$126.00	5,046.00	\$635,796.00	(1,960.77)	\$387,338.98	(\$247,057.02)
316-2005		ASPH (AC-18P)	GAL	\$3.57	0.00	\$0.00	88,303.00	\$315,241.71	\$315,241.71
316-2190		AGGR (TY-D GR-4 SAC-B)	CY	\$51.02	0.00	\$0.00	2,100.00	\$107,142.00	\$107,142.00
340-2011		D-GR HMA(METH) TY-B PG64-22	TON	\$70.02	11,430.00	\$800,328.60	19,570.30	\$2,170,641.01	\$1,370,312.41
341-2011		D-GR HMA(QCQA) TY-B PG64-22	TON	\$70.02	42,911.00	\$3,004,628.22	(8,574.51)	\$2,404,241.03	(\$600,387.19)
342-2002		PFC (ASPHALT) PG76-22	TON	\$58.85	0.00	\$0.00	1,591.00	\$93,630.35	\$93,630.35
342-2006		PFC (AGGREGATE) (PG76 MIX) SAC-A	TON	\$58.85	0.00	\$0.00	24,072.00	\$1,416,637.20	\$1,416,637.20
346-2002		STONE-MTRX-ASPH SMA-C SAC-A PG76-22	TON	\$58.85	43,104.00	2,536,670.40	(43,104.00)	\$0.00	(\$2,536,670.40)
9341-2050		D-GR HMA(QCQA) TY-C PG70-22 (THRALL)	TON	\$58.85	0.00	\$0.00	4,521.00	\$266,060.85	\$266,060.85
TOTALS						\$9,791,522.06		\$10,022,468.92	\$230,946.86

Williamson County Pass Through Financing

US 79, Section 5A Williamson County Project No. 08WC619

Change Order No. 12

Reason for Change

Upon analyzing the proposed pavement grades of the eastbound (EB) lanes, it was determined that the original plans did not provide adequate quantities to maintain a minimum depth of 1.5" for the Type B level-up asphalt. The necessary additional quantities are included in this change order.

In addition, this change order recognizes a cost savings to the County by replacing the Stone-Matrix Asphalt (SMA) pavement with a Permeable Friction Course (PFC) pavement. The PFC pavement provides a safer ride for motorists since it is a more porous pavement which allows for infiltration of storm water thus reducing the amount of water on the roadway surface. This reduction of surface water reduces the amount of spray from vehicle tires during rain events, which in turn improves wet weather visibility. TxDOT prefers this type of riding surface and has approved this substitution. The new items needed to implement this change are shown below.

Also, there were several locations where it was impractical to construct the lime treated subgrade as shown on the plans. The contractor proposed and TxDOT approved adding additional flexible base material and/or using asphalt millings mixed into the subgrade in lieu of the lime. This change order accounts for the additional flex base that was used, as well as the additional cost savings due to the lime which was not needed.

Following is a summary of the new items required for this Change Order.

ITEM	DESCRIPTION	QTY	UNIT
316-2005	ASPH (AC-15P)	88,303	GAL
316-2190	AGGR (TY-D GR-4 SAC-B)	2,100	CY
342-2002	PFC (ASPHALT) PG76-22	1,591	TON
342-2006	PFC (AGGREGATE) (PG76 MIX) SAC-A	24,072	TON
9341-2050	D-GR HMA(QCQA) TY-C PG70-22 (THRALL)	4,521	TON

This Change Order results in a net increase of \$230,946.86 to the Contract amount, for an adjusted total Contract amount of \$19,944,391.81. The original Contract amount was \$20,021,693.92. As a result of this and all Change Orders to date, \$77,302.11 has been deducted from the Contract, resulting in a 0.39% net decrease in the Contract Cost. No additional days will be added to or deducted from the Contract as a result of this Change Order.

Huitt-Zollars, Inc.

Kenneth L. 'Zeke' Zieschang, P.E.

US 79 - Section 5A
PFC Price Comparison

Change Order #12

8/19/2010

Hunter Pricing

Hunter Industries agreed to place the PFC asphalt at the same price as they bid the SMA.

PFC = SMA = \$58.85/TN

Statewide Bid Average

	<u>Quantity</u>		<u>AVG Bid</u>		
ITEM 342-2002 PFC (ASPHALT) PG76-22	12,249.96 TN	@	\$318.54	=	\$3,902,102.26
ITEM 342-2006 PFC (AGGREGATE) (PG76 MIX) SAC-A	<u>177,097.66 TN</u>	@	\$66.62	=	<u>\$11,798,246.11</u>
TOTALS	189,347.62 TN				\$15,700,348.37

$$\frac{\$15,700,348.37}{189,347.62} = \underline{\underline{\$82.92 /TN}}$$

Final surface paving through Thrall

Since PFC asphalt cannot be placed adjacent to curb inlets due to drainage concerns, TxDOT agreed to place TY C asphalt as the final driving surface through Thrall. Hunter agreed to place this TY C asphalt at the same price as the PFC asphalt.

PFC = ITEM 9341-2050 D-GR HMA(QCQA) TY-C PG70-22 (THRALL) = \$58.85/TN

Original contract price for TY C asphalt:

ITEM 341-2050 D-GR HMA(QCQA) TY-C PG70-22 = \$80.52/TN

Zieschang, Zeke

From: Danny Reininger [danny@hunterind.com]
Sent: Monday, June 07, 2010 3:24 PM
To: Kessler, Kenneth
Cc: Zieschang, Zeke; Gary Tackert; Carter Stone; Bruce Bayless
Subject: RE: PFC Unit prices

Follow Up Flag: Follow up
Flag Status: Flagged

Kenneth,

The prices requested below are as follows:

Item 316-2005 ASPH (AC-15P) = \$3.57 / GAL.
Item 316-2190 AGGR (TY-D GR-4 SAC-B) = \$51.02 / CY
Item 342-2002 PFC (ASPH) PG 76-22 = \$58.85 / TON
Item 342-2006 PFC (AGGREGATE) (PG76 MIX) SAC-A = \$58.85 / TON

If there are any questions, please call.

Thanks You.
Danny

From: Kessler, Kenneth [mailto:kkessler@Huitt-Zollars.com]
Sent: Thursday, May 27, 2010 12:34 PM
To: Gary Tackert
Cc: Zieschang, Zeke; Danny Reininger
Subject: PFC Unit prices

Gary,

As discussed at the weekly progress meeting TxDOT has approved the substitution of SMA with PFC. The following are the rates that were discussed at the weekly progress meeting that need to be used for pricing. Also, please provide unit prices for the items specified on the attached spreadsheet.

Item 342 – PFC

2" of PFC with 76-22 Binder and SAC-A Aggregate

See Attached Spreadsheet for Bid Items and Units

Item 316 - Surface Treatments (will include Unit Prices for Asphalt and Aggregate as specified on the attached spreadsheet)

Unit Price for: Either Grade 4 or Grade 5 aggregate may be used ; See Attached Spreadsheet for Bid Items and Units

RATES:

Grade 4 – 1 CY /115 SY of Aggregate, AC-15P oil at .32 gals/SY

Grade 5 – 1 CY /165 SY of Aggregate, AC-15P oil at .28 gals/SY

Please call with any questions or comments. Thank you.

Shorty Kessler
Lead Field Inspector
HUITT-ZOLLARS
P.O. Box 369
Thrall, TX 76578

Cell -- 512.844.5736
Off -- 512.898.2791
Fax -- 512.898-2913
kkessler@huitt-zollars.com

US 79 - Section 5A
PFC Price Comparison

Change Order #12

8/19/2010

Hunter Pricing

Hunter Industries agreed to place the PFC asphalt at the same price as they bid the SMA.

PFC = SMA = \$58.85/TN

Statewide Bid Average

	<u>Quantity</u>		<u>AVG Bid</u>		
ITEM 342-2002 PFC (ASPHALT) PG76-22	12,249.96 TN	@	\$318.54	=	\$3,902,102.26
ITEM 342-2006 PFC (AGGREGATE) (PG76 MIX) SAC-A	177,097.66 TN	@	\$66.62	=	<u>\$11,798,246.11</u>
TOTALS	189,347.62 TN				\$15,700,348.37

$$\frac{\$15,700,348.37}{189,347.62} = \underline{\underline{\$82.92 /TN}}$$

Final surface paving through Thrall

Since PFC asphalt cannot be placed adjacent to curb inlets due to drainage concerns, TxDOT agreed to place TY C asphalt as the final driving surface through Thrall. Hunter agreed to place this TY C asphalt at the same price as the PFC asphalt.

PFC = ITEM 9341-2050 D-GR HMA(QCQA) TY-C PG70-22 (THRALL) = \$58.85/TN

Original contract price for TY C asphalt:

ITEM 341-2050 D-GR HMA(QCQA) TY-C PG70-22 = \$80.52/TN

AVERAGE LOW BID UNIT PRICE - CONSTRUCTION - (STATEWIDE)

310 2021	PRIME COAT (MC - 30, AE - P OR SS - 1)	GAL			13,337.000	3.50000	1
310 2022	PRIME COAT (MS - 2 OR SS - 1)	GAL			7,710.000	3.98567	2
314 2001	EMULS ASPH (BS OR SUBGR TRT) (SS - 1)	GAL			31,837.000	3.04189	2
314 2004	EMULS ASPH (BS OR SUBGR TRT) (CSS - 1H)	GAL			20,441.000	3.14000	1
314 2008	EMULS ASPH (BS - SUBGR TRT) (SS - OR CSS - 1H)	GAL	9,484.000	2.40000	57,734.000	2.43027	8
314 2009	EMULS ASPH (BS - SUBGR TRT) (SS - 1 OR MS - 2)	GAL	4,140.000	4.27000	88,435.000	3.64797	6
314 2010	EMULS ASPH (EROSN CONT) (SS - 1)	GAL			12,310.000	2.75046	7
314 2013	EMULS ASPH (EROSN CONT) (CSS - 1H)	GAL			2,803.000	2.40000	1
314 2014	EMULS ASPH (EROSN CONT) (MS - 2)	GAL			164.000	7.35000	1
314 2018	EMULS ASPH (PRIME) (AE - P)	GAL			58,326.000	2.29161	2
314 2022	EMULS ASPH (EROSN CONT) (MS - 2 OR SS - 1)	GAL			44,059.000	3.32348	5
314 2025	EMULS ASPH (BS OR SUBGR TRT) MS - 2 OR CSS - 1	GAL			1,104.000	3.00000	1
314 2030	EMULS ASPH TREAT (PRIME COAT) (CSS - 1H)	GAL			841.000	4.00000	1
315 2004	FOG SEAL (CSS - 1H)	GAL			27,475.000	1.61424	2
315 2005	FOG SEAL (SS - 1 OR CSS - 1)	GAL	4,140.000	3.62000	4,140.000	3.62000	1
315 2010	FOG SEAL (TRMSS)	GAL	74.000	25.00000	135,915.000	3.92783	5
316 2001	ASPH (AC - 5)	GAL			13,748.000	3.01489	2
316 2002	ASPH (AC - 10)	GAL			973,777.000	2.46254	9
316 2004	ASPH (AC - 10 W / 2% SBR)	GAL			10,105.000	2.65000	1
316 2005	ASPH (AC - 15P)	GAL			810,895.980	3.48403	14
316 2006	ASPH (AC - 20 - 5TR)	GAL	153,418.000	3.53955	6,528,361.360	2.94841	47
316 2008	ASPH (HFRS - 2P)	GAL			20,900.000	3.21344	3
316 2010	ASPH (CRS - 2)	GAL	686.630	3.00000	746,861.630	2.65790	30
316 2011	ASPH (CRS - 2P)	GAL			69,923.980	3.81546	6
316 2014	ASPH (CRS - 1P)	GAL			307,641.000	1.91493	2
316 2015	ASPH (RC - 250)	GAL	15,613.000	3.55000	277,464.000	3.34384	25
316 2020	ASPH (AC - 5 OR AC - 10)	GAL			7,782.000	2.41000	1
316 2025	ASPH (CRS - 2P OR CRS - 1P)	GAL	109,566.000	3.05618	389,809.000	3.00350	8
316 2027	ASPH (CRS - 2 OR CRS - 2H)	GAL			142,356.000	2.93144	5
316 2028	ASPH (AC - 5 OR 10, CRS / HFRS - 2, RS / CRS - 1P)	GAL			2,092.000	3.75000	1
316 2029	ASPH (AC - 15P OR AC -	GAL			4,344,271.000	2.63513	10

AVERAGE LOW BID UNIT PRICE - CONSTRUCTION - STATEWIDE

Page 4 of 4

316 2028	ASPH (AC - 5 OR 10, CRS / HFRS - 2, RS / CRS - 1P)	GAL	22,696.110	4.00000	22,696.110	4.00000	1
316 2029	ASPH (AC - 15P OR AC - 20 - 5TR)	GAL	76,771.580	3.00000	4,418,422.580	2.65547	11
316 2036	ASPH (AC - 15P)	TON			3,225.667	636.16410	2
316 2037	ASPH (AC - 20 - 5TR)	TON			24,179.650	666.36940	14
316 2042	ASPH (CRS - 2P)	TON			5,980.790	640.01514	4
316 2051	ASPH (AC - 5 OR AC - 10)	TON			9,740	1,150.00000	1
316 2058	ASPH (CRS - 2 OR CRS - 2H)	TON			7,662.400	473.65000	1
316 2074	AGGR (TY - B GR - 3 SAC - A)	CY	25.000	98.69000	2,166.000	38.71954	3
316 2076	AGGR (TY - B GR - 4 SAC - A)	CY			7,237.000	52.65612	6
316 2078	AGGR (TY - B GR - 5 SAC - A)	CY			3,060.000	47.58651	2
316 2092	AGGR (TY - D GR - 4 SAC - A)	CY	499.000	41.80000	499.000	41.80000	1
316 2123	AGGR (TY - PB GR - 3 SAC - A)	CY			29,462.667	56.69117	5
316 2125	AGGR (TY - PB GR - 4 SAC - A)	CY			8,765.000	66.14228	6
316 2156	AGGR (TY - PL GR - 3LW SAC - A)	CY			17,867.000	65.29802	4
316 2164	AGGR (TY - A GR - 3 SAC - B)	CY			151.000	55.00000	1
316 2172	AGGR (TY - B GR - 3 SAC - B)	CY	1,572.000	67.92048	6,130.000	61.23116	13
316 2173	AGGR (TY - B GR - 4S SAC - B)	CY			310.000	63.25000	1
316 2174	AGGR (TY - B GR - 4 SAC - B)	CY	2,093.700	56.24986	32,492.190	49.57880	32
316 2176	AGGR (TY - B GR - 5 SAC - B)	CY	3,201.280	80.17637	6,164.480	61.97492	10
316 2190	AGGR (TY - D GR - 4 SAC - B)	CY			5,546.200	49.87598	13
316 2192	AGGR (TY - D GR - 5 SAC - B)	CY	2,369.000	50.40819	4,035.000	49.67565	8
316 2199	AGGR (TY - E GR - 4 SAC - B)	CY			1,332.000	60.00000	1
316 2201	AGGR (TY - E GR - 5 SAC - B)	CY	83.000	100.00000	1,742.540	61.97952	6
316 2207	AGGR (TY - L GR - 4 SAC - B)	CY			40.000	56.20000	1
316 2219	AGGR (TY - PB GR - 2 SAC - B)	CY			719.000	76.00000	1
316 2220	AGGR (TY - PB GR - 3S SAC - B)	CY	210.000	125.00000	210.000	125.00000	1
316 2221	AGGR (TY - PB GR - 3 SAC - B)	CY	500.280	72.53578	92,561.280	50.83074	27

AVERAGE LOW BID UNIT PRICE - CONSTRUCTION - STATEWIDE

	PG70 - 28						
341 2207	D - GR HMA (QCQA) TY - F SAC - A PG76 - 22	TON			1,934.000	80.00000	1
341 2238	D - GR HMA (QCQA) TY - B PG70 - 28	TON			52,147.000	82.38963	2
341 2241	D - GR HMA (QCQA) TY - C SAC - B PG70 - 22S	TON			3,855.000	51.75000	1
341 2243	D - GR HMA (QCQA) TY - B SAC - B PG76 - 22	TON			122,274.000	53.59779	6
341 2245	D - GR HMA (QCQA) TY - B PG64 - 22	TON			6,862.000	52.00000	1
341 2251	D - GR HMA (QCQA) TY - C PG76 - 22 (LEVEL - UP)	TON			1,108.000	63.93000	1
341 2252	D - GR HMA (QCQA) TY - D PG64 - 22 (LEVEL - UP)	TON	12,385.000	52.10125	91,289.900	52.98877	17
341 2253	D - GR HMA (QCQA) TY - C PG64 - 22 (LEVEL UP)	TON			5,253.000	56.00000	1
341 2254	D - GR HMA (QCQA) TY - D PG 70 - 22 (LEVEL - UP)	TON	1,336.000	84.25000	21,522.000	55.60846	6
341 2256	D - GR HMA (QCQA) TY - C PG70 - 22 (LEVEL - UP)	TON			576.000	61.46314	2
341 2257	D - GR HMA (QCQA) TY - B PG76 - 22	TON			38,282.000	55.22000	1
341 2260	D - GR HMA (QCQA) TY - B SAC - B PG64 - 22	TON			197,210.000	78.67531	6
341 2265	D - GR HMA (QCQA) TY - B PG64 - 22 (LEVEL - UP)	TON			4,623.000	52.80000	1
342 2002	PFC (ASPHALT) PG76 - 22	TON	516.000	88.00000	12,249.960	318.54000	20
342 2005	PFC (ASPHALT) A - R - BNDR	TON	1,425.000	698.00000	2,425.000	667.89691	2
342 2006	PFC (AGGREGATE) (PG76 MIX) SAC - A	TON	25,098.000	60.52534	177,097.660	66.61557	22
342 2007	PFC (AGGREGATE) (A - R MIX) SAC - A	TON			11,222.000	40.00000	1
342 2008	PFC (AGGREGATE) (PG76 MIX) SAC - B	TON			37,149.000	57.21927	3
342 2012	PFC (ASPHALT) PG 76 - 22 TR	TON			2,416.000	528.17334	4
344 2011	PRF - DSGN - MX SP - B PG64 - 22	TON			17,962.000	61.15132	4
344 2048	PRF - DSGN - MX SP - C SAC - B PG70 - 22	TON	11,925.000	72.00000	35,118.000	73.35261	4
344 2050	PRF - DSGN - MX SP - C PG70 - 22	TON			26,641.000	74.29721	2
344 2063	PRF - DSGN - MX SP - C SAC - A PG76 - 22	TON			38,770.350	59.00000	1
344 2120	PRF - DSGN - MX SP - D SAC - B PG70 - 22	TON	4,229.000	65.00000	84,241.000	70.00953	10
344 2122	PRF - DSGN - MX SP - D PG70 - 22	TON			22,295.000	62.00000	1
344 2176	PRF - DSGN - MX SP - D - RBL PG64 - 22	TON			20,499.000	69.66573	2
344 2181	PRF - DSGN - MX SP - D - RBL PG70 - 28	TON			4,343.000	86.30000	1
344 2184	PRF - DSGN - MX SP - D -	TON			8,983.710	64.00000	1

CWC Properties, LLC Utility Letter Agreement - SH 195 (P119)

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Charlie Crossfield, Road Bond
Submitted For: Charlie Crossfield
Department: Road Bond
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider authorizing County Judge to execute a Utility Letter Agreement with CWC Properties, LLC related to SH 195 expansion project. (P119)

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [CWC Properties LLC Utility Letter Agreement SH 195 P119](#)

Form Routing/Status

Form Started By: Charlie Crossfield Started On: 01/27/2011 09:53 AM
Final Approval Date: 01/27/2011

Sheets & Crossfield, P.C.

ATTORNEYS AT LAW

309 East Main Street • Round Rock, TX 78664-5246

Phone 512-255-8877 • fax 512-255-8986

January 10, 2011

Via e-mail

CWC Properties, LLC
Walter D. Schuster
7444 E. Highland Road
Cave Creek, Arizona 85331

Re: SH195 expansion project
Parcel 119E—CTSUD waterline easement/PEC electric easement

Dear Mr. Schuster:

Please allow this letter to set out my understanding regarding our agreement for the purchase of a permanent waterline easement and temporary construction easement for Chisholm Trail SUD, and an electric utility easement for Pedernales Electric Cooperative from CWC Properties due to a conflict with TxDOT's proposed SH195 roadway widening improvements.

In return for granting a waterline easement and electric utility easement in and to approximately 0.155 acre, and temporary construction easement for installation of the waterline across approximately 0.2306 acre, Williamson County will pay the sum of \$12,991.00. The description of the easement areas is attached hereto as Exhibit "A".

If this meets with your understanding please sign where indicated below, and we will have this presented to the court and executed by the County judge and process this for payment as quickly as possible.

Please feel free to contact me or Sam Nassour at any time if you have any questions or concerns about these issues.

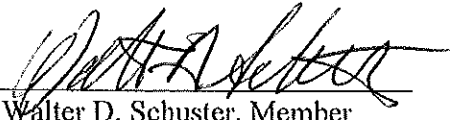
Very truly yours,



Don Childs
Sheets & Crossfield, P.C.

AGREED:

CWC PROPERTIES, LLC

By: 
Walter D. Schuster, Member

WILLIAMSON COUNTY, TEXAS

Dan A. Gattis
County Judge



STATE OF TEXAS
COUNTY OF WILLIAMSON

WATERLINE
EASEMENT

0.155 ACRE OF LAND SITUATED IN
W. ROBERTS SURVEY
ABSTRACT 524
WILLIAMSON COUNTY, TEXAS

LEGAL DESCRIPTION

DESCRIPTION OF A 0.155 ACRE (6,737 SQUARE FEET) TRACT SITUATED IN THE W. ROBERTS SURVEY, ABSTRACT 524, WILLIAMSON COUNTY, TEXAS AND BEING A PORTION OF LOT 4, RIVER ROAD SUBDIVISION, A SUBDIVISION ACCORDING TO THE PLAT OF RECORD IN CABINET V, SLIDES 123-124 OF THE PLAT RECORDS OF WILLIAMSON COUNTY, TEXAS, AND BEING FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING at a 1/2-inch iron rod found in the existing south right-of-way line of State Highway No. 195, a 100-foot wide right-of-way, for the northwest corner of said Lot 4, same being the northeast corner of Lot 3, said River Road Subdivision;

THENCE leaving said existing south right-of-way line of SH195, with the northwest line of said Lot 4, same being the southeast line of said Lot 3, S52°09'16"W a distance of 483.60 feet to a 5/8-inch iron rod with aluminum cap stamped "TxDOT" found at the intersection of the proposed south right-of-way line of SH195, a varying width right-of-way, and said northwest line of Lot 4 and said southeast line of Lot 3, for the POINT OF BEGINNING of the tract described herein;

THENCE leaving said northwest line of Lot 4 and said southeast line of Lot 3, crossing said Lot 4 with said proposed south right-of-way line of SH195 the following two (2) courses and distances:

1. S59°00'22"E a distance of 4.54 feet to a Texas Department of Transportation (TxDOT) Type II Concrete Monument with brass disk found for an angle point, and
2. S59°14'39"E a distance of 333.24 feet to a 5/8-inch iron rod with aluminum cap stamped "TxDOT" found at the intersection of said proposed south right-of-way line of SH195 and the southeast line of said Lot 4, and from which a 1/2-inch iron rod found in said existing south right-of-way line of SH195, for the northeast corner of said Lot 4, bears N56°14'39"E a distance of 422.49 feet;

THENCE leaving said proposed south right-of-way line of SH195, with said southeast line of Lot 4, S56°14'39"W a distance of 22.15 feet to a 1/2-inch iron rod with plastic cap stamped "HALFF ESMT" set, and from which a 1/2-inch iron rod found for the southeast corner of said Lot 4, same being the northeast corner of a called 5.00 acres tract as described in a Warranty Deed to Micky Shipman and recorded in Document No. 2003101242 of the Official Public Records of Williamson County, Texas, bears S56°14'39"W a distance of 234.93 feet;

THENCE leaving said southeast line of Lot 4, crossing said Lot 4 the following two (2) courses and distances:

1. N59°14'39"W a distance of 323.78 feet to a 1/2-inch iron rod with plastic cap stamped "HALFF ESMT" set for an angle point, and

2. N59°00'22"W a distance of 12.28 feet to a 1/2-inch iron rod with plastic cap stamped "HALFF ESMT" set in said northwest line of Lot 4 and said southeast line of Lot 3, and from which a 1/2-inch iron rod found in the northeast line of said 5.00 acres tract for the southwest corner of said Lot 4, same being the southeast corner of said Lot 3, bears S52°09'16"W a distance of 184.00 feet;

THENCE with said northwest line of Lot 4 and said southeast line of Lot 3, N52°09'16"E a distance of 21.44 feet to said POINT OF BEGINNING and containing 0.155 acre.

THE STATE OF TEXAS

§

KNOW ALL MEN BY THESE PRESENTS:

COUNTY OF TRAVIS

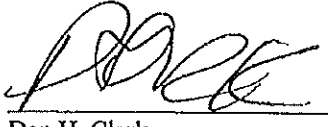
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That I, Dan H. Clark, a Registered Professional Land Surveyor, do hereby state that the above description is true and correct to the best of my knowledge and belief and that the property described herein was determined by a survey made on the ground during the month of February 2010.

WITNESS MY HAND AND SEAL at Austin, Travis County, Texas this the 16th day of March 2010, A.D.

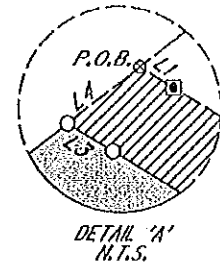
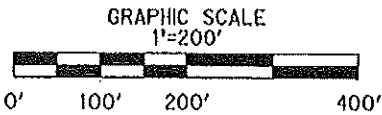
Halff Associates, Inc.
4030 West Braker Lane
Suite 450
Austin, Texas 78759



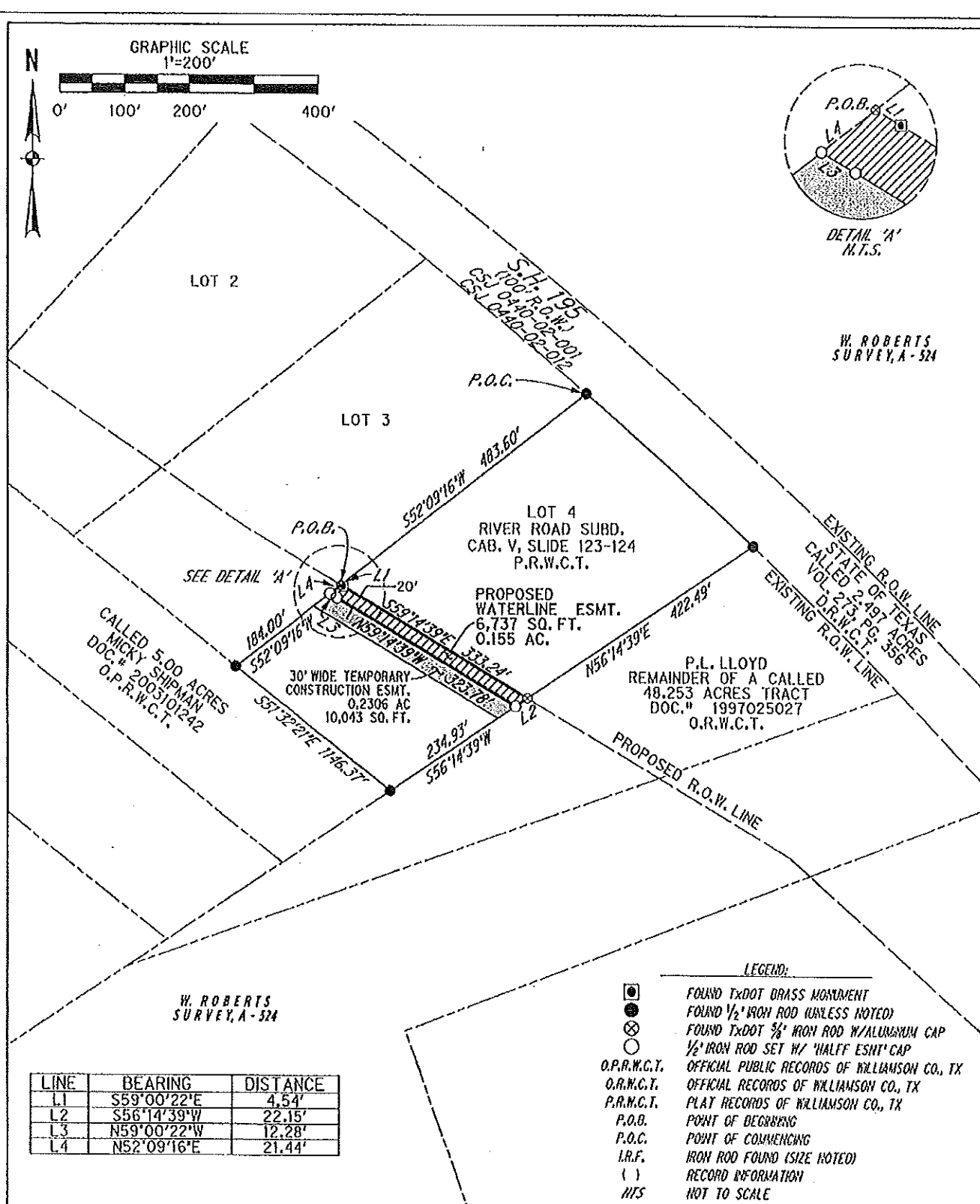
 3/16/2010
Dan H. Clark
Registered Professional Land Surveyor
No. 6011 – State of Texas

ADDITIONAL NOTES:

1. Bearings shown hereon are based on the Texas State Plane Coordinates System, NAD 83, Central Zone, using a combined surface adjustment factor of 1.000120. Distances shown hereon are surface distances.
2. This description has been prepared as a result of a survey completed in February of 2010 and is submitted in connection with a survey drawing prepared by Halff Associates, Inc. titled VEXII-119-26903.dgn, dated March 16, 2010, AVO No. 26903.
3. See Texas Department of Transportation Right-of-Way map CSJ No. 0440-01-036 & 0440-02-012 for detailed information regarding State Highway 195.



W. ROBERTS
SURVEY, A-524



LINE	BEARING	DISTANCE
L1	S59°00'22"E	4.54'
L2	S56°14'39"W	22.15'
L3	N59°00'22"W	12.28'
L4	N52°09'16"E	21.44'

- LEGEND:
- FOUND TxDOT BRASS MONUMENT
 - FOUND 1/2" IRON ROD (UNLESS NOTED)
 - ⊗ FOUND TxDOT 3/8" IRON ROD W/ ALUMINUM CAP
 - 1/2" IRON ROD SET W/ 'HALFF ESMT' CAP
 - O.P.R.W.C.T. OFFICIAL PUBLIC RECORDS OF WILLIAMSON CO., TX
 - O.R.W.C.T. OFFICIAL RECORDS OF WILLIAMSON CO., TX
 - P.R.M.C.T. PLAT RECORDS OF WILLIAMSON CO., TX
 - P.O.B. POINT OF BEGINNING
 - P.O.C. POINT OF COMMENCING
 - I.R.F. IRON ROD FOUND (SIZE NOTED)
 - () RECORD INFORMATION
 - N/S NOT TO SCALE



HALFF
4030 WEST BRAKER LANE, SUITE 450
AUSTIN, TEXAS 78759-5339
TEL (512) 252-8154
FAX (512) 252-8161

SH 195 UTILITY WATERLINE EASEMENT FOR PARCEL 119

Project No.: 26903
Issued: 3/16/2010
Accompanying file Name:
SV-LD-119-26903.dwg

3 of 3

Lee Real Estate Contract - SH 29 Safety Improvement Project (P1) Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Charlie Crossfield, Road Bond
Submitted For: Charlie Crossfield
Department: Road Bond
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider authorizing County Judge to execute a Real Estate Agreement with Alice Beth Lee regarding right-of-way need for the SH 29 Safety Improvement Project. (P1)

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Lee RE Contract SH 29 Safety Improvement Project P1](#)

Form Routing/Status

Form Started By: Charlie Crossfield Started On: 01/27/2011 09:48 AM
Final Approval Date: 01/27/2011

REAL ESTATE CONTRACT
SH 29 Safety Improvement Project

State of Texas
County of Williamson

THIS REAL ESTATE CONTRACT ("Contract") is made by and between ALICE BETH LEE, (referred to in this Contract as "Seller", whether one or more) and the COUNTY OF WILLIAMSON (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 0.025 acre tract of land, more or less, situated in the Noah Smithwick Survey, Abstract No. 590 in Williamson County, Texas, being more fully described by metes and bounds in Exhibit "A", attached hereto and incorporated herein (Parcel 1)

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 and fixtures situated on and attached to the Property described in Exhibit "A", 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 Exhibit "A", any improvements located upon the Property and any additional compensation for the replacement of fencing shall be the sum of FOUR THOUSAND and 00/100 Dollars (\$4,000.00).

Special Provisions

2.02. **SELLER'S FENCE RELOCATION/REPLACEMENT OBLIGATION:** As an obligation which shall survive the closing of this transaction, by execution of this Contract Seller agrees that within 30 days after the closing of this transaction, or on or before other date agreed to between Seller and Purchaser in writing, it shall complete the construction of any fencing along the new right of way line which is necessary to contain any livestock or other animals within the remaining property of Seller and prevent them from entering the purchased Property. After the expiration of the fence replacement period any fencing still located upon the Property purchased herein is subject to immediate removal by Purchaser. Seller further agrees to restore any currently existing access gates or other entry points used by any utility company having an easement interest in and to the remaining property of Seller.

Payment of Purchase Price

2.02. 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 knowledge:

(1) There are no parties in possession of any portion of the Property as lessees, tenants at sufferance, or trespassers, other than 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 Texas American Title Company on or before February 21, 2011, 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 Williamson County a duly executed and acknowledged Special Warranty Deed conveying good and indefeasible title 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.

(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 Grantee's fee simple title and/or easement interests 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."
- (3) 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.

**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 from Purchaser the sum of \$500, such 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.

**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 the Williamson County Commissioner's Court, which date is indicated beneath the 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 may be considered effective as originals for purposes of this Contract.

Possession and Use Agreement

8.12 By signing this contract the parties agree that if Purchaser has complied with all obligations of this contract and has deposited the full amount of the purchase price and additional compensation in the escrow account of the Title Company, Seller agrees to allow Purchaser and its contractors and assigns to use and possess the Property for the purpose of constructing and/or improving a public roadway and related facilities, including the relocation of utilities, if necessary to begin the project prior to the completion of the closing of this transaction if closing cannot occur because of any outstanding title curative matters as referenced in Section 5.01. Upon request by Purchaser, Seller agrees that it shall execute a separate possession and use agreement which is suitable for recording in the real property records of Williamson County.

SELLER:

ALICE BETH LEE

Date: _____

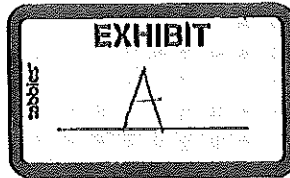
Address: _____

PURCHASER:

COUNTY OF WILLIAMSON

By: _____
Dan A. Gattis, County Judge
Date: _____

Address: 710 Main Street
Suite 101
Georgetown, Texas 78626



PROPERTY DESCRIPTION

DESCRIPTION OF A 0.025 ACRE (1,109 SQUARE FOOT), TRACT OF LAND SITUATED IN THE NOAH SMITHWICK SURVEY, ABSTRACT NO. 590, WILLIAMSON COUNTY, TEXAS, BEING A PORTION OF THAT 4.9 ACRE TRACT OF LAND CONVEYED TO ALICE BETH LEE, BY INSTRUMENT RECORDED IN VOLUME 2088, PAGE 374 OF THE OFFICIAL RECORDS OF WILLIAMSON COUNTY, TEXAS, SAID 0.025 ACRE (1,109 SQUARE FOOT) TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING FOR REFERENCE at a Type I concrete monument found, being in the northerly right-of-way line of S.H. 29 (100' right-of-way width), same being in the southerly boundary line of said 4.9 acre tract, 50.00 feet left of proposed S.H. 29 baseline station 515+91.61;

THENCE, with the northerly right-of-way line of said S.H. 29, same being the southerly boundary line of said 4.9 acre tract, N 72°13'30" W for a distance of 10.74 feet to a set 1/2" iron rod with TxDOT aluminum cap in the proposed corner cutback of S.H. 29, 50.00 feet left of proposed S.H. 29 baseline station 515+80.87, and being the POINT OF BEGINNING of the herein described tract;

- 1) THENCE, continuing with the northerly right-of-way line of said S.H. 29, same being the southerly boundary line of said 4.9 acre tract, N 72°13'30" W for a distance of 50.00 feet to a calculated point, being a point of intersection in the existing easterly right-of-way line of C.R. 260 (ostensible 60' right-of-way width), same being the southwesterly corner of said 4.9 acre tract, for the southwesterly corner of the herein described tract;
- 2) THENCE, departing the northerly right-of-way line of said S.H. 29, with the existing easterly right of way line of CR 260, same being the westerly boundary line of said 4.9 acre tract, N 09°41'24" W for a distance of 50.00 feet to set 1/2" iron rod with TxDOT aluminum cap in the proposed corner cutback of S.H. 29, 94.36 feet left of proposed S.H. 29 baseline station 515+07.81, for the northwesterly corner of the herein described tract;
- 3) THENCE, departing the easterly right-of-way width of said C.R. 260, with the proposed corner cutback line of S.H. 29 and through the interior of said 4.9 acre tract, S 40°57'27" E for a distance of 85.48 feet to the POINT OF BEGINNING, containing 0.025 acres (1,109 square feet) of land, more or less.

All bearings recited herein are based on the Texas State Plane Coordinate System, Central Zone No. 4203, NAD 83.

This property description is accompanied by a separate plat.

That I, M. Stephen Truesdale, a Registered Professional Land Surveyor, do hereby certify that the above description is true and correct to the best of my knowledge and belief and that the property described herein was determined by a survey made on the ground under my direction and supervision.

WITNESS MY HAND AND SEAL at Round Rock, Williamson County, Texas.

M. Stephen Truesdale
 M. Stephen Truesdale
 Registered Professional Land Surveyor No. 4933
 Licensed State Land Surveyor
 Inland Geodetics, L.P.
 1504 Chisholm Trail Road
 Suite 103
 Round Rock, TX 78681
 512-238-1200

30 July 2010
 Date

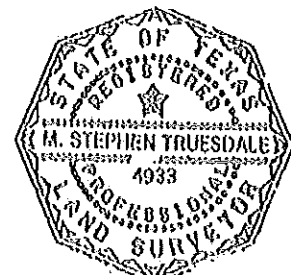
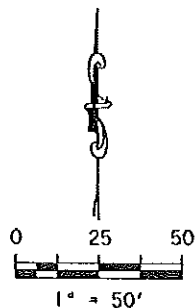
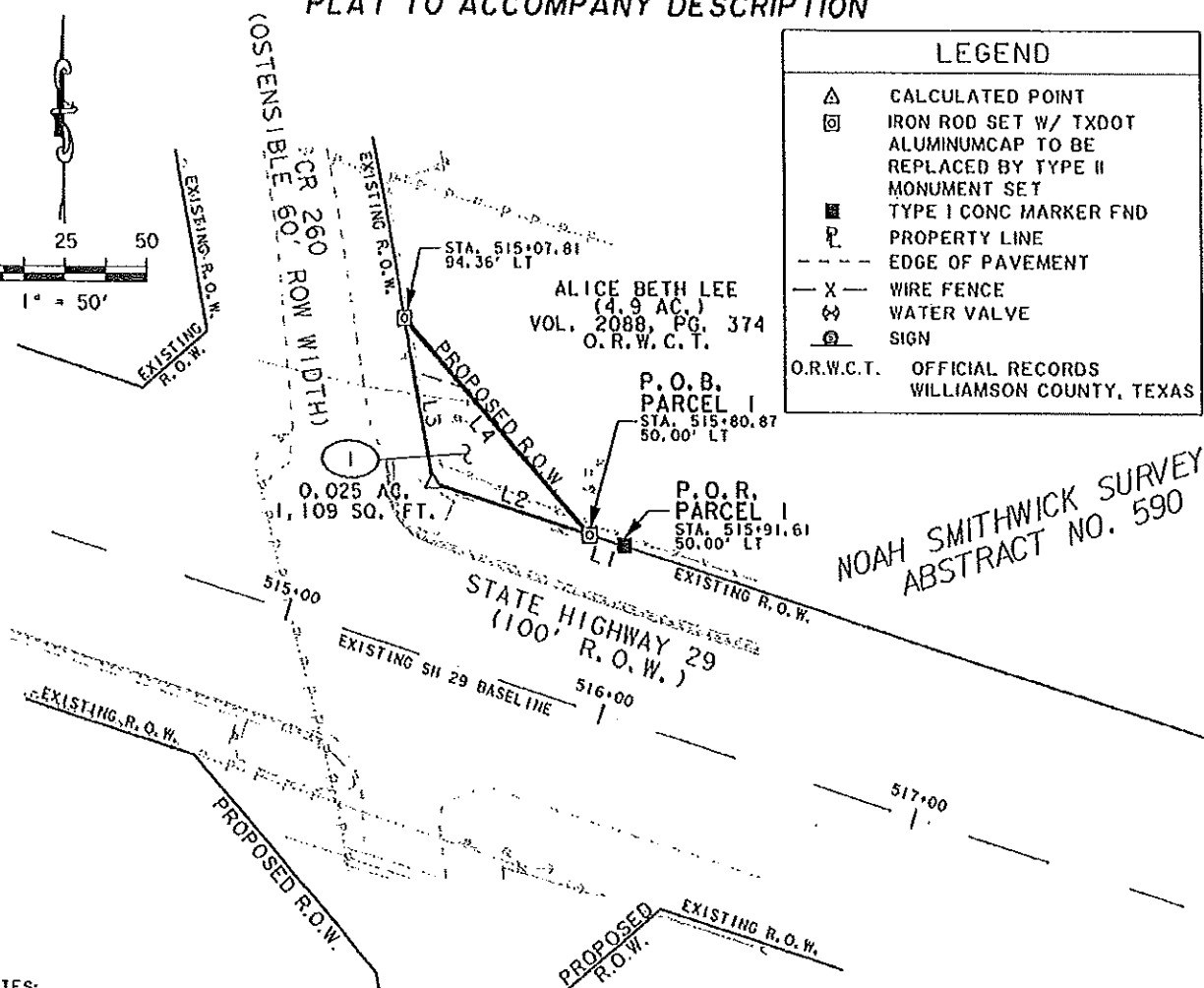


EXHIBIT PLAT TO ACCOMPANY DESCRIPTION



LEGEND	
	CALCULATED POINT
	IRON ROD SET W/ TXDOT ALUMINUMCAP TO BE REPLACED BY TYPE II MONUMENT SET
	TYPE I CONC MARKER FND
	PROPERTY LINE
	EDGE OF PAVEMENT
	WIRE FENCE
	WATER VALVE
	SIGN
O.R.W.C.T. OFFICIAL RECORDS WILLIAMSON COUNTY, TEXAS	



NOTES:

1) ALL BEARINGS ARE BASED ON GRID BEARINGS. DISTANCES ARE SURFACE DISTANCES. COORDINATES ARE SURFACE VALUES BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM, NAD 83, CENTRAL ZONE, USING A COMBINED SURFACE ADJUSTMENT OF 1.00014

2) THIS SURVEY WAS PERFORMED WITHOUT BENEFIT OF A TITLE REPORT. THERE MAY BE EASEMENTS OR OTHER ENCUMBRANCES UPON THIS TRACT THAT ARE NOT DEPICTED HEREON.

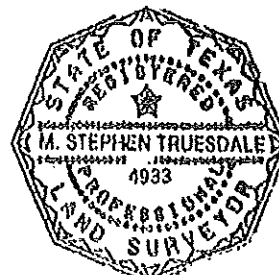
STATE OF TEXAS
COUNTY OF WILLIAMSON

THE UNDERSIGNED DOES HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WITNESS MY HAND AND SEAL AT ROUND ROCK, WILLIAMSON COUNTY, TEXAS.

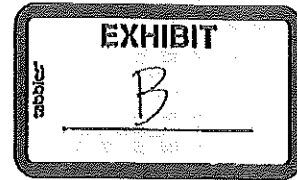
NUMBER	DIRECTION	DISTANCE
L1	N 72° 13' 30" W	10.74'
L2	N 72° 13' 30" W	50.00'
L3	N 09° 41' 24" W	50.00'
L4	S 40° 57' 27" E	85.48'

M. Stephen Truesdale 30 July 2010
M. STEPHEN TRUESDALE DATE
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 4933
LICENSED STATE LAND SURVEYOR
INLAND GEODETICS, LP
1504 CHISHOLM TRAIL RD. SUITE 103
ROUND ROCK, TX 78681



**INLAND
GEODETICS**
PROFESSIONAL LAND SURVEYORS
1504 CHISHOLM TRAIL RD. STE. 103
ROUND ROCK, TX. 78681
PH. (512) 238-1200, FAX (512) 238-1251

PARCEL 1
0.025 ACRES
1,109 SQUARE FEET



SPECIAL WARRANTY DEED
SH29/CR 266 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 FOR RECORD IN THE PUBLIC RECORDS: YOUR SOCIAL SECURITY NUMBER OR YOUR DRIVER'S LICENSE NUMBER.

WHEREAS, Williamson County, Texas and the State of Texas, acting by and through the Texas Transportation Commission are authorized to purchase and receive land and such other property rights deemed necessary or convenient for the construction, expansion, enlargement, extension, improvement, or operation of a portion of the proposed SH29/CR266 improvements ("Project"); and,

WHEREAS, the acquisition of the hereinafter-described premises has been deemed necessary or convenient for the construction, expansion, enlargement, extension, improvement, or operation of the Project;

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS:

That ALICE BETH LEE, 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, 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 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 that certain 0.025 acre tract of land, more or less, being out of the Noah Smithwick Survey, Abstract No. 590, Williamson County, Texas; said tract being more particularly described by metes and bounds in Exhibit "A" attached hereto and incorporated herein (Parcel1)

RESERVATIONS FROM AND EXCEPTIONS TO CONVEYANCE AND WARRANTY:

Easements and rights-of-way of record; all presently recorded restrictions, reservations, covenants, conditions, oil, gas or other mineral leases, mineral severances, 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.

Grantors reserve all of the oil, gas and other minerals in and under the land herein conveyed but waive 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 and water 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 the Texas Department of Transportation or 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 SH29 or CR 266, but shall not be used or exported from the Property for any other purpose.

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 Williamson County, Texas and its assigns forever; and Grantors do hereby bind ourselves, our 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 by, through, or under Grantors, but not otherwise.

This deed is being delivered in lieu of condemnation.

IN WITNESS WHEREOF, this instrument is executed on this the ____ day of _____, 2010.

GRANTOR:

Alice Beth Lee

ACKNOWLEDGMENT

STATE OF TEXAS

§

§

COUNTY OF _____

§

This instrument was acknowledged before me on this the ____ day of _____, 2010 by _____, in the capacity and for the purposes and consideration recited therein.

Notary Public, State of Texas

PREPARED IN THE OFFICE OF:

Sheets & Crossfield, P.C.
309 East Main
Round Rock, Texas

GRANTEE'S MAILING ADDRESS:

Williamson County Judge
710 Main Street, Suite 101
Georgetown, Texas 78664

AFTER RECORDING RETURN TO:

City of Cedar Park Spring Hazardous Materials Clean Up Day Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Lydia Linden, Unified Road System
Submitted For: Robert Daigh
Department: Unified Road System
Agenda Category: Regular Agenda Items

Information

Agenda Item

To consider authorization of County participation in the City of Cedar Park's Spring Hazardous Materials Clean Up Day

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

No file(s) attached.

Form Routing/Status

Form Started By: Lydia Linden Started On: 01/27/2011 10:52 AM
Final Approval Date: 01/27/2011

Order Authorizing Redemption Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Peggy Vasquez, County Judge
Department: County Judge
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consideration and action with respect to "Order Authorizing Redemption of Certain of the County's General Obligation and Refunding Bonds, Series 2001A.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Order Authorizing Redemption3](#)

Form Routing/Status

Form Started By: Peggy Vasquez
Started On: 01/26/2011 12:55 PM
Final Approval Date: 01/27/2011

EXHIBIT "A"

NOTICE OF REDEMPTION

NOTICE IS HEREBY GIVEN that Williamson County, Texas (the "County") has called for redemption the outstanding bonds of the County described below at a price of par plus accrued interest to such date of redemption, to-wit:

Williamson County, Texas, General Obligation and Refunding Bonds, Series 2001A, dated May 1, 2001, maturing on February 15, 2012 through February 15, 2021 and February 15, 2026, as further described below (collectively, the "Redeemed Bonds")

CUSIP Number*	Maturity Date (February 15)	Principal Amount	Interest Rate	Redemption Date
969887 GF9	2012	450,000	4.800	March 15, 2011
969887 GG7	2013	505,000	4.900	March 15, 2011
969887 SY5	2014	10,000	5.000	March 15, 2011
969887 SZ2	2015	10,000	5.125	March 15, 2011
969887 TA6	2016	10,000	5.125	March 15, 2011
969887 TB4	2017	10,000	5.250	March 15, 2011
969887 TC2	2018	10,000	5.300	March 15, 2011
969887 TD0	2019	10,000	5.375	March 15, 2011
969887 TE8	2020	10,000	5.375	March 15, 2011
969887 TF5	2021	20,000	5.375	March 15, 2011
969887 TG3	2026	130,000	5.375	March 15, 2011

* The CUSIP Numbers are provided for the convenience of the holders of the Bonds. The County and the Paying Agent do not warrant the accuracy of the CUSIP Numbers, and neither shall be responsible for any error of any nature relating to CUSIP Numbers.

The Redeemed Bonds shall be redeemed upon presentation at the principal corporate offices of The Bank of New York Mellon Trust Company, National Association, as paying agent/registrar for the Redeemed Bonds, at the addresses set forth below. Interest on the Redeemed Bonds shall cease to accrue from and after March 15, 2011.

First Class/Registered/Certified Mail

The Bank of New York Mellon Trust
Company, National Association
Institutional Trust Services
P.O. Box 2320
Dallas, Texas 75221-2320

By Overnight or Courier

The Bank of New York Mellon Trust
Company, National Association
Institutional Trust Services
2001 Bryan Street, 9th Floor
Dallas, Texas 75201

By Hand

The Bank of New York Mellon Trust
Company, National Association
GIS Unit Trust Window
4 New York Plaza, 1st Floor
New York, NY 10004

In compliance with section 3406 of the Internal Revenue Code of 1986, as amended, payors making certain payments due on debt securities may be obligated to deduct and withhold a portion of such payment from the remittance to any payee who has failed to provide such payor with a valid taxpayer identification number. To avoid the imposition of this withholding tax, such payees should submit a certified taxpayer identification number when surrendering bonds for redemption.

WILLIAMSON COUNTY, TEXAS

CDBG FY11 Call for Projects

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Sally Bardwell, HUD Grants
Submitted For: Sally Bardwell
Department: HUD Grants
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider approving request to issue a call for projects that will utilize FY11 Community Development Block Grant funds as well as reallocate unused CDBG funds from previous years.

Background

This action is to allow participating cities and non-profits to apply for Williamson County CDBG funds. The exact dollar amount for FY11 funding is not known at this time. Both FY11 funding and unused funds from previous years will be allocated to eligible projects. FY11 CDBG funds will be made available to approved projects beginning October 1, 2011. Reallocated funds can be utilized as projects are ready to proceed.

Attached is the application packet.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Program Guidelines](#)

Link: [App Instructions](#)

Link: [App](#)

Link: [Social Service Instructions](#)

Link: [Social Service App](#)

Form Routing/Status

Form Started By: Sally Bardwell Started On: 01/26/2011 11:08 AM
 Final Approval Date: 01/27/2011



**WILLIAMSON COUNTY
COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
PROGRAM GUIDELINES and PRIORITIES**

FUNDING FOR FY2011 (OCT. 1, 2011 – SEPT. 30, 2012)

Williamson County was awarded Entitlement County status by the U.S. Department of Housing and Urban Development (HUD) in August 2003. The County applied for and received funding through the Community Development Block Grant (CDBG) program. Funds are intended to primarily benefit low- to moderate-income persons in Williamson County. This area is comprised of the unincorporated area of the County and the incorporated cities that have joined the urban County designation. These cities include Cedar Park, Georgetown, Granger, Jarrell, Leander, Liberty Hill, Taylor, Thrall and Weir.

The following information is designed to provide you with a better understanding of activities which can be funded through the Williamson County CDBG program.

Please contact Sally Bardwell, Williamson County Grants Coordinator, for assistance.
512-943-3757
sbardwell@wilco.org

Applications must be received by 5pm on March 22, 2011.

ELIGIBILITY REQUIREMENTS

PROJECTS MUST BE DESIGNED TO MEET AT LEAST ONE OF THE FOLLOWING NATIONAL OBJECTIVES:

- Benefit low to moderate income persons, households (see income guidelines below), or areas. Abused children, elderly persons, battered spouses, homeless persons, adults meeting Bureau of Census' definition of severely disabled persons, illiterate adults, persons living with AIDS, and migrant farm workers qualify as Limited Clientele and presumed low to moderate income.
- Eliminate slums and/or blight.
- Meet an urgent community development need as in disaster relief.

FUNDING PRIORITIES AND GUIDELINES

- **High priorities** are those activities that will be considered for funding with CDBG funds during the five-year period of 2009 through 2013 prior to medium and low priorities.
- **Medium priorities** are those activities that will be considered for funding with CDBG funds during the five-year period of 2009 through 2013 following the consideration of high priorities.
- **Low priorities** are those activities that will NOT be funded with CDBG funds by the County during the five-year period of 2009 through 2013; however, the County will consider providing certifications of consistency and supporting applications submitted by other entities for non-County funds.

WILLIAMSON COUNTY WILL UTILIZE THE FOLLOWING GUIDELINES TO PRIORITIZE THE USE OF CDBG FUNDS OVER THE NEXT FIVE YEARS:

- Fund non-housing community development proposals that eliminate a threat to public health and safety. An example of this type of activity might involve the extension of a water line to an area served by lower income households whose private wells have been contaminated.
- Fund activities that expand the supply and/or improve the condition of housing affordable to lower income households, especially when these projects are undertaken in conjunction with public infrastructure

Williamson County
710 Main Street
Georgetown, TX 78626
(512) 943-3757

improvements. Housing production allows for units to be added to the market under the assumption that they will provide long-term assistance. Carrying out infrastructure improvements (such as sidewalk, curb, drainage, water, sewer and/or street improvements) in the immediate vicinity of new housing production will capitalize on the housing investment and add value to a larger residential area.

- Fund public facility proposals that benefit lower income households and persons, and persons with special needs.
- Fund projects that provide housing and supportive public services to lower income households and persons, as well as persons with special needs. (15% of the County's CDBG allocation can be used for public services).
- Fund activities that revitalize residential neighborhoods and stabilize business districts that are located within walking distance of residential neighborhoods.
- Fund projects that leverage other public and private resources.

THE FOLLOWING CHARTS REFLECT THE COUNTY'S PRIORITIES FOR
CDBG FUNDING FOR 2009-2013.

HOUSING NEEDS		
Extremely Low Income (0% up to 30% of MFI)		
		2009-2013 Funding Priority
Renters	Elderly	Low
	Small Related	Low
	Large Related	Low
	All Other	Low
Owners	Elderly	High
	Small Related	High
	Large Related	High
	All Other	High
Very Low Income (30% up to 50% of MFI)		
		2009-2013 Funding Priority
Renters	Elderly	Low
	Small Related	Low
	Large Related	Low
	All Other	Low
Owners	Elderly	High
	Small Related	High
	Large Related	High
	All Other	High
Low Income (50% up to 80% of MFI)		
		2009-2013 Funding Priority
Renters	Elderly	Low
	Small Related	Low
	Large Related	Low
	All Other	Low
Owners	Elderly	High
	Small Related	High
	Large Related	High
	All Other	High

HOMELESS NEEDS		
Families	Housing Type	2009-2013 Funding Priority
	Emergency Shelters	High
	Transitional Housing	Medium
	Permanent Supportive Housing	Medium
Individuals	Housing Type	2009-2013 Funding Priority
	Emergency Shelters	Medium
	Transitional Housing	Low
	Permanent Supportive Housing	Low

NON-HOMELESS SPECIAL NEEDS		
	Special Needs Population	2009-2013 Funding Priority
Housing Needs	Persons w/ Mental Illness	Medium
	Developmentally Disabled	Medium
	Physically Disabled	Medium
	Alcohol/Other Addiction	Medium
	Frail Elderly	Low
	Persons w/ HIV/AIDS	Low
	Public Housing Residents	Low
Supportive Services Needs	Special Needs Population	2009-2013 Funding Priority
	Frail Elderly	High
	Persons w/ Mental Illness	High
	Developmentally Disabled	High
	Physically Disabled	High
	Alcohol/Other Addiction	High
	Public Housing Residents	High
	Persons w/ HIV/AIDS	Low

NON-HOUSING COMMUNITY DEVELOPMENT NEEDS	
Public Facilities and Improvements	2009-2013 Funding Priority
Neighborhood Facilities	High
Solid Waste Disposal Improvements	High
Flood Drain Improvements	High
Water/Sewer Improvements	High
Street Improvements	High
Sidewalks	High
Homeless Facilities	Medium
Youth Centers	Medium
Child Care Centers	Medium
Health Facilities	Medium
Abused and Neglected Children Facilities	Medium
Handicapped Centers	Low
Parks, Recreational Facilities	Low
Parking Facilities	Low
Tree Planting	Low
Fire Stations/Equipment	Low
Asbestos Removal	Low
Facilities for AIDS Patients	Low
Operating Costs of Homeless/AIDS Patients Programs	Low
Economic Development	2009-2013 Funding Priority
Commercial/Industrial Rehabilitation	Medium
Commercial/Industrial New Construction	Low

Williamson County
710 Main Street
Georgetown, TX 78626
(512) 943-3757

SELECTION GUIDELINES

1. The project must meet one or more of the three national objectives.
2. The project must be a Consolidated Plan Priority activity.
3. The project or segment of a phased project must be ready to begin when funds become available on or after October 1, 2011 and be completed within one year or a reasonable amount of time.
4. When required, leveraged funds must be available at start of project.
5. Documentation of income eligibility and other demographic information is required.
6. The project sponsor must be able to meet all Williamson County requirements for insurance coverage.

SECTION 8 INCOME LIMITS

Austin--San Marcos, TX Metropolitan Statistical Area (MSA)

FY 2010

MFI: 73,800

	1 PERSON	2 PERSON	3 PERSON	4 PERSON	5 PERSON	6 PERSON	7 PERSON	8 PERSON
30% OF MEDIAN	15500	17750	19950	22150	23950	25700	27500	29250
VERY LOW INCOME	25850	29550	33250	36900	39900	42850	45800	48750
LOW-INCOME	41350	47250	53150	59050	63800	68500	73250	77950

POVERTY INCOME DEFINITIONS

0-30% of Medium Income	Extremely Low Income
31-50% of Medium Income	Very Low Income
51-80% of Medium Income	Low Income



**WILLIAMSON COUNTY
COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
APPLICATION INSTRUCTIONS**

DO NOT USE THIS APPLICATION FOR SOCIAL SERVICE FUNDING REQUESTS

FUNDING FOR FY2011 (OCT. 1, 2011 – SEPT. 30, 2012)

Please note: All projects awarded CDBG funds from Williamson County are subject to Federal Regulations governing such award. Construction contracts are also subject to labor regulations including but not limited to Davis-Bacon Regulations and will be required to submit wage information to the Williamson County CDBG office. Project monthly progress reports along with other reporting requirements will be the responsibility of the entity receiving CDBG funds from Williamson County. Failure to submit requested and required project documentation could delay payment or forfeit CDBG award.

This application was designed for your convenience. It can be completed in two ways.

- Using Microsoft Word. The application can be found at www.wilco.org. Open the document and fill in the appropriate information. Use the tab key to navigate through the application. Once the form is completed, print, obtain appropriate signatures and submit. (preferred method)
- Manually. Open the document and print it. Manually complete the form. Obtain appropriate signatures and submit.

Applications must be received by 5pm on Tuesday, March 22, 2011. Please submit one original and four (4) copies.

Submit to:
Williamson County
Attn: Sally Bardwell, Grants Coordinator
710 Main Street
Georgetown, TX 78626

Applicant Organization Name & Contact Information

1. Complete information requested.

Project Information

1. Provide the Project Title.
2. Select from the pull down menu (Housing, Homeless Needs, Non-Homeless Special Needs, Non-Housing Community Development Needs).
 - a. Give specific type of project (use priority table to identify specific type of project)
3. Define the service area and/or project site and attach a map that identifies this information.
4. Check appropriate box.
5. Check appropriate box. If yes, indicate the number of years.

Type of Proposal

1. Check all that apply

Service Area

Provide the census tract(s) that the project serves. The US Census Bureau website can be utilized at www.factfinder.census.gov.

Williamson County
710 Main Street
Georgetown, TX 78626
(512) 943-3757

Total Number of Low and Moderate Income Person or Limited Clientele to be Served

The US Census Bureau website can be utilized at www.factfinder.census.gov.

Funding

1. Determine the amount of CDBG funds requested. Use budget table on page three of the application to determine this figure.
2. Determine the amount of funds that will be obtained from other resources.
3. Total Cost

Community Need

1. Describe the need and current condition of the problem and how it relates to the needs/priorities identified for Williamson County (see FY 2009-2013 Consolidated Plan Priorities included in this packet).
2. Describe the method or solution proposed.
3. Describe how the solution will effectively address the problem.
4. Describe the anticipated results.
5. Describe any collaboration with other organizations, programs, or entities.
6. Give any additional information.

Operation and/or Maintenance

1. Generally describe the resources necessary for the project. Do NOT identify budget here.

Staff Costs

1. Identify staff costs for the project.

Project Budget Estimate (totals will automatically calculate)

1. Double click on the budget spreadsheet to access cells.
2. Complete cells with estimated funding amounts. Totals will automatically calculate.
3. When completed, click outside of spreadsheet to gain access to Budget Narrative.
4. Complete Budget Narrative section.

Please note

- Funds obligated to the project will be tied to that obligation unless authorized to do otherwise.
- CDBG funds do not require leveraged funds.

To be submitted with completed application

1. Detailed timeline. Indicate start and end dates and major milestones expected throughout the project.
2. Map that shows project site and defines the service area.
3. Any additional information or documentation needed to fully explain the project.

Failure to submit requested documents or to provide adequate explanation may invalidate proposal.



**WILLIAMSON COUNTY
FY 2010 COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
APPLICATION FORM**

DO NOT USE THIS APPLICATION FOR SOCIAL SERVICE FUNDING REQUESTS

FUNDING FOR FY2011 (OCT. 1, 2011 – SEPT. 30, 2012)

Applicant Organization Name & Contact Information

ORGANIZATION NAME	
NAME & TITLE OF CONTACT PERSON	
ADDRESS LINE 1	
ADDRESS LINE 2	
CITY	
STATE	
ZIP	
TELEPHONE NUMBER	
FAX NUMBER	
EMAIL ADDRESS	

Project Information

PROJECT TITLE	
PROJECT DESCRIPTION	(select from pull down menu) Housing SPECIFICALLY:
PROJECT LOCATION/ADDRESS (attach a map which shows the project site and defines the service area)	
WILL THE PROJECT BE READY TO BEGIN ON OR ABOUT OCTOBER 1, 2011?	YES ☐ NO ☐
IS THE PROJECT PHASED?	YES ☐ NO ☐ If YES, please indicate the number of years:

Type of Proposal (place an X in all appropriate box(es))

NEW PROJECT ☐CONTINUATION PROJECT ☐EXPANSION PROJECT ☐

Service Area

Reminder: Attach a map which shows the project site and defines the service area

CENSUS TRACT(S)	
CENSUS TRACT(S) LOW/MOD %	

Total Number of Low and Moderate Income Persons or Limited Clientele to be Served

	NUMBER OF PERSONS	NUMBER OF HOUSEHOLDS

ALL PERSONS & HOUSEHOLDS TO BE SERVED BY PROJECT		
LOW AND MODERATE INCOME PERSONS & HOUSEHOLDS TO BE SERVED BY PROJECT		

Funding

AMOUNT OF CDBG FUNDS REQUESTED	\$
TOTAL FUNDS OBTAINED FROM OTHER RESOURCES	\$
TOTAL COST OF PROJECT	\$

Please Identify the Community Need:

Who is going to operate and maintain the facility or program and how will its operation be funded?

If the project requires staff, what are the staff costs?

CDBG PROJECT BUDGET ESTIMATE

BUDGET CATAGORIES	TOTAL PROJECT COST (automatic calculation)	CDBG FUNDING	SPONSOR FUNDING	CONTRIBUTIONS	STATE/CITY or FEDERAL FUNDING	OTHER FUNDING
Professional Services (Architectural/Engineering)	\$0.00					
Construction Services	\$0.00					
Property Acquisition	\$0.00					
Property Rehabilitation	\$0.00					
Equipment Acquisition	\$0.00					
Other (specify in budget narrative)	\$0.00					
TOTAL PROJECT	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Please note

- Funds obligated to the project will be tied to that obligation unless authorized to do otherwise.
- CDBG funds do not require leveraged funds.

BUDGET NARRATIVE

Please describe your project. For example: A 5,200 sq. ft. building with kitchen and two classrooms to be used as a day care center for sixty (60) children.

Authorization

 Authorized Signature for Project

Title

Date



**WILLIAMSON COUNTY
COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
APPLICATION INSTRUCTIONS
SOCIAL SERVICE PROJECTS**

FUNDING FOR FY2011 (OCT. 1, 2011 – SEPT. 30, 2012)

Please read the following Federal Regulation (CFR 570.201) before completing the application:

Basic Eligible Activities 570.201

(e) *Public services.* Provision of public services (including labor, supplies, and materials) including but not limited to those concerned with employment, crime prevention, child care, health, drug abuse, education, fair housing counseling, energy conservation, welfare (but excluding the provision of income payments identified under § 570.207(b)(4)), homebuyer down payment assistance, or recreational needs. **To be eligible for CDBG assistance, a public service must be either a new service or a quantifiable increase in the level of an existing service above that which has been provided by or on behalf of the unit of general local government (through funds raised by the unit or received by the unit from the State in which it is located) in the 12 calendar months before the submission of the action plan.**

This application was designed for your convenience. It can be completed in two ways.

- Using Microsoft Word. The application can be found at www.wilco.org. Open the document and fill in the appropriate information. Use the tab key to navigate through the application. Once the form is completed, print, obtain appropriate signatures and submit. (preferred method)
- Manually. Open the document and print it. Manually complete the form. Obtain appropriate signatures and submit.

Applications must be received by 5pm on Tuesday, March 22, 2011. Please submit one original and four (4) copies.

Submit to:
Williamson County
Attn: Sally Bardwell, Grants Coordinator
710 Main Street
Georgetown, TX 78626

Applicant Organization Name & Contact Information

1. Complete information requested.

Project Information

1. Provide the Project Title.
2. Give a brief description of project.
3. Check appropriate box.
4. Check appropriate box. If yes, indicate the number of years.

Type of Proposal

1. Check all that apply

Williamson County
710 Main Street
Georgetown, TX 78626
(512) 943-3757

Project Funding

1. Determine the amount of CDBG funds requested.
2. Determine the amount of funds that will be obtained from other resources. Note, this is not the amount of leveraged funds and should include all other funds anticipated for use in the project.
3. Total Cost of project.

Background Information

1. Give a brief description of the organizations history and purpose.
2. Describe the need and current condition of the problem and how it relates to the needs/priorities identified for Williamson County (see FY 2009-2013 Consolidated Plan Priorities included in this packet).
3. Describe the method or solution proposed.
4. Describe how the solution will effectively address the problem.
5. Generally describe the resources necessary for the project. Do NOT identify budget here.
6. Describe the anticipated results.

Client Data

1. Complete all three tables. Use figures from February 2010 through January 2011. Ensure that totals agree between client tables. Use expected figures if project is a new service.
2. Give percent of total number of clients that are low to moderate income. Describe method used to document this. Example, limited clientele, income survey, etc. Also identify if you anticipate any significant change in the clientele served and how this change might impact the percent of low-mod.

Eligibility

Check appropriate box and attach required documents.

Service Area

Identify the geographic boundaries of the proposed service area. Please include cities and/or areas served. Attach a map that shows the project site and/or defines the service area.

Service Collaboration

List collaboration efforts provided to other County service providers and/or community organizations.

Board Data

Complete Board Data information requested.

Program Funding Data

1. List the amount of funds received from each type of source listed.
2. Specify funding source and the amount of award received.

Signatures

Obtain appropriate signatures.

Please note

- Funds obligated to the project will be tied to that obligation unless authorized to do otherwise.
- CDBG funds do not require leveraged funds.

Failure to submit requested documents or to provide adequate explanation may invalidate proposal.



APPLICATION TO BE USED FOR SOCIAL SERVICE PROJECTS ONLY

**WILLIAMSON COUNTY
FY 2011 COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)
APPLICATION FORM
SOCIAL SERVICE PROJECTS**

FUNDING FOR FY2011 (OCT. 1, 2011 – SEPT. 30, 2012)

Please read the following Federal Regulation (CFR 570.201) before completing the application:

Basic Eligible Activities 570.201

(e) *Public services.* Provision of public services (including labor, supplies, and materials) including but not limited to those concerned with employment, crime prevention, child care, health, drug abuse, education, fair housing counseling, energy conservation, welfare (but excluding the provision of income payments identified under § 570.207(b)(4)), homebuyer down payment assistance, or recreational needs. **To be eligible for CDBG assistance, a public service must be either a new service or a quantifiable increase in the level of an existing service above that which has been provided by or on behalf of the unit of general local government (through funds raised by the unit or received by the unit from the State in which it is located) in the 12 calendar months before the submission of the action plan.**

Applicant Organization Name & Contact Information

ORGANIZATION NAME	
NAME & TITLE OF CONTACT PERSON	
ADDRESS LINE 1	
ADDRESS LINE 2	
CITY	
STATE	
ZIP	
TELEPHONE NUMBER	
FAX NUMBER	
EMAIL ADDRESS	

Project Information

PROJECT TITLE			
PROJECT DESCRIPTION			
WILL THE PROJECT BE READY TO BEGIN ON OR ABOUT OCTOBER 1, 2011?	YES ☐	NO ☐	
IS THE PROJECT PHASED?	YES ☐	NO ☐	If YES, please indicate the number of years:

Type of Proposal (place an X in all appropriate box(es))

NEW PROJECT ☐

CONTINUATION PROJECT ☐

EXPANSION PROJECT ☐

Project Funding

AMOUNT OF CDBG FUNDS REQUESTED	\$
TOTAL FUNDS OBTAINED FROM OTHER RESOURCES	\$
TOTAL COST OF PROJECT	\$

BACKGROUND INFORMATION

Organization History and Purpose

Description of the Community Need

Method or Solution Proposed (Identify new service or quantifiable increase in the existing service)

How Project will Effectively Address Problem(s)**Resources Necessary for Project****Results****CLIENT DATA (ensure that totals agree between client tables)****Precinct and Census Tract (Use data from February 2010 through January 2011.)**

Precinct Number	1	2	3	4	Non-County	Total
Census Tract Served						
Number of Clients Served						

If Applicable, explain why agency serves non-urban county residents:

Ethnicity and Gender (Use data from February 2010 through January 2011.)

Ethnicity	Male	Female	Total
White			
Black			
Native American			
Asian			
Hispanic			
Other			
Total			

Age of Client Population (Use data from February 2010 through January 2011.)

[illegible]

Explanation if needed:

Percent Low-Mod

Eligibility

Does project participation depend upon income or any other determination of eligibility?

YES ☐

NO ☐

If yes, attach the program's eligibility criteria.

Does the project charge client fees?

YES ☐

NO ☐

If yes attach the program's fee policy.

Service Area (Identify the geographic boundaries of the proposed service area. Please include cities and/or areas served.)

Attach a map that shows the project site and/or defines the service area.)

SERVICE COLLABORATION

[illegible]

BOARD DATA

NUMBER OF BOARD MEMBER POSITIONS AUTHORIZED	
NUMBER OF BOARD MEMBER POSITIONS FILLED	
NUMBER OF ANNUAL BOARD MEETINGS SCHEDULED	
THE LENGTH OF THE BOARD MEMBERSHIP TERMS	
NUMBER OF CONSECUTIVE TERMS A MEMBER CAN SERVE	

Briefly describe how board members are recruited and selected

PROGRAM FUNDING DATA

Funding Source	Previous Year FY 09/10	Current Year FY 10/11	Requested FY 11/12
Local Government			
State Government			
Federal Government			
Non-Government			
In-Kind Contributions			
Total Funding			

Specify each funding source and the amount awarded by each.

Authorization

Executive Director
Signature
Date

Chair of Board of Directors
Signature
Date

Please include the following documents with this proposal:

1. Detailed budget of project, specifically outlining the use of CDBG funds and leveraged funds for this project.
2. Agency charter and amendments.
3. Agency by-laws and amendments.
4. Copy of the agency's mission statement
5. Tax exempt Status (copy of current authorization).
6. Certificate of Occupancy (copy of current authorization).
7. Copy of most current fiscal audit of the agency.

MOT Stipend

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Ashlie Koenig, County Judge
Department: County Judge
Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss and consider approving a stipend for MOT

Background

Since mid-December MOT has been down two full-time slots, both due to FMLA circumstances. MOT is requesting an \$80 per shift stipend for current employees who are willing to pick up/work a double shift. We calculate that roughly 52 additional shifts could/will be picked up during each quarter. Some employees have been working these double shifts since mid-December, but it has taken nearly a month to work out logistics on how to compensate the employees for this additional time worked. In calculating 52 shifts at \$80/shift, we arrive at \$4,160 plus \$802 for FICA and retirement bringing the grand total needed to \$4,962 to pay this stipend quarterly. Currently, because of one of the above FMLA situations and unpaid leave, the MOT budget has \$3,000 to cover the costs above. Therefore, we are requesting \$1,962 from the Court to cover additional shifts worked effective January 21st, 2011. Should this item be approved and because of the dynamics involved, we will address the court quarterly if additional funds are needed.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

No file(s) attached.

Form Routing/Status

Route Seq	Inbox	Approved By	Date	Status
1	County Judge Exec Asst.	Wendy Coco	01/24/2011 09:51 AM	APRV
4	Budget (Originator)	Ashlie Koenig	01/27/2011 11:45 AM	APRV

Form Started By: Ashlie Koenig
 Started On: 01/21/2011 02:42 PM
 Final Approval Date: 01/27/2011

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Wendy Coco, County Judge
Department: County Judge
Agenda Category: Regular Agenda Items

Information**Agenda Item**

Discuss and take appropriate action on electing an official to the General Assembly of CAPCOG.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [CAPCOG](#)

Form Routing/Status

Form Started By: Wendy Started On: 01/28/2011 02:54
Coco PM
Final Approval Date: 01/28/2011



**Capital Area
Council of
Governments**

6800 Burleson Road
Building 310, Suite 165
Austin, Texas 78744

512.916.6000
FAX 512.916.6001

www.capcog.org

Bastrop

Blanco

Burnet

Caldwell

Fayette

Hays

Lee

Llano

Travis

Williamson

Counties

January 12, 2011

The Honorable Dan A. Gattis
Williamson County
710 S. Main St., Suite 101
Georgetown, TX 78626

RE: CAPCOG's General Assembly

Dear Judge Gattis:

Just a reminder that Williamson County has three slots on our General Assembly, and one of those slots is vacant.

If you would like to fill the vacancy, please have your Commissioners Court appoint an elected official to the General Assembly, then complete the enclosed appointment form and either Email (abell@capcog.org) or fax it to 512-916-6001.

Sincerely,

Laura Steinbring
Office Manager/Member Services

cc: Nancy Rister, County Clerk

Enclosure
LS/ab



APPOINTMENT FORM - GENERAL ASSEMBLY REPRESENTATIVE

CAPITAL AREA COUNCIL OF GOVERNMENTS

The governing bodies of CAPCOG's members designate General Assembly representatives.

Counties: Official appointments are made at Commissioners Court.
Cities, Towns, Villages: Official appointments are made at City Council meetings.

PLEASE COMPLETE THE FOLLOWING SECTION

Governing Body:

_____ County Commissioners Court (e.g., Travis County Commissioners Court)

-OR-

_____ City Council (e.g., Austin City Council)

Name of Representative

Position

Address

City, Zip Code

(_____) _____ (_____) _____
Telephone Number Fax Number

E-Mail

Check One:

_____ Filling Vacancy

_____ Changing Representative _____
Name of Previous Representative

Signature of **Governing Body Representative**
or authorized representative

Date

Please fax this completed form to (512) 916-6001, attn: Laura Steinbring.

Award Crack Sealing Services for Road & Bridge 11WC908

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Kerstin Hancock, Purchasing
Department: Purchasing
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider awarding bids received for Crack Sealing Services to the lowest and best bid meeting specifications, primary vendor - RHB Construction; secondary vendor - DIJ Construction

Background

These bids have been evaluated on the best value for the County considering price, references and past relationship with the County. A primary, secondary and tertiary vendor will be awarded as the URS department requires that sufficient crews are available for work to be completed within a tight time frame.

Please see bid tabulation for additional information.

For questions regarding this award, please contact Kerstin Hancock at khancock@wilco.org or 512-943-1546.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Bid Tabulation Crack Sealing Services WILCO](#)

Form Routing/Status

Route Seq	Inbox	Approved By	Date	Status
1	Purchasing (Originator)	Bob Space	01/27/2011 10:49 AM	APRV
2	County Judge Exec Asst.	Wendy Coco	01/27/2011 11:39 AM	APRV
Form Started By: Kerstin Hancock			Started On: 01/27/2011 08:39 AM	
Final Approval Date: 01/27/2011				

**WILLIAMSON COUNTY BID TABULATION
FOR ROAD & BRIDGE**

CRACK SEALING SERVICES

BID NUMBER: 11WC908

Recommended Award: Primary – RHB Construction
 Secondary – DIJ Construction
 Tertiary – Huff Sealing Corp. bid A

VENDOR BIDDING	Price/hour/crew	# of crews available	Addenda submitted (required)	Insurance certificate submitted (required)	References score	Additional notes
*****APAC Texas	\$ 485.00	1	yes	yes		
**DIJ Construction	\$403.90	2	yes	yes	9	
*RHB Construction	\$237.75	2	yes	yes	7.5	
**** Asphalt Paving Company of Austin	\$250.00	1	no	no		Rejected – did not submit documents as required
Huff Sealing Corp. bid # A	\$400.00	2	yes	yes	7	
***Huff Sealing Corp. bid # B	\$460.00	2	yes	yes		Rejected – submitted 2 bids for one line item

These bids have been evaluated on the best value for the County considering price, references and past relationship with the County.
A primary, secondary and tertiary vendor will be awarded as the URS department requires that sufficient crews are available for work to be completed within a tight time frame.

* RHB Construction was selected primary vendor due to lowest price and acceptable reference score.

**DIJ Construction was selected as secondary vendor for the following reasons: cost – very close pricing with difference being offset by reference scores and past experience with the County. It represents the best overall value to the taxpayers.

*** Huff Sealing submitted 2 bid sheets resulting in price B being higher than price A therefore price B was rejected due to specifications requesting only one price per crew per hour and price A being the lower bid submitted.

****Asphalt Paving Company of Austin was rejected – addenda and insurance certificate were not included with bid submittal as required per bid specifications.

*****APAC was not selected due to highest price submitted.

Fugro contract for Geotechnical Services Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Jonathan Harris, Purchasing
Submitted For: Bob Daigh
Department: Purchasing
Agenda Category: Regular Agenda Items

Information

Agenda Item

Discuss and consider approving RFQ#10WCRFQ1004 to Fugro Consultants for Geotechnical Services for the Emergency Operations Center site location

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Statement of work](#)

Form Routing/Status

Form Started By: Jonathan Harris Started On: 01/27/2011 10:19 AM
Final Approval Date: 01/27/2011



8613 Cross Park Drive
Austin, Texas 78754
Phone: 512-977-1800
Fax: 512-973-9966

Williamson County
301 SE Inner Loop, St. 106
Georgetown, Texas 78626

Proposal No. 04.30101059
January 26, 2011
REVISED

Attention: Mr. Robert Daigh, P.E.

**Proposal for Geotechnical Investigation
Williamson County Emergency Services Operations Center
Georgetown, Texas**

Fugro Consultants, Inc. (Fugro) is pleased to be selected to perform the geotechnical investigation for the above referenced project. Our understanding of the project is based on the information provided by Mr. Bill Spence with Parsons, and Mr. Robert Daigh, Mr. John Sneed and Mr. Jonathan Harris with Williamson County. We have received the site plan showing the proposed Emergency Services Operations Center (ESOC) to be located on the Williamson County Master campus located at the northwest quadrant of the intersection of Southwestern Boulevard and Georgetown Inner Loop.

Proposed construction will include a one-story office building structure, associated at-grade "public" and "secure" parking, expansion of an existing roadway, and a drive-thru vehicle shelter for service vehicles. We have not been provided with structural load information; however, we anticipate that the building structure will have maximum column loads on the order of 200 kips, and the drive-thru vehicle shelter will be a canopy structure with maximum column loads on the order of 100 kips with some uplift loads. It is understood that above grade construction (i.e. no below grade construction) is planned.

This geotechnical investigation and report will include field, laboratory and engineering phases. The following sections of this proposal include the scope of our services, a cost estimate and an estimated schedule.

Field Investigation

Published geologic mapping indicates the site is underlain by highly plastic and potentially expansive clay and clayshale of the Del Rio formation. Outcropping of Buda limestone is mapped along the eastern boundary of the site along Georgetown Loop. Based on



the proposed construction, anticipated future construction, and mapped subsurface conditions, we propose the following drilling scope:

Proposed Drilling Scope			
Location	No. of Borings	Depth of Borings (ft)	Total Depth
Building Footprint	5	40 to 50	220
Drive-Thru Vehicle Shelter	1	35	35
At-grade Public and Secure Parking	6	5	30
Roadway Expansion	3	7	21
Total	15	Total Footage	306 ft

In addition, we proposed to install one flush mounted piezometer in one of the completed building borings to a depth of 40 feet.

Laboratory Testing

Laboratory tests (natural water contents, Atterberg limits, and partial gradation analyses) will be performed to classify soil strata and evaluate plasticity. Unconfined compression tests will be conducted on selected intact soil and/or rock specimens to evaluate the compressive strength of the subsurface strata. Swell tests will be performed to evaluate potential vertical movements associated with moisture change. Soluble sulfate chemical tests will be performed on representative soil samples obtained from pavement areas.

Engineering Report

Engineering analyses of the results of the field and laboratory data will be made to develop foundation recommendations for the building and drive-under shelter construction, and for pavements. The report will include the following:

1. General subsurface conditions, including boring logs with descriptions of strata, summaries of laboratory test results, and water levels obtained at the time of drilling;
2. Boring location plan;
3. Recommended foundation types for the proposed building(s), and allowable bearing pressures and elevations;



4. Recommendations for building slab on grade construction, if appropriate, including any subgrade preparation required to limit slab movements to less than 1 inch;
5. Recommendations to limit moisture migration through the floor slab;
6. Seismic site class as defined by the 2006 International Building Code;
7. General foundation construction recommendations;
8. Flexible and rigid pavement thickness design and construction recommendations based on provided traffic load information; and
9. Recommendations for earthwork.

Four copies and one digital (PDF) copy of the report will be submitted unless otherwise requested.

Cost Estimate

Based on the scope of work outlined above, our estimated fee is itemized on Attachment

1. The cost estimate is based on the following:

1. Boring locations can be easily accessed with a truck-mounted drill rig and no site clearing or grading is needed to reach boring locations;
2. Boring locations will be staked using a hand-held GPS device and measuring distances from existing site features. Boring locations should be considered approximate. Alternatively, boring locations (or other survey controls) can be staked in the field by others prior to our mobilization to the site; and
3. Right-of-entry will be obtained by others on the project team.

The estimated fee may be exceeded if site conditions are significantly different than anticipated or changes in work are required or requested. However, the estimated fee will not be exceeded without the client's prior authorization. Required additions to the above scope of services would be invoiced in accordance with the attached fee schedule.



Schedule

After receiving authorization to proceed, we will begin the project by establishing boring locations and coordinating drill rig access. Once boring locations are staked and weather permitting, we can commence field operations. A summary of our proposed schedule is presented in the table below. We will keep you verbally informed of our findings as they become available.

Activity	Schedule
Site coordination of drill rig access, staking of borings, clearing utilities, clearing, schedule drill rig	1 week
Drilling of borings (15 borings, 306 l.f. of drilling)	3 - 4 days
Laboratory Testing	2 weeks
Preparation of Geotechnical Report	2 - 3 weeks

Terms and Conditions

Fees for field work, laboratory testing, and report preparation are from our existing Williamson County contract, which also outlines all contractual terms and conditions.

The following statement is required by Fugro's Insurance Company. Fugro's scope of work does not include the investigation, detection, or design related to the presence of any Biological Pollutants. The term "Biological Pollutants" includes, but is not limited to, mold, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

* * *



Williamson County
Mr. Robert Daigh, P.E.

January 26, 2011
Page 5 of 5

We appreciate the opportunity to submit this proposal and look forward to our continued association. Please do not hesitate to call with any questions or comments concerning this proposal, or if we may be of further service.

Sincerely,

FUGRO CONSULTANTS, INC.
TBPE Firm Registration No. 299

A handwritten signature in black ink, appearing to read "Rebecca A. Russo".

Rebecca A. Russo, P.E.
Project Manager

A handwritten signature in black ink, appearing to read "Peter A. Bush".

Peter A. Bush, P.E.
Vice President

Attachments

Attachment 1 – Cost Estimate
Williamson County Approved Fee Schedule



Attachment 1 - Cost Estimate
Geotechnical Investigation
Williamson County Emergency Services Operations Center
Georgetown, Texas

1. Soil Borings - Geotechnical		Quantity	Unit	Rate	Subtotal
	Coordination, one-call, supervision of clearing, staking of borings, field logging				
1.1.1	Mobilization / Demobilization	100	mile	\$4.00	\$400.00
1.3.1	Drilling and Sampling - Soil	171	feet	\$15.00	\$2,565.00
1.4	Standard Penetration Tests	0	each	\$20.00	\$0.00
1.5	TxDOT Cone Penetration Tests	0	each	\$28.00	\$0.00
1.6.1	Rock Coring (soft rock)	135	feet	\$21.50	\$2,902.50
1.6.2	Rock Coring (hard rock)	0	feet	\$25.50	\$0.00
1.9	Piezometer Supplies and Installation	40	ft	\$20.00	\$800.00
1.12	Traffic Control	0	day	\$2,000.00	\$0.00
1.12	Clearing of Trees/Brush for Access	0	day	\$2,000.00	\$0.00
1.18	Plugging Boreholes	266	feet	\$8.00	\$2,128.00
3.2	Senior Project Manager	2	hour	\$145.00	\$290.00
3.7	Graduate Engineer	16	hour	\$90.00	\$1,440.00
Subtotal					\$10,525.50
2. Laboratory Investigation		Quantity	Unit	Rate	Subtotal
2.1	Moisture Contents	10	each	\$15.00	\$150.00
2.2	Atterberg Limit Determinations	10	each	\$55.00	\$550.00
2.6	Sieve Analysis	10	each	\$55.00	\$550.00
2.12	Unconfined Compression Tests, soil	6	each	\$50.00	\$300.00
2.12	Unconfined Compression Tests, rock	10	each	\$55.00	\$550.00
2.22	Soluble Sulfate	2	ead	\$75.00	\$150.00
2.4	Pressure Swell Test	4	each	\$135.00	\$540.00
3.8	Graduate Engineer	4	hour	\$90.00	\$360.00
Subtotal					\$3,150.00
3. Technical Services		Quantity	Unit	Rate	Subtotal
	Logging, Laboratory Assignment, Drafting and Report Preparation				
3.1	Word Processing	2	hour	\$50.00	\$100.00
3.8	Geologist	4	hour	\$95.00	\$380.00
3.9	Drafting	8	hour	\$60.00	\$480.00
Subtotal					\$960.00
4. Engineering Services - Geotechnical Report		Quantity	Unit	Rate	Subtotal
3.1	Project Principal	2	hour	\$155.00	\$310.00
3.2	Senior Project Manager	12	hour	\$145.00	\$1,740.00
3.7	Graduate Engineer	24	hour	\$90.00	\$2,160.00
Subtotal					\$4,210.00
Total Estimated Cost					\$18,845.50

EXHIBIT II**HOURLY RATES****FEE SCHEDULE FOR GEOTECHNICAL FIELD,
LABORATORY AND ENGINEERING SERVICES****1. Field Investigation**

1.1.	Mobilization and demobilization, per mobilization		
1.1.1	Drill truck, water truck, pickup, and crew	\$	4.00/mile
1.1.2	All-terrain drill rig, pickup, and crew.....	\$	6.00/mile
1.2.	All-terrain vehicle with drill rig (additional charge)	\$	600.00/day
1.3.	Drilling and sampling		
1.3.1	Drilling and sampling with 3-inch, thin-walled tube sampler, continuous to 10.0 ft, 5.0-ft intervals thereafter.....	\$	15.00/foot
1.3.2	Continuous drilling and sampling with 3-inch, thin-walled tube sampler or split-spoon sampler for environmental screening		Upon Request
1.3.3	Additional Water Truck	\$	1,500.00/day
1.4.	Standard penetration tests.....	\$	20.00/each
1.5.	TxDOT cone penetration tests.....	\$	28.00/each
1.6.	Rock coring, NX or similar core barrel		
1.6.1	Drilling in soft rock (Austin Chalk, Eagle Ford Shale, etc.)	\$	21.50/foot
1.6.2	Drilling in hard rock or cavitated rock (Edwards, Buda, Glen Rose, Georgetown, and Walnut Formations).....	\$	25.50/foot
1.7.	Wash or auger borings drilled and logged from cuttings:		
1.7.1	Soil.....	\$	13.00/foot
1.7.2	Rock	\$	19.00/foot
1.8.	Casing of boreholes.....	\$	15.00/foot
1.9.	Hourly charges for boring layout, excessive time spent gaining access to boring locations, backfilling boreholes, cleaning up site, installing piezometers, and for other reasons beyond our control	\$	165.00/hour
1.10.	Rental of concrete core drilling equipment or equipment to gain site access, or traffic control devices		Cost
1.11.	Materials for piezometers, grouting, etc.....		Cost
1.12.	Surveying or other outside contractors		Cost
1.13.	Traffic control		Upon Request
1.14.	Per diem for out-of-town assignments, per man.....	\$	125.00/night
1.15.	High-pressure steam cleaner.....		Upon Request
1.16.	OVA meter		Upon Request
1.17.	Steel drums for drill cuttings (delivered)	\$	65.00/each
1.18.	Plugging boreholes with bentonite/concrete slurry	\$	8.00/foot
1.19.	Cone penetrometer testing	\$	3,250.00/day

1.20	Automated Pavement Distress Data Collection	\$	325.00/hour
1.21	Pavement Profile Testing (Longitudinal and Transverse)	\$	250.00/hour
1.22	Nondestructive Pavement Deflection Testing		
1.22.1	Falling Weight Deflectometer (Daytime)	\$	225.00/hour
1.22.2	Falling Weight Deflectometer (Nighttime)	\$	250.00/hour
1.22.3	Heavy Wight Deflectometer (Daytime)	\$	250.00/hour
1.22.4	Heavy Wight Deflectometer (Nighttime)	\$	275.00/hour
2.	Laboratory Tests		
2.1.	Natural water content and soil classification	\$	15.00/each
2.2.	Plastic and liquid limits	\$	55.00/each
2.3.	Free swell test	\$	95.00/each
2.4.	Pressure swell test	\$	135.00/each
2.5.	Uniaxial pressure-strain test	\$	60.00/each
2.6.	Sieve analysis (No. 4, 40, and 200 sieves)	\$	55.00/each
2.7.	Percent material passing a single sieve	\$	45.00/each
2.8.	Minus No. 200 sieve	\$	45.00/each
2.9.	Hydrometer analysis	\$	175.00/each
2.10.	Unit dry weight determination and natural water content	\$	18.00/each
2.11.	Unconfined compression test, soil	\$	50.00/each
2.12.	Unconfined compression test, rock	\$	55.00/each
2.13.	Unconsolidated-undrained triaxial compression test	\$	55.00/each
2.14.	Standard Proctor (ASTM D-698) compaction test	\$	210.00/each
2.15.	Modified Proctor (ASTM D-1577) compaction test	\$	210.00/each
2.16.	TxDOT (TEX-113-E) compaction test	\$	210.00/each
2.17.	California Bearing Ratio (CBR)	\$	225.00/point
2.19.	Consolidation test, 7-load increments	\$	350.00/each
	Additional load increments	\$	50.00/each
2.19.	Permeability of silt or clay	\$	250.00/each
2.20.	Specific gravity	\$	50.00/each
2.21.	Volumetric shrinkage	\$	75.00/each
2.22.	Resilient Modulus testing	\$	500/specimen
2.23	Chemical and analytical testing by outside laboratory		Cost
3.	Engineering and Technical Personnel		
3.1.	Senior Consultant/Project Principal	\$	155.00/hour
3.2.	Senior Project Manager	\$	145.00/hour
3.3.	Project Manager	\$	135.00/hour
3.4	Project Engineer	\$	120.00/hour
3.5	Project Geologist	\$	95.00/hour
3.6	Laboratory Manager	\$	95.00/hour
3.7.	Graduate Engineer	\$	90.00/hour
3.8.	Senior Engineering Technician	\$	65.00/hour
3.9.	Technician and Draftsperson	\$	60.00/hour
3.10.	Word Processor	\$	50.00/hour

4. Report Reproduction and Miscellaneous

4.1.	Outside services, printing, reproduction, etc.....	Cost
4.2.	Outside technical assistance	Cost
4.3.	Transportation.....	\$ 0.51/mile

Rates for other tests and services quoted on request.

These rates will be in effect for 2008 and 2009 and will be revised subsequently.

San Gabriel Parkway (CR 274 Phase II), bid number 11WC903
Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Patrick Strittmatter, Purchasing
Submitted For: HNTB
Department: Purchasing
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider awarding bids received for San Gabriel Parkway (CR 274 Phase II), bid number 11WC903, to the lowest and best bidder- Ranger Excavating, L.P.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [HNTB Recommendation](#)

Link: [Malone Wheeler Recommendation](#)

Link: [Bid Analysis](#)

Form Routing/Status

Form Started By: Patrick Strittmatter Started On: 01/13/2011 09:22 AM
Final Approval Date: 01/27/2011

January 27, 2011

Williamson County Purchasing Department
301 S.E. Inner Loop, Suite 106
Georgetown, Texas 78626



Attention: Jonathan Harris
Assistant Purchasing Agent

Re: Williamson County Road Bond Program
San Gabriel Parkway Phase II (183A to CR 270)
Williamson County Project No. 11WC903
Recommendation of Contractor Award

Dear Mr. Harris,

Please find attached the bid tabulations for the subject-referenced project. The bids have been reviewed and adjusted for correctness. Corrections were necessary to one bid where the bidder used a previous version of the electronic bid tabulation spreadsheet instead of the final electronic spreadsheet. The corrections resulted in changes to the bid rankings for the highest two bidders, and did not change the status of the low bidder. The revised bids are therefore accepted as hereby submitted, with Ranger Excavating being the low bidder. Following is a summary of the bid totals:

1.	Ranger Excavating	\$1,182,680.88
2.	DNT Construction	\$1,372,976.65
3.	Chasco Constructors	\$1,388,783.00
4.	FT Woods	\$1,410,300.00
5.	Cash Construction	\$1,468,637.00
6.	RGM Constructors	\$1,502,537.25
7.	Patin Construction	\$1,607,064.25
8.	Yantis Company	\$1,714,315.10
9.	Smith Contracting	\$1,809,195.15
10.	Hunter Industries	\$1,879,868.28
11.	Joe Bland Const	\$1,923,814.63
12.	Austin Engineering	\$2,370,136.61
13.	Target Construction	\$2,380,751.75

In addition to meeting the bid qualifications subject to being low bidder, Ranger Excavating has successfully completed previous projects under the Road Bond Program, including McNeil Road Phase II and Ronald Reagan South Phase II. Based on the references provided by the Contractor and the favorable working relationships established with the County and its Representatives, we recommend award of the San Gabriel Parkway Phase II construction contract to Ranger Excavating, L.P., in the contract amount of \$1,182,680.88.

Please feel free to contact our office with any questions.

Respectfully Submitted,

HNTB Corporation



James D. Klotz, P.E.

VIA E-MAIL

Attachments: Bid Tabulation Analysis, Engineer's Letter of Recommendation

Cc: Judge Gattis, Williamson County Judge
Commissioner Birkman, Williamson County, Pct. 1
Commissioner Long, Williamson County, Pct. 2
Commissioner Covey, Williamson County, Pct. 3
Commissioner Morrison, Williamson County, Pct. 4
Robert Daigh, Williamson County
Joe England, Williamson County
Mike Weaver, Prime Strategies, Inc.
Richard Ridings, HNTB Corporation
Pete Malone, Malone / Wheeler, Inc.



Engineering & Development Consultants

Firm Registration No. F-786

December 10, 2010

Christen Eschberger, P.E.
HNTB Corporation
14 Galloping Road
Round Rock, Texas 78681

RE: San Gabriel Parkway (CR 274 Phase II)
Williamson County Project No. 11WC903
Recommendation of Award

Ms. Eschberger:

On Wednesday, December 8th, 2010 bids were received for the San Gabriel Parkway (CR274 Phase II) project. The following thirteen (13) contractors submitted bids for this project.

- 1) Ranger Excavating, L.P.
- 2) DNT Construction, LLC
- 3) Chasco Constructor
- 4) FTWOODS Construction Services, Inc.
- 5) Cash Construction Company
- 6) RGM Constructors, PP
- 7) Patin Construction, LLC
- 8) Yantis Company
- 9) Smith Contracting Company, Inc.
- 10) Hunter Industries, LTD
- 11) Joe Bland Construction, LP
- 12) Target Construction
- 13) Austin Engineering Co., Inc.

After review of the submitted bids it appears that Target Construction made an error by omitting the earthwork quantity updates issued in Addendum No. 1. This error by Target Construction does **not** affect the low bid or recommendation of award.

The low bidder for the project is **Ranger Excavating, L.P.** in the amount of **\$1,182,680.88**. Based on the evaluation of the bids Malone/Wheeler, Inc. recommends award of the project to **Ranger Excavating, L.P.** for the above stated amount.

If you have any questions or concerns regarding the bids or this letter please do not hesitate to contact me.

11WC903 40.1

Received

DEC 13 2010

HNTB Corporation
Round Rock

Very Truly Yours,
Malone/Wheeler, Inc.

Richard H. Malone

Richard H. Malone, P.E.
Vice President



Bid Comparison

Bidder	Bid Amount	Rank	Difference from Engineer's Estimate (\$)	Difference from Engineer's Estimate (%)	Difference from Low Bid (\$)	Difference from Low Bid (%)
Ranger Excavating	\$ 1,182,680.88	1	\$ (819,296.33)	-40.9%	-	-
DNT Construction	\$ 1,372,976.65	2	\$ (629,000.56)	-31.4%	\$ 190,295.77	16.1%
Chasco Constructors	\$ 1,388,783.00	3	\$ (613,194.21)	-30.6%	\$ 206,102.12	17.4%
FT Woods	\$ 1,410,300.00	4	\$ (591,677.21)	-29.6%	\$ 227,619.12	19.2%
Cash Construction	\$ 1,468,637.00	5	\$ (533,340.21)	-26.6%	\$ 285,956.12	24.2%
RGM Constructors	\$ 1,502,537.25	6	\$ (499,439.96)	-24.9%	\$ 319,856.37	27.0%
Patin Construction	\$ 1,607,064.25	7	\$ (394,912.96)	-19.7%	\$ 424,383.37	35.9%
Yantis Company	\$ 1,714,315.10	8	\$ (287,662.11)	-14.4%	\$ 531,634.22	45.0%
Smith Contracting	\$ 1,809,195.15	9	\$ (192,782.06)	-9.6%	\$ 626,514.27	53.0%
Hunter Industries	\$ 1,879,868.28	10	\$ (122,108.93)	-6.1%	\$ 697,187.40	58.9%
Joe Bland Const	\$ 1,923,814.63	11	\$ (78,162.58)	-3.9%	\$ 741,133.75	62.7%
Austin Engineering	\$ 2,370,136.61	12	\$ 368,159.40	18.4%	\$ 1,187,455.73	100.4%
Target Construction	\$ 2,380,751.75	13	\$ 378,774.54	18.9%	\$ 1,198,070.87	101.3%

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	Engineer's Estimate		Ranger Excavating		DNT Construction		Chasco Constructors	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
1	100-2002	PREPARING ROW	49.30	STA	\$ 1,500.00	\$ 73,950.00	\$1,000.00	\$49,300.00	\$1,300.00	\$64,090.00	\$2,000.00	\$98,600.00
2	103-2001	DISPOSAL OF WELL	1	EA	\$ 2,000.00	\$ 2,000.00	\$1,500.00	\$1,500.00	\$2,000.00	\$2,000.00	\$4,100.00	\$4,100.00
3	110-2001	EXCAVATION (ROADWAY)	24,131	CY	\$ 6.00	\$ 144,786.00	\$2.65	\$63,947.15	\$2.50	\$60,327.50	\$4.75	\$114,622.25
4	110-2002	EXCAVATION (CHANNEL)	16,167	CY	\$ 6.00	\$ 97,002.00	\$2.65	\$42,842.55	\$2.50	\$40,417.50	\$4.00	\$64,668.00
5	132-2006	EMBANK (FINAL) (DENS CONT) (TY C) (CL 3)	31,152	CY	\$ 5.00	\$ 155,760.00	\$1.55	\$48,285.60	\$0.85	\$26,479.20	\$1.50	\$46,728.00
6	160-2003	FURNISHING AND PLACING TOPSOIL (CL 2) (4")	96,936	SY	\$ 1.00	\$ 96,936.00	\$0.01	\$969.36	\$0.20	\$19,387.20	\$0.65	\$63,008.40
7	162-2002	BLOCK SOD (BERMUDA)	8,253	SY	\$ 0.10	\$ 825.30	\$2.98	\$24,593.94	\$4.50	\$37,138.50	\$4.00	\$33,012.00
8	164-2039	DRILL SEEDING (PERM) (URBAN) (CLAY)	88,683	SY	\$ 0.10	\$ 8,868.30	\$0.05	\$4,434.15	\$0.35	\$31,039.05	\$0.15	\$13,302.45
9	164-XXXX	BRDCST SEED (TEMP) (WARM or COOL)	48,468	SY	\$ 0.20	\$ 9,790.54	\$0.10	\$4,846.80	\$0.30	\$14,540.40	\$0.10	\$4,846.80
10	166-2002	FERTILIZER (13-13-13)	9.08	TON	\$ 1.50	\$ 13.62	\$560.00	\$5,084.80	\$650.00	\$5,902.00	\$760.00	\$6,900.80
11	169-2005	SOIL RETENTION BLANKETS (CL 2) (TY E)	6,467	SY	\$ 1.50	\$ 9,700.50	\$1.14	\$7,372.38	\$1.00	\$6,467.00	\$1.20	\$7,760.40
12	169-2002	SOIL RETENTION BLANKETS (CL 2) (TY F)	3,965	SY	\$ 20.00	\$ 79,300.00	\$1.14	\$4,520.10	\$1.00	\$3,965.00	\$1.20	\$4,758.00
13	247-2366	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	12,509	CY	\$ 20.00	\$ 250,180.00	\$20.00	\$250,180.00	\$25.00	\$312,725.00	\$22.00	\$275,198.00
14	310-2005	PRIME COAT (MC-30 or AE-P)	3,837	GAL	\$ 3.00	\$ 11,511.00	\$3.00	\$11,511.00	\$3.75	\$14,388.75	\$3.05	\$11,702.85
15	341-2011	D-GR HMA(QCQA) TY-B PG 64-22	3,165	TON	\$ 55.00	\$ 174,075.00	\$48.88	\$154,705.20	\$57.50	\$181,987.50	\$50.00	\$158,250.00
16	341-2032	D-GR HMA(QCQA) TY-C SAC-B PG64-22	2,111	TON	\$ 60.00	\$ 126,660.00	\$54.90	\$115,893.90	\$60.00	\$126,660.00	\$56.00	\$118,216.00
17	432-2056	RIPRAP (STONE) (TY R) (DRY)	73.1	CY	\$ 90.00	\$ 6,579.00	\$75.00	\$5,482.50	\$67.00	\$4,897.70	\$74.00	\$5,409.40
18	432-2066	RIPRAP (CONC) (CL B)	81	CY	\$ 95.00	\$ 7,695.00	\$270.00	\$21,870.00	\$300.00	\$24,300.00	\$270.00	\$21,870.00
19	462-2001	CONC BOX CULV (3 FT X 2 FT)	145	LF	\$ 130.00	\$ 18,850.00	\$94.00	\$13,630.00	\$105.00	\$15,225.00	\$90.00	\$13,050.00
20	462-2004	CONC BOX CULV (4 FT X 3 FT)	144	LF	\$ 150.00	\$ 21,600.00	\$145.00	\$20,880.00	\$120.00	\$17,280.00	\$130.00	\$18,720.00
21	462-2009	CONC BOX CULV (5 FT X 5 FT)	135	LF	\$ 400.00	\$ 54,000.00	\$197.00	\$26,595.00	\$185.00	\$24,975.00	\$180.00	\$24,300.00
22	466-2220	WINGWALL (PW-N) (H=5 FT)	2	EA	\$ 5,500.00	\$ 11,000.00	\$7,000.00	\$14,000.00	\$9,300.00	\$18,600.00	\$7,000.00	\$14,000.00
23	466-2221	WINGWALL (PW-15) (H=5 FT)	1	EA	\$ 7,000.00	\$ 7,000.00	\$7,000.00	\$7,000.00	\$10,000.00	\$10,000.00	\$7,000.00	\$7,000.00
24	466-XXXX	WINGWALL (PW-15) (H=7 FT)	3	EA	\$ 8,000.00	\$ 24,000.00	\$11,800.00	\$35,400.00	\$16,000.00	\$48,000.00	\$11,000.00	\$33,000.00
25	496-2041	RMV STR (LARGE)	3	EA	\$ 13,500.00	\$ 40,500.00	\$5,200.00	\$15,600.00	\$1,850.00	\$5,550.00	\$2,000.00	\$6,000.00
26	500-2001	MOBILIZATION	1	LS	\$ 200,000.00	\$ 200,000.00	\$107,600.00	\$107,600.00	\$136,000.00	\$136,000.00	\$101,000.00	\$101,000.00
27	502-2001	BARRICADES, SIGNS AND TRAFFIC HANDLING	8	MO	\$ 2,000.00	\$ 16,000.00	\$600.00	\$4,800.00	\$835.00	\$6,680.00	\$250.00	\$2,000.00
28	506-2002	ROCK FILTER DAMS (INSTALL) (TY 2)	600	LF	\$ 20.00	\$ 12,000.00	\$18.00	\$10,800.00	\$13.00	\$7,800.00	\$11.85	\$7,110.00
29	506-2009	ROCK FILTER DAMS (REMOVE)	600	LF	\$ 5.00	\$ 3,000.00	\$9.00	\$5,400.00	\$2.00	\$1,200.00	\$2.00	\$1,200.00
30	506-2016	CONSTRUCTION EXITS (TY 1)	222.2	SY	\$ 10.00	\$ 2,222.00	\$8.00	\$1,777.60	\$6.00	\$1,333.20	\$6.00	\$1,333.20
31	506-2019	CONSTRUCTION EXITS (REMOVE)	222.2	SY	\$ 5.00	\$ 1,111.00	\$8.00	\$1,777.60	\$2.00	\$444.40	\$2.00	\$444.40
32	506-2024	BACKHOE WORK (EROSION & SEDM CONT)	80	HR	\$ 70.00	\$ 5,600.00	\$85.00	\$6,800.00	\$75.00	\$6,000.00	\$53.00	\$4,240.00
33	506-2034	TEMPORARY SEDIMENT CONTROL FENCE	8,685	LF	\$ 2.00	\$ 17,370.00	\$1.50	\$13,027.50	\$2.10	\$18,238.50	\$1.50	\$13,027.50
34	529-2004	CONC CURB AND GUTTER (TY II)	4,725	LF	\$ 21.00	\$ 99,225.00	\$7.00	\$33,075.00	\$7.00	\$33,075.00	\$8.50	\$40,162.50
35	552-2003	WIRE FENCE (TY C)	7,810	LF	\$ 24.00	\$ 187,440.00	\$2.35	\$18,353.50	\$2.50	\$19,525.00	\$2.40	\$18,744.00
36	552-2005	GATE (TY I)	5.0	EA	\$ 15.00	\$ 75.00	\$375.00	\$1,875.00	\$400.00	\$2,000.00	\$385.00	\$1,925.00
37	644-2001	SM RD SGN ASSM TY 10BWG (1) SA (P)	16	EA	\$ 330.00	\$ 5,280.00	\$316.00	\$5,056.00	\$340.00	\$5,440.00	\$320.00	\$5,120.00
38	644-2029	SM RD SGN ASSM TY S80 (1) SA (U-2EXT)	4	EA	\$ 400.00	\$ 1,600.00	\$582.00	\$2,328.00	\$630.00	\$2,520.00	\$1,000.00	\$4,000.00
39	644-2042	SM RD SGN ASSM TY S80 (2) SA (P)	1	EA	\$ 400.00	\$ 400.00	\$846.00	\$846.00	\$900.00	\$900.00	\$935.00	\$935.00
40	658-2234	INSTL OM ASSM (OM-2SR) TY-2 (BI-DIR)(FLX)	6	EA	\$ 50.00	\$ 300.00	\$39.50	\$237.00	\$65.00	\$390.00	\$56.00	\$336.00
41	666-2011	REFL PAV MRK TY I (W) 4" (SLD) (090MIL)	5,599	LF	\$ 0.25	\$ 1,399.75	\$0.45	\$2,519.55	\$0.50	\$2,799.50	\$0.50	\$2,799.50

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	Engineer's Estimate		Ranger Excavating		DNT Construction		Chasco Constructors	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
42	666-2035	REFL PAV MRK TY I (W) 8" (SLD) (090MIL)	613	LF	\$ 0.60	\$ 367.80	\$1.00	\$613.00	\$1.00	\$613.00	\$1.05	\$643.65
43	666-2047	REFL PAV MRK TY I (W) 24" (SLD) (090MIL)	73	LF	\$ 5.50	\$ 401.50	\$5.70	\$416.10	\$6.00	\$438.00	\$5.80	\$423.40
44	666-2053	REFL PAV MRK TY I (W) (ARROW) (090MIL)	6	EA	\$ 70.00	\$ 420.00	\$95.00	\$570.00	\$100.00	\$600.00	\$100.00	\$600.00
45	666-2095	REFL PAV MRK TY I (W) (WORD) (090MIL)	6	EA	\$ 100.00	\$ 600.00	\$170.00	\$1,020.00	\$180.00	\$1,080.00	\$175.00	\$1,050.00
46	666-2104	REFL PAV MRK TY I (Y) 4" (BRK) (090MIL)	700	LF	\$ 0.25	\$ 175.00	\$0.45	\$315.00	\$0.50	\$350.00	\$0.50	\$350.00
47	666-2110	REFL PAV MRK TY I (Y) 4" (SLD) (090MIL)	3,972	LF	\$ 3.50	\$ 13,902.00	\$0.45	\$1,787.40	\$0.50	\$1,986.00	\$0.50	\$1,986.00
48	666-2131	REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)	96	EA	\$ 0.15	\$ 14.40	\$5.70	\$547.20	\$6.00	\$576.00	\$6.00	\$576.00
49	672-2015	RAIS PAV MRK CL B (REFL) TY II-A-A	92	EA	\$ 2.50	\$ 230.00	\$5.00	\$460.00	\$5.25	\$483.00	\$6.00	\$552.00
50	672-2017	RAIS PAV MRK CL B (REFL) TY II-C-R	31	EA	\$ 0.50	\$ 15.50	\$5.00	\$155.00	\$5.25	\$162.75	\$6.50	\$201.50
51	COA SPEC 505S-B	ENCASEMENT PIPE 18" DIA., TYPE STEEL	120	LF	\$ 2.05	\$ 246.00	\$84.00	\$10,080.00	\$50.00	\$6,000.00	\$75.00	\$9,000.00
		TOTAL COST ADJUSTED FOR CORRECTNESS			\$ 2,001,977.21		\$1,182,680.88		\$1,372,976.65		\$1,388,783.00	
		ACTUAL BID PROPOSAL					\$1,182,680.88		\$1,372,976.65		\$1,388,783.00	
		ADJUSTMENT DIFFERENCE					\$0.00		\$0.00		\$0.00	
		Acknowledgment of Addenda										
		Addendum No. 1:					Yes		Yes		Yes	
		Addendum No. 2:					Yes		Yes		Yes	
		BID BOND & INSURANCE					Yes		Yes		Yes	
		Conflict of Interest Statement					Yes		Yes		Yes	
		Disclosure of Lobbing Activities					Yes		Yes		Yes	
		References (Minimum of Three)					Yes		Yes		Yes	

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	FT Woods		Cash Construction		RGM Constructors		Patin Construction	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
1	100-2002	PREPARING ROW	49.30	STA	\$850.00	\$41,905.00	\$1,500.00	\$73,950.00	\$1,500.00	\$73,950.00	\$2,000.00	\$98,600.00
2	103-2001	DISPOSAL OF WELL	1	EA	\$10,000.00	\$10,000.00	\$10,000.00	\$10,000.00	\$8,000.00	\$8,000.00	\$4,000.00	\$4,000.00
3	110-2001	EXCAVATION (ROADWAY)	24,131	CY	\$2.75	\$66,360.25	\$5.00	\$120,655.00	\$4.00	\$96,524.00	\$2.00	\$48,262.00
4	110-2002	EXCAVATION (CHANNEL)	16,167	CY	\$3.25	\$52,542.75	\$7.00	\$113,169.00	\$4.25	\$68,709.75	\$2.00	\$32,334.00
5	132-2006	EMBANK (FINAL) (DENS CONT) (TY C) (CL 3)	31,152	CY	\$4.00	\$124,608.00	\$2.15	\$66,976.80	\$3.25	\$101,244.00	\$3.50	\$109,032.00
6	160-2003	FURNISHING AND PLACING TOPSOIL (CL 2) (4")	96,936	SY	\$0.30	\$29,080.80	\$0.20	\$19,387.20	\$0.65	\$63,008.40	\$0.60	\$58,161.60
7	162-2002	BLOCK SOD (BERMUDA)	8,253	SY	\$3.05	\$25,171.65	\$3.00	\$24,759.00	\$3.15	\$25,996.95	\$2.30	\$18,981.90
8	164-2039	DRILL SEEDING (PERM) (URBAN) (CLAY)	88,683	SY	\$0.05	\$4,434.15	\$0.10	\$8,868.30	\$0.06	\$5,320.98	\$0.12	\$10,641.96
9	164-XXXX	BRDCST SEED (TEMP) (WARM or COOL)	48,468	SY	\$0.05	\$2,423.40	\$0.10	\$4,846.80	\$0.11	\$5,331.48	\$0.12	\$5,816.16
10	166-2002	FERTILIZER (13-13-13)	9.08	TON	\$610.00	\$5,538.80	\$700.00	\$6,356.00	\$625.00	\$5,675.00	\$880.00	\$7,990.40
11	169-2005	SOIL RETENTION BLANKETS (CL 2) (TY E)	6,467	SY	\$2.10	\$13,580.70	\$1.50	\$9,700.50	\$1.25	\$8,083.75	\$5.54	\$35,827.18
12	169-2002	SOIL RETENTION BLANKETS (CL 2) (TY F)	3,965	SY	\$2.10	\$8,326.50	\$1.50	\$5,947.50	\$1.25	\$4,956.25	\$5.54	\$21,966.10
13	247-2366	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	12,509	CY	\$22.00	\$275,198.00	\$27.00	\$337,743.00	\$22.00	\$275,198.00	\$24.00	\$300,216.00
14	310-2005	PRIME COAT (MC-30 or AE-P)	3,837	GAL	\$3.15	\$12,086.55	\$3.50	\$13,429.50	\$3.25	\$12,470.25	\$3.70	\$14,196.90
15	341-2011	D-GR HMA(QCQA) TY-B PG 64-22	3,165	TON	\$52.00	\$164,580.00	\$55.00	\$174,075.00	\$52.00	\$164,580.00	\$60.20	\$190,533.00
16	341-2032	D-GR HMA(QCQA) TY-C SAC-B PG64-22	2,111	TON	\$58.00	\$122,438.00	\$57.00	\$120,327.00	\$58.00	\$122,438.00	\$67.50	\$142,492.50
17	432-2056	RIPRAP (STONE) (TY R) (DRY)	73.1	CY	\$77.00	\$5,628.70	\$60.00	\$4,386.00	\$95.00	\$6,944.50	\$82.00	\$5,994.20
18	432-2066	RIPRAP (CONC) (CL B)	81	CY	\$205.00	\$16,605.00	\$300.00	\$24,300.00	\$320.00	\$25,920.00	\$200.00	\$16,200.00
19	462-2001	CONC BOX CULV (3 FT X 2 FT)	145	LF	\$120.00	\$17,400.00	\$130.00	\$18,850.00	\$110.00	\$15,950.00	\$220.00	\$31,900.00
20	462-2004	CONC BOX CULV (4 FT X 3 FT)	144	LF	\$135.00	\$19,440.00	\$150.00	\$21,600.00	\$145.00	\$20,880.00	\$240.00	\$34,560.00
21	462-2009	CONC BOX CULV (5 FT X 5 FT)	135	LF	\$195.00	\$26,325.00	\$220.00	\$29,700.00	\$210.00	\$28,350.00	\$260.00	\$35,100.00
22	466-2220	WINGWALL (PW-N) (H=5 FT)	2	EA	\$7,450.00	\$14,900.00	\$9,000.00	\$18,000.00	\$8,200.00	\$16,400.00	\$12,000.00	\$24,000.00
23	466-2221	WINGWALL (PW-15) (H=5 FT)	1	EA	\$10,650.00	\$10,650.00	\$10,000.00	\$10,000.00	\$10,500.00	\$10,500.00	\$12,000.00	\$12,000.00
24	466-XXXX	WINGWALL (PW-15) (H=7 FT)	3	EA	\$11,700.00	\$35,100.00	\$15,000.00	\$45,000.00	\$13,500.00	\$40,500.00	\$15,000.00	\$45,000.00
25	496-2041	RMV STR (LARGE)	3	EA	\$4,825.00	\$14,475.00	\$5,000.00	\$15,000.00	\$7,800.00	\$23,400.00	\$1,000.00	\$3,000.00
26	500-2001	MOBILIZATION	1	LS	\$165,010.80	\$165,010.80	\$30,000.90	\$30,000.90	\$142,000.00	\$142,000.00	\$128,000.00	\$128,000.00
27	502-2001	BARRICADES, SIGNS AND TRAFFIC HANDLING	8	MO	\$725.00	\$5,800.00	\$750.00	\$6,000.00	\$550.00	\$4,400.00	\$2,500.00	\$20,000.00
28	506-2002	ROCK FILTER DAMS (INSTALL) (TY 2)	600	LF	\$19.00	\$11,400.00	\$21.00	\$12,600.00	\$20.00	\$12,000.00	\$19.50	\$11,700.00
29	506-2009	ROCK FILTER DAMS (REMOVE)	600	LF	\$8.50	\$5,100.00	\$2.00	\$1,200.00	\$8.50	\$5,100.00	\$6.60	\$3,960.00
30	506-2016	CONSTRUCTION EXITS (TY 1)	222.2	SY	\$11.50	\$2,555.30	\$8.00	\$1,777.60	\$6.75	\$1,499.85	\$9.00	\$1,999.80
31	506-2019	CONSTRUCTION EXITS (REMOVE)	222.2	SY	\$4.75	\$1,055.45	\$2.00	\$444.40	\$5.00	\$1,111.00	\$2.00	\$444.40
32	506-2024	BACKHOE WORK (EROSION & SEDM CONT)	80	HR	\$50.00	\$4,000.00	\$40.00	\$3,200.00	\$48.00	\$3,840.00	\$100.00	\$8,000.00
33	506-2034	TEMPORARY SEDIMENT CONTROL FENCE	8,685	LF	\$2.15	\$18,672.75	\$2.50	\$21,712.50	\$1.45	\$12,593.25	\$2.00	\$17,370.00
34	529-2004	CONC CURB AND GUTTER (TY II)	4,725	LF	\$6.25	\$29,531.25	\$7.50	\$35,437.50	\$7.00	\$33,075.00	\$10.50	\$49,612.50
35	552-2003	WIRE FENCE (TY C)	7,810	LF	\$2.50	\$19,525.00	\$3.00	\$23,430.00	\$3.00	\$23,430.00	\$2.90	\$22,649.00
36	552-2005	GATE (TY I)	5.0	EA	\$395.00	\$1,975.00	\$450.00	\$2,250.00	\$275.00	\$1,375.00	\$500.00	\$2,500.00
37	644-2001	SM RD SGN ASSM TY 10BWG (1) SA (P)	16	EA	\$335.00	\$5,360.00	\$350.00	\$5,600.00	\$325.00	\$5,200.00	\$377.00	\$6,032.00
38	644-2029	SM RD SGN ASSM TY S80 (1) SA (U-2EXT)	4	EA	\$615.00	\$2,460.00	\$1,100.00	\$4,400.00	\$1,050.00	\$4,200.00	\$1,212.00	\$4,848.00
39	644-2042	SM RD SGN ASSM TY S80 (2) SA (P)	1	EA	\$900.00	\$900.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00	\$1,220.00	\$1,220.00
40	658-2234	INSTL OM ASSM (OM-2SR) TY-2 (BI-DIR)(FLX)	6	EA	\$42.00	\$252.00	\$60.00	\$360.00	\$60.00	\$360.00	\$67.00	\$402.00
41	666-2011	REFL PAV MRK TY I (W) 4" (SLD) (090MIL)	5,599	LF	\$0.50	\$2,799.50	\$0.50	\$2,799.50	\$0.52	\$2,911.48	\$0.60	\$3,359.40

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	FT Woods		Cash Construction		RGM Constructors		Patin Construction	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
42	666-2035	REFL PAV MRK TY I (W) 8" (SLD) (090MIL)	613	LF	\$0.90	\$551.70	\$1.00	\$613.00	\$0.90	\$551.70	\$1.05	\$643.65
43	666-2047	REFL PAV MRK TY I (W) 24" (SLD) (090MIL)	73	LF	\$11.00	\$803.00	\$6.00	\$438.00	\$11.00	\$803.00	\$12.80	\$934.40
44	666-2053	REFL PAV MRK TY I (W) (ARROW) (090MIL)	6	EA	\$90.00	\$540.00	\$100.00	\$600.00	\$95.00	\$570.00	\$105.00	\$630.00
45	666-2095	REFL PAV MRK TY I (W) (WORD) (090MIL)	6	EA	\$122.00	\$732.00	\$170.00	\$1,020.00	\$124.00	\$744.00	\$142.00	\$852.00
46	666-2104	REFL PAV MRK TY I (Y) 4" (BRK) (090MIL)	700	LF	\$0.55	\$385.00	\$0.50	\$350.00	\$0.58	\$406.00	\$0.70	\$490.00
47	666-2110	REFL PAV MRK TY I (Y) 4" (SLD) (090MIL)	3,972	LF	\$0.50	\$1,986.00	\$0.50	\$1,986.00	\$0.53	\$2,105.16	\$0.60	\$2,383.20
48	666-2131	REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)	96	EA	\$10.00	\$960.00	\$6.00	\$576.00	\$10.50	\$1,008.00	\$12.00	\$1,152.00
49	672-2015	RAIS PAV MRK CL B (REFL) TY II-A-A	92	EA	\$9.00	\$828.00	\$5.00	\$460.00	\$9.00	\$828.00	\$12.00	\$1,104.00
50	672-2017	RAIS PAV MRK CL B (REFL) TY II-C-R	31	EA	\$9.00	\$279.00	\$5.00	\$155.00	\$9.50	\$294.50	\$12.00	\$372.00
51	COA SPEC 505S-B	ENCASEMENT PIPE 18" DIA., TYPE STEEL	120	LF	\$67.00	\$8,040.00	\$110.00	\$13,200.00	\$90.00	\$10,800.00	\$80.00	\$9,600.00
TOTAL COST ADJUSTED FOR CORRECTNESS					\$1,410,300.00		\$1,468,637.00		\$1,502,537.25		\$1,607,064.25	
ACTUAL BID PROPOSAL					\$1,410,300.00		\$1,468,637.00		\$1,502,537.25		\$1,607,064.25	
ADJUSTMENT DIFFERENCE					\$0.00		\$0.00		\$0.00		\$0.00	
Acknowledgment of Addenda												
Addendum No. 1:					Yes		Yes		Yes		Yes	
Addendum No. 2:					Yes		Yes		Yes		Yes	
BID BOND & INSURANCE					Yes		Yes		Yes		Yes	
Conflict of Interest Statement					Yes		Yes		Yes		Yes	
Disclosure of Lobbing Activities					Yes		Yes		Yes		Yes	
References (Minimum of Three)					Yes		Yes				Yes	

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	Yantis Company		Smith Contracting		Hunter Industries		Joe Bland Const	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
1	100-2002	PREPARING ROW	49.30	STA	\$800.00	\$39,440.00	\$1,000.00	\$49,300.00	\$1,559.26	\$76,871.52	\$2,000.00	\$98,600.00
2	103-2001	DISPOSAL OF WELL	1	EA	\$5,000.00	\$5,000.00	\$5,000.00	\$5,000.00	\$2,800.00	\$2,800.00	\$2,500.00	\$2,500.00
3	110-2001	EXCAVATION (ROADWAY)	24,131	CY	\$6.00	\$144,786.00	\$8.00	\$193,048.00	\$9.72	\$234,553.32	\$9.00	\$217,179.00
4	110-2002	EXCAVATION (CHANNEL)	16,167	CY	\$6.00	\$97,002.00	\$8.00	\$129,336.00	\$9.72	\$157,143.24	\$10.00	\$161,670.00
5	132-2006	EMBANK (FINAL) (DENS CONT) (TY C) (CL 3)	31,152	CY	\$1.60	\$49,843.20	\$4.00	\$124,608.00	\$5.09	\$158,563.68	\$4.90	\$152,644.80
6	160-2003	FURNISHING AND PLACING TOPSOIL (CL 2) (4")	96,936	SY	\$2.00	\$193,872.00	\$1.20	\$116,323.20	\$1.38	\$133,771.68	\$1.00	\$96,936.00
7	162-2002	BLOCK SOD (BERMUDA)	8,253	SY	\$5.00	\$41,265.00	\$5.00	\$41,265.00	\$3.50	\$28,885.50	\$3.50	\$28,885.50
8	164-2039	DRILL SEEDING (PERM) (URBAN) (CLAY)	88,683	SY	\$0.60	\$53,209.80	\$0.13	\$11,528.79	\$0.12	\$10,641.96	\$0.12	\$10,641.96
9	164-XXXX	BRDCST SEED (TEMP) (WARM or COOL)	48,468	SY	\$0.35	\$16,963.80	\$0.15	\$7,270.20	\$0.10	\$4,846.80	\$0.10	\$4,846.80
10	166-2002	FERTILIZER (13-13-13)	9.08	TON	\$900.00	\$8,172.00	\$750.00	\$6,810.00	\$600.00	\$5,448.00	\$600.00	\$5,448.00
11	169-2005	SOIL RETENTION BLANKETS (CL 2) (TY E)	6,467	SY	\$1.40	\$9,053.80	\$3.10	\$20,047.70	\$1.15	\$7,437.05	\$1.15	\$7,437.05
12	169-2002	SOIL RETENTION BLANKETS (CL 2) (TY F)	3,965	SY	\$1.40	\$5,551.00	\$3.10	\$12,291.50	\$1.15	\$4,559.75	\$1.15	\$4,559.75
13	247-2366	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	12,509	CY	\$24.50	\$306,470.50	\$30.00	\$375,270.00	\$24.13	\$301,842.17	\$25.00	\$312,725.00
14	310-2005	PRIME COAT (MC-30 or AE-P)	3,837	GAL	\$3.60	\$13,813.20	4	\$15,348.00	\$3.72	\$14,273.64	3 1/50	\$11,587.74
15	341-2011	D-GR HMA(QCQA) TY-B PG 64-22	3,165	TON	\$59.00	\$186,735.00	\$55.00	\$174,075.00	\$51.50	\$162,997.50	\$49.19	\$155,686.35
16	341-2032	D-GR HMA(QCQA) TY-C SAC-B PG64-22	2,111	TON	\$69.00	\$145,659.00	\$61.00	\$128,771.00	\$54.83	\$115,746.13	\$55.25	\$116,632.75
17	432-2056	RIPRAP (STONE) (TY R) (DRY)	73.1	CY	\$75.00	\$5,482.50	\$70.00	\$5,117.00	\$74.54	\$5,448.87	\$100.98	\$7,381.64
18	432-2066	RIPRAP (CONC) (CL B)	81	CY	\$300.00	\$24,300.00	\$350.00	\$28,350.00	\$320.89	\$25,992.09	\$280.00	\$22,680.00
19	462-2001	CONC BOX CULV (3 FT X 2 FT)	145	LF	\$120.00	\$17,400.00	\$150.00	\$21,750.00	\$144.82	\$20,998.90	\$150.00	\$21,750.00
20	462-2004	CONC BOX CULV (4 FT X 3 FT)	144	LF	\$160.00	\$23,040.00	\$170.00	\$24,480.00	\$205.04	\$29,525.76	\$185.00	\$26,640.00
21	462-2009	CONC BOX CULV (5 FT X 5 FT)	135	LF	\$250.00	\$33,750.00	\$210.00	\$28,350.00	\$267.25	\$36,078.75	\$300.00	\$40,500.00
22	466-2220	WINGWALL (PW-N) (H=5 FT)	2	EA	\$6,000.00	\$12,000.00	\$5,000.00	\$10,000.00	\$8,904.93	\$17,809.86	\$6,500.00	\$13,000.00
23	466-2221	WINGWALL (PW-15) (H=5 FT)	1	EA	\$6,000.00	\$6,000.00	\$5,000.00	\$5,000.00	\$9,460.75	\$9,460.75	\$6,000.00	\$6,000.00
24	466-XXXX	WINGWALL (PW-15) (H=7 FT)	3	EA	\$11,000.00	\$33,000.00	\$7,000.00	\$21,000.00	\$17,029.99	\$51,089.97	\$13,000.00	\$39,000.00
25	496-2041	RMV STR (LARGE)	3	EA	\$2,500.00	\$7,500.00	\$2,000.00	\$6,000.00	\$1,005.66	\$3,016.98	\$4,500.00	\$13,500.00
26	500-2001	MOBILIZATION	1	LS	\$107,000.00	\$107,000.00	\$55,000.00	\$55,000.00	\$130,762.39	\$130,762.39	\$190,000.00	\$190,000.00
27	502-2001	BARRICADES, SIGNS AND TRAFFIC HANDLING	8	MO	\$760.00	\$6,080.00	\$1,000.00	\$8,000.00	\$1,243.26	\$9,946.08	\$2,600.00	\$20,800.00
28	506-2002	ROCK FILTER DAMS (INSTALL) (TY 2)	600	LF	\$14.00	\$8,400.00	\$30.00	\$18,000.00	\$14.50	\$8,700.00	\$14.50	\$8,700.00
29	506-2009	ROCK FILTER DAMS (REMOVE)	600	LF	\$2.00	\$1,200.00	\$10.00	\$6,000.00	\$4.25	\$2,550.00	\$4.25	\$2,550.00
30	506-2016	CONSTRUCTION EXITS (TY 1)	222.2	SY	\$7.00	\$1,555.40	\$24.00	\$5,332.80	\$6.00	\$1,333.20	\$6.00	\$1,333.20
31	506-2019	CONSTRUCTION EXITS (REMOVE)	222.2	SY	\$2.00	\$444.40	\$10.00	\$2,222.00	\$4.25	\$944.35	\$4.25	\$944.35
32	506-2024	BACKHOE WORK (EROSION & SEDM CONT)	80	HR	\$70.00	\$5,600.00	\$65.00	\$5,200.00	\$68.40	\$5,472.00	\$60.00	\$4,800.00
33	506-2034	TEMPORARY SEDIMENT CONTROL FENCE	8,685	LF	\$1.50	\$13,027.50	\$1.70	\$14,764.50	\$1.50	\$13,027.50	\$1.50	\$13,027.50
34	529-2004	CONC CURB AND GUTTER (TY II)	4,725	LF	\$8.50	\$40,162.50	\$14.00	\$66,150.00	\$8.13	\$38,414.25	\$9.72	\$45,927.00
35	552-2003	WIRE FENCE (TY C)	7,810	LF	\$2.70	\$21,087.00	\$3.40	\$26,554.00	\$2.35	\$18,353.50	\$2.35	\$18,353.50
36	552-2005	GATE (TY I)	5.0	EA	\$450.00	\$2,250.00	\$550.00	\$2,750.00	\$375.00	\$1,875.00	\$375.00	\$1,875.00
37	644-2001	SM RD SGN ASSM TY 10BWG (1) SA (P)	16	EA	\$350.00	\$5,600.00	\$440.00	\$7,040.00	\$315.90	\$5,054.40	\$315.00	\$5,040.00
38	644-2029	SM RD SGN ASSM TY S80 (1) SA (U-2EXT)	4	EA	\$700.00	\$2,800.00	\$1,410.00	\$5,640.00	\$581.05	\$2,324.20	\$581.05	\$2,324.20
39	644-2042	SM RD SGN ASSM TY S80 (2) SA (P)	1	EA	\$1,000.00	\$1,000.00	\$1,300.00	\$1,300.00	\$845.81	\$845.81	\$845.81	\$845.81
40	658-2234	INSTL OM ASSM (OM-2SR) TY-2 (BI-DIR)(FLX)	6	EA	\$45.00	\$270.00	\$80.00	\$480.00	\$39.50	\$237.00	\$39.50	\$237.00
41	666-2011	REFL PAV MRK TY I (W) 4" (SLD) (090MIL)	5,599	LF	\$0.50	\$2,799.50	\$0.70	\$3,919.30	\$0.48	\$2,687.52	\$0.48	\$2,687.52

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	Yantis Company		Smith Contracting		Hunter Industries		Joe Bland Const	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
42	666-2035	REFL PAV MRK TY I (W) 8" (SLD) (090MIL)	613	LF	\$1.00	\$613.00	\$1.22	\$747.86	\$0.85	\$521.05	\$0.85	\$521.05
43	666-2047	REFL PAV MRK TY I (W) 24" (SLD) (090MIL)	73	LF	\$7.00	\$511.00	\$15.00	\$1,095.00	\$10.40	\$759.20	\$10.40	\$759.20
44	666-2053	REFL PAV MRK TY I (W) (ARROW) (090MIL)	6	EA	\$110.00	\$660.00	\$122.00	\$732.00	\$85.00	\$510.00	\$85.00	\$510.00
45	666-2095	REFL PAV MRK TY I (W) (WORD) (090MIL)	6	EA	\$200.00	\$1,200.00	\$165.00	\$990.00	\$115.00	\$690.00	\$115.00	\$690.00
46	666-2104	REFL PAV MRK TY I (Y) 4" (BRK) (090MIL)	700	LF	\$0.50	\$350.00	\$0.75	\$525.00	\$0.53	\$371.00	\$0.53	\$371.00
47	666-2110	REFL PAV MRK TY I (Y) 4" (SLD) (090MIL)	3,972	LF	\$0.50	\$1,986.00	\$0.70	\$2,780.40	\$0.48	\$1,906.56	\$0.48	\$1,906.56
48	666-2131	REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)	96	EA	\$7.00	\$672.00	\$13.75	\$1,320.00	\$9.60	\$921.60	\$9.60	\$921.60
49	672-2015	RAIS PAV MRK CL B (REFL) TY II-A-A	92	EA	\$6.00	\$552.00	\$12.30	\$1,131.60	\$8.60	\$791.20	\$8.60	\$791.20
50	672-2017	RAIS PAV MRK CL B (REFL) TY II-C-R	31	EA	\$6.00	\$186.00	\$12.30	\$381.30	\$8.60	\$266.60	\$8.60	\$266.60
51	COA SPEC 505S-B	ENCASEMENT PIPE 18" DIA., TYPE STEEL	120	LF	\$75.00	\$9,000.00	\$90.00	\$10,800.00	\$90.00	\$10,800.00	\$160.00	\$19,200.00
TOTAL COST ADJUSTED FOR CORRECTNESS					\$1,714,315.10		\$1,809,195.15		\$1,879,868.28		\$1,923,814.63	
ACTUAL BID PROPOSAL					\$1,714,315.10		\$1,809,195.15		\$1,879,868.28		\$1,923,814.63	
ADJUSTMENT DIFFERENCE					\$0.00		\$0.00		\$0.00		\$0.00	
Acknowledgment of Addenda												
Addendum No. 1:					Yes		Yes		Yes		Yes	
Addendum No. 2:					Yes		Yes		Yes		Yes	
BID BOND & INSURANCE					Yes		Yes		Yes		Yes	
Conflict of Interest Statement					Yes		Yes		Yes		Yes	
Disclosure of Lobbing Activities					Yes		Yes		Yes		Yes	
References (Minimum of Three)					Yes		Yes		Yes		Yes	

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	Austin Engineering		Target Construction	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
1	100-2002	PREPARING ROW	49.30	STA	\$3,500.00	\$172,550.00	\$4,190.00	\$206,567.00
2	103-2001	DISPOSAL OF WELL	1	EA	\$4,500.00	\$4,500.00	\$5,300.00	\$5,300.00
3	110-2001	EXCAVATION (ROADWAY)	24,131	CY	\$12.00	\$289,572.00	\$5.60	\$135,133.60
4	110-2002	EXCAVATION (CHANNEL)	16,167	CY	\$17.00	\$274,839.00	\$7.50	\$121,252.50
5	132-2006	EMBANK (FINAL) (DENS CONT) (TY C) (CL 3)	31,152	CY	\$6.00	\$186,912.00	\$9.00	\$280,368.00
6	160-2003	FURNISHING AND PLACING TOPSOIL (CL 2) (4")	96,936	SY	\$1.20	\$116,323.20	\$2.25	\$218,106.00
7	162-2002	BLOCK SOD (BERMUDA)	8,253	SY	\$6.00	\$49,518.00	\$4.50	\$37,138.50
8	164-2039	DRILL SEEDING (PERM) (URBAN) (CLAY)	88,683	SY	\$0.25	\$22,170.75	\$0.15	\$13,302.45
9	164-XXXX	BRDCST SEED (TEMP) (WARM or COOL)	48,468	SY	\$0.25	\$12,117.00	\$0.15	\$7,270.20
10	166-2002	FERTILIZER (13-13-13)	9.08	TON	\$500.00	\$4,540.00	\$850.00	\$7,718.00
11	169-2005	SOIL RETENTION BLANKETS (CL 2) (TY E)	6,467	SY	\$5.00	\$32,335.00	\$1.50	\$9,700.50
12	169-2002	SOIL RETENTION BLANKETS (CL 2) (TY F)	3,965	SY	\$5.00	\$19,825.00	\$1.80	\$7,137.00
13	247-2366	FL BS (CMP IN PLC)(TY A GR 5)(FNAL POS)	12,509	CY	\$31.60	\$395,284.40	\$22.00	\$275,198.00
14	310-2005	PRIME COAT (MC-30 or AE-P)	3,837	GAL	3 1/3	\$12,777.21	\$4.00	\$15,348.00
15	341-2011	D-GR HMA(QCQA) TY-B PG 64-22	3,165	TON	\$54.32	\$171,922.80	\$66.00	\$208,890.00
16	341-2032	D-GR HMA(QCQA) TY-C SAC-B PG64-22	2,111	TON	\$61.00	\$128,771.00	\$68.00	\$143,548.00
17	432-2056	RIPRAP (STONE) (TY R) (DRY)	73.1	CY	\$110.00	\$8,041.00	\$115.00	\$8,406.50
18	432-2066	RIPRAP (CONC) (CL B)	81	CY	\$312.00	\$25,272.00	\$315.00	\$25,515.00
19	462-2001	CONC BOX CULV (3 FT X 2 FT)	145	LF	\$135.00	\$19,575.00	\$190.00	\$27,550.00
20	462-2004	CONC BOX CULV (4 FT X 3 FT)	144	LF	\$185.00	\$26,640.00	\$220.00	\$31,680.00
21	462-2009	CONC BOX CULV (5 FT X 5 FT)	135	LF	\$260.00	\$35,100.00	\$325.00	\$43,875.00
22	466-2220	WINGWALL (PW-N) (H=5 FT)	2	EA	\$9,200.00	\$18,400.00	\$5,000.00	\$10,000.00
23	466-2221	WINGWALL (PW-15) (H=5 FT)	1	EA	\$9,900.00	\$9,900.00	\$4,500.00	\$4,500.00
24	466-XXXX	WINGWALL (PW-15) (H=7 FT)	3	EA	\$16,400.00	\$49,200.00	\$3,200.00	\$9,600.00
25	496-2041	RMV STR (LARGE)	3	EA	\$4,000.00	\$12,000.00	\$3,300.00	\$9,900.00
26	500-2001	MOBILIZATION	1	LS	\$80,000.00	\$80,000.00	\$255,000.00	\$255,000.00
27	502-2001	BARRICADES, SIGNS AND TRAFFIC HANDLING	8	MO	\$1,000.00	\$8,000.00	\$1,060.00	\$8,480.00
28	506-2002	ROCK FILTER DAMS (INSTALL) (TY 2)	600	LF	\$25.00	\$15,000.00	\$26.00	\$15,600.00
29	506-2009	ROCK FILTER DAMS (REMOVE)	600	LF	\$1.00	\$600.00	\$14.10	\$8,460.00
30	506-2016	CONSTRUCTION EXITS (TY 1)	222.2	SY	\$8.00	\$1,777.60	\$105.00	\$23,331.00
31	506-2019	CONSTRUCTION EXITS (REMOVE)	222.2	SY	\$3.00	\$666.60	\$15.00	\$3,333.00
32	506-2024	BACKHOE WORK (EROSION & SEDM CONT)	80	HR	\$85.00	\$6,800.00	\$75.00	\$6,000.00
33	506-2034	TEMPORARY SEDIMENT CONTROL FENCE	8,685	LF	\$2.00	\$17,370.00	\$2.00	\$17,370.00
34	529-2004	CONC CURB AND GUTTER (TY II)	4,725	LF	\$8.80	\$41,580.00	\$18.00	\$85,050.00
35	552-2003	WIRE FENCE (TY C)	7,810	LF	\$6.25	\$48,812.50	\$6.50	\$50,765.00
36	552-2005	GATE (TY I)	5.0	EA	\$500.00	\$2,500.00	\$750.00	\$3,750.00
37	644-2001	SM RD SGN ASSM TY 10BWG (1) SA (P)	16	EA	\$335.00	\$5,360.00	\$350.00	\$5,600.00
38	644-2029	SM RD SGN ASSM TY S80 (1) SA (U-2EXT)	4	EA	\$1,100.00	\$4,400.00	\$1,100.00	\$4,400.00
39	644-2042	SM RD SGN ASSM TY S80 (2) SA (P)	1	EA	\$1,000.00	\$1,000.00	\$1,000.00	\$1,000.00
40	658-2234	INSTL OM ASSM (OM-2SR) TY-2 (BI-DIR)(FLX)	6	EA	\$63.00	\$378.00	\$75.00	\$450.00
41	666-2011	REFL PAV MRK TY I (W) 4" (SLD) (090MIL)	5,599	LF	\$0.55	\$3,079.45	\$0.50	\$2,799.50

BID ITEM	TECH SPEC	DESCRIPTION	BID QUANTITY	UNIT MEASURE	Austin Engineering		Target Construction	
					UNIT COST	AMOUNT BID	UNIT COST	AMOUNT BID
42	666-2035	REFL PAV MRK TY I (W) 8" (SLD) (090MIL)	613	LF	\$0.95	\$582.35	\$1.00	\$613.00
43	666-2047	REFL PAV MRK TY I (W) 24" (SLD) (090MIL)	73	LF	\$11.25	\$821.25	\$12.00	\$876.00
44	666-2053	REFL PAV MRK TY I (W) (ARROW) (090MIL)	6	EA	\$100.00	\$600.00	\$100.00	\$600.00
45	666-2095	REFL PAV MRK TY I (W) (WORD) (090MIL)	6	EA	\$135.00	\$810.00	\$125.00	\$750.00
46	666-2104	REFL PAV MRK TY I (Y) 4" (BRK) (090MIL)	700	LF	\$0.61	\$427.00	\$0.75	\$525.00
47	666-2110	REFL PAV MRK TY I (Y) 4" (SLD) (090MIL)	3,972	LF	\$0.60	\$2,383.20	\$0.50	\$1,986.00
48	666-2131	REFL PAV MRK TY I (Y) 24" (SLD) (090MIL)	96	EA	\$10.25	\$984.00	\$11.00	\$1,056.00
49	672-2015	RAIS PAV MRK CL B (REFL) TY II-A-A	92	EA	\$9.10	\$837.20	\$11.00	\$1,012.00
50	672-2017	RAIS PAV MRK CL B (REFL) TY II-C-R	31	EA	\$9.10	\$282.10	\$11.00	\$341.00
51	COA SPEC 505S-B	ENCASEMENT PIPE 18" DIA., TYPE STEEL	120	LF	\$225.00	\$27,000.00	\$155.00	\$18,600.00
		TOTAL COST ADJUSTED FOR CORRECTNESS			\$2,370,136.61		\$2,380,751.75	
		ACTUAL BID PROPOSAL			\$2,370,136.61		\$2,306,102.65	
		ADJUSTMENT DIFFERENCE			\$0.00		\$74,649.10	
		Acknowledgment of Addenda						
		Addendum No. 1:			Yes		Yes	
		Addendum No. 2:			Yes		Yes	
		BID BOND & INSURANCE			Yes			
		Conflict of Interest Statement			Yes		Yes	
		Disclosure of Lobbing Activities			Yes		Yes	
		References (Minimum of Three)			Yes		Yes	

SIX HD-5 PROPANE STATIONS BID

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Patrick Strittmatter, Purchasing
Submitted For: Jonathan Harris
Department: Purchasing
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider awarding bids received for Bid # 11WC901, CONSTRUCTION AND INSTALLATION OF SIX HD-5 PROPANE STATIONS FOR WILLIAMSON COUNTY FACILITIES, to the lowest and best bidder- Ferrellgas Operating, L.P.

Background

Fiscal Impact

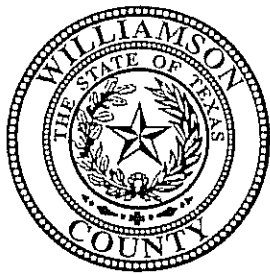
From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Ferrellgas Agreement](#)

Form Routing/Status

Form Started By: Patrick Strittmatter Started On: 01/18/2011 10:59 AM
Final Approval Date: 01/24/2011



AGREEMENT BETWEEN OWNER AND CONTRACTOR

This Agreement is made as of _____, 20____ (the "Effective Date"),
by and between

The **Owner:** Williamson County
710 Main Street, Ste. 101
Georgetown, Texas 78626

and **Contractor** Ferrellgas Operating, L.P.
4803 US Highway 183
Austin, Texas 78744

for the **Project:** Construction and Installation of Six HD-5 Propane Stations for
Williamson County Facilities

AGREEMENT, this Agreement between Owner and Contractor (hereinafter called "Agreement") is entered into effective as of the date indicated on the immediately preceding page of this document and all attachments (the "Effective Date"), by and between Williamson County a political subdivision of the State of Texas (hereinafter called the "Owner") and Ferrellgas Operating, L.P. (hereinafter called "Contractor").

WHEREAS, the Owner desires to retain a Contractor for the Construction and Installation of Six HD-5 Propane Stations for Williamson County Facilities in Williamson County, Texas (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 Owner's requirements and the terms of the Contract Documents.

ARTICLE 2 CONTRACT DOCUMENTS

2.1 The Contract Documents consist of:

- a. This Agreement and all exhibits and attachments listed, contained or referenced in this Agreement;
- b. All Addenda issued prior to the Effective Date of this Agreement;
- c. The "Bid Documents" as defined by the "Invitation for Bidders" in the original bid documents;
- d. All Change Orders issued after the Effective Date of this Agreement;
- e. The Drawings, Specifications, details and other documents developed by Owner's Architect/Engineer to describe the Project and accepted by Owner; and
- f. The Drawings and Specifications developed or prepared by Owners other consultants, if any, and accepted by the Owner.

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.

2.3 The term "Contractor" shall be interchangeable with the terms "Proposer," "Bidder" and "General Contractor" or other similar terms as appropriate in the Contract Documents.

ARTICLE 3 DEFINITIONS

The terms, words and phrases used in the Contract Documents shall have meanings as follows.

3.1 **"Construction Documents"** means, collectively, the Drawings, Specifications, details, accepted and approved Change Orders and other documents prepared by the Owner's Architect/Engineer, its consultants and by the Owner's other consultants that describe the scope and quality of the Project and the materials, supplies, equipment, systems and other elements that are required for construction of the Project that are accepted by the Owner.

3.2 **"Contract Sum"** means the total amount of all compensation payable to the Contractor for the Project and shall not exceed the Total Base Bid proposed by the Contractor and accepted by the Owner, subject to adjustment as approved by Owner for Additional Services or Change Orders. Any costs that exceed the Contract Sum shall be borne solely by Contractor without reimbursement by Owner.

3.3 **"Day"** means a calendar day, unless otherwise specifically stipulated.

3.4 **"Final Completion"** means the stage in the progress of the Work when, in the Owner's opinion, the entire Work has been completed, the Contractor's obligations under the Contract Documents have been fulfilled, and the Owner is processing or has made final payment to the Contractor, as evidenced by a Certificate of Acceptance approved by the Owner. The date of Final Completion is a crucial element of the Project. Therefore, the date of Substantial Completion, as defined herein below, is not subject to change unless due to "force majeure" as defined herein and in any associated Contract Documents or unless agreed to in advance in writing by the parties.

3.5 **"Notice to Proceed"** refers to the written document issued by the Owner following acceptance of the proposal and execution of this Agreement which indicates the date on which the Work is to begin.

3.6 **"Owner"** means Williamson County and includes its designated Owner's Designated Representative.

3.7 **"Owners Designated Representative or ODR"** means the individual described in Article 7.3 herein below.

3.8 **"Owner's Specifications"** means the construction and contract administration requirements and standards as interpreted by Owner.

3.9 "Architect/Engineer" means the professional architect employed by the Owner as architect of record for the Project along with their consultants.

3.10 "Standards and Standard Specifications" means the construction and design requirements and the highest standards of Contractor's profession or business and in compliance with all applicable national, federal, state, municipal, laws, regulations, codes, ordinances, orders and with those of any other body having jurisdiction

3.11 "Subcontractor" means a person or entity that has an agreement with the Contractor to perform any portion of the Work. The term Subcontractor does not include the Owner's Architect/Engineer or any person or entity hired directly by the Owner.

3.12 "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.

3.13 "Work" means provision of all services, labor, materials, supplies, and equipment which are required or reasonably inferable to complete the Project in strict accordance with the requirements of the Contract Documents (as such may be modified or amended). The term "reasonably inferable" takes into consideration the understanding of the parties that some details necessary for completion of the Work may not be shown on the Drawings or included in the Specifications, but they are a requirement of the Work if they are a usual and customary component of the Work or otherwise necessary for complete installation and operation of the Work. The Contractor shall not be entitled to an increase in the Contract Sum due to the absence of any detail or specification the Contractor may require or for any construction which may be found necessary as the Work progresses in order to complete the construction of the Project. If an item or system is either shown or specified, all material and equipment required for the proper installation of such item or system shall be provided whether or not detailed or specified, omitting only such parts as are specifically excepted by the Owner. Notwithstanding the above, the Contractor shall not be responsible for design, except incidental designing/detailing as required by the Specifications for shop drawing purposes.

ARTICLE 4 SUBSTANTIAL COMPLETION

4.1 Substantial Completion. 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 and request a determination as to whether the Work or designated

portion thereof is substantially complete. If Owner's Designated Representative does not consider the Work substantially complete, Owner's Designated Representative 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 Contract Documents. After satisfactorily completing items identified by Owner's Designated Representative, the Contractor shall then submit another request for Owner's Designated Representative to determine Substantial Completion. If Owner's Designated Representative considers the Work substantially complete, Owner's Designated Representative 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 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 Contract Documents. 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.

4.2 Owner intends to achieve Substantial Completion (as defined in this agreement) for all stages of construction on or before the following completion date or time period:

EXPECTED TIME FOR SUBSTANTIAL COMPLETION: On or before the One Hundred Eightieth (180th) day from the date designated in the Notice to Proceed.

Under no circumstances will the time for Substantial Completion exceed this date or time period without a written amendment to this Agreement.

4.3 THE TIMES SET FORTH IN THE CONSTRUCTION DOCUMENTS ARE AN ESSENTIAL ELEMENT OF THE AGREEMENT.

4.4 Modification of the Time for Substantial Completion.

4.4.1 Delays of and Extension of Time. When a delay defined herein as excusable prevents the Contractor from completing the Work within the time allowed for Substantial Completion, the Contractor shall be entitled to an extension of time, as set forth below. The time allowed for Substantial Completion shall be extended by the number of calendar days lost by reason of excusable delay, as measured by the Project Schedule (or current update). All extensions of time shall be given in calendar days. In no event, however, will an extension of time be granted for delays that merely extend the duration of non-critical activities, or which consume only float without delaying the time for Substantial Completion.

4.4.2 Time Extensions for Weather Days. The Contractor may be granted an extension of the time allowed for Substantial Completion

because of unusual inclement weather that is beyond the normal weather expected for the Williamson County, Texas area. Normal weather which prevents the Contractor from performing Work is expected during this type of Agreement, and is not a justification for an extension of time. The following delineates the number of days of normal weather per month that, for purposes of this Agreement, are expected to prevent performance of Work:

January:	7 days
February:	7 days
March:	7 days
April:	7 days
May:	8 days
June:	6 days
July:	6 days
August:	5 days
September:	7 days
October:	7 days
November:	7 days
December:	7 days

Days per month exceeding the number shown above may be credited as a "Weather Day" if such unusual inclement weather and related site conditions prevent the Contractor from performing seven continuous hours of Work between the hours of 7:00 AM and 6:00 PM. Weather Days are excusable noncompensable delays. When a Weather Day at the site prevents work from proceeding, the Contractor shall immediately notify the ODR so conditions can be confirmed by the Owner. At the end of each calendar month, the Contractor shall submit to the Owner a list of Weather Days occurring in that month. The Owner shall meet with the Contractor to discuss and resolve any disagreements concerning the number of Weather Days that have directly impacted the time allowed for Substantial Completion. Upon Owner and Contractor agreement, any time extension granted will be issued by Change Order. If by the close of the seventh (7th) business day after the Owner's receipt of the contractor's list, the Contractor and the Owner have not reached an agreement on the total number of Weather Days in the month, and signed a memorandum to that effect, the Owner in its sole discretion shall determine the number of working days it will allow, and the time allowed for Substantial Completion shall be adjusted accordingly. The Owner shall so notify the Contractor in writing by 5:00 PM on the next business day. Should the Owner fail to do so, the time allowed for Substantial Completion shall be extended by the number of Weather Days claimed by the

Contractor. The Contractor's sole relief for delay for Weather Days will be a time extension.

4.4.3 Non-Weather Excusable Noncompensable Delay. The Contractor shall be entitled to an extension of time for unforeseeable delays not within the control of or arising from the fault of either the Contractor or the Owner caused by the following:

- a. Unusual delay in the delivery of materials, components or equipment to be incorporated into the work. Strikes and labor disputes (but not the availability of adequately skilled labor, unless such impact is caused solely by the conduct of the Owner);
- b. Physical damage to the work caused by circumstances beyond the control of the Contractor;
- c. War, civil unrest or insurrection;
- d. Other unforeseeable causes beyond the control of either the Contractor or the Owner.

4.2.3 Excusable Compensable Delay. The Contractor shall be entitled to an equitable adjustment of cost as well as a time extension, issued via change order, for delays caused by the following:

- a. Failure of the Owner to take timely actions required under the Contract Documents, or to provide information required by the Contractor to proceed with the Work in a timely manner.
- b. Detrimental or obstructive actions of separate contractors employed by the Owner.
- c. Failure of the Owner to provide access to the site of the Work.
- d. Failure of the Owner to provide materials which are to be furnished by the Owner under the Contract Documents, consistent with the Project Schedule.
- e. Errors, omissions and imperfections in design which the Owner corrects by means of changes in the drawings and specifications.
- f. Unanticipated physical conditions at the site which the Owner corrects by means of changes to the drawings and specifications.
- g. Changes in the work ordered by the Owner.

4.2.3.1 No Damages for Delay: The Contractor shall have no claim for monetary compensation or damages for delay or hindrances to the Work from any cause including without limitation any act or omission of the Owner. The Contractor's only claim for any such delay or hindrance

shall be for an extension of time as provided in the Contract Documents.

ARTICLE 5 COMPENSATION

5.1 Contract Sum. The Contract Sum for the Project is: THREE HUNDRED SIXTY EIGHT THOUSAND ONE HUNDRED FIFTY THREE AND 18/100 DOLLARS (\$368,153.18)

5.2 Contract Payments. Method and terms of payment of the contract sum shall be in accordance with the Contract Documents.

5.3 Liquidated Damages. For each consecutive calendar day after the time allowed for Substantial Completion that the Work is not Substantially Complete, the Owner may deduct the amount of:

\$ 250 ⁰⁰/₁₀₀

Five Hundred Dollars per day (\$500.00/day)

from any money due or that becomes due the Contractor, not as a penalty but as liquidated damages representing the parties' estimate at the time of contract execution of the damages that the Owner will sustain for late completion. The parties stipulate and agree that calculating Owner's actual damages for late completion of the Project would be impractical, unduly burdensome, and cause unnecessary delay and that the amount of daily liquidated damages set forth is reasonable.

ARTICLE 6 CONTRACTOR'S GENERAL RESPONSIBILITIES

QUALITY OF WORK

6.1 Contractor shall perform all services specifically allocated to it by the Contract Documents as well as those services reasonably inferable from the Construction Documents as necessary for completion of the Work and the Project. Contractor shall 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. The enumeration of specific duties and obligations performed by the Contractor hereunder shall not be construed to limit the general undertakings of the Contractor. The obligations of the Contractor hereunder run to and are for the benefit of only the Owner.

6.2 Notwithstanding anything to the contrary contained in this Agreement, Owner and Contractor agree and acknowledge that Owner is entering into this Agreement in reliance on Contractor's represented expertise and ability to provide construction services. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of Owner in accordance with Owner's requirements and procedures.

6.3 Contractor represents and agrees that all persons connected with the Contractor directly in charge of its services are duly registered and/or licensed under the laws, rules and regulations of any authority having jurisdiction over the Project if registration is required.

6.4 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.

COORDINATION OF THE WORK

6.5 Contractor shall cooperate with the ODR and endeavor to further the interests of the Owner and the Project. Contractor shall complete the Project in an expeditious and economical manner consistent with the interests of the Owner and in accordance with the Project Schedule.

6.6 Contractor shall designate a representative authorized to act on the Contractor's behalf with respect to the Project. Contractor warrants, represents, covenants, and agrees to furnish efficient business administration and superintendence and perform its services hereunder or pursuant to this Agreement in the best way and in the most expeditious and economical manner consistent with the interest of Owner. The Contractor agrees to provide an on-site, full-time superintendent for the duration of the Project.

6.7 Contractor shall review and understand the standards and requirements in Owner's Specifications and perform all services in accordance with those standards and requirements.

6.8 Contractor shall visit the site and inspect the existing facilities, systems and conditions to insure an accurate understanding of the existing conditions as required.

6.9 Contractor shall, at Owner's request, attend public meetings and hearings concerning the development and schedule of the Project.

6.10 Contractor shall review all Drawings, Specifications, and other Construction Documents as they are developed by the Owner and/or its Architect/Engineer and advise Owner of any error, inconsistency or omission discovered in the Drawings, Specifications, and other Construction Documents.

6.11 Contractor shall review the Construction Documents for compliance with all applicable laws and code requirements and with Williamson County requirements.

6.12 Contractor shall advise Owner of any tests to be performed, and assist Owner in selecting testing laboratories and consultants, without assuming direct responsibility for the work of such laboratories and consultants.

6.13 Contractor shall review the Construction Documents to ensure that they contain adequate provision for all temporary facilities necessary for performance of the Work, and provisions for all of the job site facilities necessary to manage, inspect, and supervise construction of the Work.

6.14 Contractor shall consult with and make recommendations to the Owner on the acquisition schedule for fixtures, furniture and equipment, and coordinate the Owner's purchase and installation of such items with the Owner as may be required to meet the Contractor's Project Schedule.

6.15 Contractor shall identify every Subcontractor it intends to use on the Project, including Subcontractors used for self-performed 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. Following Owner acceptance of a Subcontractor, that Subcontractor shall not be changed without Owner's written consent, which shall not be unreasonably withheld.

6.16 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 and with the requirements of an Owner controlled insurance program, if any.

6.17 Contractor shall provide recommendations and information to Owner regarding the assignment of responsibilities for safety precautions and programs, temporary Project facilities, and equipment, materials, and services for common use of the Subcontractors. Contractor shall verify that appropriate safety provisions are included in the Construction Documents.

CONSTRUCTION WORK

6.18 Construction shall be deemed to commence upon the date specified in a Notice to Proceed issued by Owner and shall continue until Final Completion of all Work. The Contractor shall construct the Work in strict accordance with the Construction Documents and Owner's Specifications within the time required by the Project Schedule approved by Owner.

6.19 The Contractor hereby agrees to make any and all changes, furnish the materials and perform the Work which may be required or reasonably inferable to complete the Project in strict accordance with the requirements of the Contract Documents, without nullifying this Agreement. **NO ALTERATIONS OR CHANGES SHALL BE MADE,**

HOWEVER, EXCEPT UPON THE WRITTEN ORDER OF THE OWNER, OR ITS AUTHORIZED REPRESENTATIVE.

- 6.20** Contractor shall organize and maintain a competent, full-time staff at the Project site with clearly defined lines of authority and communication as necessary to coordinate construction activities, monitor and direct progress of the Work.
- 6.21** Contractor shall designate in writing a representative who is responsible for the day-to-day management of the Work. The designated representative shall be the Owner's primary contact during the Work and shall be available as required for the benefit of the Project and the Owner. The 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 and Applications for Payment.
- 6.22** Contractor shall attend Owner's regularly scheduled Project progress meetings and fully advise the Owner's Designated Representative of the Project status including schedule, costs, quality and changes.
- 6.23** Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and all other facilities and services necessary for the proper execution and completion of the Work in strict accordance with the requirements of the Construction Documents.
- 6.24** Contractor shall assist in obtaining building permits and obtain special permits for permanent improvements as required by law or the Construction Documents. Assist Owner in obtaining all approvals required from authorities having jurisdiction over the Project.
- 6.25** Contractor shall coordinate, monitor and inspect the work of Subcontractors to ensure conformance with the Construction Documents.
- 6.26** Contractor shall be responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work. The Contractor shall keep the Owner informed of the progress and quality of the Work.
- 6.27** Contractor shall promptly correct any defective Work at Contractor's sole expense, unless the Owner specifically agrees to accept the Work.
- 6.28** Contractor shall warrant that the materials and equipment provided for the Project will be of good quality and new unless otherwise required or permitted by the Construction Documents; that the construction will be free from faults and defects; and that the construction will conform with the requirements of the Construction Documents. The Contractor shall be responsible for correcting Work that does not comply with the Construction Documents at its sole expense without cost to the Owner.

6.29 Regarding Record Documents and the Owner's Project Closeout Specification, the Contractor shall maintain and deliver the required documents that describe changes or deviations from the Construction Documents that occurred during construction and that reflect the actual "As Built" conditions of the completed Work.

COMMISSIONING & WARRANTY RESPONSIBILITIES

6.30 Contractor shall provide commissioning, starting and check-out services for the systems installed in the project 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.

6.31 Contractor shall provide warranty services for the Work for a full Twelve (12) months following Final Completion and acceptance. Just before the warranty period expires, Contractor shall attend an on-site meeting with the Owner (and its Architect/Engineer if requested by Owner) to ensure that all warranty issues have been identified and properly remedied.

6.32 Contractor shall provide a written warranty period service plan that includes monthly site visits by an individual capable of making minor repairs and coordinating subcontractor warranty work.

ARTICLE 7 OWNER'S RESPONSIBILITIES

7.1 The Owner will provide the general schedule for the Project. The general schedule will set forth the Owner's plan for milestone dates and completion of the Project.

7.2 The Owner will identify a person as its Owner's Designated Representative ("ODR") who is authorized to act in the Owner's behalf with respect to the Project. 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.

7.3 The Owner, 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 Project.

7.4 The Owner shall 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.

7.5 The Owner may designate one or more construction inspectors who shall be given access to the Work as requested or needed. The provision of inspection services by Owner shall not reduce or lessen Contractor's responsibility for the Work. Contractor is

fully and solely responsible for constructing the Project in strict accordance with the Construction Documents.

7.6 Owner shall have the right to reject any defective Work on the Project. 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.

7.7 Owner shall furnish to the Contractor the number of Construction Document sets as required by this Agreement.

ARTICLE 8 OWNERSHIP AND USE OF DOCUMENTS

8.1 The Construction Documents and any other documents prepared by the Owner's Architect/Engineer, its consultants, or other consultants retained by the Owner for the Project that describe the Work to be executed by the Contractor are instruments of service and shall remain the property of the Owner whether the Project for which they are made is executed or not. The Contractor and its Subcontractors are authorized to reproduce and use portions of the Construction Documents as necessary and appropriate for the execution of the Work. The Contractor and its Subcontractors shall not use the Construction Documents on any other projects.

8.2 Submission or distribution of the Construction Documents to meet official regulatory requirements or for other purposes in connection with the Project is authorized.

ARTICLE 9 TIME

9.1 TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.

9.2 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.

ARTICLE 10 BONDS AND INSURANCE

10.1 Performance Bond. Upon execution of this Agreement, Contractor shall provide a Performance Bond in the amount of 100% of the Contract Sum. The surety for a Performance Bond shall meet the requirements of Texas law and the requirements set forth herein below. The performance bond is solely for the protection of the Owner, in the full amount of the Contract and conditioned on the faithful performance of the Work in accordance with the Contract Documents.

10.2 Payment Bond. Upon execution of this Agreement, Contractor shall provide a Payment Bond in the amount of 100% of the Contract Sum, 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 and the requirements set forth herein below. The payment bond shall be made payable to the Owner, in the full amount of the Contract 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.

10.3 Warranty Bond. Upon execution of this Agreement, Contractor shall provide a Warranty Bond in the amount of 100% of the Contract Sum, as security for the true and faithful performance of all warranties set forth in the Contract Documents.

10.4 Corporate sureties authorized to issue bonds shall be qualified and comply with relevant provisions of the Texas Insurance Code. 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, and on the Owner's form. 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 trusted 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. Each bond shall be accompanied by a valid Power-of-Attorney (issued by the surety company and attached, signed and sealed with the corporate embossed 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.

10.5 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.

10.6 Owner shall furnish certified copies of a payment bond and the related Contract to any qualified person seeking copies who complies with §2253.026, Texas Government Code.

10.7 Claims on Payment Bonds. Claims on payment bonds must be sent directly to the Contractor and his 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 his 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.

10.8 Payment Claims when Payment Bond not Required. When the value of the Contract between the 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.

10.9 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).

10.10 The Contractor shall not commence Work under the Agreement until it has obtained all required insurance and until evidence of the required insurance has been reviewed and approved by the Owner. Owner's review of the insurance shall not relieve nor decrease the liability of the Contractor. Prior to commencing any Work under this Agreement, Contractor shall provide evidence of the insurance coverage that meets the following requirements:

10.10.1 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.

10.10.2 The Contractor shall provide and maintain, until the Work covered in this Agreement 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

a. Worker's Compensation

Statutory

- b. Employer's Liability

Bodily Injury by Accident	\$500,000 Ea. Accident
Bodily Injury by Disease	\$500,000 Ea. Employee
Bodily Injury by Disease	\$500,000 Policy Limit

- c. Commercial General Liability, including coverage for the following:
 - 1) Premises Operations Combined Single
 - 2) Independent Contractors Limit for Bodily
 - 3) Products/Completed Injury and Property
 - Operations Damage of
 - 4) Personal Injury \$1,000,000
 - per occurrence or
 - its equivalent.
 - 5) Contractual Liability
 - 6) Explosion, Collapse, Underground
 - 7) Broad form property damage, to include fire legal liability

- d. Business Automobile Liability owned/leased, owned, hired

	Combined single limit for
	Non-Bodily Injury and
	Property Damage of
	\$1,000,000
	per occurrence or its
	equivalent

- e. Owner's Protective Liability Insurance Policy, naming Williamson County and its employees as insured with the following limits:

Bodily Injury	\$1,000,000 Each Occurrence
	\$1,000,000 Aggregate

10.11 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 project.

10.12 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 the Owner."
- 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 the Owner."
- c. "The Owner, its 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 the Owner."

10.13 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 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 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 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 the 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 the 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 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 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 Agreement by the Contractor which entitles the Owner to declare the Agreement void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.

10.14 If insurance policies are not written for the amounts specified above, 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.

10.15 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.

10.16 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 the Agreement, the Owner may obtain insurance coverage directly and recover the cost of that insurance from the Contractor.

10.17 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.

10.18 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 policies. Damages caused by the Contractor and not covered by insurance shall be paid by the Contractor.

ARTICLE 11 INDEMNITY

11.1 TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE CONTRACTOR AND ITS AGENTS, PARTNERS, EMPLOYEES, AND CONSULTANTS (COLLECTIVELY "INDEMNITORS") SHALL AND DO AGREE TO INDEMNIFY, PROTECT, DEFEND WITH COUNSEL APPROVED BY OWNER, AND HOLD HARMLESS THE OWNER, REPRESENTATIVES OF THE OWNER AND THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, ITS VARIOUS DEPARTMENTS, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS (COLLECTIVELY "INDEMNITEES") FROM AND AGAINST ALL CLAIMS. DAMAGES, LOSSES, LIENS, CAUSES OF ACTION, SUITS, JUDGMENTS, AND EXPENSES, INCLUDING ATTORNEY FEES, OF ANY NATURE, KIND, OR DESCRIPTION (COLLECTIVELY "LIABILITIES") OF ANY PERSON OR ENTITY WHOMSOEVER ARISING OUT OF, CAUSED BY, OR RESULTING FROM THE PERFORMANCE OF THE SERVICES OR ANY PART THEREOF WHICH ARE CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF THE CONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY IT OR ANYONE FOR WHOSE ACTS IT MAY BE LIABLE, EVEN IF IT IS CAUSED IN PART BY THE NEGLIGENCE OR OMISSION OF ANY INDEMNITEE, SO LONG AS IT IS NOT CAUSED BY THE SOLE NEGLIGENCE OR WILLFUL MISCONDUCT OF ANY INDEMNITEE. IN THE EVENT MORE THAN ONE OF THE INDEMNITORS ARE CONNECTED WITH AN ACCIDENT OR OCCURRENCE COVERED BY THIS INDEMNIFICATION, THEN EACH OF SUCH INDEMNITORS SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE TO THE INDEMNITEES FOR INDEMNIFICATION AND THE ULTIMATE RESPONSIBILITY AMONG SUCH INDEMNITORS FOR THE LOSS AND EXPENSE OF ANY SUCH INDEMNIFICATION SHALL BE SETTLED BY SEPARATE PROCEEDINGS AND WITHOUT JEOPARDY TO ANY INDEMNITEE.

THE PROVISIONS OF THIS ARTICLE SHALL NOT BE CONSTRUED TO ELIMINATE OR REDUCE ANY OTHER INDEMNIFICATION OR RIGHT WHICH OWNER OR ANY OF THE INDEMNITEES HAS BY LAW.

11.2 The indemnities contained herein shall survive the termination of this Agreement for any reason whatsoever.

ARTICLE 12 SPECIAL WARRANTIES

12.1 Contractor represents and agrees that there are no obligations, commitments, or impediments of any kind that will limit or prevent performance of its obligations under this Agreement.

12.2 Contractor represents and agrees that the individual executing this Agreement on behalf of Contractor has been duly authorized to act for and to bind Contractor to its terms.

12.3 Contractor warrants, represents, and agrees that if (i) it is a corporation or limited liability company, that is duly organized, validly existing and in good standing under the laws of the State of Texas, or a foreign corporation or limited liability company duly authorized and in good standing to conduct business in the State of Texas, that it has all necessary corporate power and has received all necessary corporate approvals to execute and deliver the Agreement, and the individual executing the Agreement on behalf of Contractor has been duly authorized to act for and bind Contractor; or (ii) if it is a partnership, limited partnership, or limited liability partnership, then it has all necessary partnership power and has secured all necessary approvals to execute and deliver this Agreement and perform all its obligations hereunder; and the individual executing this Agreement on behalf of Contractor has been duly authorized to act for and bind Contractor.

12.4 Neither the execution and delivery of this Agreement by Contractor nor the performance of its obligations hereunder will result in the violation of any provision, if a corporation, of its articles of incorporation or by-laws, if a limited liability company, of its articles of organization or regulations, or if a partnership, by any partnership agreement by which Contractor is bound, or any agreement by which Contractor is bound or to the best of the Contractor's knowledge and belief, will conflict with any order or decree of any court or governmental instrumentality relating to Contractor.

12.5 Except for the obligation of Owner to pay Contractor the Contract Sum 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 13 CERTIFICATION OF NO ASBESTOS CONTAINING MATERIALS OR WORK

The Contractor shall provide at Substantial Completion, a notarized affidavit to the Owner stating that no asbestos containing materials or work was provided, installed, furnished or added to the Project.

ARTICLE 14 TERMINATION

14.1 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.

14.2 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 15 MISCELLANEOUS PROVISIONS

15.1 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.

15.2 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.

15.3 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 Project 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.

15.4 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.

15.5 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.

15.6 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

15.7 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.

15.8 Records. 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.

15.9 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.

15.10 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.

15.11 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.

15.12 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.

15.13 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.

15.14 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.

15.15 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.

15.16 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.

15.17 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.

15.18 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.

15.19 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.

15.20 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.

15.21 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.

ARTICLE 16 NOTICES

Notices. All notices, consents, approvals, demands, requests or other communications relied on by the parties shall be in writing. Written notice shall be deemed to have been given when delivered in person to the designated representative of the Contractor or Owner for whom it is intended, as set out below or sent by U. S. Mail to the designated 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 (or successor)
710 Main Street, Ste. 101
Georgetown, Texas 78626

with copy to: Honorable Jana Duty (or successor)
Williamson County Attorney
405 M.L.K. Street, Box #7
Georgetown, Texas 78626

If to Contractor: Ferrellgas Operating, L.P.
c/o: Kathy Stevens
4803 US Highway 183
Austin, Texas 78744

The parties may make reasonable changes in the person or place designated for receipt of notices upon advance written notice to the other party.

Party Representatives

*The Owner's Designated Representative authorized to act in the Owner's behalf
with respect to the Project is:*

Gary Wilson,

Williamson County Facilities Maintenance Director
3101 SE Inner Loop
Georgetown, Texas 78626
Phone (512) 943-1636
Email: gwilson@wilco.org

The Contractor's designated representative authorized to act on the Contractor's behalf and bind the Contractor with respect to the Project is:

Ferrellgas Operating, L.P.
c/o: Kathy Stevens
4803 US Highway 183
Austin, Texas 78744
Phone (512) 385-2130
Fax (512) 385-5500

The parties may make reasonable changes in their designated representatives upon advance written notice to the other party.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement as of the day and year first above written.

WILLIAMSON COUNTY
Williamson County, Texas,

FERRELLGAS OPERATING, L.P., a
Limited Partnership, acting by and through
its General Partner, FERRELGAS INC.

By: _____

Printed Name: _____

Title: _____

By: _____

Printed Name: KENT C. BOECKMAN

Title: GENERAL MANAGER

ATTEST:

By: K. D. Stevens

Printed Name: Kathy Stevens

Title: Account Manager

Coin Less Inmate Telephone System RFP 11WCAP107

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Brenda Fuller, Purchasing
Department: Purchasing
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider authorizing advertising and setting date of February 22, 2011 at 2:00 p.m. in the Purchasing Department to receive proposals for the Coin Less Inmate Telephone System for the Williamson County Jail - proposal number 11WCAP107.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [RFP Pkg Inmate Phones](#)

Form Routing/Status

Route Seq	Inbox	Approved By	Date	Status
1	Purchasing	Bob Space	01/26/2011 03:35 PM	APRV
2	County Judge Exec Asst.	Wendy Coco	01/27/2011 08:37 AM	APRV
Form Started By: Brenda Fuller			Started On: 01/26/2011 02:55 PM	
Final Approval Date: 01/27/2011				



WILLIAMSON COUNTY
PURCHASING DEPARTMENT
301 SE INNER LOOP - SUITE 106
GEORGETOWN, TEXAS 78626

<http://wilco-online.org/ebids/bids.aspx>

REQUEST FOR PROPOSAL

COIN LESS INMATE TELEPHONE SYSTEM FOR THE WILLIAMSON COUNTY JAIL FACILITY

PROPOSAL NUMBER: 11WCAP107

PROPOSALS MUST BE RECEIVED ON OR BEFORE: FEBRUARY 22, 2011– 1:30 PM

PROPOSALS WILL BE PUBLICLY ACKNOWLEDGED: FEBRUARY 22, 2011– 2:00 PM

PROPOSAL SUBMISSION

DEADLINE: Proposals must be received in the Williamson County Purchasing Department **on or before 1:30 PM on Tuesday, February 22, 2011**. Proposals will be publicly acknowledged at 2:00 pm or soon thereafter in the Williamson County Purchasing Dept., 301 SE Inner Loop-Suite 106, Georgetown, Texas.

METHODS: Sealed proposals may be hand-delivered or mailed to the *Williamson County Purchasing Department, Attn: Brenda Fuller, Suite 106, Williamson County Inner Loop Annex, 301 SE Inner Loop, Georgetown, Texas 78626*.

FAX/EMAIL: Facsimile and electronic mail transmittals will not be accepted.

LOCATION DIRECTIONS: Please see page 15 of this document for a map and directions to the Williamson County Inner Loop Annex.

PROPOSAL REQUIREMENTS

QUADRUPLICATE: All proposals must be submitted in quadruplicate (1 original complete proposal set and 3 copies of the proposal set). The proposal sets should be marked "original" or "copy". A "proposal set" consists of the COMPLETED AND SIGNED Proposal Form and any other required documentation. All copies must have the same attachments as the original.

SEALED: All proposals must be returned in a sealed envelope with the proposal name, number, opening date and time clearly marked on the outside. **If an overnight delivery service is used**, the proposal name, number, opening date and time must be clearly marked on the outside of the delivery service envelope.

REFERENCES: Williamson County may require proposer to supply a list of at least three (3) references where like services have been supplied by their firm if vendor has not done business with the County within the past five (5) years. Include name of firm, address, phone number and name of representative.

LEGIBILITY: Proposals must be legible and of a quality that can be reproduced.

FORMS: All proposals must be submitted on the forms provided in this proposal document. Changes to proposal forms made by proposers shall disqualify the proposal. Proposals cannot be altered or amended after submission deadline.

LATE PROPOSAL: Proposals received after submission deadline will not be opened and will be considered void and unacceptable. Williamson County is not responsible for lateness of mail, courier service, etc.

RESPONSIBILITY: It is expected that a prospective proposer will be able to affirmatively demonstrate proposer's responsibility. A prospective proposer 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;
- d) be otherwise qualified and eligible to receive an award.

Williamson County may request representation and other information sufficient to determine proposer's ability to meet these minimum standards listed above.

AWARD

THIRTY DAYS: Awards should be made approximately thirty (30) days after the proposal opening date. Results maybe obtained by contacting the Purchasing Contact.

REJECTION OR ACCEPTANCE: No more than one proposal will be awarded for any item, single department or area. Proposals may be rejected for some items, departments or areas, even though awards are made for others. The convenience of having a single source for similar items will be taken into consideration together with price in determining the lowest and best proposal.

It is understood that the Commissioners Court of Williamson County, Texas, reserves the right to accept or reject any and/or all Proposals for any or all materials and/or services covered in this Proposal request, and to waive informalities or defects in the Proposal or to accept such Proposal it shall deem to be in the best interest of Williamson County. In determining the overall best Proposal, the County may exercise either (or both) of the following options granted to local government's under the Texas Local Government Code.

Option 1 – TLGC § 271.905. This option allows the County to consider a Proposer's principal business location in determining the overall lowest and best Proposal.

Option 2 – TLGC § 271.907. This option allows the County to evaluate Proposal and give preference to goods and/or services of a vendor that demonstrates that the vendor 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 Williamson County (as it relates to any state, federal, or voluntary air quality standard), then the Proposal should provide information in narrative form indicating the anticipated air quality impact. Proposer's are expected to meet all mandated state and federal air quality standards.

CONTRACT: This Proposal, when properly accepted by Williamson County, shall constitute a contract equally binding between the successful proposer and Williamson County.

The successful proposer may be required to sign an additional agreement containing terms necessary to ensure compliance with the proposal.

CONTRACT ADMINISTRATION: Under this contract, Chief Richard Elliott, Assistant Chief, Williamson County Jail, shall be the contract administrator with designated responsibility to ensure compliance with contract requirements, such as but not limited to, acceptance,

inspection and delivery. The contract administrator will serve as liaison between Williamson County Commissioner's Court and the successful proposer.

CONTRACT PERIOD(S): The Initial Contract Period is April 1, 2011 through March 31, 2014.
Possible extension includes:

April 1, 2014 through March 31, 2015
April 1, 2015 through March 31, 2016

PROPOSAL CONTACTS

Any questions, clarifications or requests for general information should be directed to the contacts listed below. Question submittals must be made via email, and are **due by Noon, 12:00 PM on Wednesday, February 16, 2011**. Every effort will be made to answer questions within 24 hours of receiving them, with an email response.

All submitted questions with their answers will be posted and updated on a daily basis to the Williamson County portal, <http://wilco-online.org/ebids/bids.aspx>

PURCHASING CONTACT:

Brenda Fuller
301 SE Inner Loop – Suite 106
Georgetown, TX 78626
(512) 943-1607
brendafuller@wilco.org

TECHNICAL CONTACT:

Mark White
508 Rock Street
Georgetown, TX 78626
(512) 943-1300
mwhite@wilco.org

MISCELLANEOUS

FOB DESTINATION: 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 price, unless otherwise specified in the Request for Proposal. The title and risk of loss of the goods shall not pass to the County until receipt and acceptance takes place at the FOB point.

FIRM PRICING: The price must be good from the date of Proposal opening for a fixed period of time. Unless the Proposal expressly states otherwise, this period shall be until the end of the initial term. Proposals 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 best Proposal.

ESTIMATED QUANTITIES: The estimated quantity of each item listed in the notice is only an estimate -- the actual quantity to be 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. Any limit on quantities available must be stated expressly in the proposal.

FUNDING: Funds for payment have been provided through the Williamson County budget approved by Commissioners Court for the October 1, 2010 through September 30, 2011 fiscal year.

SALES TAX: Williamson County is by statute, exempt from the State Sales Tax and Federal Excise Tax.

STATEMENTS: No oral statement of any person shall modify or otherwise change, or affect the terms, conditions, plans and/or specifications stated in the various Proposal Packages and/or Proposal Instructions/Requirements.

DELIVERY: The delivery time and location for the commodity and/or service covered by this proposal shall be as stated in the various proposal packages.

PURCHASE ORDER: If required by the Williamson County Purchasing Department a purchase order(s) may be generated to the successful proposer for products and/or services. If a purchase order is issued the purchase order number must appear on all itemized invoices and/or requests for payment.

PAYMENT: Payment shall be made by check from the County upon satisfactory completion and acceptance of items and submission of the Invoice to the ordering department for work specified by this Contract Document. All payments owed will be paid no later than thirty (30) days after the goods or services are received OR the date that the invoice is received by the Auditor's Office whichever is later. As a minimum, invoices shall include:

- (1) Name, address, and telephone number of Vendor and similar information in the event the payment is to be made to a different address
- (2) County contract, Purchase Order, and/or delivery order number
- (3) Identification of items or service as outlined in the contract
- (4) Quantity or quantities, applicable unit prices, total prices, and total amount
- (5) Any additional payment information which may be called for by the contract

Payment inquiries should be directed to the Auditor's Office, Accounts Payable Department: Donna Baker, 943-1558.

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 of January 1, 2008 Vendor's are responsible for complying with Local Government Code Title 5, Subtitle C, Chapter 176. Additional information may be obtained from the County website at the following link: <http://www.wilco.org/CountyDepartments/Purchasing/ConflictofInterestDisclosure/tabid/689/language/en-US/Default.aspx>

The Williamson County Conflict of Interest Statement is located on Page 13 of this RFP. This form must be completed, signed, and submitted with your Proposal.

ETHICS: The proposer shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official or agent of Williamson County.

DOCUMENTATION: Proposer shall provide with this proposal response, all documentation required by this proposal. Failure to provide this information may result in rejection of the proposal.

TERMINATION FOR DEFAULT: Williamson County reserves the right to enforce the performance of this contract in any manner prescribed by law or deemed to be in the best interest of the County in the event of breach or default of this contract. Non-Performance of the proposer in terms of specifications shall be a basis for the termination of the contract by the County. The County shall not pay for commodities/services which are unsatisfactory. Vendors will be given a reasonable opportunity before termination to correct the deficiencies. This, however, shall in no way be construed as negating the basis for termination for non-performance.

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.

COMPLIANCE WITH LAWS: The successful proposer shall comply with all applicable federal, state and local laws and regulations pertaining to the practice of the profession and the execution of duties under this proposal including the TEXAS HAZARD COMMUNICATION ACT and THE WILLIAMSON COUNTY HAZARD COMMUNICATION PROGRAM POLICY.

PROPRIETARY INFORMATION: All material submitted to the County becomes public property and is subject to the Texas Open Records Act upon receipt. If a Proposer does not desire proprietary information in the proposal to be disclosed, each page must be identified and marked proprietary at time of submittal. The County will, to the extent allowed by law, endeavor to protect such information from disclosure. The final decision as to what information must be disclosed, however, lies with the Texas Attorney General. Failure to identify proprietary information will result in all unmarked sections being deemed non-proprietary and available upon public request.

WORKER'S COMPENSATION

The Texas Labor Code, §406.096, requires workers' compensation insurance coverage for all persons providing services on a building or construction project for a governmental entity. The rule requires a governmental entity 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 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, §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 or proposal 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:

Brenda Fuller
Williamson County Purchasing Department
301 SE Inner Loop - Suite 106
Georgetown, TX 78626

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) 943-1607, or you may call the Texas Workers' Compensation Commission at (512) 804-4000.

Workers' Compensation Insurance Coverage:

A. Definitions: Certificate of coverage ("certificate")-A copy of a certificate of insurance, a certificate of authority to self-insure issued by the 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.

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 governmental entity.

Persons providing services on the project ("subcontractor" in §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.

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, 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 coverage to the governmental entity 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 the governmental entity showing that coverage has been extended.

E. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

(1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project;

(2) no later than seven (7) 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 governmental entity in writing by certified mail or personal delivery, within ten (10) days after the contractor knew or should have known, of any change that materially affects the provision of coverage of any person providing services on the project.

H. The contractor shall post on each project site a notice, in the text, form and manner prescribed by the Texas Workers' Compensation Commission, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

(2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(4) obtain from each other person with whom it contracts, and provide to the contractor:

(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 certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity 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 the governmental entity 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 governmental entity 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 governmental entity.

PROPOSAL SPECIFICATIONS

The County is seeking a Vendor to provide a Coin Less Inmate Telephone System for the Williamson County Jail Facility. The specifications and contract are contained herein. The County reserves the right to evaluate and award a contract based on the best offer determined for the Jail Facility.

The awarded Vendor shall provide, install, and maintain a microprocessor based coin less collect/prepaid inmate telephone system designed and proven suitable for a jail environment.

Vendor shall enter into a binding contract with Williamson County for a period of three (3) years. The contract period will be April 1, 2011 through March 31, 2014. A copy of the contract is made a part of this specification package.

Williamson County reserves the right to extend the awarded contract for two (2) additional one-year periods as it deems to be in the best interest of the County.

Your entire proposal, if accepted for contract purposes, will become a part of the overall agreement.

Vendor agrees that the services to be provided, under this contract, are vital to County and must be continued without interruption and that upon expiration of this contract another vendor may be selected. Vendor agrees to exercise its best efforts and cooperation to effectively have an orderly and efficient transition to a successor. Vendor to indicate installation timetables.

Vendor agrees that this contract is not assignable without the express written consent of the Commissioner's Court of Williamson County and that venue for suit upon this contract shall be in Williamson County, Texas.

County and Vendor both agree that the Williamson County Commissioners Court shall be the sole and final authority on issues relating to this contract. Should any matter not be resolved to the Vendor's satisfaction, Vendor shall have the right to be heard in open court by Commissioners Court and the decision of Commissioners Court shall be final and conclusive, and shall be binding on all parties concerned.

The system installed by the Vendor must allow for a minimum of two hundred (200) coin less inmate phones.

The successful proposer shall provide all materials and items related to this system for proper installation at no charge to the County.

The system shall be line-powered and require no electricity to be run to telephones located in the cellblocks.

System shall provide automatic daily turn on and shut off at designated times.

System shall have manual kill switches on/off capabilities from designated control rooms with LED's that illuminate when a station is in use.

System shall possess unlimited telephone number blocking capabilities.

There shall be no charge for unanswered or non-accepted calls,

Once each call is completed the line shall return to primary dial tone to ensure that the inmate cannot place an unauthorized call.

The successful proposer shall provide complete computer systems with terminals and printers with capabilities to provide a complete list of all telephone numbers called from a given inmate telephone with call detail information as described hereafter in these specifications.

The successful proposer must provide, at no cost to the County, system updates and additional features in a timely manner as required by the County.

The successful proposer shall coordinate with the County for the removal and/or installation of operating telephone system.

The system must provide the following features and functions:

The system must be user friendly and provide instructions to both the inmate and the called party. System prompts must be provided in both English and Spanish.

Inmate phones shall not be capable of receiving incoming calls.

The system must verify that the collect call is actively accepted, provide the caller's name and identify the caller as an inmate of the Williamson County Jail Facility.

The system shall not allow inmate to listen to the status of the call in progress for the acceptance/denial by called party and shall not allow inmate to communicate with the called party until the call has been accepted.

The inmate telephone system must be able to detect and minimize fraudulent calls. At a minimum, the system should refuse or disallow chain dialing, fraudulent switch-hook manipulation, or multiple calls.

Written dialing instructions in both English and Spanish shall be permanently and prominently displayed on each inmate phone.

Each inmate phone shall be secured by an anti-vandal locking system.

The system shall provide and possess a voice recognition (biometric) component. This component will be activated by each inmate upon initial use of the coin less inmate telephone system.

The system shall provide a secure inmate email system. This system must have the capability to allow for jail personnel to accept or reject the email. The ability to highlight "keywords" as a search method should be included in this email system.

The system must provide call detail reports for all calling activity, which will detail:

For all calls, inmate telephone number, date, time, PIN # (if applicable), number called, duration of call, and total billable cost of each call.

Frequently called numbers (all numbers called more than five (5) times per day), including inmate telephone number, date, time, PIN # (if applicable), number called and cost of each call.

Common numbers called (all numbers called by more than one (1) inmate), including inmate telephone numbers, date, time, PIN # (if applicable), numbers called, duration of each call.

Reports must be accessible by the Sheriff and/or Audit Departments on site via computer systems installed on County premises and all reports must give total of all information required by the report.

County requires details and clarification on how calling cards would work for local, long distance, and international calling.

The system must be capable of utilizing personal identification numbers (PIN) for individual inmates, if and when such becomes desirable to County Detention Officials. The system must allow the use of PIN's in designated areas only, without necessity of the entire system utilizing PIN's.

The system may use concentrated trucking. If more inmate telephones require dial tone and processing at the same time than there are accessible lines, then a voice prompt should alert the caller that all circuits are busy at this time.

An automated information system is preferred. The features of this system should be configurable by jail personnel.

The successful proposer shall be responsible for software updating.

The evaluation and award may be based on, but not limited to the following:

Highest commission percentage offered

Service location

Equipment

References

Experience

Past Performance

Compliance with all proposal specifications

The system must be capable of compiling all call data from each phone for a full month to generate the following audit reports which will be required monthly:

Total calls attempted

Total calls completed

All calls to a specific number

All calls to a specific area code

All calls to a specific group (exchange) of numbers

Total billed cost of each complete phone call

Call break down of local, intrastate intralata, intrastate interlata, and interstate interlata charges

Summary report to include calls attempted, calls completed, total minutes, and total billed cost

All calls must be billed to the called party at the actual real time duration of the call, rounded up to the next whole minute. Any fraudulent charging of minutes by the Vendor shall be cause for immediate termination of this contract and will be punishable to the full extent of the law.

General Mandatory Requirements:

1. All proposers must be in business for the purpose of providing Inmate Telephone Services and have at least five (5) years of experience with a proven track record of providing services under the same current company name.
2. Proposer must submit at least five (5) contracts, as the prime contractor, under company name as references with 200 beds or more. List contact name and number for each.
3. Proposer must currently be servicing and be the exclusive provider for a minimum of three (3) jails with a minimum capacity of 500 beds each. List facility name and capacity.
4. Proposer must perform real time validations for each call. Explain.
5. Proposer must have in-house prepaid/debit system so families can have a prepaid option to get calls, if desired. Must have positive acceptance to connect call.
6. Proposer must have ability to accept credit card, money order, or Western Union type payments.
7. Proposer must have 24hour/7day technical support. State where service center is located.
8. Proposer must have capability to supervise and monitor the system remotely ensuring satisfactory provision of services.
9. System must have the capability to provide the called party with an automated rate quote prior to connection.
10. System must have capability for called party to block the call and any future calls by pressing two DTMF digits from their home phone.
11. Prepaid calls have to inform the called party, before acceptance, that the call is coming from a correctional facility and is a free call.
12. Proposed system should have the capability of implementing a PIN/PAN system.
13. Proposed system must have the capability of implementing a billing threshold.
14. Proposer must provide facility personnel the ability to submit an on-line trouble tickets via a web interface. System must already be developed and operational.
15. Proposer must allow facility personnel to block and unblock numbers.
16. Proposer must allow facility personnel to view trouble tickets on-line, via a web interface.

17. Proposer must have the ability to track live trouble tickets via a web interface, accessible anywhere and send email notification upon completion or status changes. Provide web site demo.
18. System Reports – customized adhoc reports can be generated for specific investigative needs.
19. System must be located on-site. A off-site centralized option is not acceptable.
20. Proposer must provide access to validation platform to assist staff to confirm why a number is blocked.
21. Proposer must be able to provide staff access to prepaid platform to check account balances on calling card and prepaid programs.
22. No advance commission payment will be allowed. Responses offering an advance may be disqualified.
23. System must have some type of investigative ability for officers to be notified of certain “Hot Numbers” being called. Explain.
24. System must use automated operators only. No live operators will be allowed.
25. System must provide voice recognition (biometric) component.
26. System must provide secure inmate email system with keyword search.

Commissions

Vendor shall pay to the County a commission calculated as a percentage of the gross revenues. Gross revenues shall be defined as the total amount billed to the terminating numbers of inmate placed calls without any deductions. Calculations equal the commission rate times (x) total billed charges for the month.

Rates

Provide with your proposal a copy of the rates your company will charge to the called party. Any changes in rates during the term of this contract will need to be submitted to the County for review and approval.

Contract Term

The contract term will be for a period of three (3) years. The contract period will be April 1, 2011 through March 31, 2014. Williamson County reserves the right to extend the awarded contract for two (2) additional one-year periods as it deems to be in the best interest of the County.

Subcontractors

If any part of the work is or will be subcontracted, the Vendor shall provide as part of the proposal a complete description of the subcontractor organization, the experience level of each of the parties, and the subcontracting agreements made between the parties. Vendors must also include a list of references for all subcontractors.

Lawsuits

Vendor must identify all legal claims, demands, or lawsuits threatened or pending against the Vendor or employed individual, and/or the Vendor's technology provider with regard to the services and equipment offered in this proposal.

Call Monitoring and Recording

1. The proposed system shall maintain ninety (90) days of call recording on-line and have the ability to be downloaded to digital tape or CD (preferred).
2. The proposed system shall be web-based to allow for remote access.
3. Facility personnel must be able to search call recordings by dialed number, date, time, inmate account, or site ID.
4. Facility personnel must be able to simultaneously listen to and record conversations.
5. Recordings must be backed up for archival.
6. The system shall have integrated visitation phone recording capabilities.
7. Call monitoring devices must be provided to allow a call to be audibly monitored and recorded where desired by the County for knowledge of activities occurring during and or after phone use.

Insurance Requirements

Must be included in the submitted proposal package:

1. Liability Insurance – Vendor shall furnish Certificates of Insurance verifying that there is sufficient liability coverage to meet minimum insurance qualifications.
 - a. General Liability

Each occurrence	\$ 500,000.00
General Aggregate	\$1,000,000.00
 - b. Automobile Liability

Bodily Injury per person	\$ 100,000.00
Bodily Injury per occurrence	\$ 300,000.00
Property damage	\$ 500,000.00
Bodily injury and property damage combined, single limit	\$ 500,000.00
 - c. County is to be named as “additional insured”.
2. Workers Compensation – Statutory

County must be provided with thirty (30) days advance written notice prior to cancellation or material change to above listed insurance,

Performance Bond

Performance Bond – The successful Vendor will be required to submit a performance bond in the amount of \$100,000.00. The Performance Bond will be in place within thirty (30) days of award of the contract. The successful Vendor will be required to include coverage for service and commission payments incurred. The successful Vendor is responsible for the purchase of the Performance Bond at no cost to Williamson County.

Financial Statement

Current Financial Statement must be included in the submitted proposal package.

WILLIAMSON COUNTY PROPOSAL FORM
COIN LESS INMATE TELEPHONE SYSTEM
FOR THE WILLIAMSON COUNTY JAIL FACILITY

PROPOSAL NUMBER: 11WCAP107

NAME OF PROPOSER: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Email Address: _____

Telephone: (_____) _____ Fax: (_____) _____

Proposer must submit at least five (5) contracts, as the prime contractor, under company name as references with 200 beds or more.

1. Company Name _____

Contact _____

Title _____

Phone _____

2. Company Name _____

Contact _____

Title _____

Phone _____

3. Company Name _____

Contact _____

Title _____

Phone _____

4. Company Name _____
Contact _____
Title _____
Phone _____
5. Company Name _____
Contact _____
Title _____
Phone _____

Proposer must currently be servicing and be the exclusive provider for a minimum of three (3) jails with a minimum capacity of 500 beds each.

1. Facility name _____
Contact _____
Title _____ E-mail _____
Mailing Address _____
Phone _____ Fax _____
Capacity _____
2. Firm Name _____
Contact _____
Title _____ E-mail _____
Mailing Address _____
Phone _____ Fax _____
Capacity _____
3. Firm Name _____
Contact _____
Title _____ E-mail _____
Mailing Address _____
Phone _____ Fax _____
Capacity _____



WILLIAMSON COUNTY CONFLICT OF INTEREST STATEMENT

I hereby acknowledge that I am aware of the Local Government Code of the State of Texas, Section 176.006 regarding conflicts of interest and will abide by all provisions as required by Texas law.

Printed name of person submitting form:

Name of Company:

Date:

Signature of person submitting form:

Notarized:

**Sworn and subscribed before me
by:** _____

on _____
(date)

The undersigned, by his/her signature, represents that he/she is authorized to bind the proposer to fully comply with the terms and conditions of the attached Request for Proposal, Specifications, and Special Provisions for the amount(s) shown on the accompanying proposal sheet(s). By signing below, you have read the entire document and agreed to the terms therein.

Signature of Person Authorized to Sign Proposal

Date of PROPOSAL: _____

Printed Name and Title of Signer: _____

DO NOT SIGN OR SUBMIT WITHOUT READING ENTIRE DOCUMENT

THIS FORM MUST BE COMPLETED, SIGNED, AND RETURNED WITH PROPOSAL

Williamson County Inner Loop Annex

Address:

301 SE Inner Loop
Georgetown, TX 78626

Directions:

From South (Austin, Round Rock)

Take IH-35 Northbound

Exit 259

Stay on frontage road for approximately 2 miles

At stop sign, go right on Inner Loop

Just past Snead Drive, the Inner Loop Annex is on the left

Main entrance is on the side of the building by the flagpoles

From North (Georgetown, Jarrell)

Take IH-35 Southbound

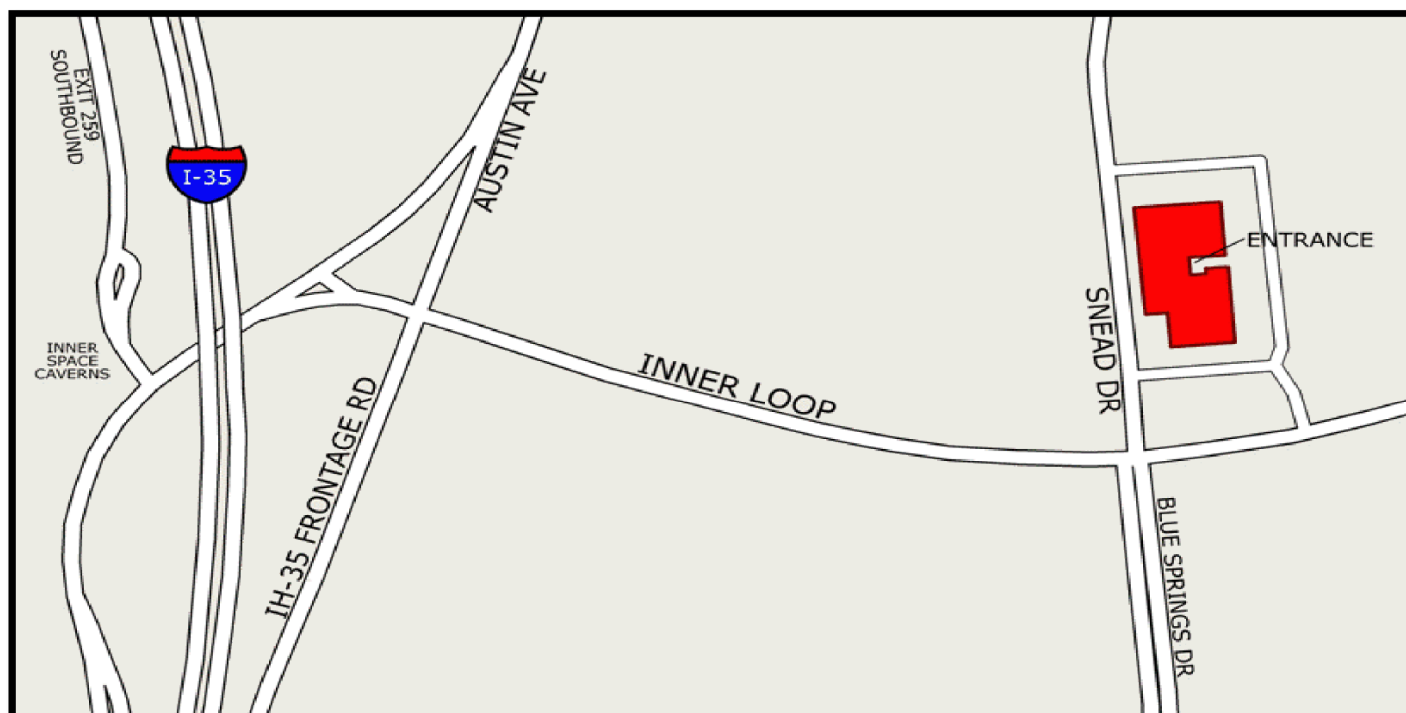
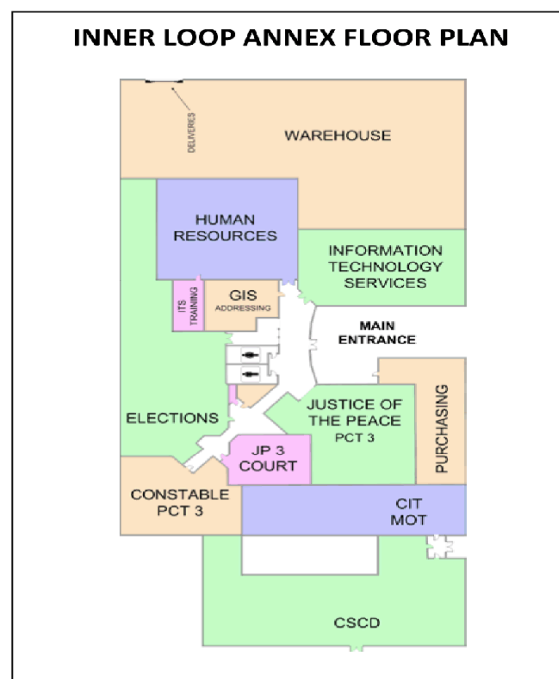
Exit 259

At stop sign, go left under the overpass

At stop stay straight onto Inner Loop

Just past Snead Drive, the Inner Loop Annex is on the left

Main entrance is on the side of the building by the flagpoles



Printing Services 11WCA024

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Brenda Fuller, Purchasing
Department: Purchasing
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider awarding bids received for Printing Services for Williamson Conty Bid Number 11WCA024 to the bid meeting specifications and best value for Williamson County Primary vendor Speedy Gonzales Printing and Secondary Safeguard Business Systems.

Background

For any questions please contact Bob Space ext. 1555

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Bid Tab Printing Services](#)

Link: [Evaluation Scoresheet](#)

Form Routing/Status

Form Started By: Brenda Fuller
Started On: 01/27/2011 10:30 AM
Final Approval Date: 01/27/2011

**WILLIAMSON COUNTY BID TABULATION
ANNUAL CONTRACT
PRINTING SERVICES FOR
WILLIAMSON COUNTY**

BID NUMBER: 11WCA024

January 18, 2011 through January 17, 2014

Recommended award to
Primary: Speedy Gonzales Printing
Secondary: Safeguard Business Systems

ITEM #	SPEEDY GONZALES PRINTING	SAFEGUARD BUSINESS SYSTEMS	JACK GRAFLUS MINUTEMAN PRESS	PRINT MAIL PRO
35.1. 1	\$30.20(500) \$162.50(5000) \$1,625. EXT	\$26.00(500) \$175.00(5000) --.	\$35.00(500) \$210.00(5000) \$3,500. EXT.	\$63.82(500) \$204.52(5000) --
35.2. 1	\$30.20(500) \$162.50(5000) \$1,625. EXT.	\$26.00(500) \$175.00(5000) --	\$35.00(500) \$210.00(5000) \$3,500. EXT.	\$63.82(500) \$204.52(5000) --
35.6	\$42.00(500) \$283.00(5000) \$2,830.EXT	\$55.00(500) \$280.00(5000) --	\$46.00(500) \$276.00(5000) \$4,600.EXT	\$86.17(500) \$277.61(5000) --
35.10	\$42.00(500) \$283.00(5000) \$2,830.EXT	\$65.00(500) \$325.00(5000) --	\$74.00(500) \$444.00(5000) \$7,400.EXT.	\$98.00(500) \$245.70(5000) --
DEL.	5-7 WK DAYS 35.11,35.12, 35.13: 15-20 WK.DAYS	3-7 DAYS	5 WK. DAYS	5-7 BUSINESS DAYS

36.1. 1	\$11.00BX. \$100.00 EXT.	\$19.50 BX. \$195.00 EXT.	\$20.00 BX. \$200.00 EXT.	\$12.87 BX. \$128.70 EXT.
36.2. 1	\$.022 EA \$14,850. EXT.	\$19.50 EA. \$26,325.EXT	\$21,900 EA. \$21,900. EXT	\$.0234 EA \$15,795.EXT
36.3	\$.686 EA \$343.00 EXT.	\$66.00 EA. \$660.00 EXT.	\$950.00 EA \$950.00 EXT.	\$.19 EA \$950.00 EXT
36.4. 4	\$44.50 EA \$449.00 EXT.	\$31.00 EA \$310.00 EXT.	\$62.00 BX. \$620.00 EXT.	\$95.00 BX \$950.00 EXT
DEL.	5-7 WK DAYS	3-7 DAYS	4 WK. DAYS	3-5 BUSINESS DAYS

ITEM #	SPEEDY GONZALES PRINTING	SAFEGUARD BUSINESS SYSTEMS	JACK GRAFLUS MINUTEMAN PRESS	PRINT MAIL PRO
37.1.1	\$20.00 BX \$180.00 EXT.	\$35.00 BX \$350.00 EXT	\$43.00 BX \$430.00 EXT	\$68.50 BX \$685.00 EXT
DEL.	5-7 WK. DAYS	5 DAYS	4 WK. DAYS	3-5 BUSINESS DAYS

38.1	\$23.05 SET \$461.00 EXT	\$27.00 SET \$540.00 EXT	\$13.25 SET \$265.00 EXT	\$.10 SET \$500.00 EXT
38.11	\$45.00 SET \$900.EXT.	\$59.00 SET \$1,180. EXT	\$50.00 SET \$1,000. EXT	\$.36 SET \$1,800 EXT.
DEL.	5-7 WK. DAYS	4-7 DAYS	5 WK. DAY	3-5 BUSINESS DAYS

39.1	\$22.50(250) \$25.00(500) \$225.00EXT	\$30.17(250) \$301.70 EXT \$34.82(500) \$174.10 EXT.	\$31.00(250) \$35.00(500) \$175.00 EXT	\$25.47(250) \$25.47(500) \$127.35 EXT.
39.5	\$60.00(200) \$66.00(500) \$600.00EXT	\$63.28(250) \$632.80 EXT. 70.78(500) \$353.90 EXT	\$89.00(250) \$99.00(500) \$495.00 EXT	\$50.00(250) \$50.00(500) \$250.00 EXT
DEL.	NONE LISTED	NONE LISTED	5 WK DAYS	7-10 BUSINESS DAYS

WILLIAMSON COUNTY BID TABULATION

PRINTING SERVICES FOR

WILLIAMSON COUNTY BID NUMBER: 11WCA024

January 18, 2011 through January 17, 2014

BEST VALUE FOR PRINTING SERVICES

All bids received shall be evaluated on the best value for the County. Best value will be determined by considering all or part of the criteria listed, as well as any relevant criteria specifically listed in the solicitation. Criteria may include bid price, reputation of the bidder and of bidder's goods and services, quality of goods or services, the extent to which the goods or services meet the County's needs, bidder's past relationship with County and all vendors will be evaluated on the past performance and prior dealings with the County to include, but not limited to, failure to meet specifications, poor quality, poor workmanship and late delivery. Rating based on 1 to 4 points with lowest total points awarded to Primary vendor and next lowest total points awarded to Secondary Vendor.

VENDOR NAME	BID PRICE	REFERENCES		DELIVERY		TOTAL POINTS
	1 – 4 pts.	1 – 4 pts.		1 – 4 pts.		
Speedy Gonzales Printing	Sec. 35 = 6 Sec. 36 = 5 Sec. 37 = 1 Sec. 38 = 3 Sec. 39 = 3 Total = 18	1		Sec. 35 = 4 Sec. 36 = 4 Sec. 37 = 4 Sec. 38 = 4 Sec. 39 = 4 Total = 20		39
Safeguard Business Systems	Sec. 35 = 7 Sec. 36 = 10 Sec. 37 = 2 Sec. 38 = 7 Sec. 39 = 6 Total = 32	1		Sec. 35 = 1 Sec. 36 = 2 Sec. 37 = 3 Sec. 38 = 2 Sec. 39 = 4 Total = 12		45
Jack Graflus Minuteman Press	Sec. 35 = 11 Sec. 36 = 13 Sec. 37 = 3 Sec. 38 = 3 Sec. 39 = 8 Total = 38	1		Sec. 35 = 3 Sec. 36 = 3 Sec. 37 = 2 Sec. 38 = 3 Sec. 39 = 1 Total = 12		51
Print Mail Pro	Sec. 35 = 16 Sec. 36 = 11 Sec. 37 = 4 Sec. 38 = 7 Sec. 39 = 3 Total = 41	1		Sec. 35 = 2 Sec. 36 = 1 Sec. 37 = 1 Sec. 38 = 1 Sec. 39 = 2 Total = 7		49

Awarded Primary: Speedy Gonzales Printing;

Awarded Secondary: Safeguard Business Systems

Evaluation Team: Toni Mace, Kay Sparkman, Peggy Braun;

Purchasing Facilitation: Kerstin Hancock and Brenda Fuller

Regional Park Headquarters Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Patrick Strittmatter, Purchasing
Submitted For: Jim Rodgers
Department: Purchasing
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider authorizing advertising and setting date of March 8, 2011 at 1:30pm in the Purchasing Department to receive bids for the Regional Park Headquarters project, Bid # 11WC907.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

Link: [Project Invitation for Bid](#)

Link: [Project Specifications](#)

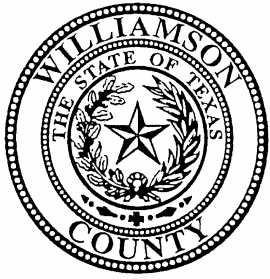
Link: [Project Structural Diagrams](#)

Link: [Schedule of Bid Items](#)

Link: [Bid Item Descriptions](#)

Form Routing/Status

Form Started By: Patrick Strittmatter Started On: 01/27/2011 11:00 AM
Final Approval Date: 01/27/2011



WILLIAMSON COUNTY
PURCHASING DEPARTMENT
301 SE INNER LOOP – SUITE 106
GEORGETOWN, TEXAS 78626

<http://www.williamson-county.org/Purchasing>

INVITATION FOR BIDS

REGIONAL PARK HEADQUARTERS

BID NUMBER: 11WC907

BIDS MUST BE RECEIVED ON OR BEFORE: March 8, 2011 – 1:30 PM

BIDS WILL BE PUBLICLY OPENED: March 8, 2011 – 1:30 PM

**A NON-MANDATORY PRE-BID MEETING WILL BE HELD ON:
TUESDAY, FEBRUARY 15, 2011 AT 1:30 PM
AT THE WILLIAMSON COUNTY REGIONAL PARK
3005 COUNTY ROAD 175, LEANDER, TEXAS 78641**

Williamson County is soliciting sealed bids from vendors for the construction of a new regional park office building to be located at 3005 County Road 175 Leander, TX. The new office is to be a 2,930 square foot, single story, wood frame structure to house park administration functions. For additional information please review the separate documents, Park HQ Project Specifications and Park HQ Structural Diagrams.

BID SUBMISSION

DEADLINE: Bids must be received in the Williamson County Purchasing Department **at or before 1:30 PM on Tuesday, March 8, 2011.** Bids will be publicly opened at 1:30 PM or soon thereafter in the Williamson County Purchasing Dept., 301 SE Inner Loop-Suite 106, Georgetown, Texas.

METHODS: Sealed bids may be hand-delivered or mailed to the *Williamson County Purchasing Department, Attn: Jonathan Harris, Suite 106, Williamson County Inner Loop Annex, 301 SE Inner Loop, Georgetown, Texas 78626.*

LOCATION DIRECTIONS: Please see page 9 of this document for a map and directions to the Williamson County Inner Loop Annex.

FAX/EMAIL: Facsimile and electronic mail transmittals will not be accepted.

BID REQUIREMENTS

NON-MANDATORY PRE-BID MEETING: All vendors interested in submitting a bid are invited to attend the non-mandatory pre-bid meeting at **1:30 PM on Tuesday, February 15, 2011, Williamson County Regional Park, 3005 County Road 175, Leander, Texas 78641.** The meeting point will be the traffic circle approximately 100 yards from the park entrance, near the flagpoles.

QUADRUPLICATE: All bids must be submitted in quadruplicate (1 original complete bid set and 3 copies of the bid set). The bid sets should be marked "original" or "copy". A "bid set" consists of the COMPLETED AND SIGNED Bid Form and any other required documentation. **All copies must have the same attachments as the original.**

SEALED: All bids must be returned in a sealed envelope with the bid name, number, opening date and time clearly marked on the outside. **If an overnight delivery service is used,** the bid name, number, opening date

and time must be clearly marked on the outside of the delivery service envelope.

REFERENCES: Williamson County **requires bidder to supply with this bid, a list of at least three (3) references** where like services have been supplied by their firm. Include name of firm, address, telephone number and name of representative.

LEGIBILITY: Bids must be legible and of a quality that can be reproduced.

FORMS: All bids must be submitted on the forms provided in this bid document. Electronically generated bid forms will not be accepted. Changes to bid forms made by bidders may disqualify the bid. Bids cannot be altered or amended after submission deadline.

LATE BID: Bids received after the submission deadline will not be opened and will be considered void and unacceptable. Williamson County is not responsible for lateness of mail, courier service, etc.

RESPONSIBILITY: It is expected that a prospective bidder will be able to affirmatively demonstrate bidder's 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;
- d) be otherwise qualified and eligible to receive an award.

Williamson County may request representation and other information sufficient to determine bidder's ability to meet these minimum standards listed above.

AWARD

THIRTY DAYS: Awards should be made approximately thirty (30) days after the bid opening date. Results may be obtained by contacting the Technical Contact.

REJECTION OR ACCEPTANCE: No more than one bid will be awarded for any item, single department or area. Bids may be rejected for some items, departments or areas, even though awards are made for others. The convenience of having a single source for similar items will be taken into consideration together with price in determining the lowest and best bid.

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 materials and/or services covered in this bid request, and to waive informalities or defects in the bid or to accept such bid it shall deem to be in the best interest of Williamson

County. In determining the overall best bid, the County may exercise either (or both) of the following options granted to local government's under the Texas Local Government Code.

Option 1 – TLGC § 271.905. This option allows the County to consider a bidder's principal business location in determining the overall lowest and best bid.

Option 2 – TLGC § 271.907. This option allows the County to evaluate bids and give preference to goods and/or services of a vendor that demonstrates that the vendor 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 Williamson County (as it relates to any state, federal, or voluntary air quality standard), then the bidder should provide information in narrative form indicating the anticipated air quality impact. Bidders are expected to meet all mandated state and federal air quality standards.

CONTRACT: This Bid, when properly accepted by Williamson County, shall constitute a contract equally binding between the successful bidder and Williamson County.

The successful bidder may be required to sign an additional agreement containing terms necessary to ensure compliance with the bid.

CONTRACT ADMINISTRATION: Under this contract, Jim Rodgers, Parks & Recreation Director, Williamson County, shall be the contract administrator with designated responsibility to ensure compliance with contract requirements, such as but not limited to, acceptance, inspection and delivery. The contract administrator will serve as liaison between Williamson County Commissioners Court and the successful bidder.

CONTRACT PERIOD: The Contract Period is the date of award through completion of project. This project is to be completed **270 calendar days** after notice to proceed is issued.

Upon the failure of Commissioners Court to so appropriate in any year, the Vendor may elect to terminate this agreement, with no additional liability to the County. The County and the Vendor agree that termination shall be the Vendor's sole remedy under this circumstance.

BID CONTACTS

PURCHASING CONTACT:

Jonathan Harris
301 SE Inner Loop – Suite 106
Georgetown, TX 78626
(512) 943-1692
joharris@wilco.org

TECHNICAL CONTACT:

David Rothenberg
BWM Group
102 E. Main – Suite 200
Round Rock, TX 78664
(512) 238-8912 ext. 204
drothenberg@bwmgrp.com

MISCELLANEOUS

CONFLICT OF INFORMATION: In the event a conflict of information exists between the County bidder instructions and the Design Consultant instructions the County's bidder instructions will supercede.

FOB DESTINATION: 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 price, 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 point.

FIRM PRICING: 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. This price must be good from the date of bid opening for a fixed period of time. Unless the Bid expressly states otherwise, this period shall be until the end of the current fiscal year on September 30, 2011. 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, but for no longer than the current fiscal year.

ESTIMATED QUANTITIES: The estimated quantity of each item listed in the notice is only an estimate – the actual quantity to be 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. Any limit on quantities must be stated expressly in the bid.

FUNDING: Funds for payment have been provided through the Williamson County budget approved by Commissioners' Court for the October 1, 2010 thru September 30, 2011 fiscal year.

SALES TAX: Williamson County is by statute, exempt from the State Sales Tax and Federal Excise Tax.

STATEMENTS: No oral statement of any person shall modify or otherwise change, or affect the terms, conditions, plans and/or specifications stated in the various Bid Packages and/or Bid Instructions or Requirements.

DELIVERY: The delivery time and location for the commodity and/or service covered by this bid shall be as stated in the various bid packages.

PURCHASE ORDER: If required by the Williamson County Purchasing Department a purchase order(s) may be generated to the successful bidder for products and/or services. If a purchase order is issued the purchase order number must appear on all itemized invoices and/or requests for payment.

PAYMENT: Payment shall be made by check from the County upon satisfactory completion and acceptance of items and submission of the Invoice to the ordering department for work specified by this Contract Document. All payments owed will be paid no later than thirty (30) days after the goods or services are received OR the date that the invoice is received by the Auditor's Office whichever is later. As a minimum, invoices shall include:

- (1) Name, address, and telephone number of Vendor and similar information in the event the payment is to be made to a different address
- (2) County contract, Purchase Order, and/or delivery order number
- (3) Identification of items or service as outlined in the contract
- (4) Quantity or quantities, applicable unit prices, total prices, and total amount
- (5) Any additional payment information which may be called for by the contract

Payment inquiries should be directed to the Auditor's Office, Accounts Payable Department: Donna McKittrick, 943-1558 or Kathy Blankenship, 943-1557.

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 of January 1, 2006 Vendor's are responsible for complying with Local Government Code Title 5, Subtitle C, Chapter 176. Additional information may be obtained from the County website at the following link:
http://wcportals.wilco.org/Interest_Conflict/index.html

The Williamson County Conflict of Interest Statement is located on Page 7 of this Invitation for Bids. This form must be completed, signed, and submitted with your Bid.

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 Williamson County.

DOCUMENTATION: Bidder shall provide with this bid response, all documentation required by this bid. Failure to provide this information may result in rejection of the bid.

TERMINATION FOR CAUSE: In the event of breach or default of this contract or any other additional agreement containing terms necessary to ensure compliance with the Proposer's proposal, Williamson County reserves the right to enforce the performance of this contract or any additional agreement by any manner prescribed by law or deemed to be in the best interest of Williamson County. At Williamson County's sole discretion, the Proposer may be given a reasonable opportunity to cure its breach or default prior to Williamson County's termination under this provision. Williamson County's option to offer time to cure a default or breach shall, however, in no way be construed as negating the basis for termination for non-performance.

TERMINATION FOR CONVENIENCE: Williamson County may terminate this contract and/or any additional agreement containing terms necessary to ensure compliance with the Proposer's proposal, for convenience and without cause or further liability, upon thirty (30) days written notice to Proposer. In the event Williamson County exercises its right to terminate without cause, it is understood and agreed that only the amounts due to Proposer 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 Williamson County's termination for convenience.

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.

COMPLIANCE WITH LAWS: The successful bidder shall comply with all applicable federal, state and local laws and regulations pertaining to the practice of the profession and the execution of duties under this bid including the TEXAS HAZARD COMMUNICATION ACT and THE WILLIAMSON COUNTY HAZARD COMMUNICATION PROGRAM POLICY.

WORKER'S COMPENSATION

The Texas Labor Code, §406.096, requires workers' compensation insurance coverage for all persons providing services on a building or construction project for a governmental entity. The rule requires a governmental entity 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 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, §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 or proposal 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:

Jonathan Harris
Williamson County Purchasing Department
301 SE Inner Loop - Suite 106
Georgetown, TX 78626

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) 943-3553, or you may call the Division of Workers' Compensation at (512) 804-4000.

Workers' Compensation Insurance Coverage:

A. Definitions: Certificate of coverage ("certificate")-A copy of a certificate of insurance, a certificate of authority to self-insure issued by the 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.

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 governmental entity.

Persons providing services on the project ("subcontractor" in §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.

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, 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 coverage to the governmental entity 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 the governmental entity showing that coverage has been extended.

E. The contractor shall obtain from each person providing services on a project, and provide to the governmental entity:

(1) a certificate of coverage, prior to that person beginning work on the project, so the governmental entity will have on file certificates of coverage showing coverage for all persons providing services on the project;

(2) no later than seven (7) 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 governmental entity 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 Division of Workers' Compensation, informing all persons providing services on the project that they are required to be covered, and stating how a person may verify coverage and report lack of coverage.

I. The contractor shall contractually require each person with whom it contracts to provide services on a project, to:

(1) provide coverage, based on proper reporting of classification codes and payroll amounts and filing of any coverage agreements, which meets the statutory

requirements of Texas Labor Code, Section 401.011(44) for all of its employees providing services on the project, for the duration of the project;

(2) provide to the contractor, prior to that person beginning work on the project, a certificate of coverage showing that coverage is being provided for all employees of the person providing services on the project, for the duration of the project;

(3) provide the contractor, prior to the end of the coverage period, a new certificate of coverage showing extension of coverage, if the coverage period shown on the current certificate of coverage ends during the duration of the project;

(4) obtain from each other person with whom it contracts, and provide to the contractor:

(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 certificates of coverage on file for the duration of the project and for one year thereafter;

(6) notify the governmental entity 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 the governmental entity 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 governmental entity 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 governmental entity.

PERFORMANCE AND PAYMENT BONDS: Chapter 262.032 of the Texas Local Government Code governs the requirements for performance bonds for government entities making public work contracts. A performance bond is required if the contract is in excess of \$50,000 and is to be made for the full amount of the contract. Chapter 2253.021 of the Texas Government Code governs the requirements for payment bonds for government entities making public work contracts. A payment bond is required if the contract is in excess of \$25,000 and is to be made for the full amount of the contract. The bonds are to be executed within fourteen (14) calendar days after receipt of written notification of award of contract and prior to beginning work on the project. The bonds must be executed by a corporate surety or sureties in accordance with the Texas Insurance Code.

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.

BIDDER'S BOND: All bids shall be accompanied by a certified cashier's check upon a National or State

bank in an amount not less than five percent (5%) of the total maximum bid price, payable without recourse to Williamson 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 performance and payment bonds within fourteen (14) calendar days after notice of award of contract to him. Bid guarantees must be submitted in the same sealed envelope with the bid. Bids submitted without check or bid bonds will not be considered.

EXECUTION OF CONTRACT: Failure to execute the construction contract within fourteen (14) calendar days of written notification of award or failure to furnish the performance bond, or letter of credit if applicable, and payment bond as required shall be just cause for the annulment of the award. In case of the annulment of the award, the bid guarantee shall become the property of Williamson County, not as a penalty, but as a liquidated damage.

The Contractor shall not commence work under this contract until he has furnished certification of all insurance required and such has been approved by Williamson County, nor shall the contractor allow any subcontractor to commence work on his subcontract until proof of all similar insurance that is required of the subcontractor has been furnished and approved.

Bid Submission: All bid submissions shall include the following completed forms and required information:

- Williamson County Conflict of Interest Statement
- Williamson County Bid Form
- Park HQ Schedule of Bid Items
- Bidder's Bond
- Three (3) References



WILLIAMSON COUNTY CONFLICT OF INTEREST STATEMENT

I hereby acknowledge that I am aware of the Local Government Code of the State of Texas, Section 176.006 regarding conflicts of interest and will abide by all provisions as required by Texas law.

Printed name of person submitting form:

Name of Company:

Date:

Signature of person submitting form:

Notarized:

Sworn and subscribed before me

by: _____

on _____.

(date)

WILLIAMSON COUNTY BID FORM
REGIONAL PARK HEADQUARTERS

BID NUMBER: 11WC907

NAME OF BIDDER: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Email Address: _____

Telephone: (_____) _____ Fax: (_____) _____

TOTAL BID AMOUNT (To include all costs: materials, labor, equipment, installation, delivery, possible bonds, etc):

\$ _____

The undersigned, by his/her signature, represents that he/she is authorized to bind the bidder to fully comply with the terms and conditions of the attached Request for Bid, Specifications, and Special Provisions for the amount(s) shown on the accompanying bid sheet(s). By signing below, you have read the entire document and agreed to the terms therein.

Signature of Person Authorized to Sign Bid

Date: _____

Printed Name and Title of
Signer: _____

ACKNOWLEDGEMENT OF ADDENDA

The bidder shall acknowledge receipt of any addenda issued to the solicitation by completing the blocks below or by completion of the applicable information on the addendum and returning it no later than the date and time for receipt of the bid. Failure to acknowledge an addendum that has a material impact on the solicitation may negatively impact the responsiveness of your bid. Material impacts include but are not limited to changes to specifications/scope of work, delivery time, quantities, bonds, qualifications, etc.

Addendum No._____, Date_____ Addendum No._____, Date_____
Addendum No._____, Date_____ Addendum No._____, Date_____

DO NOT SIGN OR SUBMIT WITHOUT READING ENTIRE DOCUMENT
THIS FORM MUST BE COMPLETED, SIGNED, AND RETURNED WITH BID

Williamson County Inner Loop Annex

Address:

**301 SE Inner Loop
Georgetown, TX 78626**

Directions:

From South (Austin, Round Rock)

Take IH-35 Northbound

Exit 259

Stay on frontage road for approximately 2 miles

At stop sign, go right on Inner Loop

Just past Snead Drive, the Inner Loop Annex is on the left

Main entrance is on the side of the building by the flagpoles

From North (Georgetown, Jarrell)

Take IH-35 Southbound

Exit 259

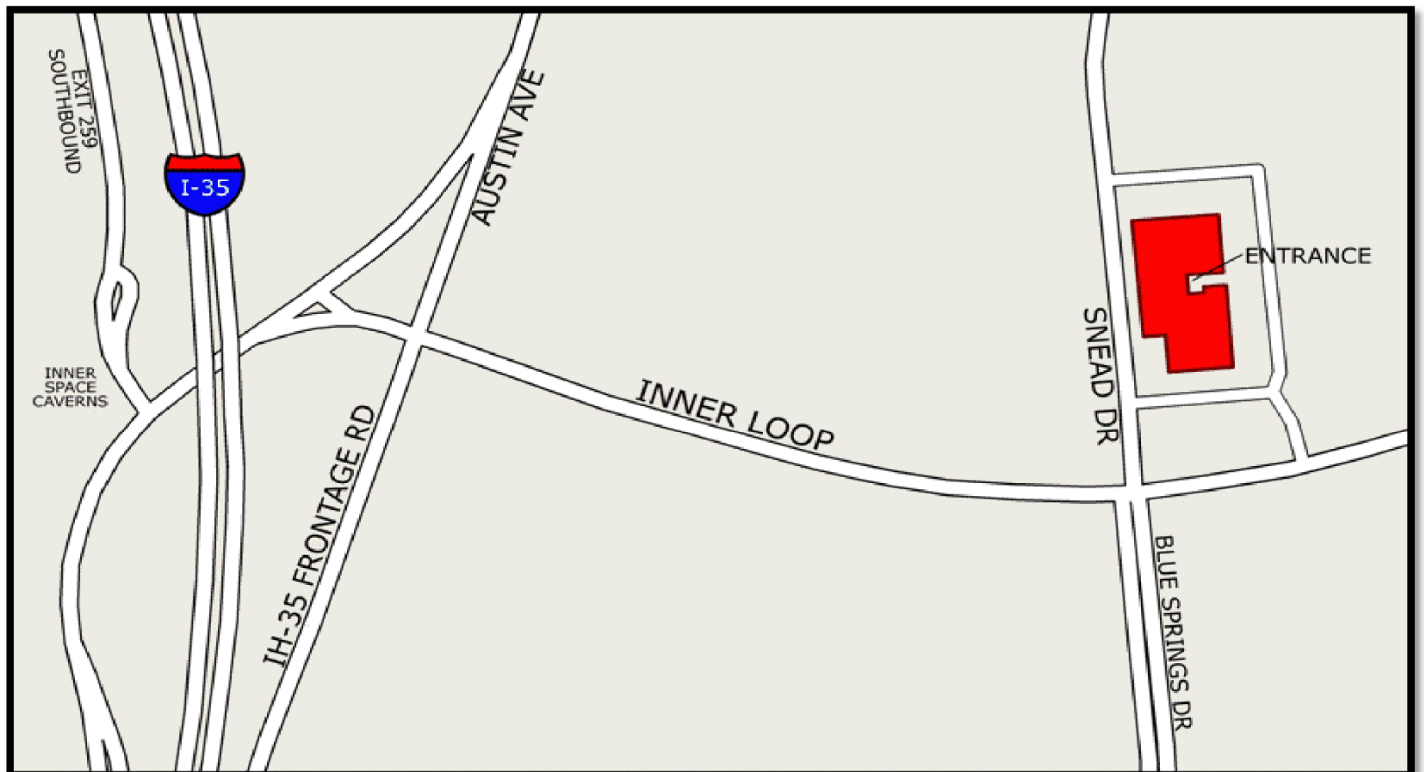
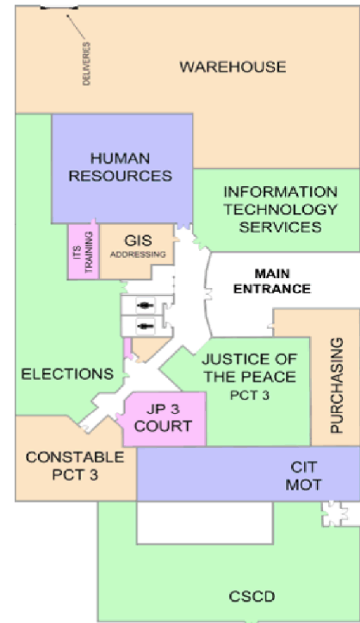
At stop sign, go left under the overpass

At stop stay straight onto Inner Loop

Just past Snead Drive, the Inner Loop Annex is on the left

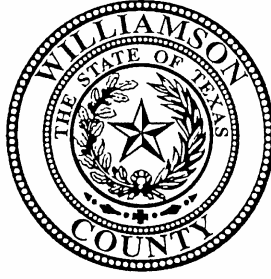
Main entrance is on the side of the building by the flagpoles

INNER LOOP ANNEX FLOOR PLAN



CONTRACT DOCUMENT

The successful bidder shall be required to execute a formal contract at Williamson County's offices in Georgetown, Texas within ten (10) days after the bid award. Said contract shall be in the same form as the contract which begins on the following page. The only anticipated changes in the contract will be to include additional exhibits, to fill in blanks to identify the contractor, and terms relating to the compensation, or to revise the contract 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 contract, or submit requested changes in said terms, in the form of written questions or submittals.** Because the signed contract will be substantively and substantially derived from the attached contract, each bidder is urged to seek independent legal counsel as to any questions about the terms, conditions or provisions contained in the attached contract before submitting a bid. Again, the attached contract contains important legal provisions and is considered part and parcel of this bid invitation. Failure or refusal to sign aforesaid contract shall be grounds for Williamson County to revoke any bid award which has been issued, forfeit bid security, if applicable, and select another bidder.



AGREEMENT BETWEEN OWNER AND CONTRACTOR

This Agreement is made as of _____, 20____ (the "Effective Date"),
by and between

The **Owner**: Williamson County
710 Main Street, Ste. 101
Georgetown, Texas 78626

and **Contractor**

for the **Project**:

Project Architect:

AGREEMENT, this Agreement between Owner and Contractor (hereinafter called "Agreement") is entered into effective as of the date indicated on the immediately preceding page of this document 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 Construction of _____ (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 Owner's requirements and the terms of the Contract Documents.

ARTICLE 2 CONTRACT DOCUMENTS

2.1 The Contract Documents consist of:

- a. This Agreement and all exhibits and attachments listed, contained or referenced in this Agreement;
- b. The General Conditions for Williamson County ("General Conditions"), however, this Agreement shall control in the event of a conflict with those General Conditions;
- c. The Special Conditions, however, this Agreement shall control in the event of a conflict with those Special Conditions;
- d. All Addenda issued prior to the Effective Date of this Agreement;
- e. The "Bid Documents" as defined by the "Invitation for Bidders" in the original bid documents;
- f. All Change Orders issued after the Effective Date of this Agreement;
- g. The Drawings, Specifications, details and other documents developed by Project Architect to describe the Project and accepted by Owner; and
- h. The Drawings and Specifications developed or prepared by Owners other consultants, if any, and accepted by the Owner.

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.

2.3 The term "Contractor" shall be interchangeable with the terms "Proposer," "Bidder" and "General Contractor" or other similar terms as appropriate in the Contract Documents.

ARTICLE 3 DEFINITIONS

The terms, words and phrases used in the Contract Documents shall have meanings as follows.

3.1 "**Construction Documents**" means, collectively, the Drawings, Specifications, details, accepted and approved Change Orders and other documents prepared by the Project Architect, its consultants and by the Owner's other consultants that describe the scope and quality of the Project and the materials, supplies, equipment, systems and other elements that are required for construction of the Project that are accepted by the Owner.

3.2 “Contract Sum” means the total amount of all compensation payable to the Contractor for the Project and shall not exceed the Total Base Bid proposed by the Contractor and accepted by the Owner, subject to adjustment as approved by Owner for Additional Services or Change Orders. Any costs that exceed the Contract Sum shall be borne solely by Contractor without reimbursement by Owner.

3.3 “Final Completion” means the stage in the progress of the Work when, in the Owner’s opinion, the entire Work has been completed, the Contractor’s obligations under the Contract Documents have been fulfilled, and the Owner is processing or has made final payment to the Contractor, as evidenced by a Certificate of Acceptance approved by the Owner. The date of Final Completion is a crucial element of the Project. Therefore, the date of Substantial Completion, as defined herein below, is not subject to change unless due to “force majeure” as defined herein and in any associated Contract Documents or unless agreed to in advance in writing by the parties.

3.4 “Notice to Proceed” refers to the written document issued by the Owner following acceptance of the proposal and execution of this Agreement which indicates the date on which the Work is to begin.

3.5 “Owner” means Williamson County and includes its designated Owner’s Designated Representative.

3.6 “Owners Designated Representative or ODR” means the individual described in Article 7.3 herein below.

3.7 “Owner’s Specifications” means the construction and contract administration requirements and standards as interpreted by Owner.

3.8 “Project Architect” means the professional architect employed by the Owner as architect of record for the Project along with their consultants.

3.9 “Standards and Standard Specifications” means the construction and design requirements and the highest standards of Contractor’s profession or business and in compliance with all applicable national, federal, state, municipal, laws, regulations, codes, ordinances, orders and with those of any other body having jurisdiction

3.10 “Subcontractor” means a person or entity that has an agreement with the Contractor to perform any portion of the Work. The term Subcontractor does not include the Project Architect or any person or entity hired directly by the Owner.

3.11 “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.

3.12 “Work” means provision of all services, labor, materials, supplies, and equipment which are required or reasonably inferable to complete the Project in strict accordance with the requirements of the Contract Documents (as such may be modified or amended). The term “reasonably inferable” takes into consideration the understanding of the parties that some details necessary for completion of the Work may not be shown on the Drawings or included in the Specifications, but they are a requirement of the Work if they are a usual and customary component of the Work or otherwise necessary for complete installation and operation of the Work. The Contractor shall not be entitled to an increase in the Contract Sum due to the absence of any detail or specification the Contractor may require or for any construction which may be found necessary as the Work progresses in order to complete the construction of the Project. If an item or system is either shown or specified, all material and equipment required for the proper installation of such item or system shall be provided whether or not detailed or specified, omitting only such parts as are specifically excepted

by the Owner. Notwithstanding the above, the Contractor shall not be responsible for design, except incidental designing/detailing as required by the Specifications for shop drawing purposes.

ARTICLE 4

SUBSTANTIAL COMPLETION

4.1 Substantial Completion. 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 and request a determination as to whether the Work or designated portion thereof is substantially complete. If Owner's Designated Representative does not consider the Work substantially complete, Owner's Designated Representative 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 Contract Documents. After satisfactorily completing items identified by Owner's Designated Representative, the Contractor shall then submit another request for Owner's Designated Representative to determine Substantial Completion. If Owner's Designated Representative considers the Work substantially complete, Owner's Designated Representative 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 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 Contract Documents. 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.

4.2 Owner intends to achieve Substantial Completion (as defined in this agreement) for all stages of construction on or before the following completion date:

EXPECTED DATE FOR SUBSTANTIAL COMPLETION: _____, 20____

Under no circumstances will the time for Substantial Completion exceed this date without a written amendment to this Agreement.

4.3 THE TIMES SET FORTH IN THE CONSTRUCTION DOCUMENTS ARE AN ESSENTIAL ELEMENT OF THE AGREEMENT.

ARTICLE 5

COMPENSATION

5.1 Contract Sum. The Contract Sum for the Project is: _____
(\$ _____)

5.2 Contract Payments. Method and terms of payment of the contract sum shall be in accordance with the Contract Documents.

5.3 Liquidated Damages. 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:

Dollars per day (\$ _____ /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 amount of daily liquidated damages set forth is reasonable.

ARTICLE 6 CONTRACTOR'S GENERAL RESPONSIBILITIES

QUALITY OF WORK

6.1 Contractor shall perform all services specifically allocated to it by the Contract Documents as well as those services reasonably inferable from the Construction Documents as necessary for completion of the Work and the Project. Contractor shall 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. The enumeration of specific duties and obligations performed by the Contractor hereunder shall not be construed to limit the general undertakings of the Contractor. The obligations of the Contractor hereunder run to and are for the benefit of only the Owner.

6.2 Notwithstanding anything to the contrary contained in this Agreement, Owner and Contractor agree and acknowledge that Owner is entering into this Agreement in reliance on Contractor's represented expertise and ability to provide construction services. Contractor agrees to use its best efforts, skill, judgment, and abilities to perform its obligations and to further the interests of Owner in accordance with Owner's requirements and procedures.

6.3 Contractor represents and agrees that all persons connected with the Contractor directly in charge of its services are duly registered and/or licensed under the laws, rules and regulations of any authority having jurisdiction over the Project if registration is required.

6.4 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.

COORDINATION OF THE WORK

6.5 Contractor shall cooperate with the Project Architect and ODR and endeavor to further the interests of the Owner and the Project. Contractor shall complete the Project in an expeditious and economical manner consistent with the interests of the Owner and in accordance with the Project Schedule.

6.6 Contractor shall designate a representative authorized to act on the Contractor's behalf with respect to the Project. Contractor warrants, represents, covenants, and agrees to furnish efficient

business administration and superintendence and perform its services hereunder or pursuant to this Agreement in the best way and in the most expeditious and economical manner consistent with the interest of Owner. The Contractor agrees to provide an on-site, full-time superintendent for the duration of the Project.

6.7 Contractor shall review and understand the standards and requirements in Owner's Specifications and perform all services in accordance with those standards and requirements.

6.8 Contractor shall visit the site and inspect the existing facilities, systems and conditions to insure an accurate understanding of the existing conditions as required.

6.9 Contractor shall, at Owner's request, attend public meetings and hearings concerning the development and schedule of the Project.

6.10 Contractor shall review all Drawings, Specifications, and other Construction Documents as they are developed by the Owner and/or its Project Architect and advise Owner of any error, inconsistency or omission discovered in the Drawings, Specifications, and other Construction Documents.

6.11 Contractor shall review the Construction Documents for compliance with all applicable laws and code requirements and with Williamson County requirements.

6.12 Contractor shall advise Owner of any tests to be performed, and assist Owner in selecting testing laboratories and consultants, without assuming direct responsibility for the work of such laboratories and consultants.

6.13 Contractor shall review the Construction Documents to ensure that they contain adequate provision for all temporary facilities necessary for performance of the Work, and provisions for all of the job site facilities necessary to manage, inspect, and supervise construction of the Work.

6.14 Contractor shall consult with and make recommendations to the Owner on the acquisition schedule for fixtures, furniture and equipment, and coordinate the Owner's purchase and installation of such items with the Owner as may be required to meet the Contractor's Project Schedule.

6.15 Contractor shall identify every Subcontractor it intends to use on the Project, including Subcontractors used for self-performed 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. Following Owner acceptance of a Subcontractor, that Subcontractor shall not be changed without Owner's written consent, which shall not be unreasonably withheld.

6.16 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 and with the requirements of an Owner controlled insurance program, if any.

6.17 Contractor shall provide recommendations and information to Owner and Project Architect regarding the assignment of responsibilities for safety precautions and programs, temporary Project facilities, and equipment, materials, and services for common use of the Subcontractors. Contractor shall verify that appropriate safety provisions are included in the Construction Documents.

CONSTRUCTION WORK

6.18 Construction shall be deemed to commence upon the date specified in a Notice to Proceed issued by Owner and shall continue until Final Completion of all Work. The Contractor shall construct the Work in strict accordance with the Construction Documents and Owner's Specifications within the time required by the Project Schedule approved by Owner.

6.19 The Contractor hereby agrees to make any and all changes, furnish the materials and perform the Work which may be required or reasonably inferable to complete the Project in strict accordance with the requirements of the Contract Documents, without nullifying this Agreement. **NO ALTERATIONS OR CHANGES SHALL BE MADE, HOWEVER, EXCEPT UPON THE WRITTEN ORDER OF THE OWNER, OR ITS AUTHORIZED REPRESENTATIVE.**

6.20 Contractor shall organize and maintain a competent, full-time staff at the Project site with clearly defined lines of authority and communication as necessary to coordinate construction activities, monitor and direct progress of the Work.

6.21 Contractor shall designate in writing a representative who is responsible for the day-to-day management of the Work. The designated representative shall be the Owner's primary contact during the Work and shall be available as required for the benefit of the Project and the Owner. The 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 and Applications for Payment.

6.22 Contractor shall attend Owner's regularly scheduled Project progress meetings and fully advise the Owner's Designated Representative of the Project status including schedule, costs, quality and changes.

6.23 Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and all other facilities and services necessary for the proper execution and completion of the Work in strict accordance with the requirements of the Construction Documents.

6.24 Contractor shall assist in obtaining building permits and obtain special permits for permanent improvements as required by law or the Construction Documents. Assist Owner or Project Architect in obtaining all approvals required from authorities having jurisdiction over the Project.

6.25 Contractor shall coordinate, monitor and inspect the work of Subcontractors to ensure conformance with the Construction Documents.

6.26 Contractor shall be responsible for all construction means, methods, techniques, sequences and procedures, and for coordinating all portions of the Work. The Contractor shall keep the Owner informed of the progress and quality of the Work.

6.27 Contractor shall promptly correct any defective Work at Contractor's sole expense, unless the Owner specifically agrees to accept the Work.

6.28 Contractor shall warrant that the materials and equipment provided for the Project will be of good quality and new unless otherwise required or permitted by the Construction Documents; that the construction will be free from faults and defects; and that the construction will conform with the

requirements of the Construction Documents. The Contractor shall be responsible for correcting Work that does not comply with the Construction Documents at its sole expense without cost to the Owner.

6.29 Regarding Record Documents and the Owner's Project Closeout Specification, the Contractor shall maintain and deliver the required documents that describe changes or deviations from the Construction Documents that occurred during construction and that reflect the actual "As Built" conditions of the completed Work.

COMMISSIONING & WARRANTY RESPONSIBILITIES

6.30 Contractor shall provide commissioning, starting and check-out services for the systems installed in the project 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.

6.31 Contractor shall provide warranty services for the Work for a full eighteen months (thirty months for work in the mechanical subcontract) following Final Completion and acceptance. Just before the warranty period expires, Contractor shall attend an on-site meeting with the Owner and Project Architect to ensure that all warranty issues have been identified and properly remedied.

6.32 Contractor shall provide a written warranty period service plan that includes monthly site visits by an individual capable of making minor repairs and coordinating subcontractor warranty work.

ARTICLE 7 OWNER'S RESPONSIBILITIES

7.1 The Owner will designate a Project Architect for the Project.

7.2 The Owner will provide the general schedule for the Project. The general schedule will set forth the Owner's plan for milestone dates and completion of the Project.

7.3 The Owner will identify a person as its Owner's Designated Representative ("ODR") who is authorized to act in the Owner's behalf with respect to the Project. 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.

7.4 The Owner, 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 Project.

7.5 The Owner shall 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.

7.6 The Owner may designate one or more construction inspectors who shall be given access to the Work as requested or needed. The provision of inspection services by Owner shall not reduce or lessen Contractor's responsibility for the Work. Contractor is fully and solely responsible for constructing the Project in strict accordance with the Construction Documents.

7.7 Owner shall have the right to reject any defective Work on the Project. 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.

7.8 Owner shall furnish to the Contractor the number of Construction Document sets as required by this Agreement.

ARTICLE 8 OWNERSHIP AND USE OF DOCUMENTS

8.1 The Construction Documents and any other documents prepared by the Project Architect, its consultants, or other consultants retained by the Owner for the Project that describe the Work to be executed by the Contractor are instruments of service and shall remain the property of the Owner whether the Project for which they are made is executed or not. The Contractor and its Subcontractors are authorized to reproduce and use portions of the Construction Documents as necessary and appropriate for the execution of the Work. The Contractor and its Subcontractors shall not use the Construction Documents on any other projects.

8.2 Submission or distribution of the Construction Documents to meet official regulatory requirements or for other purposes in connection with the Project is authorized.

ARTICLE 9 TIME

9.1 TIME LIMITS STATED IN THE CONTRACT DOCUMENTS ARE OF THE ESSENCE OF THIS AGREEMENT.

9.2 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.

ARTICLE 10 BONDS AND INSURANCE

10.1 Performance Bond. Upon execution of this Agreement, Contractor shall provide a Performance Bond in the amount of 100% of the Contract Sum. The surety for a Performance Bond shall meet the requirements of Texas law and the requirements set forth in the General Conditions.

10.2 Payment Bond. Upon execution of this Agreement, Contractor shall provide a Payment Bond in the amount of 100% of the Contract Sum, 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 and the requirements set forth in the General Conditions.

10.3 Warranty Bond. Upon execution of this Agreement, Contractor shall provide a Warranty Bond in the amount of 100% of the Contract Sum, as security for the true and faithful performance of all warranties set forth in the Contract Documents.

10.4 The Contractor shall not commence Work under the Agreement until it has obtained all required insurance and until evidence of the required insurance has been reviewed and approved by the Owner. Owner's review of the insurance shall not relieve nor decrease the liability of the Contractor. Prior to commencing any Work under this Agreement, Contractor shall provide evidence of the insurance coverage that meets the following requirements:

10.4.1 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.

10.4.2 The Contractor shall provide and maintain, until the Work covered in this Agreement 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
a. Worker's Compensation	Statutory
b. Employer's Liability	
Bodily Injury by Accident	\$500,000 Ea. Accident
Bodily Injury by Disease	\$500,000 Ea. Employee
Bodily Injury by Disease	\$500,000 Policy Limit
c. Commercial General Liability, including coverage for the following:	
1) Premises Operations	Combined Single
2) Independent Contractors	Limit for Bodily
3) Products/Completed	Injury and Property
Operations	Damage of
4) Personal Injury	\$1,000,000
	per occurrence or
	its equivalent.
5) Contractual Liability	
6) Explosion, Collapse, Underground	
7) Broad form property damage, to include fire legal liability	
d. Business Automobile Liability owned/leased, owned, hired	
	Combined single limit for Non-Bodily
	Injury and Property Damage of
	\$1,000,000

per occurrence or its
equivalent

- e. Owner's Protective Liability Insurance Policy, naming Williamson County and its employees as insured with the following limits:

Bodily Injury	\$1,000,000 Each Occurrence
\$1,000,000 Aggregate	

10.4.3 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 project

10.4.4 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 the Owner."
- 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 the Owner."
- c. "The Owner, 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 the Owner."

10.4.5 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 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 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 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 the 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 the 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 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 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 Agreement by the Contractor which entitles the Owner to declare the Agreement void if the Contractor does not remedy the breach within ten days after receipt of notice of breach from the Owner.

10.4.6 If insurance policies are not written for the amounts specified above, 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.

10.4.7 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.

10.5 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 the Agreement, the Owner may obtain insurance coverage directly and recover the cost of that insurance from the Contractor.

10.6 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.

10.7 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 policies. Damages caused by the Contractor and not covered by insurance shall be paid by the Contractor.

ARTICLE 11 INDEMNITY

11.1 TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, THE CONTRACTOR AND ITS AGENTS, PARTNERS, EMPLOYEES, AND CONSULTANTS (COLLECTIVELY "INDEMNITORS") SHALL AND DO AGREE TO INDEMNIFY, PROTECT, DEFEND WITH COUNSEL APPROVED BY OWNER, AND HOLD HARMLESS THE OWNER, REPRESENTATIVES OF THE OWNER AND THE COMMISSIONERS COURT OF WILLIAMSON COUNTY, ITS VARIOUS DEPARTMENTS, AND THEIR RESPECTIVE OFFICERS, DIRECTORS, EMPLOYEES AND AGENTS (COLLECTIVELY "INDEMNITEES") FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES, LIENS, CAUSES OF ACTION, SUITS, JUDGMENTS, AND EXPENSES, INCLUDING ATTORNEY FEES, OF ANY NATURE, KIND, OR DESCRIPTION (COLLECTIVELY "LIABILITIES") OF ANY PERSON OR ENTITY WHOMSOEVER ARISING OUT OF, CAUSED BY, OR RESULTING FROM THE PERFORMANCE OF THE SERVICES OR ANY PART THEREOF

WHICH ARE CAUSED IN WHOLE OR IN PART BY ANY NEGLIGENT ACT OR OMISSION OF THE CONTRACTOR, ANYONE DIRECTLY OR INDIRECTLY EMPLOYED BY IT OR ANYONE FOR WHOSE ACTS IT MAY BE LIABLE, EVEN IF IT IS CAUSED IN PART BY THE NEGLIGENCE OR OMISSION OF ANY INDEMNITEE, SO LONG AS IT IS NOT CAUSED BY THE SOLE NEGLIGENCE OR WILLFUL MISCONDUCT OF ANY INDEMNITEE. IN THE EVENT MORE THAN ONE OF THE INDEMNITORS ARE CONNECTED WITH AN ACCIDENT OR OCCURRENCE COVERED BY THIS INDEMNIFICATION, THEN EACH OF SUCH INDEMNITORS SHALL BE JOINTLY AND SEVERALLY RESPONSIBLE TO THE INDEMNITEES FOR INDEMNIFICATION AND THE ULTIMATE RESPONSIBILITY AMONG SUCH INDEMNITORS FOR THE LOSS AND EXPENSE OF ANY SUCH INDEMNIFICATION SHALL BE SETTLED BY SEPARATE PROCEEDINGS AND WITHOUT JEOPARDY TO ANY INDEMNITEE. THE PROVISIONS OF THIS ARTICLE SHALL NOT BE CONSTRUED TO ELIMINATE OR REDUCE ANY OTHER INDEMNIFICATION OR RIGHT WHICH OWNER OR ANY OF THE INDEMNITEES HAS BY LAW.

11.2 The indemnities contained herein shall survive the termination of this Agreement for any reason whatsoever.

ARTICLE 12 SPECIAL WARRANTIES

12.1 Contractor represents and agrees that there are no obligations, commitments, or impediments of any kind that will limit or prevent performance of its obligations under this Agreement.

12.2 Contractor represents and agrees that the individual executing this Agreement on behalf of Contractor has been duly authorized to act for and to bind Contractor to its terms.

12.3 Contractor warrants, represents, and agrees that if (i) it is a corporation or limited liability company, that is duly organized, validly existing and in good standing under the laws of the State of Texas, or a foreign corporation or limited liability company duly authorized and in good standing to conduct business in the State of Texas, that it has all necessary corporate power and has received all necessary corporate approvals to execute and deliver the Agreement, and the individual executing the Agreement on behalf of Contractor has been duly authorized to act for and bind Contractor; or (ii) if it is a partnership, limited partnership, or limited liability partnership, then it has all necessary partnership power and has secured all necessary approvals to execute and deliver this Agreement and perform all its obligations hereunder; and the individual executing this Agreement on behalf of Contractor has been duly authorized to act for and bind Contractor.

12.4 Neither the execution and delivery of this Agreement by Contractor nor the performance of its obligations hereunder will result in the violation of any provision, if a corporation, of its articles of incorporation or by-laws, if a limited liability company, of its articles of organization or regulations, or if a partnership, by any partnership agreement by which Contractor is bound, or any agreement by which Contractor is bound or to the best of the Contractor's knowledge and belief, will conflict with any order or decree of any court or governmental instrumentality relating to Contractor.

12.5 Except for the obligation of Owner to pay Contractor the Contract Sum 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 13 CERTIFICATION OF NO ASBESTOS CONTAINING MATERIALS OR WORK

The Contractor shall provide at Substantial Completion, a notarized affidavit to the Owner and the Architect stating that no asbestos containing materials or work was provided, installed, furnished or added to the Project.

ARTICLE 14 TERMINATION

14.1 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.

14.2 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 15 MISCELLANEOUS PROVISIONS

15.1 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.

15.2 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.

15.3 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 Project 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.

15.4 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.

15.5 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.

15.6 Binding Effect. This Agreement shall be binding upon and inure to the benefit of the parties and their respective permitted assigns and successors.

15.7 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.

15.8 Records. 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.

15.9 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.

15.10 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.

15.11 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.

15.12 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.

15.13 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.

15.14 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.

15.15 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.

15.16 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.

15.17 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.

15.18 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.

15.19 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.

15.20 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.

15.21 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.

ARTICLE 16 NOTICES

Notices. All notices, consents, approvals, demands, requests or other communications relied on by the parties shall be in writing. Written notice shall be deemed to have been given when delivered in person to the designated representative of the Contractor or Owner for whom it is intended, as set out below or sent by U. S. Mail to the designated 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 (or successor)
710 Main Street, Ste. 101
Georgetown, Texas 78626

with copy to: Honorable Jana Duty (or successor)
Williamson County Attorney
405 M.L.K. Street, Box #7
Georgetown, Texas 78626

If to Contractor: 



The parties may make reasonable changes in the person or place designated for receipt of notices upon advance written notice to the other party.

Party Representatives

The Owner's Designated Representative authorized to act in the Owner's behalf with respect to the Project is:

Phone (512) _____
Fax (512) _____

The Contractor's designated representative authorized to act on the Contractor's behalf and bind the Contractor with respect to the Project is:

Phone _____
Fax _____

The parties may make reasonable changes in their designated representatives upon advance written notice to the other party.

BY SIGNING BELOW, the Parties have executed and bound themselves to this Agreement as of the day and year first above written.

WILLIAMSON COUNTY
Williamson County, Texas,

_____, a
Texas _____,

By: _____

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

ATTEST:

ATTEST:

By: _____

By: _____

Printed Name: _____

Printed Name: _____

Title: _____

Title: _____

(Intentionally Left Blank)

SECTION 031000 CONCRETE FORMWORK

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Formwork for cast-in-place concrete, with shoring, bracing and anchorage.
- B. Openings for other work.
- C. Form accessories.
- D. Form stripping.

1.02 RELATED SECTIONS

- A. Section 032000 - Concrete Reinforcement.
- B. Section 033000 - Cast-in-Place Concrete.
- C. Section 072600 - Under - Slab Vapor Barrier

1.03 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 117-90 Specifications for Tolerances for Concrete Construction and Materials.
 - 2. ACI 301-96 Specification for Structural Concrete for Buildings.
 - 3. ACI 318-95 Building Code Requirements for Reinforced Concrete.
 - 4. ACI 347 -(R94) Recommended Practice For Concrete Formwork.
- B. American Plywood Association (APA):
 - 1. APA Plywood Design Specification, Form No. Y51 OL, August, 1986.
 - 2. APA Design/Construction Guide, Concrete Forming, Form No. V345S, Sept, 1996.
- C. National Forest Products Association (NFPA).
 - 1. National Design Specification for Wood Construction, 1986 Editions with 1990 Revisions.
 - 2. Design Values for Wood Construction, January 1986, with 1990 Revisions.

1.04 CONTRACTOR RESPONSIBILITY

- A. Formwork design and engineering.
- B. Construction of formwork, shoring, removal of forms, and re-shoring.
- C. Providing a safe structure at all times and insuring safety to human life and property.

1.05 DESIGN REQUIREMENTS:

- A. General: In accordance with the references.
- B. Design: Design formwork to withstand applicable hydrostatic pressure of concrete plus dead weight, construction loads and vibrations.
- B. Limit deflection of studs and walers to 1/400 of the span for architectural concrete and 1/360 of the span for other concrete. limit deflection of form facing material exposed to view to 1/240 of the span.
- C. Build adequate supports into forms for:
 - 1. load concentrations
 - 2. external vibrations

1.06 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Shop Drawings:
 - 1. location of columns and beams by dimension.
 - 2. Use the structural member designation system used on the Drawings.
 - 3. Joint locations and details.
 - 4. Size and locations of sleeves, blockouts, and slab penetrations. Shoring and support layout.
 - 5. Reshoring layout.
 - 6. Indicate:
 - a. Form materials, types, and thickness.
 - b. Form tying system and layout.
 - c. Form accessories.
 - d. Details to be used at sleeves, blockouts, and slab penetrations.
 - e. Type and capacity of shores, supports, and reshores.
 - 7. Reshoring procedure.
 - 8. All shop drawings to be signed, dated and sealed by the formwork designer.
 - 9. Product Data: Manufacturer's product specifications and installation instructions for manufactured products, including form sealer and release agent.
 - 10. Concrete Strength Tests: Testing laboratory's reports for testing required in this Section.

1.07 QUALITY ASSURANCE

- A. Perform Work in accordance with ACI 301.
- B. Maintain one. copy of ACI 301 on site.

1.08 QUALIFICATIONS

- A. Form Work Designer: Design formwork under direct supervision of a Professional Structural Engineer experienced in design of this work and licensed in the State of Texas.

1.09 REGULATORY REQUIREMENTS

- A. Conform to ACI301 for design, fabrication, erection and removal of formwork.

1.10 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle formwork materials and accessories at the site to prevent any damage.
 - Store formwork materials and accessories off ground in ventilated and protected manner to prevent deterioration from moisture.

1.11 COORDINATION

- A. Coordinate this Section with other Sections of work, which require attachment of components to formwork.

- B. If formwork is placed after reinforcement results in concrete cover over reinforcement that is insufficient, request instructions from Architect/Engineer before proceeding.

PART 2 - PRODUCTS

2.01 WOOD FORM MATERIALS

- A. Plywood: APA B-B Plyform Class I, Exterior Grade, mill oiled and edge sealed.
- B. Lumber: Southern Pine species; Select Structural No. 2 grade or better with grade stamp clearly visible, and conforming to NFPA design values for visually graded lumber ..

2.02 PREFABRICATED FORMS

- A. Preformed Steel Forms: Minimum 16 gage matched, tight fitting and stiffened to support weight of concrete without deflection detrimental to tolerances and appearance of finished surfaces.

2.03 FORMWORK ACCESSORIES

- A. Form Release Agent:
 - 1. EUCO-SUP, Euclid Chemical Company.
 - 2. DUOGARD, W.R. Meadows, Inc.
 - 3. DEBOND, I&M Chemical Company
- B. Corners: Chamfered using wooden strip.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of Conditions: Examine substrate and conditions under which concrete formwork is to be performed. Have the installer notify the Contractor in writing, with a copy to the Architect, if substrate is unsatisfactory. Do not begin the work until unsatisfactory conditions have been corrected in a manner acceptable to installer. Beginning of work indicates acceptance of the substrate as satisfactory by the installer.

3.02 INSTALLATION

- A. General: In accordance with ACI 301, Design, erect, support, brace and maintain formwork to support vertical and lateral loads which might be applied until such loads can be supported by the concrete structure.
 - 1. Construct formwork so that concrete members and structures are of correct size, shape, alignment, elevation and position.
 - 2. Form Construction:
 - a. Fabrication: Fabricate forms for easy removal without hammering or prying against concrete surfaces.
 - b. Provide crush plates or wrecking plates where stripping may damage cost concrete surfaces.
 - c. Provide top forms for inclined surfaces where slope is too steep to place concrete with bottom forms only.

- d. Form exposed corners of beams and columns with beveled chamfer strips.
 - e. Kerf wood inserts for forming keyways, reglets, and recesses to ease removal.
 - f. Provide camber in formwork as indicated on the Drawings.
- 3. Support: Provide bracing to ensure stability of formwork.
 - a. Erect and maintain bracing to support vertical, lateral, and asymmetrical loads until such loading can be supported by inplace concrete structures.
 - b. Provide shores and struts with means of adjustment capable of taking up formwork settlement occurring during placement of concrete, using wedges, jacks, or a combination thereof.
- 4. Provisions for Other Trades:
 - a. Provide openings in concrete formwork to accommodate work of other trades.
 - b. Accurately place and securely support items to be built into forms.
- 5. Temporary Openings:
 - a. Provide temporary openings in formwork where interior area is inaccessible for:
 - Clean out.
 - b. Inspection before concrete placement.
 - c. Concrete placement.
 - d. Provide temporary openings at the base of column and wall forms.
 - e. Position temporary openings in an inconspicuous location.
 - f. Brace closures of temporary openings and set tightly to forms to prevent loss of concrete mortar.
 - g. Preparation and Tightening: Thoroughly clean forms and adjacent surfaces to receive concrete.
 - i. Form Surface Treatment:
 - a. Before placing reinforcing steel or concrete, coat the form surfaces with a material that will effectively prevent absorption of moisture, prevent bond with concrete, and not stain concrete.
 - b. A field applied form release agent or factory applied nonabsorptive liner may be used.
 - c. Do not allow form release agent to stand in puddles, come into contact with reinforcing steel or hardened concrete against which fresh concrete is to be placed.
 - d. Remove loose metal, wood chips, sawdust, dirt, trash, and other debris just prior to concrete placement.
 - ii. Re-tighten forms during and immediately after concrete placement to eliminate mortar leaks.
- B. Installation Tolerances:
 - 1. Construct formwork in accordance with tolerances specified in ACI 117.

2. Regardless of specified tolerances construct building so that no part extends beyond the legal boundaries of the project.
- C. Installation of Embedded Items:
 1. General: Set and build into the work anchorage devices, inserts, and other embedded items required for material attached to or supported by cast-in-place concrete.
 2. Use setting drawings, diagrams, instructions, and directions provided by suppliers of the items to be attached.
 3. Do not place embedded items in any manner that will displace or interfere with the reinforcing steel
 4. Conduit: Embed all electrical conduit in slabs.
 5. Wire conduit inside layers of reinforcement.
 6. Wire conduit to reinforcement perpendicular to the conduit. Do not wire to parallel reinforcement.
 7. Separate parallel conduit by 2 inches, minimum.
 8. Waterstops: Install in greatest continuous lengths possible. Do not displace concrete reinforcement.
 - a. Splice waterstops in accordance with manufacturer's recommendations.
 9. Junction Boxes:
 - a. Boxes of any depth may be located in slabs, beam soffits, and headers.
 - b. Do not locate in joist soffits.
 - c. Provide header to accommodate junction boxes over 2 1/4 inches deep.
- D. Removal of Forms:
 1. Formwork supporting weight of concrete: Including but not limited to beam, girder, and slab forms.
 - a. Remove forms after concrete has attained 70% of its design compressive strength.
 - b. Concrete strength is determined using field cured concrete cylinders.
 - c. Formwork not supporting weight of concrete: Including but not limited to sides of beams, walls, and columns.
 2. Remove forms after concrete has been in place and curing at not less than 50 degrees (F) for 24 hours and providing concrete is sufficiently hard so as not to be damaged by form removal.
 3. Form Ties: Break back snap ties and remove pull ties.

3.03 FIELD QUALITY CONTROL

- A. Removal based on strength of concrete specimens: The concrete shall be presumed to have reached its 28 day strength or specified percentage thereof when concrete tests made using either of the following indicates the strength has been achieved.
 1. Testing based on field cured test cylinders.
- B. Except for field curing and age at test, mold and test specimens as specified in Section Cast-in-Place Concrete.

1. Field cure specimens under the most unfavorable conditions prevailing for any portion of the concrete represented.
 2. Testing based on laboratory cured test cylinders.
 3. Except for age at test, mould, cure, and test specimens as specified in Section Cast-in-Place Concrete.
 4. Test specimens at an age that is equal to the length of time that the in-place formed concrete has been cured as specified in Section 03300, Cast-in-Place Concrete.
 5. Determine the length of time the in-place formed concrete has cured by the cumulative number of days or fractions thereof, not necessarily consecutive, during which:
 - (1) The temperature of the air in contact with the concrete is Above 50 degrees (F).
 - (2) The concrete has been damp or sealed from evaporation and moisture loss by a membrane forming curing compound or in place formwork.
 6. The result of a test is based on the average compressive strength of two specimens.
- Obtaining, curing, and testing of concrete cylinders, other than those required for field quality control in Section Cast-In-Place Concrete, is at the Contractor's option and expense.

END OF SECTION

SECTION 03200 CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Reinforcing steel bars, wire fabric and accessories for cast-in-place concrete.

1.02 RELATED SECTIONS

- A. Section 031 00 - Concrete Formwork.
- B. Section 03300 - Cast-in-Place Concrete.
- C. Section 07260 - Under - Slab Vapor Barrier

1.03 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 301-99 Specification for Structural Concrete for Buildings.
 - 2. ACI SP66 (94) Detailing Manual
- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 108-81 (R88) - Steel Bars, Carbon, Cold Finished, Structural Quality.
 - 2. ANSI ASTM A185-94 Welded Steel Wire Fabric for Concrete Reinforcement.
 - 3. ASTM A496-94 Steel Wire, Deformed, for Concrete Reinforcement.
 - 4. ASTM A615-94 - Deformed and Plain Billet Steel Bars for Concrete Reinforcement.
 - 5. ASTM A706-92b low-Alloy Steel Deformed Bars for Concrete Reinforcement.
 - 6. ASTM A 1116-89 - Fiber Reinforced Concrete and Shotcrete.
 - 7. ASTM D1751-83 Preformed Expansion Joint Filler for Concrete Paving and Structural Construction.
- C. American Welding Society (AWS):
 - 1. ANSI/AWS D1.1-96 - Structural Welding Code-Steel.
 - 2. ANSI/AWS D1.4-92 - Structural Welding Code-Reinforcing Steel.
- Concrete Reinforcing Steel Institute (CRSI):
 - 4. CRSI MSP- 1-97 - Manual of Standard Practice, 26th Edition, January, 1997.
 - 5. CRSI Reinforcement Anchorage and Splices, 4th Edition, 1997.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Shop Drawings:
 - 1. Indicate bar sizes, spacing, locations, and quantities of reinforcing steel and wire fabric.
 - 2. Bending and cutting schedules.
 - 3. Supporting and spacing devices.
 - 4. Use the same designation numbers for slabs, joists, beams, girders, columns, and footings as used on the Drawings.
 - 5. Detail beams and walls in elevation.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.

- D. Submit manufacturer's data and installation instructions for:
 - 1. Mechanical splice device.
 - 2. Headed concrete anchor.
 - 3. Deformed bar anchor.
- E. Welder's qualification certificates.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with CRSI Manual of Practice ACI 301 and ACI SP 66.
- B. Submit certified copies of mill test report of reinforcement materials analysis.
- C. Employ welders on the Work that have successfully qualified for the welding positions required in accordance with Chapter 6, Qualification, AWS D1.4 within the last 12 months. Welders are required to carry proof of their qualification on their person.

1.06 COORDINATION

- A. Coordinate with placement of formwork, formed openings and other Work.

PART 2 - PRODUCTS

2:01 REINFORCEMENT

- A. Reinforcing Steel: ASTM A615, 60-ksi yield grade; deformed billet steel bars.
- B. Weldable Reinforcing Steel: ASTM A706, 60 ksi yield grade; deformed low-alloy steel bars.
- C. Welded Steel Wire Fabric: ASTM A185 Plain Type; flat sheets.
- D. Fiber Reinforcement: ASTM C-1116 type III.
 - 1. Use only 100 per cent virgin polypropylene, fibrillated fibers specifically manufactured for use as concrete secondary reinforcement.
 - 2. Do not use fibers containing reprocessed olefin materials.
 - 3. Minimum volume per cubic yard of concrete: 0.1 percent (1.5 pounds).
 - 4. Fiber length: 1/2 or 3/4 inch.
- E. Headed Concrete Anchors:
 - 1. Flux filled.
 - 2. Made from cold drawn steel in accordance with ASTM A 108, grades C-1010 through C-1020, yield strength, 50 ksi.
- F. Deformed Bar Anchors:
 - 1. Flux filled.
 - 2. Made from cold drawn steel in accordance with ASTM A-108, yield strength, 70-ksi.
 - 3. Deformed in accordance with ASTM A-496.

2.02 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Bar Support: Includes spacers, chairs, bolsters, ties and other devices for spacing, supporting and fastening reinforcement in place.
 - 1. General: In accordance with CRSI Manual of Standard Practice.
 - 2. Factory made.
 - 3. Use bar support heights that produce the concrete cover called for on the Drawings.

4. Use bar supports capable of supporting construction loads without permanent deflection.
5. Spacing: At 4 feet maximum with first support 2 feet from end of bar supported.
- C. Exposed Concrete: Provide supports in contact with formwork that are:
 1. High density all plastic (CRSI Class 1).
 2. Stainless steel protected (CRSI Class 2).
- D. Typical support types and minimum configurations.
 1. Joist chairs: 3 leg, 3-position type, 6-ga. wire.
 - a. Beam and slab bolsters: continuous, type 7 -go. Wire or cementitious fiber reinforced.
 2. Individual high chairs:
 - a. legs 5 inch and under: 2-ga. wire, or high density all plastic.
 - b. legs 5 to 12 inches: 0-ga. wire.
 3. Do not use individual high chairs with legs over 12 inches.
 4. Vertical reinforcement: wheel type, high density all plastic.
 5. Supports bearing on earth.
 - a. Precast concrete blocks.
 - b. Support specifically designed for this purpose, e.g. with sand plates.
- E. Mechanical Splices: Install in strict accordance to manufacturer's recommendations.
 1. Coupler Splice Devices: Use one of the following complying with requirements of ACI 318, Section 12.14.3.4. Submit for approval.
 - a. Erico Products, Inc., Cadweld
 - b. Erico Products, Inc., Lenton taper threaded connector.
 2. End Bearing Splice Device: Use one of the following complying with requirements of ACI 318, Section 12.16.4. Submit for approval.
 - a. Erico Products Inc., Speed Sleeve
 2. Gateway Erectors Inc., G-loc.
 3. Stricon Products Ltd., Pre-Set
 4. Substitutions: Under provisions of Section 01630.
 5. Slab-On-Grade Expansion Joint Filler: conforming to ASTM D1751.
 6. Non-extruded bituminous type
 7. Slab-On-Grade Construction Joint: Minimum 24 go. galvanized steel with formed tongue and groove keyed joint, full depth of slab. Furnish complete with stake pins.
- F. Expansion Bolts:
 1. Install in strict accordance with manufacturer's recommendations.
 2. Acceptable manufacturer's:
 - a. Hilti Fastening Systems Inc., Hilti Kwik Bolt II, Carbon Steel.
 - b. IIW Ramset/Red Head, Trubolt, Carbon Steel.
 - c. Simpson Strong-Tie Company, Inc., Wedge-All.
- G. Adhesive Anchor:
 1. Install in strict accordance with manufacturer's recommendations.
 2. Acceptable manufacturer's:
 - a. Hilti Fastening Systems Inc., HIT HY 150 Injection Adhesive Anchor.

- b. IIW Ramset/Red Head, EPCON Ceramic 6 Epoxy Anchoring System.
- c. Simpson Strong-Tie Company, Inc., Epoxy-Tie Adhesive System.
- d. Substitutions: Under provisions of Section 01630.

2.03 FABRICATION

- A. Fabricate concrete reinforcing in accordance with CRSI Manual of Standard Practice.
- B. locate reinforcing splices where indicated on Drawings.

PART 3 - EXECUTION

3.01 PLACEMENT

- A. Place, support and secure reinforcement against displacement. Do not deviate from required position.
- B. Do not displace or damage vapor barrier.
- C. Accommodate placement of formed openings.
- D. Conform to ACI 318 for concrete cover over reinforcement.

3.02 WELDING

- A. Reinforcing Bars:
 - 1. General: Welding of reinforcing bars is only permitted at locations expressly detailed or permitted in writing by the Structural Engineer.
 - 2. Execute all welding in accordance with AWS 01.4.
 - 3. Provide reinforcing bars conforming to ASTM A 706 for welding unless permitted in writing by the Structural Engineer.
 - 4. Welding of crossing bars (tack welding) is prohibited.
- B. Headed concrete anchors and deformed bar anchors:
 - 1. Install in strict accordance to manufacturer's recommendations, and in accordance with Chapter 7, Stud Welding, AWS 01.1.

3.03 FIELD QUALITY CONTROL

- A. Notify the Architect 24 hours, minimum, prior to concrete placement to allow time for review of installation of all concrete reinforcement.
- B. The Engineer or his representative will review installation of concrete reinforcement.
- C. Correction of reinforcement not installed in accordance with the Contract Documents is the Contractor's responsibility.
- D. Inspect installation of headed concrete anchors and deformed bar anchors in accordance with Chapter 7, Stud Welding, AWS 01.1.

END OF SECTION

SECTION 03300 CAST -IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Cast-in-place Concrete
 - 1. Floors.
- B. Slabs on grade.
- C. Control and expansion joint devices associated with concrete work.
- D. Equipment pads.

1.02 RELATED SECTIONS

- A. Section 031 00 - Concrete Formwork
- B. Section 03200 - Concrete Reinforcement.
- C. Section 07260 - Under - Slab Vapor Barrier

1.03 REFERENCES

- A. American Concrete Institute (ACI):
 - 1. ACI 117-90 Specifications for Tolerances for Concrete Construction and Materials.
 - 2. ACI 301-96 Specification for Structural Concrete for Buildings.
 - 3. ACI 302.1 R-96 Guide for Concrete Floor and Slab Construction.
 - 4. ACI 304R-00 Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete.
 - 5. ACI 304.2 R-96 Revised 1985 Placing Concrete by Pumping Methods.
 - 6. ACI 304.5 R-91 Botching, Mixing, and Job Control of Lightweight Concrete
 - 7. ACI 305R-91 Revised 1982 Hot Weather Concreting.
 - 8. ACI 306R-88 Revised 1983 Cold Weather Concreting.
 - 9. ACI 308-92 Standard Practice for Curing Concrete.
 - 10. ACI 318-95 Building Code Requirements for Reinforced Concrete.
 - 11. SP- 15 (95), field reference manual, specifications for structural concrete buildings, ACI 301-89 with selected ACI and ASTM references.
- B. American Society for Testing and Materials (ASTM):
 - 1. ANSI ASTM D1751-04 Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types).
 - 2. ASTM C31-95 Method of Making and Curing Concrete Test Specimens in the Field.
 - 3. ASTM C33-93 Concrete Aggregates.
 - 4. ASTM C94-94b Ready-Mixed Concrete.
 - 5. ASTM C143-90a Test Method for Slump of Portland Cement Concrete.
 - 6. ASTM C150-95a Portland Cement.
 - 7. ASTM C171-92 (1986) Specification for Sheet Materials for Curing Concrete.
 - 8. ASTM C173-94 Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - 9. ASTM C230-03 Flow Table for Use in Tests of Hydraulic Cements.
 - 10. ASTM C231-91b Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method.
 - 11. ASTM C260-94 Air Entraining Admixtures for Concrete.
 - 12. ASTM C494-92 Chemical Admixtures for Concrete.
 - 13. ASTM C618-94a Fly Ash and Raw or Cakinated Natural Pozzolan for Use as a Mineral Admixture in Portland Cement Concrete.
 - 14. ASTM C469-02 Static Modulus of Elasticity and Poisson's Ratio of Concrete in Compression.

15. ASTM E 1155-96 Standard test method for determining floor flatness and levelness using the F-number system.
- C. Department of the Army, U.S. Army Corps of Engineers (USACE)
 1. CRD - C611 -89 Flow of Grout for Preplaced-Aggregate Concrete (Flow Cone Method).
 2. CRD - C621-88 Specification for Non Shrink Grout.

1.04 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data
 1. Mix design for each class of concrete.
 - a. Fully document proposed materials and mix designs.
 - b. Submit mix design for review by testing laboratory.
 - c. Submit mix design and documentation 56 days, minimum, prior to use in field.
 2. Manufacturer's recommendations for use of admixtures and curing compound.
- C. Quality Control Submittals: Submit two copies plus the number the contractor wants returned.
 1. Mill test of portland cement.
 2. Aggregate tests.
 3. Field cast cylinders. See Field Quality Control.
 4. Floor finish tolerance:
 5. Report of flatness and levelness test results for each test area.
 6. Layout of test sections and sample measurement lines with each test area. Provide layout before start of testing operations.

1.05 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of embedded utilities and components which are concealed from view.

1.06 QUALITY ASSURANCE

- A. Field References: Maintain one copy of each reference listed below in Contractors field office at all times.
- B. SP-15, Field Reference Manual.
- C. Perform Work in accordance with ACI 301.
- D. Acquire cement and aggregate from same source for all work.
- E. Conform to ACI 305R when concreting during hot weather.
- F. Conform to ACI 306R when concreting during cold weather.

1.07 COORDINATION

- A. Coordinate the placement of joint devices with erection of concrete formwork and placement of form accessories.

PART 2 - PRODUCTS

2.01 CONCRETE MATERIALS

- A. Cement: ASTM C150, Type I or III, natural color.
- B. Aggregate:
 1. Normal Weight
 2. Fine Aggregate: Quartz sand free of sulfates ASTM C33.
 3. Coarse Aggregate: ASTM C33.
 4. Water: clean, potable, and free from deleterious amounts of acids, alkalies, or organic materials.

2.02 ADMIXTURES

- A. General: Do not use calcium chloride or admixtures containing more than 0.1 % chloride ions.
- B. Air Entraining: ASTM C260.
- C. Water-Reducing ASTM C494, Type A.
- D. Water-Reducing and Retarding: ASTM C494, Type D.
- E. High Range Water-Reducing (Superplasticizer): ASTM C494, Type For G.
 - 1. The Euclid Chemical Company:
 - a. Type F: Eucon-37.
 - b. Type G: Eucon-537.
 - 2. Grace Construction Products:
 - a. Type F: Daracem-100.
 - b. Type G: Daracem-100.
 - 3. Master Builders Technologies:
 - a. Type F: Rheobuild 1000.
 - b. Type G: Rheobuild 716.
 - 4. Substitutions: Under provisions of Section 01630.
- F. Fly Ash: ASTM C618, Type C or F.
 - 1. Use when permitted by Architect.
 - 2. Limit use to not exceed 25% of cement content by weight.

2.03 ACCESSORIES

- A. Bonding Agent: Polymer resin emulsion, polyvinyl acetate, latex emulsion.
- B. Vapor Barrier: Polyethylene sheeting, 6 mils thick.
- C. Curing Materials:
 - 1. Moisture retaining sheet: One of the following, complying with ASTM C 171-
 - 2. Waterproof paper
 - 3. Polyethylene film
 - 4. Polyethylene-coated burlap
 - 5. liquid membrane forming curing compound:
 - a. Use on a surface to be cured where:
 - i. A topping material will not be required to bond.
 - ii. A penetrating sealer will not be applied.
 - iii. Use one of the following:
 - a. L & M Chemicals, Inc. Dress & Seal 30.
 - b. Master Builders, Master Kure
 - c. Euclid Chemical Co., Super Rez-Seal.
 - d. Sonneborn Building Products, Kure-n-Seal 30.
 - iv. To be used where a topping material or penetrating sealer will be required to bond to the surface to which this material is applied. Use the following:
 - a. Euclid Chemical Company, Kurez DR.
- D. Penetrating Sealer: Use one of the following:
 - 1. Master Builders, Masterseal SL
 - 2. L & M Chemicals, Inc. Pentane
 - 3. Harry S. Peterson Co., Inc., ISO Flex 618.

2.04 NON-SHRINK GROUT

- A. Install in strict accordance to manufacturer's recommendations found in each manufacturer's data publication.
- B. Acceptable Manufacturers:
 - 1. Master Builders, Masterflow 928 Grout
 - a. Application: Fluid. installation consistency.
 - 2. Master Builders, Construction Grout
 - b. Application: Stiff or plastic installation consistency.

3. The Euclid Chemical Company, Hi-Flow Grout
 - a. Application: Fluid installation.
 4. The Euclid Chemical Company, EUCO N-S Grout
 - a. Application: Stiff or plastic installation consistency.
 5. Burke, Non-ferrous, Non-shrink Grout
 - a. Application: Fluid installation consistency.
 6. Burke, Damp Pack Grout
 - a. Application: Stiff or plastic installation consistency.
 7. Substitutions: Under provisions of Section 01630.
- C. Installation Consistency Criteria:
1. Fluid:
 - a. Requires forming for installation.
 - b. to 30 seconds flow by CRD-C611. Flow Cone Method.
 2. Plastic or Stiff:
 - a. Does not require forming.
 - b. Plastic: 100% flow by ASTM C 230-83.
 - c. Stiff: 40% flow by ASTM C 230-83.

2.05 JOINT DEVICES AND FILLER MATERIALS

- A. Joint Filler ASTM D1751; Asphalt impregnated fiberboard or felt, 1/2 inch thick; tongue and groove profile.
- B. Construction Joint Devices for Slabs-On-Grade: Integral galvanized steel 24 gauge formed to tongue and groove profile, ribbed steel spikes with tongue to fit top screed edge.
- C. Sealant and Primer: As specified in Section 07920.

2.06 CONCRETE MIX

- A. Mix concrete in accordance with ACI 304. Deliver concrete in accordance with ASTM C94.
- B. Concrete Mix Designs: C. Established concrete mix proportions on the basis of field experience or laboratory trial batches as specified in ACI 301 in Section 3.9, "Proportioning on the basis of previous field experience or trial mixtures," with the following exceptions:
 1. The standard deviation is determined from tests of mixes that:
 - a. Contain the same materials as mix designs for the proposed work.
 - b. Represent concrete produced to meet the same design strength as that specified for the proposed work.
 2. When acceptable field-test records or trial mixture data is not available, and, if approved by the Architect, the concrete mix proportions may be established as specified in ACI 301, Section 3.10, "Proportioning based on empirical data."
 3. Retain an independent testing laboratory to conduct tests made on trial mixes used in proportioning concrete mixes for the proposed work.
 4. Produce trial mixes within 12 months of submission of mix design for approval.
- C. The following classes of concrete are required:

CLASS	MINIMUM COMPRESSIVE STRENGTH	ACCEPTANCE CRITERIA INTERVAL	SLUMP RANGE	MINIMUM MODULUS OF ELASTICITY	ACCEPTANCE CRITERIA INTERVAL
	f 'c	f'c		E	E
	PSI	DAYS	IN	XI 06 PSI	DAYS
A	5000	28	4 ± 1	N/A	N/A
B	4000	28	4 ± 1	N/A	N/A

- D. Air Content: Provide concrete containing entrained air and conforming to ACI 301 when concrete will be subject to potentially destructive exposure (other than wear of loading) such as freezing and thawing, severe weathering, or deicing chemicals.
- E. Provide concrete containing a maximum air content of 3% when used in interior slabs subject to abrasion.
- F. Use accelerating admixtures in cold weather only when approved by Architect/Engineer. Use of admixtures will not relax cold weather placement requirements.
- G. Use set retarding admixtures during hot weather only when approved by Architect/Engineer.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrate and conditions under which concrete work is to be performed.
- B. Have installer notify the Contractor in writing, with a copy to the Architect, if substrate is unsatisfactory.
- C. Do not begin work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- D. Beginning of work indicates the substrate is acceptable and satisfactory to the installer.
- E. Verify that reinforcement is in place, fastened, supported, protected against displacement, and that no reinforcement is touching formwork.
- F. Verify that conduits, pipes, sleeves, inserts, hangers, steel equipment, grounds, anchors and work that is to be built into the concrete are accurately placed, positioned securely, and will not cause hardship in placing the concrete.

3.02 PREPARATION

- A. General: In accordance with ACI 301.
- B. Surface Preparation:
 - 1. Remove debris and foreign matter from forms. Drain water from footing trenches and remove mud film and loose dirt.
 - 2. Soak wood forms with water and coat metal and fiberglass forms with oil.
 - 3. Notify Architect at least 24 hrs. before placing is begun.
 - 4. Install vapor barrier under interior slabs on grade. Lap joints minimum 6 inches and seal watertight by taping edges and ends.
 - 5. Install joint fillers, primer, and sealant in accordance with manufacturers instructions.

3.03 PLACING CONCRETE

- A. General: Place concrete in accordance with ACI 301 and as specified in this section.
- B. Mix and discharge concrete in such quantities as required for immediate use and place fresh before loss of slump occurs.
- C. Completely discharge concrete within 1 1/2 hours or before drum has revolved 300 revolutions, whichever comes first, after introduction of the mixing water to the cement and aggregates or introduction of cement to the aggregates.
- B. Transportation:
- C. Transport concrete to point of final deposit by cart, buggy, conveyor, or pump. If concrete is to be transported more than 50 ft. in carts or buggies, equip them with pneumatic tires.
 - 1. Move carts and buggies only on temporary runways built over the floor system. Do not allow runway supports to bear on reinforcement or fresh concrete.
- D. Repair vapor barrier damaged during placement of concrete reinforcing. Repair with vapor barrier material; lap over damaged areas minimum 6 inches and seal watertight.
- E. Install construction joint device in coordination with floor slab pattern placement sequence. Set top to required elevations. Secure to resist movement by wet concrete.

1. Install joint covers in longest practical length, when adjacent construction activity is complete.
- F. Place concrete continuously between predetermined expansion, control, and construction joints.
- G. Do not interrupt successive placement; do not permit cold joints to occur.
- H. Saw cut joints in slab-on-grade as soon as the concrete has hardened sufficiently to prevent the aggregates from being dislodged by the saw. Complete the joint cutting activity before shrinkage stresses become sufficient to produce cracking.
 1. Using 3/16 inch thick blade, cut into 1/4 depth of slab thickness, unless noted otherwise on the drawings.

3.04 SEPARATE FLOOR TOPPINGS

- A. Prior to placing floor topping, remove deleterious material. Broom and vacuum clean.
- B. Place required dividers, edge strips, reinforcing, and other items to be cast in.
 1. Apply bonding agent to substrate in accordance with manufacturers instructions.
- D. Place concrete floor toppings to required lines and levels.

3.05 FLOOR FINISH TOLERANCE

- A. Interior Slabs
- B. General: In accordance with ACI 302.1 R-89 and ASTM E 1155.
- C. Testing laboratory to perform all tests and prepare reports for floor finish tolerance.
- D. When ambient or slab temperatures are less than 40° (F.) or more than 100° (F.) obtain individual slab elevations manually. Electronic recording of readings outside of this temperature range is not acceptable unless a submittal from the manufacturer of the recording device stating a different accurate operating range is submitted to the engineer for review before using the equipment
- E. Test layout: In accordance with ASTM E 1155.
 1. Test area: Area of concrete placed in a continuous pour.
 1. Test sections: Area bounded by grid lines, slab edges, or construction joints.
- F. Sample measurement lines: As defined in ASTM E 1155.
- G. Flatness and levelness tolerance:
 1. Specified overall value (SOV):
 2. Floor flatness = FF (SOV) = 22.
 3. Floor levelness = FI (SOV) = 18.
 4. Minimum local value (MLV):
 5. Floor flatness = FF (MLV) = 15.
 6. Floor levelness = FI (MLV) = 10.
- H. Timeliness of tests:
 1. Obtain floor tolerance measurements within 24 hours after slab installation.
 2. Obtain measurements prior to removal of shores and forms supporting floor being measured.
 3. Test reports for floor finish tolerance:
 4. Provide report of test results to contractor and architect within 72 hours after slab installation.
 5. Include in the report a running tabulation of all overall FF and overall FI values of slabs installed to date.
 6. Acceptance criteria: Remedial work may be required if either of the following is not met.
 7. The composite value of the entire test area must be equal or greater than either the entire specified overall F-numbers.
- I. The values for any test section must be equal or greater than either of the minimum local F-numbers. Exterior slabs
 1. Finish exterior slabs to drain freely.

2. Cut out and replace depressions that hold water.

3.06 CONCRETE FINISHING

- A. Formed Surfaces
 1. Formed concrete surfaces to be left exposed to view or to receive an applied finish, provide smooth rubbed finish.
 2. Formed surfaces not exposed to view or to receive an applied finish, provide rough form finish.
- B. Finish concrete floor surfaces in accordance with ACI 301.
 1. Wood Float Finish: Surfaces to receive modified asphalt roof membrane system and surfaces to receive finishes applied with thickset tile or thickset stone.
 2. Smooth Troweled Finish: Surfaces to receive membrane waterproofing, EPDM fully adhered roof membrane, and all other surfaces whether scheduled to receive additional finish materials or not.
 3. Stamped Finish: Exterior patios and entrances noted on finish schedule and or drawings. Stamping pattern to be a wood grain look as selected by the Architect from the full range of stamping finishes.

3.07 CURING AND PROTECTION

- A. 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. Cure floor surfaces in accordance with ACI 308.
 1. Surfaces to receive roof membranes and membrane waterproofing: Moisture cure only; do not use curing compounds or penetrating sealer.
 2. Ponding: Maintain 100 percent coverage of water over floor slab areas continuously for 4 days.
- F. Spraying: Spray water over floor slab areas and maintain wet for 7 days.
- G. Membrane forming curing compound:
 1. Flatwork: Coat with curing compound immediately after final troweling when surface water sheen has disappeared.
 2. Formed vertical surfaces: Apply immediately after form removal.
- H. Apply sealing and curing compound to the following areas at substantial completion.
 1. Mechanical rooms
 2. Electrical rooms
 3. Storerooms
 5. Any other concrete slab that will not to receive a finish material or surface treatment and will remain exposed.
- I. Duration of curing procedures: Conform to paragraph 12.2.3 AC1301.

3.08 FIELD QUALITY CONTROL

- A. Field testing will be performed in accordance with ACI 301
- B. Provide free access to Work and cooperate with appointed firm.
- C. Sampling of Concrete
 1. General: In accordance with ASTM C31 .
 2. Frequency: Obtain one set of test specimens for each 100 cu. yds., or fraction thereof, of each mix design placed in one day.
 3. Number of specimens in a set.
 - a. Twenty-eight day acceptance criteria four 6x12 cylinders.
- D. Site testing performed when each set of test specimens are made.
 1. Slump: In accordance with ASTM C143.
 2. Air Content: In accordance with ASTM C231, pressure method for normal weight concrete.

3. Temperature: Determine the ambient temperature and the temperature of the sample.
- E. laboratory Testing
 1. Unit weight.
 2. Compressive strength verification: In accordance with ASTM C31.
 3. Frequency of testing for compressive strength verification:
 4. Twenty-eight day acceptance criteria:
 5. One cylinder tested at seven days for information.
 6. Two cylinders tested at twenty-eight days for acceptance.
 7. One cylinder held in reserve.
- F. Modulus of elasticity testing program
 1. For concrete classes A and B.
 2. Test one specimen from the first ten sets of specimens for each concrete class.
 3. Specimen curing:
 - a. Moist cure specimen for first ten accordance with ASTM C31.
 - b. Air cure specimen for time remaining until test.
 4. Test specimen at ninety-one days.
 5. Test for modulus of elasticity in accordance with ASTM C469.
 6. Obtain concrete ultimate strength using same cylinder.

3.09 REPAIR OF SURFACE DEFECTS

- A. General: Surface defects occur between the surface of the concrete and the first layer of reinforcement below.
- B. Inspect concrete surfaces immediately upon removal of forms.
- C. Excessive honeycombing or embedded debris in concrete is not acceptable.
 1. Notify Architect/Engineer upon discovery.
- D. After specific instructions by Architect/Engineer, patch imperfections in accordance with Chapter 9, Repair of Surface Defects, ACI 301.

3.10 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances, specified requirements, or cold joints.
- B. The Architect/Engineer will determine repair or replacement of defective concrete.
- C. Do not patch, fill, touch-up, repair, or replace exposed concrete except upon express direction of Architect/Engineer for each individual area.

END OF SECTION

SECTION 033600 CONCRETE FINISHES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Concrete Floor Stain.
- B. Concrete Floor Sealer.
- C. Concrete Floor Wax.
- D. Concrete Floor Polish.

1.2 RELATED SECTIONS

- A. Section 03300 - Cast-in-Place Concrete.

1.3 REFERENCES

- A. ASTM C 494 - Standard Specification for Chemical Admixtures for Concrete.
- B. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete.
- C. ASTM D 3359 - Standard Test Methods for Measuring Adhesion by Tape Test.
- D. ASTM D 3363 - Standard Test Method for Film Hardness by Pencil Test.
- E. South Coast Air Quality Management District (SCAQMD) Rule 1113 (2008).

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- 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.
 - 4. Maintenance Instructions.
- C. Selection Samples: For each finish product specified, a sample of the manufacturer's full range of available colors and patterns.
- D. Installer's Project References: List projects of similar type and scope completed successfully within the last three (3) years. Include project name and location, name of Architect, and type and quantity of material applied.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten (10) years experience.
- B. Installer Qualifications: All products listed in this section are to be installed by a single installer with demonstrated experience in installing products of the same

type and scope as specified.

- C. Pre-installation Meeting: Convene a pre-installation meeting before start of Work. Require attendance of parties directly affecting work of this section, including Contractor, Architect, and Applicator. Review surface preparation, application, protection, and coordination with adjacent surfaces.
- D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
 - 1. Mock-up areas designated by Architect.
 - 2. Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
 - 3. Refinish mock-up area as required to produce acceptable completed project.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation. Store materials in a clean, dry area indoors in accordance with manufacturer's instructions. Keep containers sealed until ready for use.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits. Do not apply materials in wet weather.

1.8 WARRANTY

- A. At project closeout, provide to Owner or Owners Representative an executed copy of the manufacturer's standard limited warranty against manufacturing defect, outlining its terms, conditions, and exclusions from coverage.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Kemiko Concrete Stains, which is located at: 6663 SW Beaverton-Hillsdale Hwy Suite 242 Portland OR 97225; Tel: 503-296-7756; Fax: 503-291-1753 E-Mail: jo@kemikostain.com Web: www.kemikostain.com
- B. Contact Information: Kemiko, 6663 SW Beaverton-Hillsdale Hwy Suite 242, Portland, OR 97225 Tel: (503) 296-7756; Fax: (503) 291-1753; E-Mail: jo@kemikostain.com Web: www.kemikostain.com.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 CONCRETE STAIN

- A. Kemiko Stone Tone Stain: Combination of acid solution, wetting agents, and metallic ions. When mixed with water and applied to Portland cement, chemically combines to form permanent color.
1. Color: Cola.
 2. Weight per gallon: 9.5 lbs (4.3kg).
 3. VOC: 0 g/L (Meets final SCAQMD Rule 1113 (2008)).

2.3 CONCRETE SEALER

1. Stone Tone Sealer: Acrylic water-based, non-yellowing urethane clear sealer.
 2. Solids (By Volume): 30 percent.
 3. Gloss: High gloss
 4. Resistant to blush.
 5. VOC: Less than 50 g/L. Meets final SCAQMD Rule 1113 (2008).
 6. Pencil Hardness, ASTM D 3363: 2H.
 7. Dry Tape Adhesion, ASTM D 3359: 5A-5B.
 8. Dry Time at 70F (21C) with 50 percent RH:
 - a. Recoat: 1 hour.
 - b. Foot Traffic: 4 hours.
 - c. Full Cure: 48 hours.
- B. Kemiko Stone Tone Buff-On Wax: Non-yellowing, fast drying, aliphatic petroleum wax.
1. Dry Time at 70F (21C) with 50 percent RH: 20 -30 Minutes.
 2. Coverage: 250 to 350 sq ft per gallon
- C. Sta-Natural: Waterborne silane / siloxane emulsion for sealing stained concrete and other cementitious substrates.
1. Gloss: Clear flat gloss (Natural Sheen).
 2. Solids (By Volume): 10 percent.
 3. Weight per gallon: 9.5 lbs (4.3kg).
 4. Dry Time at 70F (21C) with 50 percent RH:
 - a. Recoat: 1 hour.
 - b. Foot Traffic: 4 hours.
 - c. Full Cure: 48 hours.
 5. VOC: 0 g/L (Meets final SCAQMD Rule 1113 (2008)).

2.4 FLOOR POLISH

- A. Easy Shine: Water based acrylic polymer interior floor polish.
1. Gloss (1 coat at 60F): 90+ (2 thin coats recommended).
 2. Viscosity, CPS at 73 F, RFV., #1 at 20 RPM: Less than 20.
 3. Specific Gravity at 73 F: 8.67.
 4. Solids (By Weight): 20 percent.
 5. Weight per gallon: 9.5 lbs (4.3kg).
 6. Dry Time at 73F (21C) with 40 percent RH: 20 minutes.
 7. VOC: 0 g/L (Meets final SCAQMD Rule 1113 (2008)).

2.5 CLEAR TOPCOAT

- A. Apply a clear topcoat sealer in accordance with section 09960.

PART 3 EXECUTION

3.1 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.

3.2 PREPARATION

- A. Clean surfaces thoroughly, in accordance with manufacturer's instructions.
- B. Protection:
 - 1. Protect walls and surrounding surfaces not to receive concrete floor stain.
 - 2. Do not allow stain to come in contact with wood or metal surfaces.
- C. Prepare concrete surface in accordance with manufacturer's instructions.
- D. Concrete shall be as specified in Section 03300. Ensure concrete is a minimum of 28 days old.
- E. Ensure surface is clean, dry, structurally sound, and free from dirt, dust, oil, grease, solvents, paint, wax, asphalt, concrete curing compounds, sealing compounds, surface hardeners, bond breakers, adhesive residue, and other surface contaminants.
- F. Do not acid wash or use heavy alkali cleaners.

3.3 INSTALLATION - ACID STAINS AND TOPCOATS

- A. Install in accordance with manufacturer's instructions.
- B. Apply stain in accordance with manufacturer's instructions at locations indicated on the drawings.
- C. Control depth of color by adjusting volume of stain applied.
- D. Apply 2 coats of stain. Allow to completely dry after each coat. Do not scrub clean between coats.
- E. After area has completely dried, scrub off residue in accordance with manufacturer's instructions. Allow to completely dry.
- F. Concrete Buff-On Floor Wax: Apply concrete floor wax over interior concrete floor stain in accordance with manufacturer's instructions.
- G. Concrete Floor Sealer: Apply concrete floor sealer over concrete floor stain in accordance with manufacturer's instructions.
- H. Concrete Floor Polish: Apply floor polish over Stone Tone Sealer in accordance with manufacturer's instructions.

- I. Keep material containers closed when not in use to avoid contamination.

3.4 INSTALLATION - REMBRANDT POLYMER STAINS AND TOPCOATS

- A. Install in accordance with manufacturers instructions.
- B. Concrete Floor Sealer: Apply concrete floor sealer over concrete floor stain in accordance with manufacturer's instructions.
- C. Concrete Floor Polish: Apply floor polish over Stone Tone Sealer in accordance with manufacturer's instructions.
- D. Keep material containers closed when not in use to avoid contamination.

3.5 PROTECTION

- A. Protect stained surfaces from damage during construction.
- B. Protect surfaces from foot traffic for a minimum of 24 hours.
- C. Do not wash surfaces for a minimum of 48 hours.

END OF SECTION

SECTION 041000 MORTAR AND GROUT

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Mortar and grout for masonry.

1.2 RELATED WORK

- A. Section 04300 - Unit Masonry System: Installation of mortar and grout.

1.3 REFERENCES

- A. American Society for Testing and Materials, (ASTM).

1. ASTM C91-95 - Masonry Cement.
2. ASTM C144-93 - Aggregate for Masonry Mortar.
3. ASTM C150-95 - Portland Cement.
4. ASTM C207 -91 (1992) - Hydrated Lime for Masonry Purposes.
5. ASTM C270-94 - Mortar for Unit Masonry.
6. ASTM C404-95 - Aggregates for Masonry Grout.
7. ASTM C476-95 - Grout for Masonry.
8. ASTM C780-91 - Preconstruction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry.
9. ASTM C1 019-890(1993) - Method of Sampling and Testing Grout.

1.4 SUBMITTALS

- A. Submit product data under provisions of Section 01300.

- B. Contractor's responsibilities:

1. Mix Design: Proportion in conformance with ASTM C476. Indicate if the Proportion or Property Method was used, required environmental conditions, and admixture limitations.
2. Submit manufacturer's certificate under provisions of Section 01400 that products meet or exceed specified requirements.
3. Submit premix mortar manufacturer's installation instructions.

- C. Submit Laboratory's Responsibilities:

1. Submit test reports on mortar indicating conformance to ASTM C270.
2. Submit test reports on grout indicating conformance to ASTM C476.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site, except aggregate, in original and unopened container displaying product name, type, grade, and mixing instructions.
- B. Maintain packaged materials clean, dry, and protected against dampness, rain, ground water, freezing, and foreign matter.

1.6 ENVIRONMENTAL REQUIREMENTS

- A. Maintain materials and surrounding air temperatures to minimum 50 degrees F prior to, during, and 48 hours after completion of masonry work.

1.7 MIX TESTS

- A. Testing of Mortar Mix: In accordance with ASTM C780.
- B. Test mortar mix for compressive strength, consistency, water content air content.
- C. Testing of Grout Mix: In accordance with ASTM C1019.
- D. Test mortar mix for compressive strength and slump.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland Cement: ASTM C150, Type I, gray color.
- B. Masonry Cement: ASTM C91, Type S.
- C. Mortar Aggregate: ASTM C144, standard masonry type.
- D. Hydrated lime: ASTM C207, Type S.
- E. Grout Aggregate: ASTM C404.
 - 1. Fine aggregate: Size #1.
 - 2. Coarse aggregate. When minimum horizontal grout space exceeds 4 inches.
 - a. Size #8.
- F. Water: Clean and potable.

2.2 MORTAR MIXES

- A. Mortar: ASTM C270, Type S using the Property Method.
- B. Pointing Mortar: One part masonry cement to one part Type S hydrated lime to four parts aggregate.

2.3 MORTAR MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270.
- B. Exterior masonry walls Elevator and Stair Shafts: Type S, 1800 psi minimum.
- C. Interior masonry walls: Type N, 750 psi minimum.
- D. Do not use anti-freeze compounds to lower the freezing point of mortar.
- E. If water is lost by evaporation, retemper only within two hours of mixing.
- F. Use mortar within two hours after mixing at temperatures of 80 degrees F or two-and-one-half hours at temperatures under 50 degrees F.

2.4 GROUT MIXES

- A. Bond Beams Lintels: 2500 psi strength at 28 days; 7-8 inches slump; mixed in accordance with ASTM C476 Course grout.
- B. Engineered Masonry: 2500 psi strength at 28 days; 7-8 inches slump; mixed in accordance with ASTM C476 Fine Course grout.

2.5 GROUT MIXING

- A. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C476 Fine Course grout.
- B. Do not use anti-freeze compounds to lower the freezing point of grout.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Request inspection of spaces to be grouted.

3.2 PREPARATION

- A. Plug cleanout holes with masonry units to prevent leakage of grout materials. Brace masonry for wet grout pressure.

3.3 INSTALLATION

A. Install mortar and grout to requirements of the specific masonry Section.

B. Work grout into masonry cores and cavities to eliminate voids.

1. Use fine grout where minimum horizontal grout space is less than 4 inches.
2. Use course grout where minimum horizontal grout space is equal to or greater than 4 inches.

C. Do not displace reinforcement while placing grout.

END OF SECTION

SECTION 044300 - STONE MASONRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes the following applications of stone masonry:
 - 1. Anchored to unit masonry backup.
 - 2. Anchored to cold-formed metal framing and sheathing.
- B. Products installed, but not furnished, in this Section include:
 - 1. Steel lintels and shelf angles for stone masonry specified in Division 05 Section "Metal Fabrications."

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. For stone varieties proposed for use on Project, include test data indicating compliance with physical properties required by referenced ASTM standards.
- B. Samples:
 - 1. For each stone type indicated.
 - 2. For each color of mortar required.

1.3 PROJECT CONDITIONS

- A. Protection of Stone Masonry: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F and above and will remain so until masonry has dried.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 LIMESTONE

- A. Limestone: Comply with ASTM C 568.
 - 1. Products: Subject to compliance with requirements, provide the following:
 - a. Submit limestone samples for architects approval from their full range of products.

2.2 MORTAR MATERIALS

- A. Portland Cement: ASTM C 150, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 - 1. Low-Alkali Cement: Not more than 0.60 percent total alkali when tested according to ASTM C 114.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Masonry Cement: ASTM C 91.
- D. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Use only pigments with a record of satisfactory performance in stone masonry mortar.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Davis Colors; True Tone Mortar Colors.
 - b. Lanxess Corporation; Bayferrox Iron Oxide Pigments.
 - c. Solomon Colors; SGS Mortar Colors.
- E. Colored Cement Product: Packaged blend made from Portland cement and lime or masonry cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.
 - 1. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
 - 2. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Colored Portland Cement-Lime Mix:
 - 1) Holcim (US) Inc.; Rainbow Mortamix Custom Color Cement/Lime.
 - 2) Lafarge North America; Eaglebond.

- 3) Lehigh Cement Company; Lehigh Custom Color Portland/Lime Cement.

b. Colored Masonry Cement:

- 1) Essroc, Italcementi Group; Brixment-in-Color.
- 2) Holcim (US) Inc.; Rainbow Mortamix Custom Color Masonry Cement.
- 3) Lehigh Cement Company; Lehigh Custom Color Masonry Cement.

F. Aggregate: ASTM C 144 and as follows:

1. For pointing mortar, use aggregate graded with 100 percent passing No. 16 sieve.
2. White Aggregates: Natural white sand or ground white stone.
3. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.

G. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gauging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed Portland cement mortar bed, and not containing a retarder.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Boiardi Products Corporation.
 - b. Bonsal.
 - c. Bostik Findley Inc.
 - d. C-Cure.
 - e. Custom Building Products.
 - f. DAP Inc.
 - g. Laticrete International, Inc.
 - h. MAPEI Corp.
 - i. Summitville Tiles, Inc.
 - j. TEC Specialty Construction Brands; H. B. Fuller Company.

H. Water: Potable.

2.3 VENEER ANCHORS

A. Materials:

1. Hot-Dip Galvanized-Steel Wire: ASTM A 82, with ASTM A 153/A 153M, Class B-2.
2. Stainless-Steel Wire: ASTM A 580/A 580M, Type 316.

3. Hot-Dip Galvanized-Steel Sheet: ASTM A 1008/A 1008M, cold-rolled, carbon-steel sheet hot-dip galvanized after fabrication to comply with ASTM A 153/A 153M, Class B-2.
 4. Stainless-Steel Sheet: ASTM A 240/A 240M, Type 316.
- B. Wire Veneer Anchors: Wire ties formed from W1.7 or 0.148-inch- diameter, stainless-steel wire.
- C. Corrugated-Metal Veneer Anchors: Not less than 0.030-inch- thick by 7/8-inch-wide stainless-steel sheet with corrugations having a wavelength of 0.3 to 0.5 inch and an amplitude of 0.06 to 0.10 inch.
- D. Adjustable, Screw-Attached Veneer Anchors: Units consisting of a wire tie section and a metal anchor section that allow vertical adjustment but resist tension and compression forces perpendicular to plane of wall.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dur-O-Wal, a Dayton Superior Company; D/A 213 r D/A 210 with D/A 700-708.
 - b. Heckmann Building Products Inc.; 315-D with 316.
 - c. Hohmann & Barnard, Inc.; DW-10 DW-10HS or DW-10-X.
 - d. Wire-Bond; 1004, Type III or RJ-711.
 2. Structural Performance Characteristics: Capable of withstanding a 100-lbf load in both tension and compression without deforming or developing play in excess of 0.05 inch.
 3. Anchor Section: Sheet metal plate, with screw holes top and bottom and with raised rib-stiffened strap stamped into center to provide a slot between strap and plate for inserting wire tie.
 4. Fabricate sheet metal anchor sections and other sheet metal parts from 0.078-inch- thick, stainless-steel sheet.
 5. Wire Ties: Triangular-, rectangular-, or T-shaped wire ties fabricated from 0.25-inch- diameter, stainless-steel wire.
- E. Seismic Veneer Anchors: Units consisting of a metal anchor section and a connector section designed to engage a continuous wire embedded in stone masonry mortar joint.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Dur-O-Wal, a Dayton Superior Company; D/A 213S.
 - b. Hohmann & Barnard, Inc.; DW-10-X-Seismiclip.
 - c. Wire-Bond; RJ-711 with Wire-Bond Clip.

2. Structural Performance Characteristics: Capable of withstanding a 100-lbf load in both tension and compression without deforming or developing play in excess of 0.05 inch.
3. Anchor Section: Gasketed sheet metal plate, 1-1/4 inches wide by 6 inches long, with screw holes top and bottom; and raised rib-stiffened strap, 5/8 inch wide by 6 long, stamped into center to provide a slot between strap and plate for inserting wire tie.
4. Connector Section: Triangular wire tie and rigid PVC extrusion with snap-in grooves for inserting continuous wire.
5. Fabricate sheet metal anchor sections and other sheet metal parts from 0.109-inch- thick, stainless-steel sheet.
6. Fabricate wire connector sections from 0.25-inch- diameter, stainless-steel wire.
7. Continuous Wire: 0.188-inch- diameter, stainless-steel wire.

2.4 EMBEDDED FLASHING MATERIALS

- A. Metal Flashing: Provide metal flashing, where flashing is exposed or partly exposed and where indicated, complying with SMACNA's "Architectural Sheet Metal Manual and as follows:
 1. Stainless Steel: ASTM A 240/A 240M, Type 304, 0.016 inch thick.
 2. Copper: ASTM B 370, Temper H00 or H01, cold-rolled copper sheet, 10-oz./sq. ft. weight or 0.0135 inch thick for fully concealed flashing; 16-oz./sq. ft. weight or 0.0216 inch thick elsewhere.
- B. Flexible Flashing: For flashing not exposed to the exterior, use one of the following unless otherwise indicated:
 1. Copper-Laminated Flashing: 5-oz./sq. ft. copper sheet bonded with asphalt between 2 layers of glass-fiber cloth. Use only where flashing is fully concealed in masonry.
 - a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Advanced Building Products Inc.; Copper Fabric Flashing.
 - 2) Hohmann & Barnard, Inc.; H & B C-Fab Flashing.
 - 3) Phoenix Building Products; Type FCC-Fabric Covered Copper.
 - 4) Polytite Manufacturing Corporation; Copper Fabric Flashing.
 - 5) Sandell Manufacturing Co., Inc.; Copper Fabric Flashing.
 - 6) York Manufacturing, Inc.; York Copper Fabric Flashing.
 2. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.030 inch.

- a. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - 1) Advanced Building Products Inc.; Peel-N-Seal.
 - 2) Carlisle Coatings & Waterproofing; CCW-705-TWF Thru-Wall Flashing.
 - 3) Dur-O-Wal, a Dayton Superior Company; Dur-O-Barrier-44.
 - 4) Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Perm-A-Barrier Wall Flashing.
 - 5) Heckmann Building Products Inc.; No. 82 Rubberized-Asphalt Thru-Wall Flashing.
 - 6) Hohmann & Barnard, Inc.; Textroflash.
 - 7) Polyguard Products, Inc.; Polyguard 300.
 - 8) Polytite Manufacturing Corporation; Poly-Barrier Self-Adhering Wall Flashing.
 - 9) Williams Products, Inc.; Everlastic MF-40.

2.5 MISCELLANEOUS MASONRY ACCESSORIES

- A. Cementitious Dampproofing: Cementitious formulations that are recommended by ILI and that are non-staining to stone, compatible with joint sealants, and noncorrosive to veneer anchors and attachments.
- B. Asphalt Dampproofing: Cut-back asphalt complying with ASTM D 4479, Type I or asphalt emulsion complying with ASTM D 1227, Type III or IV.
- C. Weep Hole/Vent Products: Use one of the following unless otherwise indicated:
 - 1. Round Plastic Tubing: Medium-density polyethylene, 3/8-inch OD by thickness of stone masonry.
- D. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.
 - 1. Provide the following configuration:
 - a. Strips, full-depth of cavity and 10 inches wide, with dovetail shaped notches 7 inches deep.
 - 2. Products: Subject to compliance with requirements, provide one of the following:
 - a. Advanced Building Products Inc.; Mortar Break.
 - b. CavClear/Archovations, Inc.; CavClear Masonry Mat.
 - c. Dur-O-Wal, a Dayton Superior Company; Polytite MortarStop.
 - d. Mortar Net USA, Ltd.; Mortar Net.

- E. Expanded Metal Lath: 3.4 lb/sq. yd., self-furring, diamond-mesh lath complying with ASTM C 847. Fabricate from structural-quality, zinc-coated (galvanized) steel sheet complying with ASTM A 653/A 653M, G60.
- F. Welded-Wire Lath: ASTM C 933, fabricated into 2-by-2-inch mesh with minimum 0.0625-inch- diameter, galvanized-steel wire.

2.6 MASONRY CLEANERS

- A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Diedrich Technologies, Inc.
 - b. Dominion Restoration Products.
 - c. EaCo Chem, Inc.
 - d. Hydrochemical Techniques, Inc.
 - e. Prosoco, Inc.

2.7 MORTAR MIXES

- A. General: Do not use admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride.
 - 2. Limit cementitious materials in mortar to portland cement and lime.
 - 3. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for one to two hours. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.
- B. Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.
 - 1. Mortar for Setting Stone: Type N.
 - 2. Mortar for Pointing Stone: Type N.
- C. Latex-Modified Portland Cement Setting Mortar: Proportion and mix Portland cement, aggregate, and latex additive to comply with latex-additive manufacturer's written instructions.

- D. Cement-Paste Bond Coat: Mix either neat cement and water or cement, sand, and water to a consistency similar to that of thick cream.
 - 1. For latex-modified Portland cement setting-bed mortar, substitute latex admixture for part or all of water, according to latex-additive manufacturer's written instructions.
- E. Mortar for Scratch Coat over Metal Lath: 1 part Portland cement, 1/2 part lime, 5 parts loose damp sand, and enough water to produce a workable consistency.
- F. Mortar for Scratch Coat over Unit Masonry: 1 part Portland cement, 1 part lime, 7 parts loose damp sand, and enough water to produce a workable consistency.
- G. Pigmented Mortar: Use colored cement product or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products.
 - 1. Pigments shall not exceed 10 percent of Portland cement by weight.
 - 2. Pigments shall not exceed 5 percent of masonry cement by weight.

2.8 FABRICATION

- A. Select stone to produce pieces of thickness, size, and shape indicated, including details on Drawings. Dress joints (bed and vertical) straight and at right angle to face unless otherwise indicated.
- B. Gage backs of stones for adhered veneer if more than 81 sq. in. in area.
- C. Shape stone for type of masonry (pattern) as follows:
 - 1. Split-bed, random-range ashlar with random course heights and random lengths (interrupted coursed).
- D. Finish exposed faces and edges of stone to comply with requirements indicated for finish and to match approved samples and mockups.
 - 1. Finish: Split face.
 - 2. Finish for Sills: Smooth.
 - 3. Finish for Lintels: Smooth.
 - 4. Finish for Copings: Smooth.
 - a. Finish exposed ends of copings same as front and back faces.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Accurately mark stud centerlines on face of weather-resistant sheathing paper before beginning stone installation.

- B. Coat concrete and unit masonry backup with asphalt dampproofing.

3.2 SETTING OF STONE MASONRY, GENERAL

- A. Perform necessary field cutting and trimming as stone is set.
 - 1. Use power saws to cut stone that is fabricated with saw-cut surfaces.
 - 2. Use hammer and chisel to split stone that is fabricated with split surfaces.
- B. Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.
- C. Arrange stones in broken-range ashlar pattern with uniform course heights, random lengths, and uniform joint widths.
- D. Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.
- E. Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints not less than 3/8 inch at narrowest points or more than 1/2 inch at widest points.
- F. Provide sealant joints of widths and at locations indicated.
 - 1. Keep sealant joints free of mortar and other rigid materials.
 - 2. Sealing joints is specified in Division 07 Section "Joint Sealants."
- G. Install embedded flashing and weep holes at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
 - 1. At stud-framed walls, extend flashing through stone masonry, up the face of sheathing at least 12 inches, and behind weather-resistant sheathing paper.
 - 2. At multiwythe masonry walls, including cavity walls, extend flashing through stone masonry, turned up a minimum of 12 inches, and extend into or through inner wythe to comply with requirements in Division 04 Section "Unit Masonry."
 - 3. At concrete backing, extend flashing through stone masonry, turned up a minimum of 8 inches, and insert in reglet. Reglets are specified Division 07 Section "Sheet Metal Flashing and Trim."
 - 4. At lintels and shelf angles, extend flashing full length of angles but not less than 6 inches into masonry at each end.
 - 5. At sills, extend flashing not less than 4 inches at ends.
 - 6. At ends of head and sill flashing turn up not less than 2 inches to form end dams.
 - 7. Extend sheet metal flashing 1/2 inch beyond face of masonry at exterior and turn flashing down to form a drip.

8. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal drip edge.
 9. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall and adhere flexible flashing to top of metal flashing termination.
 10. Cut flexible flashing flush with face of wall after masonry wall construction is completed.
- H. Coat limestone with cementitious dampproofing as follows:
1. Stone at Grade: Beds, joints, and back surfaces to at least 12 inches above finish-grade elevations.
 2. Stone Extending below Grade: Beds, joints, back surfaces, and face surfaces below grade.
- I. Place weep holes and vents in joints where moisture may accumulate, including at base of cavity walls, above shelf angles, and at flashing.
1. Use wicking material or open head joints to form weep holes.
 2. Use wicking material to form weep holes above flashing in stone sills. Turn wicking down at lip of sill to be as inconspicuous as possible.
 3. Space weep holes 24 inches o.c.
 4. Space weep holes formed from wicking material 16 inches o.c.
 5. Trim wicking material used in weep holes flush with outside face of wall after mortar has set.
 6. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.
- J. Install vents in vertical head joints at the top of each continuous cavity at spacing indicated. Use open head joints to form vents.

3.3 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet, 3/8 inch in 20 feet, or 1/2 inch in 40 feet or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
- B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet or 1/2 inch in 40 feet or more.
- C. Variation of Linear Building Line: For position shown in plan, do not exceed 1/2 inch in 20 feet or 3/4 inch in 40 feet or more.

3.4 INSTALLATION OF ANCHORED STONE MASONRY

- A. Anchor stone masonry to concrete with corrugated-metal veneer anchors unless otherwise indicated. Secure anchors by inserting dovetailed ends into dovetail slots in concrete.
- B. Anchor stone masonry to unit masonry with corrugated-metal veneer anchors unless otherwise indicated. Embed anchors in unit masonry mortar joints or grouted cells for distance at least one-half of unit masonry thickness.
- C. Anchor stone masonry to stud framing with adjustable, screw-attached veneer anchors unless otherwise indicated. Fasten anchors through sheathing to framing with two screws.
- D. Embed veneer anchors in mortar joints of stone masonry at least halfway, but not less than 1-1/2 inches, through stone masonry and with at least 5/8-inch cover on outside face.
 - 1. Install continuous wire reinforcement in horizontal joints and attach to seismic veneer anchors as stone is set.
- E. Space anchors to provide not less than 1 anchor per 2 sq. ft. of wall area. Install additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12 inches.
- F. Space anchors not more than 16 inches o.c. vertically and 24 inches o.c. horizontally. Install additional anchors within 12 inches of openings, sealant joints, and perimeter at intervals not exceeding 12 inches.
- G. Set stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set.
- H. Provide 2-inch cavity between stone masonry and backup construction unless otherwise indicated. Keep cavity free of mortar droppings and debris.
 - 1. Place mortar spots in cavity at veneer anchors to maintain spacing.
 - 2. Slope beds toward cavity to minimize mortar protrusions into cavity.
- I. Rake out joints for pointing with mortar to depth of not less than 3/8 inch. Rake joints to uniform depths with square bottoms and clean sides.

3.5 POINTING

- A. Prepare stone-joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths greater than surrounding areas, apply pointing mortar in layers not more than 3/8 inch deep until a uniform depth is formed.

- B. Point stone joints by placing and compacting pointing mortar in layers not more than 3/8 inch deep. Compact each layer thoroughly and allow to become thumbprint hard before applying next layer.
- C. Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce the following joint profile:
 - 1. Joint Profile: Smooth, flat face slightly below edges of stone.

3.6 ADJUSTING AND CLEANING

- A. In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on mockup; leave one-half of panel uncleaned for comparison purposes.
 - 3. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.
 - 4. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clear water.
 - 5. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20 Revised II, using job-mixed detergent solution.
 - 6. Clean stone masonry with proprietary acidic cleaner applied according to manufacturer's written instructions.
 - 7. Clean limestone masonry to comply with recommendations in ILLI's "Indiana Limestone Handbook."

3.7 EXCESS MATERIALS AND WASTE

- A. Disposal as Fill Material: Dispose of clean masonry waste, including mortar and excess or soil-contaminated sand, by crushing and mixing with fill material as fill is placed.
 - 1. Do not dispose of masonry waste as fill within 18 inches of finished grade.

END OF SECTION 044300

SECTION 057000 - DECORATIVE METAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Metal fasteners at wood columns.

B. Related Sections:

1. Division 06 Section "Exterior Finish Carpentry"

1.2 SUBMITTALS

A. Product Data: For each type of product indicated, including finishing materials.

B. Shop Drawings: Show fabrication and installation details. Indicate materials, finishes, fasteners, anchorages, and accessory items.

C. Samples: For each type of exposed finish required.

PART 2 - PRODUCTS

2.1 STEEL AND IRON

A. Bars: Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.

B. Plates, Shapes, and Bars: ASTM A 36/A 36M.

C. Cast Iron: Either gray iron, ASTM A 48/A 48M, or malleable iron, ASTM A 47/A 47M unless otherwise indicated.

D. Steel Sheet, Cold Rolled: ASTM A 1008/A 1008M, either commercial steel or structural steel, exposed.

2.2 FASTENERS

A. Fastener Materials: Unless otherwise indicated, provide the following:

1. Stainless-Steel Items: Stainless-steel fasteners.
2. Steel Items: Plated steel fasteners with ASTM B 633, Class Fe/Zn 25 electrodeposited zinc coating unless otherwise indicated.
3. Dissimilar Metals: Stainless-steel fasteners.

- B. Provide tamper-resistant flat-head machine screws for exposed fasteners unless otherwise indicated.

2.3 MISCELLANEOUS MATERIALS

- A. Etching Cleaner for Galvanized Metal: Complying with MPI#25.
- B. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.
- C. Universal Shop Primer for Ferrous Metal: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79 and compatible with topcoat.
- D. Epoxy Zinc-Rich Primer: Complying with MPI#20 and compatible with topcoat.
- E. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D 1187.

2.4 FABRICATION, GENERAL

- A. Form decorative metal to required shapes and sizes, true to line and level with true curves and accurate angles and surfaces. Finish exposed surfaces to smooth, sharp, well-defined lines and arris.
- B. Mill joints to a tight, hairline fit. Cope or miter corner joints. Fabricate connections that will be exposed to weather in a manner to exclude water.
- C. Comply with AWS for recommended practices in shop welding and brazing. Weld and braze behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed joints of flux, and dress exposed and contact surfaces.
 - 1. Where welding and brazing cannot be concealed behind finished surfaces, finish joints to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 Welds: no evidence of a welded joint.
- D. Provide castings that are sound and free of warp, cracks, blowholes, or other defects that impair strength or appearance. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks.

2.5 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

2.6 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize products made from rolled, pressed, and forged steel shapes, castings, plates, bars, and strips indicated to be galvanized to comply with ASTM A 123/A 123M.
 - 1. Hot-dip galvanize steel and iron hardware indicated to be galvanized to comply with ASTM A 153/A 153M.
- B. Preparing Galvanized Items for Shop Priming: After galvanizing, thoroughly clean decorative metal of grease, dirt, oil, flux, and other foreign matter, and treat with etching cleaner.
- C. Preparing Nongalvanized Items for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
- D. Primer Application: Apply shop primer to prepared surfaces of items unless otherwise indicated. Primer need not be applied to surfaces to be embedded in concrete or masonry.
 - 1. Shop prime uncoated ferrous-metal surfaces with universal shop primer
 - 2. Retain subparagraph below if galvanized items are not shop primed.
 - 3. Do not apply primer to galvanized surfaces.
- E. Powder-Coat Finish: Prepare, treat, and coat ferrous metal to comply with resin manufacturer's written instructions and as follows:
 - 1. Prepare uncoated ferrous-metal surfaces to comply with SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
 - 2. Prepare galvanized metal by thoroughly removing grease, dirt, oil, flux, and other foreign matter.
 - 3. Treat prepared metal with metallic-phosphate pretreatment, rinse, and seal surfaces.
 - 4. Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils (0.04 mm).
 - 5. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide anchorage devices and fasteners where needed to secure decorative metal to in-place construction.
- B. Set products accurately in location, alignment, and elevation, measured from established lines and levels.

- C. Fit exposed connections accurately together to form tight, hairline joints or, where indicated, uniform reveals and spaces for sealants and joint fillers.
- D. Do not cut or abrade finishes that cannot be completely restored in the field. Return items with such finishes to the shop for required alterations, followed by complete refinishing, or provide new units as required.
- E. Install concealed gaskets, joint fillers, insulation, and flashings as work progresses.
- F. Restore protective coverings that have been damaged during shipment or installation. Remove protective coverings only when there is no possibility of damage from other work.
- G. Corrosion Protection: Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

END OF SECTION 057000

SECTION 060670 PLASTIC AND METAL SURFACING MATERIALS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Standard Decorative Laminates.
- B. Custom Decorative Laminates.
- C. Metal Laminates.

1.2 RELATED SECTIONS

- A. Section: Finish Carpentry.

1.3 REFERENCES

- A. ANSI Z124.6 - Plastic Sinks.
- B. ASTM D 256 - Standard Test Method for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
- C. ASTM D 638 - Standard Test Method for Tensile Properties of Plastics.
- D. ASTM D 696 - Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30 degrees C and 30 degrees C.
- E. ASTM D 790 - Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- F. ASTM D 785 - Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials.
- G. ASTM D 2583 - Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Compressor.
- H. ASTM G 21 - Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi.
- I. ASTM G 22 - Standard Practice for Determining Resistance of Plastics to Bacteria.
- J. NEMA LD 3 current revision- High Pressure Decorative Laminates; National Electrical Manufacturers Association.
- K. ISO 4586-2 - High Pressure Decorative Laminates; International Organization for Standardization.

1.4 SUBMITTALS

- A. Submit under provisions of Section: Submittals.
- B. Samples:
 - 1. Verification Samples: Submit two samples, each 12 inches square, illustrating each selected surfacing material in specified color, pattern, and finish.
- C. Manufacturer's Instructions:
 - 1. Submit manufacturer's printed installation instructions for each product.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store surfacing materials to prevent breakage and marring of surfaces in accordance with manufacturer's printed instructions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Wilsonart International, 2400 Wilson Place, P. O. Box 6110, Temple, TX 76503-6110; Tel: (254) 207-7000, Fax: (254) 207-2384, Response Line: (800)433-3222. email: smartline@wilsonart.com website: www.wilsonart.com

2.2 STANDARD DECORATIVE LAMINATES

- A. Acceptable Product: Wilsonart Laminate.
- B. Product Description: Decorative surface papers, impregnated with melamine resins, bonded under heat and pressure to kraft papers impregnated with phenolic resins.
- C. Standard Decorative Laminate - General Purpose Type: Wilsonart Type 107, having the following physical characteristics:
 - 1. Sheet thickness: 0.048 inch nominal (1.22mm)
 - 2. Exceeding performance requirements of NEMA LD 3 current revision Grade HGS.
 - 3. Surface burning characteristics in accordance with ASTM E 84; unbonded.
 - 4. Patterns and Finishes: Indicated on drawings.
- D. Standard Decorative Laminate - Vertical Surface Type: Wilsonart Type 335, having the following physical characteristics:
 - 1. Sheet thickness: 0.028 inch nominal (0.71 mm)
 - 2. Exceeding performance requirements of NEMA LD 3 current revision Grade VGS and VGP.
 - 3. Surface burning characteristics in accordance with ASTM E 84; unbonded.
 - 4. Patterns and Finishes: Indicated on drawings.
- E. Standard Decorative Laminate - Postforming Type:

Wilsonart Type 350, having the following physical characteristics:

1. Sheet thickness: 0.039 inch nominal (1.00 mm).
2. Exceeding performance requirements of NEMA LD 3 current revision Grade HGP.
3. Surface burning characteristics in accordance with ASTM E 84; unbonded.
4. Patterns and Finishes: Indicated on drawings.

2.3 CUSTOM DECORATIVE LAMINATES

- A. Acceptable Product: Wilsonart Custom Laminates.
- B. Product Description: Decorative surface papers, impregnated with melamine resins, bonded under heat and pressure to kraft papers impregnated with phenolic resins.
- C. Custom Decorative Laminate - General Purpose Type: Type 173 or 174.
1. Sheet thickness: 0.048 inch nominal (1.22).
 2. Exceeding performance requirements of NEMA LD 3 current revision Grade HGS.
 3. Patterns and Finishes: Indicated on drawings.
- D. Custom Decorative Laminate - Vertical Surface Type: Type 363 or 364.
1. Sheet thickness: 0.028 inch nominal (0.71 mm).
 2. Exceeding performance requirements of NEMA LD 3 current revision Grade VGP.
 3. Pattern: Patterns and Finishes: Indicated on drawings.

2.5 ACCESSORY MATERIALS

- A. Adhesives: Provide types as specified in manufacturer's printed installation instructions.

PART 3 EXECUTION

3.1 PREPARATION

- A. Surface preparation: Precondition surfacing materials and surfaces to receive surfacing materials in accordance with manufacturer's printed installation instructions.

END OF SECTION

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Rooftop equipment bases and support curbs.
4. Wood blocking and nailers.
5. Wood furring.
6. Wood sleepers.
7. Plywood backing panels.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1. Include data for wood-preservative and fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the American Lumber Standards Committee Board of Review.

C. Research/Evaluation Reports: For the following, showing compliance with building code in effect for Project:

1. Wood-preservative-treated wood.
2. Fire-retardant-treated wood.
3. Engineered wood products.
4. Power-driven fasteners.
5. Powder-actuated fasteners.
6. Expansion anchors.
7. Metal framing anchors.

1.3 QUALITY ASSURANCE

A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":

1. Dimension lumber framing.
2. Laminated-veneer lumber.
3. Prefabricated wood I-joists.
4. Rim boards.
5. Miscellaneous lumber.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
 3. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, which meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA C2, except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPA C31 with inorganic boron (SBX).
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat all rough carpentry, unless otherwise indicated.

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. General: Comply with performance requirements in AWPAC20 (lumber) and AWPAC27 (plywood).
 1. Use Exterior type for exterior locations and where indicated.
 2. Use Interior Type A, High Temperature (HT) for enclosed roof framing, framing in attic spaces, and where indicated.
 3. Use Interior Type A, unless otherwise indicated.
- B. Identify fire-retardant-treated wood with appropriate classification marking of testing and inspecting agency acceptable to authorities having jurisdiction.
- C. Application: Treat all rough carpentry, unless otherwise indicated.
 1. Concealed blocking.
 2. Framing for non-load-bearing partitions.
 3. Framing for non-load-bearing exterior walls.
 4. Roof construction.
 5. Plywood backing panels.

2.4 DIMENSION LUMBER FRAMING

- A. Maximum Moisture Content: 19 percent.
- B. Non-Load-Bearing Interior Partitions: Standard, Stud, or No. 2 grade of any species.
- C. Framing Other Than Non-Load-Bearing Interior Partitions: No. 2 Construction grade and the following species:
 1. Hem-fir (north); NLGA.
 2. Southern pine; SPIB.
 3. Douglas fir-larch; WCLIB or WWPA.
 4. Mixed southern pine; SPIB.
 5. Spruce-pine-fir; NLGA.
 6. Douglas fir-south; WWPA.
 7. Hem-fir; WCLIB or WWPA.

8. Douglas fir-larch (north); NLGA.
 9. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
- D. Framing Other Than Non-Load-Bearing Interior Partitions: Any species and grade with a modulus of elasticity of at least 1,500,000 psi (10 350 MPa) and an extreme fiber stress in bending of at least 1000 psi (6.9 MPa) for 2-inch nominal (38-mm actual) thickness and 12-inch nominal (286-mm actual) width for single-member use.
- E. Exposed Exterior Framing Indicated to Receive a Stained Finish: Provide material hand-selected for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
1. Species and Grade: As indicated above for load-bearing construction of same type.
 2. Species and Grade: Southern pine, No. 1 grade; SPIB.
 3. Species and Grade: Douglas fir-larch; No. 1 grade; WCLIB, or WWPA.
 4. Species and Grade: Mixed southern pine, No. 1 grade; SPIB.
 5. Species and Grade: Spruce-pine-fir, No. 1 grade; NLGA.
 6. Species and Grade: Douglas fir-south; No. 1 grade; WWPA.
 7. Species and Grade: Hem-fir; No. 1 grade; WCLIB, or WWPA.
 8. Species and Grade: Spruce-pine-fir (south), No. 1 grade; NeLMA, WCLIB, or WWPA.
 9. Species and Grade: Eastern hemlock-balsam fir or Eastern hemlock-tamarack; No. 1 grade; NeLMA.
 10. Species and Grade: Redwood, Select Structural grade; RIS.
 11. Species and Grade: Western cedars, Select Structural grade; WCLIB, or WWPA.

2.5 ENGINEERED WOOD PRODUCTS

- A. Laminated-Veneer Lumber: Structural composite lumber made from wood veneers with grain primarily parallel to member lengths, evaluated and monitored according to ASTM D 5456 and manufactured with an exterior-type adhesive complying with ASTM D 2559 and containing no urea formaldehyde.
1. Extreme Fiber Stress in Bending, Edgewise: 3100 psi (21.3 MPa) 12-inch nominal- (286-mm actual-) depth members.
 2. Modulus of Elasticity, Edgewise: 2,000,000 psi (13 700 MPa)

2.6 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
1. Blocking.

2. Nailers.
 3. Rooftop equipment bases and support curbs.
 4. Cants.
 5. Furring.
 6. Grounds.
- B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.
- C. For concealed boards, provide lumber with 19 percent maximum moisture content and the following species and grades:
1. Mixed southern pine, No. 2 grade; SPIB.
 2. Eastern softwoods, No. 2 Common grade; NeLMA.
 3. Northern species, No. 2 Common grade; NLGA.
 4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.7 PLYWOOD BACKING PANELS

- A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exterior, C-C Plugged, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

2.8 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified.
1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Power-Driven Fasteners: NES NER-272.
- C. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.9 METAL FRAMING ANCHORS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- C. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings or comparable products by one of the following:
1. Alpine Engineered Products, Inc.
 2. Cleveland Steel Specialty Co.
 3. Harlen Metal Products, Inc.
 4. KC Metals Products, Inc.
 5. Simpson Strong-Tie Co., Inc.
 6. Southeastern Metals Manufacturing Co., Inc.
 7. USP Structural Connectors.
- D. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, which meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.
- E. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

2.10 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch (25-mm) nominal thickness, compressible to 1/32 inch (0.8 mm); selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than 0.025 inch (0.6 mm).

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- C. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.

- D. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- E. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.
- F. Do not splice structural members between supports, unless otherwise indicated.
- G. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 3. Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule," in ICBO's Uniform Building Code.
 - 4. Table 2305.2, "Fastening Schedule," in BOCA's BOCA National Building Code.
 - 5. Table 2306.1, "Fastening Schedule," in SBCCI's Standard Building Code.
 - 6. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - 7. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in ICC's International One- and Two-Family Dwelling Code.

3.2 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Wall sheathing.
2. Roof sheathing.
3. Composite nail base insulated roof sheathing.
4. Subflooring.
5. Underlayment.
6. Building paper.
7. Building wrap.
8. Sheathing joint-and-penetration treatment.
9. Flexible flashing at openings in sheathing.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preserved treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements.

B. Research/Evaluation Reports: For the following:

1. Preservative-treated plywood.
2. Fire-retardant-treated plywood.
3. Foam-plastic sheathing.
4. Building wrap.

1.3 QUALITY ASSURANCE

A. Fire-Test-Response Characteristics: For assemblies with fire-resistance ratings, provide materials and construction identical to those of assemblies tested for fire resistance per ASTM E 119 by a testing and inspecting agency acceptable to authorities having jurisdiction.

B. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":

1. Plywood.
2. Oriented strand board.
3. Particleboard underlayment.
4. Hardboard underlayment.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Stack plywood and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS, GENERAL

- A. Plywood: DOC PS 1, unless otherwise indicated.
- B. Oriented Strand Board: DOC PS 2.

2.2 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWPAC9.
- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings and plywood in contact with masonry or concrete or used with roofing, flashing, vapor barriers, and waterproofing.

2.3 FIRE-RETARDANT-TREATED PLYWOOD

- A. General: Comply with performance requirements in AWPAC27.
 1. Use Exterior type for exterior locations and where indicated.
 2. Use Interior Type A, High Temperature (HT) for roof sheathing and where indicated.
 3. Use Interior Type A, unless otherwise indicated.
- B. Kiln-dry material after treatment to a maximum moisture content of 15 percent.
- C. Identify fire-retardant-treated plywood with appropriate classification marking of UL, U.S. Testing, Timber Products Inspection, or another testing and inspecting agency acceptable to authorities having jurisdiction.
- D. Application: Treat all plywood, unless otherwise indicated.

2.4 WALL SHEATHING

- A. Plywood Wall Sheathing: Exterior sheathing.
- B. Oriented-Strand-Board Wall Sheathing: Exposure 1, Structural I sheathing.
- C. Extruded-Polystyrene-Foam Wall Sheathing: ASTM C 578, Type IV, with tongue-and-groove or shiplap long edges as standard with manufacturer.
 - 1. Thickness: 1 inch (25 mm).
- D. Foil-Faced, Polyisocyanurate-Foam Wall Sheathing: ASTM C 1289, Type I, Class 2, aluminum-foil-faced, glass-fiber-reinforced, rigid, cellular, polyisocyanurate thermal insulation. Foam-plastic core and facings shall have a flame-spread index of 25 or less when tested individually.
 - 1. Thickness: 1 inch (25 mm).

2.5 ROOF SHEATHING

- A. Plywood Roof Sheathing: Exterior sheathing.
- B. Oriented-Strand-Board Roof Sheathing: Exposure 1, Structural I sheathing.

2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated.
 - 1. For wall and roof sheathing panels, provide fasteners with corrosion-protective coating having a salt-spray resistance of more than 800 hours according to ASTM B 117.

2.7 WEATHER-RESISTANT SHEATHING PAPER

- A. Building Paper: ASTM D 226, Type 1 (No. 15 asphalt-saturated organic felt), unperforated.
- B. Building Wrap: ASTM E 1677, Type I air retarder; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E 84; UV stabilized; and acceptable to authorities having jurisdiction.
 - 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Products: Subject to compliance with requirements, provide one of the following:

- a. Dow Chemical Company (The); Styrofoam Weathermate Plus Brand Housewrap.
 - b. DuPont (E. I. du Pont de Nemours and Company); Tyvek Commercial Wrap and Header Wrap.
 - c. Ludlow Coated Products; Barricade Building Wrap.
 - d. Pactiv, Inc.; GreenGuard Ultra Wrap.
 - e. Raven Industries Inc.; Rufco-Wrap.
 - f. Reemay, Inc.; Typar HouseWrap.
3. Water-Vapor Permeance: Not less than 152 g through 1 sq. m of surface in 24 hours per ASTM E 96, Desiccant Method (Procedure A).
- C. Building-Wrap Tape: Tape recommended by building-wrap manufacturer.

2.8 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

- A. Sheathing Tape for Foam-Plastic Sheathing: Tape recommended by sheathing manufacturer.

2.9 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels to Framing: Formulation complying with APA AFG-01 that is approved for use indicated by manufacturers of both adhesives and panels.
1. Use adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- B. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than 0.025 inch (0.6 mm).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Securely attach to substrate by fastening as indicated, complying with the following:
1. NES NER-272 for power-driven fasteners.
 2. Table 2304.9.1, "Fastening Schedule," in ICC's "International Building Code."
 3. Table 23-II-B-1, "Nailing Schedule," and Table 23-II-B-2, "Wood Structural Panel Roof Sheathing Nailing Schedule," in ICBO's "Uniform Building Code."
 4. Table 2305.2, "Fastening Schedule," in BOCA's "BOCA National Building Code."
 5. Table 2306.1, "Fastening Schedule," in SBCCI's "Standard Building Code."
 6. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's "International Residential Code for One- and Two-Family Dwellings."

7. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in ICC's "International One- and Two-Family Dwelling Code."

- B. Coordinate sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that exclude exterior moisture.
- C. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

3.2 WEATHER-RESISTANT SHEATHING-PAPER INSTALLATION

- A. General: Cover sheathing with weather-resistant sheathing paper as follows:
 1. Cut back barrier 1/2 inch (13 mm) on each side of the break in supporting members at expansion- or control-joint locations.
 2. Apply barrier to cover vertical flashing with a minimum 4-inch (100-mm) overlap, unless otherwise indicated.
- B. Building Paper: Apply horizontally with a 2-inch (50-mm) overlap and a 6-inch (150-mm) end lap; fasten to sheathing with galvanized staples or roofing nails.
- C. Building Wrap: Comply with manufacturer's written instructions.
 1. Seal seams, edges, fasteners, and penetrations with tape.
 2. Extend into jambs of openings and seal corners with tape.

3.3 SHEATHING JOINT-AND-PENETRATION TREATMENT

- A. Seal sheathing joints according to sheathing manufacturer's written instructions.
 1. Apply elastomeric sealant to joints and fasteners and trowel flat. Seal other penetrations and openings.
 2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing board joints, and apply and trowel silicone emulsion sealant to embed tape in sealant. Apply sealant to exposed fasteners. Seal other penetrations and openings.
 3. Apply sheathing tape to joints between foam-plastic sheathing panels and at items penetrating sheathing. Apply at upstanding flashing to overlap both flashing and sheathing.

3.4 FLEXIBLE FLASHING INSTALLATION

- A. Apply flexible flashing where indicated to comply with manufacturers written instructions.
 1. Lap seams and junctures with other materials at least 4 inches (100 mm), except that at flashing flanges of other construction, laps need not exceed flange width.

2. Lap flashing over weather-resistant building paper at bottom and sides of openings.
3. Lap weather-resistant building paper over flashing at heads of openings.
4. After flashing has been applied, roll surfaces with a hard rubber or metal roller.

3.5 PROTECTION

- A. Paper-Surfaced Gypsum Sheathing: Protect sheathing by covering exposed exterior surface of sheathing with weather-resistant sheathing paper securely fastened to framing. Apply covering immediately after sheathing is installed.

END OF SECTION 061600

SECTION 062000 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Construction Agreement and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Exterior wood trim
 - 2. Interior standing and running trim.
- B. Related Sections include the following:
 - 1. Division 6 Section "Rough Carpentry" for furring, blocking, and other carpentry work not exposed to view and for structural wood decking and framing exposed to view.
 - 2. Division 9 Section "Painting" for priming and back-priming of finish carpentry.

1.3 DEFINITIONS

- A. Inspection agencies, and the abbreviations used to reference them, include the following:

- 1. NEIMA - Northeastern lumber Manufacturers Association.
- 2. NHLA - National Hardwood lumber Association.
- 3. NIGA - Notional lumber Grades Authority.
- 4. SCMA - Southern Cypress Manufacturers Association.
- 5. SPIB - Southern Pine Inspection Bureau.

1.4 SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Include construction details, material
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used, net amount of preservative retained, and chemical treatment manufacturer's written instructions for handling, storing, installing, and finishing treated material.
 - 2. Provide a statement that moisture content of products receiving a waterborne treatment was reduced to levels specified before shipment to Project site.
- B. Samples for Verification: Submit lumber samples to Owner's representative for acceptance.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed architectural woodwork similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Fabricator Qualifications: A firm experienced in producing architectural woodwork similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards" for grades of interior architectural woodwork, construction, finishes, and other requirements.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials against weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels. Provide for air circulation within and around stacks and under temporary coverings.
- B. Deliver interior finish carpentry only when environmental conditions meet requirements specified for installation areas. If finish carpentry must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install interior finish carpentry until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- B. Weather limitations: Proceed with installation only when existing and forecasted weather conditions permit work to be performed according to manufacturers written instructions and warranty requirements and at least one coat of specified finish to be applied without exposure to rain, snow, or dampness.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by the American Lumber Standards' Committee Board of Review.
 - 1. Factory mark each piece of lumber with grade stamp of inspection agency indicating grade, species, moisture content at time of surfacing, and mill.
- B. Softwood Plywood: DOC PS 1.
- C. Hardwood Plywood: HPV A HP- 1.
- D. Medium-Density Fiberboard: ANSI A208.2, Grade MD-Exterior Glue. Georgia-Pacific "Synergite".
- E. Wood Species for Interior Opaque Finish: Medium density fiberboard, or any closed-grain hardwood, poplar, or southern pine.

2.2 WOOD-PRESERVATIVE- TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPAC2 (lumber) and AWPAC9 (plywood), except that lumber that is not in contact with the ground and is continuously protected from liquid water may be treated according to AWPAC31 with inorganic boron (SBX).
- B. Preservative Chemicals: Acceptable to authorities having jurisdiction and one of the following:
 - 1. Chromated copper arsenate (CCA).
 - 2. Ammoniacal copper quat (ACQ).
 - 3. Copper bis (dimethyldithiocarbamate) (CDDC).
 - 4. Ammoniacal copper citrate (CC).
 - 5. Copper azole, Type A (CBA-A).
 - 6. Oxine copper (copper-8-quinolinolate) in a light petroleum solvent.
- C. Do not use chemical formulations that require incising.
- D. For exposed items indicated to receive transparent finish, do not use chemical formulations that contain colorants or that bleed through or otherwise adversely affect finishes.
- E. Pressure-treat aboveground items with preservatives to a minimum retention of 0.25 pounds per cubic foot.
- F. Kiln-dry exposed, finished lumber after treatment to a maximum moisture content of 15 percent.

- G. Mark each treated item with the Quality Mark Requirements of an inspection agency approved by the American Lumber Standards' Committee Board of Review.

2.3 EXTERIOR WOOD FOR OPAQUE FINISH

- A. Quality Standard: Comply with AWI Section 300.
- B. Grade: Custom.
- C. Block-out or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- D. Lumber Trim: solid lumber with surfaced (smooth) face and of the following species and grade:
- E. Wood Species and Grade for Opaque Finish: No.2 & Better Grade cypress, graded in accordance with Standard Specifications for Grades of Southern Cypress from the Southern Cypress Manufacturers Association, and the Rules for the Measurement and Inspection of Hardwood & Cypress from the National Hardwood Lumber Association.
- F. Do not use plain-sawn lumber with exposed, flat surfaces more than 3 inches wide.

2.4 INTERIOR STANDING AND RUNNING TRIM FOR OPAQUE FINISH

- A. Lumber Trim for Opaque Finish (Painted): Finished lumber (S4S), either finger jointed or solid lumber, of one of the following species and grades:
- B. Medium density fiberboard
- C. Grade Finish or 1 Common eastern white pine; NELMA or NIGA.
- D. Grade B Finish older, aspen, basswood, cottonwood, gum, magnolia, soft maple,

sycamore, tupelo, or yellow poplar; NHLA.

Moldings: Made to patterns included in WMMPA WM 7. Wood moldings made from kiln-dried stock and graded under WMMPA WM 4.

2.5 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide stainless steel nails or screws in sufficient length to penetrate minimum of 1-1/2 inches into substrate, unless otherwise recommended by manufacturer.
- B. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size material and finish required for application indicated to provide secure attachment concealed where possible.
- C. Glue: Aliphatic- or phenolic-resin wood glue recommended by manufacturer for general carpentry use.
- D. Flashing: Comply with requirements in Division 7 Section "Sheet Metal Flashing and Trim" for flashing materials installed in finish carpentry.
- E. Horizontal Joint Flashing for Siding: Preformed prefinished aluminum Z-shaped flashing .020 inch thick.
- F. Color to be selected by the architect from the manufacturer's standard colors.
- G. Sealants: Comply with requirements in Division 7 Section "Joint Sealants" for materials required for sealing siding work.

2.8 FABRICATION

- A. Wood Moisture Content: Comply with requirements of specified inspection agencies and with manufacturer's written recommendations for moisture content of finish carpentry at relative humidity conditions existing during time of fabrication and in installation areas.
- B. Block out or kerf backs of the following members except members with ends exposed in finished work:
 - 1. Exterior standing and running trim wider than 5 inches.
- C. Interior standing and running trim except shoe and crown molds.
- D. Wood board paneling.

- E. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of projections and substances detrimental to application.
- B. Before installing finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours, but not less than the conditioning period recommended by manufacturer.
- C. Prime lumber for exterior applications to be painted. Prime both front and back sides and edges. Cut to required lengths and prime ends. Comply with requirements in Division 9 Section "Painting."

3.3 INSTALLATION, GENERAL

- A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.
 - 1. Do not use manufactured units with defective surfaces, sizes, or patterns.
- B. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
- C. Scribe and cut finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
- D. Countersink fasteners, fill surface flush, and sand where face fastening is unavoidable.
- E. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.
- F. Install stairs with no more than 3/16-inch variation between adjacent treads and risers and with no more than 3/16-inch variation between largest and smallest treads and risers within each flight.
- G. Coordinate finish carpentry with materials and systems in or adjacent to it.
- H. Provide cutouts for mechanical and electrical items that penetrate finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

- A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane blocks of casings to provide uniform thickness across joints, where necessary for alignment.
 - 1. Match color and grain pattern across joints.
- B. Install trim after gypsum board joint finishing operations are completed.
- C. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.
- D. Fit exterior joints to exclude water. Apply flat grain lumber with bark side exposed to weather.

3.5 ADJUSTING

- A. Replace finish carpentry that is damaged or does not comply with requirements.

- B. Finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.6 CLEANING

- A. Clean finish carpentry on exposed and semi-exposed surfaces. Touch up factory applied finishes restoring damaged or soiled areas.

END OF SECTION 062000

SECTION 062013 - EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Exterior standing and running trim.
2. Lumber Hardboard siding.
3. Hardboard soffits.

B. See Division 06 Section "Exterior Architectural Woodwork" for shop-fabricated exterior woodwork

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

B. Samples: For each type of siding indicated.

1.3 QUALITY ASSURANCE

A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":

1. Exterior standing and running trim.
2. Exterior lumber hardboard siding.
3. Exterior hardboard soffits.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

A. Lumber: DOC PS 20 and applicable grading rules of inspection agencies certified by ALSC's Board of Review.

B. Softwood Plywood: DOC PS 1.

C. Hardboard: AHA A135.4.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process:

1. Lumber: AWPAC2. Kiln dry after treatment to a maximum moisture content of 19 percent.
2. Plywood: AWPAC9. Kiln dry after treatment to a maximum moisture content of 18 percent.
3. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium].
4. Application: Where indicated

2.3 STANDING AND RUNNING TRIM

A. Lumber Trim:

1. Species and Grade: Western red cedar, Grade A; NLGA, WCLIB, or WWPA.
2. Maximum Moisture Content: 15 percent.
3. Face Surface: Surfaced (smooth).

B. Moldings: WMMPA WM 4, N-grade wood moldings, without finger jointing. Made from kiln-dried stock to patterns included in WMMPA WM 12.

1. Species: Western red cedar.

2.4 HARDBOARD SIDING

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Collins Products LLC; Collins Companies, Inc. (The).
2. Georgia-Pacific Corp.
3. Louisiana-Pacific Corporation.
4. Temple-Inland Inc.

C. Hardboard Siding: AHA A135.6, primed with manufacturer's standard exterior primer.

1. Type: 7/16-inch- (11-mm-) thick-by-[6-inch- (152-mm-)] [8-inch- (203-mm-)] wide lap siding.
2. Type: 1/2-inch- (12.7-mm-) thick-by-8-inch- (203-mm-) wide, beaded-edge lap siding.
3. Type: 7/16-inch- (11-mm-) thick, square-edge flat panels; without grooves.
4. Type: 7/16-inch- (11-mm-) thick, shiplap-edge panels; channel grooved with grooves 8 inches (203.2 mm) o.c.
5. Texture: Wood grain.

2.5 HARDBOARD SOFFITS

- A. Hardboard Soffits: Primed hardboard, complying with AHA A135.6, with manufacturer's standard exterior primer.

1. Type: 1/2-inch- (12.7-mm-) thick flat panels, smooth.

2.6 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches (38 mm) into wood substrate.

1. For prefinished items, provide matching prefinished aluminum fasteners where face fastening is required.
2. For applications not otherwise indicated, provide hot-dip galvanized steel or aluminum fasteners.

- B. Insect Screening for Soffit Vents: Aluminum, 18-by-16 (1.4-by-1.6-mm) mesh.

- C. Round Soffit Vents: Stamped aluminum louvered vents, 4 inches (102 mm) in diameter.

- D. Sealants: Latex, complying with ASTM C 834, Type P, Grade NF and with applicable requirements in Division 07 Section "Joint Sealants," recommended by sealant manufacturer and manufacturer of substrates for intended application.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prime lumber to be painted, including both faces and edges. Cut to required lengths and prime ends. Comply with requirements in Division 09 Section "Exterior Painting."

3.2 INSTALLATION, GENERAL

- A. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.

1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.
2. Install stairs with no more than 3/16-inch (4.7-mm) variation between adjacent treads and risers and with no more than 3/8-inch (9.5-mm) variation between largest and smallest treads and risers within each flight.

3.3 STANDING AND RUNNING TRIM INSTALLATION

- A. Install flat grain lumber with bark side exposed to weather.
- B. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches (610 mm) long except where necessary.
 - 1. Use scarf joints for end-to-end joints.
 - 2. Stagger end joints in adjacent and related members.
- C. Fit exterior joints to exclude water. Cope at returns and miter at corners.

3.4 SIDING INSTALLATION

- A. Install siding to comply with manufacturer's written instructions.
- B. Hardboard Siding: Install hardboard siding complying with AHA's "Recommended Basic Application and Painting Instructions for Hardboard Siding." Install panels with edges over framing or blocking. Leave 3/16-inch (5-mm) gap at perimeter, openings, and horizontal panel joints unless otherwise recommended by panel manufacturer.
 - 1. Seal butt joints at inside and outside corners and at trim locations.
 - 2. Conceal fasteners to greatest practical extent by placing in grooves of siding pattern or by concealing with applied trim or battens as detailed.

END OF SECTION 062013

SECTION 064013 - EXTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:
 - 1. Exterior standing and running trim.
 - 2. Exterior frames and jambs.
 - 3. Exterior shutters.
 - 4. Exterior ornamental work.
 - 5. Shop priming exterior woodwork.
 - 6. Shop finishing exterior woodwork.

1.2 SUBMITTALS

- A. Product Data: For wood-preserved-treated materials and finishes indicated.
- B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.
- C. Samples: For lumber for exterior wood stain finish for each finish system and color, with one-half of exposed surface finished.

1.3 QUALITY ASSURANCE

- A. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards."
 - 1. Provide AWI Quality Certification Program labels and certificates for woodwork, including installation.
- B. Forest Certification: Provide exterior architectural woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

PART 2 - PRODUCTS

2.1 WOODWORK FABRICATORS

- A. Fabricators: Subject to compliance with requirements, provide exterior architectural woodwork by one of the following:

2.2 MATERIALS

- A. Preservative Treatment by Nonpressure Process: Comply with AWPAN1 using the following preservative for woodwork items indicated to receive water-repellent preservative treatment:
 - 1. Water-Repellent Preservative: Formulation containing 3-iodo-2-propynyl butyl carbamate (IPBC) complying with AWPAP8 as its active ingredient.
 - 2. Water-Repellent Preservative/Insecticide: Formulation containing 3-iodo-2-propynyl butyl carbamate (IPBC) as its active ingredient, combined with an insecticide containing chlorpyrifos as its active ingredient, both complying with AWPAP8.
- B. Nails: Aluminum or hot-dip galvanized.
- C. Screws: Aluminum, hot-dip galvanized or stainless steel.

2.3 FABRICATION

- A. Wood Moisture Content: 7 to 12 percent.
- B. Complete fabrication, including assembly, finishing, and hardware application, to maximum extent possible, before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.
- C. Woodwork for Transparent Finish:
 - 1. Grade: Custom.
 - 2. Wood Species: Western red cedar
- D. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
- E. Shop Priming: Shop prime woodwork for paint finish with one coat of wood primer specified in Division 09 painting Sections.
 - 1. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to surfaces installed in contact with concrete or masonry and to end-grain surfaces.
- F. Shop Finishing: Entire finish of exterior architectural woodwork is specified in this Section. To greatest extent possible, finish architectural woodwork at fabrication shop. Defer only final touchup and cleaning until after installation.
 - 1. Grade: Same grade as item to be finished.
 - 2. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to surfaces installed in contact with concrete or masonry and to end-grain surfaces.
 - 3. AWI Finish System: Catalyzed polyurethane.

4. Wl Finish System: 5, catalyzed polyurethane.
5. Sheen: Satin 31-45 gloss units measured on 60-degree gloss meter per ASTM D 523.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Before installing architectural woodwork, examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.
- B. Quality Standard: Install woodwork to comply with same grade specified in Part 2 for type of woodwork involved.
- C. Install woodwork true and straight with no distortions. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).
- D. Scribe and cut woodwork to fit adjoining work, and refinish cut surfaces or repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk concealed fasteners and blind nailing. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork.
- F. Install trim with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Scarf running joints and stagger in adjacent and related members.
- G. Complete finishing work specified in this Section to extent not completed at shop or before installation of woodwork. Fill nail and screw holes with matching filler where exposed.
- H. Refer to Division 09 Sections for final finishing of installed architectural woodwork.
- I. Clean woodwork on exposed and semiexposed surfaces. Touch up shop-applied finishes to restore damaged or soiled areas.

END OF SECTION 064013

SECTION 064023 - INTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Interior standing and running trim.
2. Interior frames and jambs.
3. Wood cabinets.
4. Plastic-laminate cabinets.
5. Plastic-laminate countertops.
6. Solid-surfacing-material countertops.
7. Shop finishing of woodwork.

B. Interior architectural woodwork includes wood furring, blocking, shims, and hanging strips unless concealed within other construction before woodwork installation.

1.2 SUBMITTALS

A. Product Data: For solid-surfacing material, cabinet hardware and accessories, handrail brackets and finishing materials and processes.

B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

C. Samples:

1. Lumber and panel products for transparent finish, for each species and cut, finished on one side and one edge.
2. Lumber and panel products with shop-applied opaque finish, for each finish system and color, with exposed surface finished.
3. Plastic-laminates, for each type, color, pattern, and surface finish.
4. Thermoset decorative panels, for each type, color, pattern, and surface finish.
5. Solid-surfacing materials.

D. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator of woodwork.

B. Quality Standard: Unless otherwise indicated, comply with AWI's "Architectural Woodwork Quality Standards."

1. Provide AWI Quality Certification Program labels and certificates for woodwork, including installation.
- C. Forest Certification: Provide interior architectural woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

1.4 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 - PRODUCTS

2.1 WOODWORK FABRICATORS

- A. Fabricators: Subject to compliance with requirements, provide interior architectural woodwork by one of the following:

2.2 MATERIALS

- A. Wood Species and Cut for Transparent Finish: White ash, plain sawn or sliced
- B. Wood Products:
 1. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.
- C. Thermoset Decorative Panels: Particleboard or medium-density fiberboard finished with thermally fused, melamine-impregnated decorative paper complying with LMA SAT-1.
- D. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or, if not indicated, as required by woodwork quality standard.
- E. Solid-Surfacing Material: Homogeneous solid sheets of filled plastic resin complying with ISSFA-2.
 1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 2. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ABA Industries.
 - b. Avonite, Inc.

- c. E. I. du Pont de Nemours and Company.
- d. Formica Corporation.
- e. LG Chemical, Ltd.
- f. Meganite Inc.; a division of the Pyrochem Group.
- g. Nevamar Company, LLC; Decorative Products Div.
- h. Samsung; Cheil Industries Inc.
- i. Swan Corporation (The).
- j. Transolid, Inc.
- k. Wilsonart International; Div. of Premark International, Inc.

2.3 FIRE-RETARDANT-TREATED MATERIALS

- A. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Comply with performance requirements of AWPA C20 (lumber) and AWPA C27 (plywood). Use Exterior Type or Interior Type A. Use fire-retardant-treatment formulations that do not bleed through or otherwise adversely affect finishes. Kiln-dry material after treatment.
- B. Fire-Retardant Particleboard: Panels made from softwood particles and fire-retardant chemicals mixed together at time of panel manufacture with flame-spread index of 25 or less and smoke-developed index of 25 or less per ASTM E 84.

2.4 CABINET HARDWARE AND ACCESSORIES

- A. General: Provide cabinet hardware and accessory materials associated with architectural woodwork, except for items specified in Division 08 Section "Door Hardware (Scheduled by Describing Products)."
- B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 170 degrees of opening, self-closing.
- C. Wire Pulls: Back mounted, solid metal, 4 inches (100 mm) long
- D. Drawer Slides: BHMA A156.9, B05091.
 - 1. Standard Duty Grade 1: Side mounted and extending under bottom edge of drawer; full-extension type; with polymer rollers.
 - 2. Box Drawer Slides: Grade 1; for drawers not more than 6 inches (150 mm) high and 24 inches (600 mm) wide.
 - 3. File Drawer Slides: Grade 1HD-100; for drawers more than 6 inches (150 mm) high or 24 inches (600 mm) wide.
- E. Door Locks: BHMA A156.11, E07121.
- F. Drawer Locks: BHMA A156.11, E07041.
- G. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 - 1. Satin Stainless Steel: BHMA 630.

2.5 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

2.6 FABRICATION

- A. General: Complete fabrication to maximum extent possible before shipment to Project site. Where necessary for fitting at site, provide allowance for scribing, trimming, and fitting.
 - 1. Interior Woodwork Grade: Custom.
 - 2. Shop cut openings to maximum extent possible. Sand edges of cutouts to remove splinters and burrs. Seal edges of openings in countertops with a coat of varnish.
 - 3. Install glass to comply with applicable requirements in Division 08 Section "Glazing" and in GANA's "Glazing Manual." For glass in wood frames, secure glass with removable stops.
- B. Interior Standing and Running Trim:
 - 1. For transparent-finished trim items wider than available lumber, use veneered construction. Do not glue for width.
 - 2. Backout or groove backs of flat trim members and kerf backs of other wide, flat members, except for members with ends exposed in finished work.
 - 3. Assemble casings in plant except where limitations of access to place of installation require field assembly.
- C. Plastic-Laminate Cabinets:
 - 1. AWI Type of Cabinet Construction: Flush.
 - 2. Reveal Dimension: [1/2 inch (13 mm).
 - 3. Laminate Cladding for Exposed Surfaces: High-pressure decorative laminate as follows:
 - a. Horizontal Surfaces Other Than Tops: Grade HGS.
 - b. Postformed Surfaces: Grade HGP.
 - c. Vertical Surfaces: Grade HGS.
 - d. Edges: Grade
 - 4. Materials for Semiexposed Surfaces Other Than Drawer Bodies: High-pressure decorative laminate
 - 5. Drawer Sides and Backs: Thermoset decorative panels.
 - 6. Drawer Bottoms: Thermoset decorative panels.
 - 7. Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's full range of colors.

8. Provide dust panels of 1/4-inch (6.4-mm) plywood or tempered hardboard above compartments and drawers, unless located directly under tops.

D. Plastic-Laminate Countertops:

1. High-Pressure Decorative Laminate Grade: HGS
2. Colors, Patterns, and Finishes: As indicated by manufacturer's designations.
3. Colors, Patterns, and Finishes: As selected by Architect from laminate manufacturer's full range of colors finish.
4. Edge Treatment: Same as laminate cladding on horizontal surfaces.
5. Core Material at Sinks: Particleboard made with exterior glue.

2.7 SHOP FINISHING

- A. Finish architectural woodwork at fabrication shop. Defer only final touchup, cleaning, and polishing until after installation.
- B. Backpriming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Before installation, condition woodwork to average prevailing humidity conditions in installation areas. Examine shop-fabricated work for completion and complete work as required, including removal of packing and backpriming.
- B. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- C. Install woodwork level, plumb, true, and straight to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm). Shim as required with concealed shims.
- D. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- E. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- F. Standing and Running Trim: Install with minimum number of joints possible, using full-length pieces (from maximum length of lumber available) to greatest extent possible. Scarf running joints and stagger in adjacent and related members. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base if finished.

- G. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.
 - 1. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches (400 mm) o.c. with No. 10 wafer-head screws sized for 1-inch (25-mm) penetration into wood framing, blocking, or hanging strips or toggle bolts through metal backing or metal framing behind wall finish.
- H. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop. Calk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealants."

END OF SECTION 064023

SECTION 07131 - SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Rubberized-asphalt sheet waterproofing
- B. Related Sections include the following:
 - 1. Division 3 for cast-in-place concrete.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide waterproofing that prevents the passage of water.

1.4 SUBMITTALS

- A. Product Data: Include manufacturer's written instructions for evaluating, preparing, and treating substrate, technical data, and tested physical and performance properties of waterproofing.
- B. Installer Certificates: Signed by manufacturers certifying that installers comply with requirements.
- C. Sample Warranty: Copy of special waterproofing manufacturer's and Installer's warranty stating obligations, remedies, limitations, and exclusions before starting waterproofing.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified installer who is authorized, approved, or licensed by waterproofing manufacturer to install manufacturer's products.
- B. Source Limitations: Obtain waterproofing materials molded- sheet drainage panels through one source from a single manufacturer.
- C. Mock-ups: Apply waterproofing to 100 square feet of wall to demonstrate surface preparation, crack and joint treatment, corner treatment, and execution quality.
 - 1. If Architect determines mockups do not comply with requirements, reapply

waterproofing until mockups are approved.

2. Approved mockups may become part of the completed Work if undisturbed at time of

Substantial Completion.

D. Pre-installation Conference: Conduct conference at Project site to comply with requirements in

Division 1 Section "Project Management and Coordination." Review requirements for waterproofing, including surface preparation specified under other Sections, substrate condition and pretreatment, minimum curing period, forecasted weather conditions, special details and sheet flashings, installation procedures, testing and inspection procedures, and protection and repairs.

E. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to perform tests and inspections of the work and to prepare test reports.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver liquid materials to Project site in original packages with seals unbroken, labeled with manufacturer's name, product brand name and type, date of manufacture, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged packages in a clean, dry, protected location and within temperature range required by waterproofing manufacturer.
- C. Remove and replace liquid materials that cannot be applied within their stated shelf life.
- D. Store rolls according to manufacturer's written instructions.
- E. Protect stored materials from direct sunlight.

1.7 PROJECT CONDITIONS

- A. Environmental limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended by waterproofing manufacturer. Do not apply waterproofing to a damp or wet substrate.
- B. Maintain adequate ventilation during preparation and application of waterproofing materials.

1.8 WARRANTY

- A. Special Manufacturer's Warranty: Written warranty, signed by waterproofing manufacturer agreeing to replace waterproofing material that does not comply with requirements or that does not remain watertight during specified warranty period.

- 1. Warranty does not include failure of waterproofing due to failure of substrate prepared and treated according to requirements or formation of new joints and

- crocks in substrate exceeding 1/16 inch in width.
2. Warranty Period: Three years after date of Substantial Completion.

- B. Special Installer's Warranty: Written waterproofing Installer's warranty, signed by Installer, covering work of this section, for warranty period of two years.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Products: Subject to compliance with requirements, provide one of the following products:

1. Rubberized-Asphalt Sheet Waterproofing:
 - a. American Hydrotech, Inc.; VM 75.
 - b. American Permaquik Inc.; PQ 7100.
 - c. Carlisle Corporation, Carlisle Coatings & Waterproofing Div.; CCW 701.
 - d. W. R. Grace & Co.; Bituthene.
 - e. W. R. Meadows, Inc.; Mel-Rol.
 - f. T. C. MiraDri; MiraDri.
 - g. Polyguard Products, Inc.; Polyguard 650.

2.2 RUBBERIZED-ASPHALT SHEET WATERPROOFING

- A. Rubberized-Asphalt Sheet: 60-mil- thick, self-adhering sheet consisting of 56 mils of rubberized asphalt laminated to a 4-mil- thick, polyethylene film with release liner on adhesive side.

1. Physical Properties: As follows, measured per standard test methods referenced:
 - a. Tensile Strength: 250 psi minimum; ASTM D 412, Die C, modified
 - b. Ultimate Elongation: 300 percent minimum; ASTM D 412, Die C , modified.
 - c. Low-Temperature Flexibility: Pass at minus 20 degrees F; ASTM D 1970.
 - d. Crack Cycling: Unaffected after 100 cycles of 1/8- inch movement;
ASTM C 836.
 - e. Puncture Resistance: 40 pounds minimum; ASTM E 5385
 - f. Hydrostatic- Head Resistance: 150 feet minimum; ASTM D 5385.
 - g. water absorption: 0.15 percent weight-gain maximum after 48- hour

immersion at 70 degrees F; ASTM D 570.

h. Vapor Permeance: 0.05 perms; ASTM E 96, water method.

B. Products: Subject to compliance with requirements, provide the following at elevator pit slab:

1. Preprufe 300, W.R. Grace & Co.

2.3 AUXILIARY MATERIALS

A. General: Furnish auxiliary materials recommended by waterproofing manufacturer for intended use and compatible with sheet waterproofing.

1. Furnish liquid-type auxiliary materials that comply with VOC limits of authorities having jurisdiction.

B. Primer: liquid solvent-borne primer recommended for substrate by manufacturer of sheet Waterproofing material.

C. Surface Conditioner: liquid, waterborne surface conditioner recommended for substrate by manufacturer of sheet waterproofing material.

D. Sheet Strips: Self- adhering, rubberized-asphalt composite sheet strips of same material and thickness as sheet waterproofing.

. E. liquid Membrane: Elastomeric, two-component liquid, cold fluid applied, trowel grade or low viscosity.

F. Substrate Patching Membrane: low-viscosity, two-component, asphalt-modified coating.

G. Mastic, Adhesives, and Tape: liquid mastic and adhesives, and adhesive tapes recommended by waterproofing manufacturer.

H. Metal Termination Bars: Aluminum bars, approximately 1 inch by 1/8-inch thick, pre-drilled at 9-inch centers.

I. Protection Course: Extruded-polystyrene board insulation, unfaced, ASTM C 578 Type X, 1/2 inch thick.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.
 - 1. Verify that concrete has cured and aged for minimum time period recommended by waterproofing manufacturer.
 - 2. Verify that concrete is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D 4263.
 - 3. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Clean, prepare, and treat substrates according to manufacturers written instructions. Provide clean, dust-free, and dry substrates for waterproofing application.
- B. Mask off adjoining surfaces not receiving waterproofing to prevent spillage and overspray affecting other construction.
- C. Remove grease, oil, bitumen, form-release agents, paints, curing compounds, and other penetrating contaminants or film-forming coatings from concrete.
- D. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids.
- E. Prepare, fill, prime, and treat joints and cracks in substrates. Remove dust and dirt from joints and cracks according to ASTM D 4258.
 - 1. Install sheet strips and center over treated construction and contraction joints and cracks exceeding a width of 1/16 inch.
- F. Bridge and cover isolation joints expansion joints and discontinuous deck-to-wall and deck to-deck joints with overlapping sheet strips.
 - 1. Invert and loosely lay first sheet strip over center of joint. Firmly adhere second sheet strip to first and overlap to substrate.
- G. Corners: Prepare, prime, and treat inside and outside corners according to ASTM D 6135.
 - 1. Install membrane strips centered over vertical inside corners. Install 3/4-inch fillets of liquid membrane on horizontal inside corners and as follows:
 - a. At footing-to-wall intersections, extend liquid membrane each direction from corner or install membrane strip centered over corner.

- H. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions according to ASTM D 6135.

3.3 RUBBERIZED-ASPHALT SHEET APPLICATION

- A. Install self-adhering sheets according to waterproofing manufacturers written instructions and recommendations in ASTM D 6135.
- B. Apply primer to substrates at required rate and allow to dry. limit priming to areas that will be covered by sheet waterproofing in same day. Re-prime areas exposed for more than 24 hours.
- C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align sheets and maintain uniform 2-1/2-inch- minimum lap widths and end laps. Overlap and seal seams and stagger end laps to ensure watertight installation.
 - 1. When ambient and substrate temperatures range between 25 and 40 degrees F, install self-adhering, rubberized-asphalt sheets produced for low temperature application. Do not use low-temperature sheets if ambient or substrate temperature is higher than 60 degrees F.
- D. Apply continuous sheets over sheet strips bridging substrate cracks, construction, and contraction joints.
- E. Seal exposed edges of sheets at terminations not concealed by metal counter flashings or ending in reglets with mastic or sealant.
- F. Install sheet waterproofing and auxiliary materials to tie into adjacent waterproofing. Provide continuous waterproof membrane at intersection of horizontal and vertical membranes
- G. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fish mouths and blisters. Patch with sheets extending 6 inches beyond repaired areas in all directions.
- H. Correct deficiencies in or remove sheet waterproofing that does not comply with requirements, repair substrates, reapply waterproofing, and repair sheet flashings.

3.4 PROTECTION AND CLEANING

- A. Protection Board: Install protection board over completed membrane, complying with Manufacturer's recommendations for both waterproofing sheet and protection course materials.
- B. Protect waterproofing from damage and wear during remainder of construction period.

C. Protect installed insulation drainage panels from damage due to ultraviolet light, harmful weather exposures, physical abuse, and other causes. Provide temporary coverings where insulation will be subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

D. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 071310

SECTION 072100 BUILDING INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes concealed building insulation.
- B. Related Sections include the following:
 - Division 3 Section "Cast-in-Place Concrete."
 - Division 9 Sections "Gypsum Board Assemblies" for installation in wood-framed assemblies of insulation specified by reference to this Section.

1.3 DEFINITIONS

- A. Thermal Resistivity (R-value) is the reciprocal of thermal conductivity (k-value) which is the rate of heat flow through a homogenous material exactly 1 inch thick. Thermal resistivity (R-value) is expressed by the temperature difference in degrees F between two parallel surfaces required to cause 1 BTU to flow through 1 square foot of a homogenous material exactly 1 inch thick per hour at the mean temperature indicated.
- B. LTTR: Long Term Thermal Resistance. Determine LTTR values using techniques from CAN/ULC S 770, based on ASTM C 1303.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for insulation products.
- C. Research/Evaluation Reports: For foam-plastic insulation.

1.5 QUALITY ASSURANCE

- A. Source limitations: Obtain each type of building insulation through one source.
- B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UL or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
- C. Surface-Burning Characteristics: ASTM E 84.
- D. Fire-Resistance Ratings: ASTM E 119.
- E. Combustion Characteristics: ASTM E 136.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

- B. Protect plastic insulation as follows:
- C. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
- D. Protect against ignition at all times. Do not deliver plastic insulating materials to Project site before installation time.
- E. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Extruded-Polystyrene Board Insulation:
 - 2. DiversiFoam Products.
 - 3. Dow Chemical Company.
 - 4. Owens Corning.
 - 5. Tenneco Building Products.
 - 8. Johns Manville Corporation.
 - 9. Knauf Fiber Glass.
 - 10. Owens Corning.
 - 11. Slag-Wool-/Rock-Wool-Fiber Insulation:
 - 12. Fibrex Insulations Inc.
 - 13. Owens Corning.
 - 14. Thermafiber.

2.2 INSULATING MATERIALS General: Provide insulating materials that comply with requirements and with referenced standards.

- A. Preformed Units: Sizes to fit applications indicated; selected from manufacturers standard thicknesses, widths, and lengths.
- B. Insulation within sound-attenuating walls and floor / ceiling construction shall be manufactured and labeled for the intended application.
- C. Insulation within fire-resistive walls shall be labeled and listed with the appropriate agency, such as UL, for the fire-resistive application referenced.
- D. Extruded-Polystyrene Board Insulation: ASTM C 578, of type and density indicated below, with maximum flame-spread and smoke-developed indices of 75 and 450, respectively:
- E.. Type X, 1.30 pounds per cubic foot for interior side of perimeter masonry walls. Minimum ITIR - 10.0.
 - a. Basis of Design: Styrofoam Z-Mate, by Dow Chemical Company.
- F. Un-faced Mineral-Fiber Blanket Insulation: For use at the exterior stud walls.
 - 1. ASTM C 665, Type I (blankets without membrane coverings), consisting of fibers manufactured from glass, slag wool, or rock wool.
 - 2. Width of blankets shall be as necessary for friction-fitting between studs.
- H. Unfaced Mineral-Fiber Blanket Insulation: "Thermafiber" mineral fiber SAFB,
 - 1. ASTM C 665, Type I (blankets without membrane facing); consisting of fibers manufactured from manufactured from slag or rock wool, with maximum flamespread and smoke-developed indices of 25 and 50,

respectively; passing ASTM E 136 for combustion characteristics.
Minimum density 2.5 pounds per cubic foot.

2. Sound-attenuating partitions - 3 inches minimum thickness.
- I. Polyurethane Foam: two-component system made by combining an isocyanate (A) component with a polyol (B) component, with the following physical characteristics:
 1. Density: nominal 0.5 pounds per cubic foot
 2. Tensile Strength: 5.6 pounds per square inch.
 3. Thermal Performance, R-value per inch: 3.8
 4. Surface Burning Characteristics: ASTM E84 Tunnel Test
 5. Flame Spread - 21
 6. Smoke Developed - 216
 7. Polyurethane Foam Primers: Primers used shall be as recommended by the manufacturer of the spray foam materials specified.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for Sections in which substrates and related work are specified and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrates of substances harmful to insulation, including removing projections capable of puncturing insulation blanket or of interfering with insulation attachment.

3.3 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice and snow.
- C. Extend insulation in thickness indicated to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Water-Piping Coordination: If water piping is located on inside of insulated exterior walls, coordinate location of piping to ensure that it is placed on warm side of insulation and insulation encapsulates piping.
- E. Apply single layer of insulation to produce thickness indicated, unless multiple layers are otherwise shown or required to make up total thickness.

3.4 INSTALLATION OF GENERAL BUILDING INSULATION

- A. Apply insulation units to substrates by method indicated, complying with manufacturer's written instructions. If no specific method is indicated, bond units to substrate with adhesive or use mechanical anchorage to provide permanent placement and support of units.
- B. Install mineral-fiber blankets in cavities formed by framing members according to the following requirements:

- C. Use blanket widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill cavity, provide lengths that will produce a snug fit between ends.
- D. Place blankets in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
- E. For metal-framed wall cavities where cavity heights exceed 96 inches, support unfaced blankets mechanically, and support faced blankets by taping the stapling flanges to the flanges of the metal studs.
- F. Stuff glass-fiber, loose-fill insulation into miscellaneous voids and cavity spaces where shown. Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 pounds per cubic foot.
- G. Before installing attic insulation, inspect the attic space to verify that tops of all plumbing and party walls have been closed and that all spaces, holes and gaps that might permit insulation to fall into walls and allow air infiltration have been covered or plugged. Batts with matching R-value to be installed at all attic edges to provide baffle for blown in insulation. Make sure that batt insulation is in place at eave conditions prior to installing loose fill material.
- H. Install rigid insulation between Z-shaped metal furring strips spaced at 24 inches on center where indicated over CMU walls. Insulation board shall be fit snug to the web of the furring strips, with not more than 1 /16-inch gap between the edge of the insulation board and the furring strip.
- I. Do not apply sealant to the gap between the insulation board and the furring strips.

3.5 SPRAY FOAM INSULATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance.
- B. Mask adjacent surfaces.
- C. Apply urethane foam as recommended by the foam manufacturer.
- D. Install thickness to achieve R-value indicated.
- E. Clean off residue affected by overspray.

3.6 PROTECTION

- A. Do not permit insulation to contact recessed incandescent lights, unless fixtures are UL-rated for contact with insulation, or prefabricated fireplace assemblies, maintain proper clearance required by manufacturer.
- B. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.
- C. Replace any insulating material that becomes wet during the construction phase.

END OF SECTION

SECTION 072150 - SPRAY-ON POLYURETHANE FOAM INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes self-supported, spray-applied polyurethane foam insulation.

1.3 REFERENCES

- A. Standard Building Code
 - 1. Section 103.7 Alternate Materials and Methods
 - 2. Section 2603 Foam Plastic Insulation
- B. Buildings Officials & Code Administrators International, Section 2603.0 Foam Plastic
- C. ASTM E84 Surface Burning Characteristics
- D. SBCCI Evaluation # 9758
- E. Warnock Hersey Evaluation # 193 - 7081

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Mockup: Before beginning installing the Work, build mockups to comply with the following requirements, using materials indicated for the completed Work:
 - 1. Build mockups in location indicated or, if not indicated, as directed by Architect or Construction Manager.
 - 2. Size of mock-up shall be not less than 100 square feet.
 - 3. Notify Architect and Construction Manager seven days in advance of dates and times when mockups will be constructed.
 - 4. Demonstrate the proposed range of aesthetic effects and workmanship.
 - 5. Obtain Architect's and Construction Manager's approval of mockups before starting work, fabrication, or construction.
 - a. Allow seven days for initial review and each re-review of each mockup.
 - 6. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work. -
 - 7. Approved mockups may become part of the completed Work if

undisturbed at time of Substantial Completion.

- C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency for insulation products.
- D. Research/Evaluation Reports: For foam-plastic insulation.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of building insulation through one source from a single manufacturer.
- B. Fire-Test-Response Characteristics: Provide insulation and related materials with the fire-test-response characteristics indicated, as determined by testing identical products per test method indicated below by UI or another testing and inspecting agency acceptable to authorities having jurisdiction. Identify materials with appropriate markings of applicable testing and inspecting agency.
- C. Contractor performing work under this section must be trained by Demilec (USA) LLC in the art of applying SEALECTION™ 500

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration by moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.
- B. Materials shall be delivered in manufacturers original sealed containers clearly labeled with manufacturer's name, product identification, safety, information, net weight of contents and expiration date.
- C. Material is to be stored in a manner recommended by the manufacturer, and where the temperatures are in the limits specified by the material manufacturer.
- D. Protect plastic insulation as

1. Do not expose to sunlight, except to extent necessary for period of installation and concealment.
2. Protect against ignition at all times. Do not deliver plastic insulating materials to Project site before installation time.
3. Complete installation and concealment of plastic materials as rapidly as possible in each area of construction.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, products specified.

2.2 SPRAY-APPLIED POLYURETHANE FOAM INSULATION

- A. Spray Applied Semi Rigid Polyurethane Foam Insulation system
- B. Product: SEALECTION™ 500 Manufactured by Demilec (USA) LLC, Grand Prairie, Texas.
- C. Properties:

METHOD	DESCRIPTION	VALUE
ASTM D 1622	Density	0.45 - 0.5 pounds per bic foot
ASTM C 518	Thermal Resistance 2 days @ 760 F Thermal Resistance 90 days @ 760 F	3.81 dearees F x h x /BTU at 75 dea F 3.81 dearees F x h x /BTU at 75 degrees F
ASTM E 283 -	Air leakage @ 75 Po (25 miles/hr. wind) Sustained Wind Load for 60 minutes @ 1000 miles per hour wind) Gust Wind load Test @ 3000 Po (160	0.00013 cubicfeet per square foot No damage No damage
ASTM D 1621	Compressive Strength	0.7 psi
ASTM D 1623	Tensile Strength	2.5 psi
ASTM E 413-87	Sound Transmission Class (STC)	39
ASTM C 423	Noise Reduction Coefficient (NRC)	75
ASTM E 96	Water Vapor Permeance	318 ng/Pa s.m2
CGSB 51.23-92	Off Gassing Tests (VOC Emissions)	Pass (No toxic vapors)

ASTM E84	Surface Burning Characteristics (6 inches) • Flame Spread Index • Smoke Development	21 - Class 1 216

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements of Sections in which substrates and related work are specified and for other conditions affecting performance.
 1. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Verify that surfaces and conditions are suitable to accept work as outlined in this section.
- C. Report in writing, any defects in surfaces or conditions which may adversely affect the performance of products installed under this section to the consultant prior to commencement of work.
- D. Commencement of work outlined in this section shall be deemed as acceptance of existing work and conditions.

3.2 PREPARATION

- A. Clean substrates of substances harmful to insulation, including removing projections capable of interfering with insulation attachment.
- B. Perform adhesion test on mock-up sample. Proceed only after confirmation that manufacturer's recommended adhesion is obtained.

3.3 INSTALLATION

- A. Comply with insulation manufacturer's written instructions applicable to products and application indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed at any time to ice, rain, and snow.
- C. Extend insulation in thickness indicated to envelop entire area to be insulated.
- D. Apply self-supported, spray-applied polyurethane insulation according to manufacturer's written instructions. Do not apply insulation until installation of pipes, ducts, conduits, wiring, and electrical outlets in walls is completed and windows, electrical boxes, and other items not indicated to receive insulation are masked.

3.4 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 07215

SECTION 072600 UNDER-SLAB VAPOR BARRIER

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Construction Agreement and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Products Supplied Under This Section include Vapor Barrier, seam tape, pipe boots, detail strip for installation under concrete slabs on grade.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 1. ASTM E 1745-97 Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs
 - 2. ASTM E 154-88 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs
 - 3. ASTM E 96-95 Standard Test Methods for Water Vapor Transmission of Materials
 - 4. ASTM E 1643-98 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs
- B. American Concrete Institute (ACI): ACI 302.1 R-96 Vapor: Barrier Component (plastic membrane) not less than 10 mils thick

1.4 SUBMITTALS

- A. Independent laboratory test results showing compliance with ASTM & ACI Standards.
- B. Manufacturer's samples, product literature for sheet, seam tape, and accessories.
- C. Manufacturer's installation instructions for placement, seaming, and pipe penetration boot installation.

PART 2 - PRODUCTS

2.1 MATERIAL

- A. Vapor Barrier: membrane shall have the following qualities:
 - 1. Maximum Permeance per ASTM E-154 Section 7: 0.03 Perms
 - 2. Water Vapor Barrier ASTM E-17 45: Meets or exceeds Class A
 - 3. Thickness of Barrier (plastic) ACI 302.1 R-96.
- B. Products: Subject to compliance with requirements, provide one of the products specified:
 - 1. Stego Wrap 15 mil Vapor Barrier by Stego Industries LLC.
 - 2. Vapor Block 15 by Raven Industries
 - 3. Griffolyn T -105 by Reef Industries
 - 4. Moistop Ultra "A" by Fortifiber

2.2 ACCESSORIES

- A. Seam Tape: High Density Polyethylene Tape with pressure sensitive adhesive. Minimum width 4 inches.
- B. Pipe Boots: Construct pipe boots from vapor barrier material and pressure sensitive tape per manufacturer's instructions.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Level and tamp or roll aggregate, sand or tamped earth base. Ensure that subsoil is approved by geotechnical engineer.

3.2 INSTALLATION

- A. Installation shall be in accordance with manufacturer's instructions and ASTM E 1643.
 - 1. Unroll Vapor Barrier with the longest dimension parallel with the direction of the pour.
 - 2. Lap Vapor Barrier over footings and seal to foundation walls.
 - 3. Overlap side and end joints between sheets 6 inches and seal with pressure sensitive tape.
 - 4. Seal all penetrations (including pipes) with pipe boot made from Vapor Barrier and tape.
 - 5. No penetration of the vapor barrier is allowed except for reinforcing steel and Permanent utilities.
 - 6. Repair damaged areas by cutting patches of vapor barrier, overlapping damaged area 6 inches and taping all four sides with pressure sensitive tape.

END OF SECTION 072600

SECTION 072650 WEATHER BARRIERS

PART 1 -GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Construction Agreement and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Air infiltration I Moisture Barrier
 - 2. Self-adhering flexible flashing to connect and seal materials at openings and penetrations in exterior wall construction.
- B. Related Sections include the following:
 - 1. Section – Gypsum Sheathing.
 - 2. Section - Rough Carpentry.
 - 3. Section - Flashing and Sheet Metal
 - 4. Section - Joint Sealants
 - 5. Section Aluminum-Storefront

1.3 SUBMITTALS

- A. Product Data: Manufacturer's specifications and technical data for each type weather barrier material installed, including installation and substrate preparation instruction and applicable Material Safety Data Sheets.
- B. Samples: Submit 6-inch square samples of self-adhering flexible flashing.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver in original, unopened packaging with seals intact and bearing legible labels
identifying manufacturer, product name and grade, and contents. Include installation and substrate preparation instructions.
- B. Store in dry, ventilated spaces.
- C. Follow manufacturer's storage and handling instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Air Infiltration / Moisture Barrier: Non-woven, air and secondary weather barrier.
 - 1. Spun-bonded olefin, non-woven, non-perforated
 - 2. Air Penetration, .004 CFM per square foot at 75 Pa pressure; ASTM E-1677 Type 1 air barrier.
 - 3. Water vapor transmission, not less than 50 perm, per ASTM E96,
- Method B.
 - 4. Water penetration resistance of not less than 200 cm of hydrostatic head
In accordance with AATCC-127.
 - 5. Tear resistance (trapezoid), 7/9 pounds, per ASTM D-1117
- B. DuPont IFlexWrap"
- C. DuPont "StraightFlash"

- D. Perm-A-Barrier Membrane; W.R. Grace
- E. Miradri TWF; Mirafi
- F. Polyguard
- G. Vycor 40; Grace Construction Products
- H. Miscellaneous Materials: Provide fasteners, primers, adhesive compounds, and other materials recommended by weather barrier materials manufacturers for securement to substrates.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine installation areas. Do not proceed until unsatisfactory conditions have been corrected.

Starting work constitutes acceptance of conditions as satisfactory for installation of weather barrier by Contractor.

3.2 INSTALLATION

- A. Coordination: Coordinate installation of weather barrier with installation of flashing and other components of exterior wall construction to ensure drainage of entrapped water to exterior.
- B. Install weather barrier in accordance with manufacturer's published installation guidelines and recommendations. Prepare window and door openings in strict accordance with the manufacturer's recommended methods and materials.
- C. Weather Barrier: Cover wall sheathing with membrane horizontally with a 6 inch overlap and a 6 inch end lap. Fasten to sheathing with corrosion-resistant nails with plastic washers. Coordinate with related self-adhering membrane sheeting as indicated in drawings and in manufacturer's literature.
- D. First course of weather barrier shall extend below the sill plate. Seal bottom edge of the weather barrier to the foundation substrate continuously with polyurethane sealant.
- E. Use lap seam sealant tope provided by the manufacturer of the weather barrier at each horizontal lap seam.
- F. Cut out window and door openings in strict accordance with the manufacturer's installation guidelines. Wrap material back into the openings and seal with tope.
- G. Self Adhering Flexible Flashing: Install at perimeters of windows, doors, louvers, vents, sheathing control joints, building expansion joints, floor levels, flashing, penetrations of exterior wall surfaces and as indicated in drawing prior to installation of exterior surfacing materials. Coordinate with weather barrier to provide continuous barrier as indicated on drawings.
 - 1. Apply manufacturer's recommended primer on wood and masonry substrates in accordance with instructions, and allow to dry as recommended prior to installation of flexible flashing.
- H. Cut flashing in lengths required for application of flashing at bottom, sides, and top of windows, doors, louvers, control and expansion joints, and other locations as indicated. Remove release liner and apply membrane starting from lowest point and work upward in a shingle manner. Secure flashing firmly in place with staples and self-adhering adhesive backing.

- I. Seal seams, laps, protrusions, and accidental cuts with manufacturer's recommended mastic.
- J. At sills of openings, provide end dams extending 4 inches up sides of openings.
- K. Fold minimum 4 inches onto vertical plane of wall over building weather barrier.
- L. Repair: Repair torn or damaged weather barrier materials prior to installation of exterior wall surfacing materials, overlapping materials in shingle manner to ensure drainage of entrapped water to exterior.

END OF SECTION

SECTION 074113 - METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exposed-fastener, lap-seam metal roof panels.
2. Concealed-fastener, lap-seam metal roof panels.
3. Standing-seam metal roof panels.
4. Batten-seam metal roof panels.
5. Metal soffit panels.

B. Related Sections:

1. Division 07 Section "Sheet Metal Roofing" for custom-fabricated and on-site, roll-formed sheet metal roofing.

1.2 PERFORMANCE REQUIREMENTS

- A. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E 2140.
- B. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance.
- C. FMG Listing: Provide metal roof panels and component materials that comply with requirements in FMG 4471 as part of a panel roofing system and that are listed in FMG's "Approval Guide" for Class 1 or noncombustible construction, as applicable. Identify materials with FMG markings.
- D. Structural Performance: Provide metal roof panel assemblies capable of withstanding the effects of gravity loads and the following loads and stresses within limits and under conditions indicated, based on testing according to ASTM E 1592:
- E. Energy Performance: Provide roof panels that are listed on the U.S. Department of Energy's ENERGY STAR Roof Products Qualified Product List for steep-slope roof products.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation layouts of metal roof panels; details of edge conditions, side-seam and endlap joints, panel profiles, corners, anchorages,

trim, flashings, closures, and accessories; and special details. Distinguish between factory- and field-assembled work.

- C. Samples: For each type of exposed finish required.
- D. Delegated-Design Submittal: For metal roof panel assembly indicated to comply with performance requirements and design criteria, including analysis data and calculations signed and sealed by the qualified professional engineer responsible for their preparation.
- E. Coordination Drawings: Roof plans, drawn to scale, based on input from installers of the items involved.
- F. Maintenance data.
- G. Warranties: Samples of special warranties.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: An employer of workers trained and approved by manufacturer.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace metal roof panel assemblies that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal roof panels that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Finish Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PANEL MATERIALS

- A. Metallic-Coated Steel Sheet: Restricted flatness steel sheet metallic coated by the hot-dip process and pre-painted by the coil-coating process to comply with ASTM A 755/A 755M.
 - 1. Zinc-Coated (Galvanized) Steel Sheet: ASTM A 653/A 653M, G90 coating designation; structural quality.
 - 2. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40; structural quality.

3. Surface: Smooth, flat finish.
4. Exposed Coil-Coated Finish:
 - a. 2-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat.
 - b. 3-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in both color coat and clear topcoat.
 - c. Siliconized Polyester: Epoxy primer and silicone-modified, polyester-enamel topcoat; with a dry film thickness of not less than 0.2 mil (0.005 mm) for primer and 0.8 mil (0.02 mm) for topcoat.
5. Concealed Finish: Manufacturer's standard white or light-colored acrylic or polyester backer finish.

B. Panel Sealants:

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
2. Joint Sealant: ASTM C 920; as recommended in writing by metal roof panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.

2.2 MISCELLANEOUS MATERIALS

- A. Panel Fasteners: Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Provide exposed fasteners with heads matching color of metal roof panels by means of plastic caps or factory-applied coating. Provide EPDM, PVC, or neoprene sealing washers.
- B. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat. Provide inert-type noncorrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.

2.3 STANDING-SEAM METAL ROOF PANELS

- A. General: Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.
 1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E 1514.

2. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - a. AEP-Span.
 - b. Architectural Building Components.
 - c. Architectural Metal Systems.
 - d. Architectural Roofing and Siding, Inc.
 - e. ATAS International, Inc.
 - f. Berridge Manufacturing Company.
 - g. Butler Manufacturing; a BlueScope Steel company.
 - h. CENTRIA Architectural Systems.
 - i. Copper Sales, Inc.
 - j. Dimensional Metals, Inc.
 - k. Englert, Inc.
 - l. Fabral.
 - m. Flexospan Steel Buildings, Inc.
 - n. Galvamet; Galvacer Building Systems.
 - o. IMETCO.
 - p. Integris Metals.
 - q. MBCI; a division of NCI Building Systems, L. P.
 - r. McElroy Metal, Inc.
 - s. Merchant & Evans.
 - t. Metal-Fab Manufacturing, LLC.
 - u. Metal Sales Manufacturing Corporation.
 - v. Metecno-Morin; Division of Metecno Inc.
 - w. Modern Metal Systems, Inc.
 - x. Petersen Aluminum Corporation.
 - y. Steelox Systems, L.L.C.
 - z. Ultra Seam Incorporated.
 - aa. United Steel Deck Inc.; Subsidiary of Bouras Industries Inc.
 - bb. VICWEST; Div. of Jenisys Engineered Products.
3. Profile: Vertical-rib, snap-joint, as indicated on Drawings.
4. Material: Zinc-coated (galvanized) steel sheet.
 - a. Exterior Finish: 3-coat fluoropolymer.
 - b. Color: As selected by Architect from manufacturer's standard colors.
5. Clips: Floating to accommodate thermal movement.
 - a. Material: Metallic coated steel.
6. Joint Type: As standard with manufacturer.

2.4 ACCESSORIES

- A. Roof Panel Accessories: Provide components approved by roof panel manufacturer and as required for a complete metal roof panel assembly including trim, copings,

fasciae, corner units, ridge closures, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal roof panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal roof panels.
 2. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal roof panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
 3. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
- B. Flashing and Trim: Formed from same material as roof panels, prepainted with coil coating, minimum 0.018 inch (0.45 mm) thick. Provide flashing and trim as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal roof panels.
- C. Gutters: Formed from same material roof panels. Match profile of gable trim, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- (2400-mm-) long sections, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual." Furnish gutter supports spaced a maximum of 36 inches (900 mm) o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Finish gutters to match [metal roof panels] [roof fascia and rake trim].
- D. Downspouts: Formed from same material as roof panels. Fabricate in 10-foot- (3-m-) long sections, complete with formed elbows and offsets, of size and metal thickness according to SMACNA's "Architectural Sheet Metal Manual". Finish downspouts to match gutters.

2.5 FABRICATION

- A. Fabricate and finish metal roof panels and accessories at the factory to greatest extent possible, by manufacturer's standard procedures and processes and as necessary to fulfill indicated performance requirements. Comply with indicated profiles and with dimensional and structural requirements.
- B. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- C. Fabricate metal roof panel side laps with factory-installed captive gaskets or separator strips that provide a tight seal and prevent metal-to-metal contact, in a manner that will seal weathertight and minimize noise from movements within panel assembly.

- D. Sheet Metal Accessories: Fabricate flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of item indicated.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Substrate Board: Install substrate boards over roof deck on entire roof surface. Attach with substrate-board fasteners.
 - 1. Install substrate board with long joints in continuous straight lines, perpendicular to roof slopes with end joints staggered between rows. Tightly butt substrate boards together.
- B. Miscellaneous Framing: Install subpurlins, eave angles, furring, and other miscellaneous roof panel support members and anchorage according to metal roof panel manufacturer's written instructions.

3.2 UNDERLAYMENT INSTALLATION

- A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated on Drawings, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (150 mm) staggered 24 inches (600 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.
- B. Felt Underlayment: Apply at locations indicated on Drawings, in shingle fashion to shed water, and with lapped joints of not less than 2 inches (50 mm).
- C. Apply slip sheet over underlayment before installing metal roof panels.
- D. Install flashings to cover underlayment to comply with requirements specified in Division 07 Section "Sheet Metal Flashing and Trim."
- E. Repair tears or punctures immediately before concealment by other work.

3.3 METAL ROOF PANEL INSTALLATION

- A. Standing-Seam Metal Roof Panels: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended by manufacturer.
 - 1. Install clips to supports with self-tapping fasteners.
 - 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.

3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
4. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.

3.4 ACCESSORY INSTALLATION

- A. General: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.
 1. Install components required for a complete metal roof panel assembly including trim, copings, ridge closures, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items.
 2. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.
 3. Provide elbows at base of downspouts to direct water away from building.

3.5 CLEANING

- A. Remove temporary protective coverings and strippable films, if any, as metal roof panels are installed unless otherwise indicated in manufacturer's written installation instructions. On completion of metal roof panel installation, clean finished surfaces as recommended by metal roof panel manufacturer. Maintain in a clean condition during construction.

END OF SECTION 074113

SECTION 074600 - SIDING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes fiber-cement siding.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
 - 1. For vinyl siding, include VSI's official certification logo printed on product data.
- B. Samples: For siding including related accessories.
- C. Qualification Data: For qualified vinyl siding Installer.
- D. Product certificates.
- E. Product test reports.
- F. Research/evaluation reports.
- G. Maintenance data.
- H. Warranty: Sample of special warranty.

1.3 QUALITY ASSURANCE

- A. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C 1186 by a qualified testing agency acceptable to authorities having jurisdiction.
- B. Vinyl Siding Installer Qualifications: A qualified installer who employs a VSI-Certified Installer on Project.
- C. Vinyl Siding Certification Program: Provide vinyl siding products that are listed in VSI's list of certified products.
- D. Source Limitations: Obtain each type, color, texture, and pattern of siding, including related accessories, from single source from single manufacturer.
- E. Pre-installation Conference: Conduct conference at Project site.

1.4 WARRANTY

- A. Special Warranty: Standard form in which manufacturer agrees to repair or replace siding that fail(s) in materials or workmanship within specified warranty period.

1. Warranty Period: 25 years from date of Substantial Completion.

1.5 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Furnish full lengths of siding including related accessories, in a quantity equal to 2 percent of amount installed.

PART 2 - PRODUCTS

2.1 FIBER-CEMENT SIDING

- A. General: ASTM C 1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E 136; with a flame-spread index of 25 or less when tested according to ASTM E 84.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

2. Basis-of-Design Product: Subject to compliance with requirements, provide James Hardie or equivalent.

3. Horizontal Pattern: Boards 5-1/4 inches (133 mm) plain style.

a. Texture: Rough sawn.

4. Vertical Pattern: 48-inch- (1200-mm-) wide board and batten sheets with wood-grain texture and manufacturers fiber board nailed per manufacturers recommendations. 1X2 battens @ 16 inches (300 mm) o.c. and at sheet joints adhered with manufacturers adhesive as recommended to conceal all mechanical fasteners. Note: Do not nail any battens.

5. All hardi-siding to have integral color.

2.2 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
 - 1. Provide accessories made from same material as adjacent siding unless otherwise indicated.
- B. Flashing: Provide aluminum flashing complying with Division 07 Section "Sheet Metal Flashing and Trim" at window and door heads and where indicated.
 - 1. Finish for Aluminum Flashing: High-performance organic finish, same color as siding.
- C. Fasteners:
 - 1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch (25 mm) into substrate.
 - 2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
 - 3. For fastening aluminum, use aluminum fasteners. Where fasteners will be exposed to view, use prefinished aluminum fasteners in color to match item being fastened.
 - 4. For fastening fiber cement, use hot-dip galvanized fasteners.
 - 5. For fastening vinyl, use hot-dip galvanized fasteners. Where fasteners will be exposed to view, use prefinished aluminum fasteners in color to match item being fastened.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of siding and related accessories.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Comply with siding manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 - 1. Do not install damaged components.
 - 2. Center nails in elongated nailing slots without binding siding to allow for thermal movement.

- B. Install fiber-cement siding and related accessories.
 - 1. Install fasteners no more than 24 inches (600 mm) o.c.
- C. Install joint sealants as specified in Division 07 Section "Joint Sealants" and to produce weather tight installation.
- D. Where aluminum siding will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.

3.3 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074600

DIVISION 075000 UNDERLAYMENTS

Part 1 General

1.01 Summary

- A. Section Includes: Grace Ice & Water Shield" self-adhering membrane as a sloped roof underlayment.
- B. Related Sections:
 - 1. Section: Rough Carpentry
 - 2. Section: Building Insulation
 - 3. Section: Metal Roofing
 - 4. Section: Sheet Metal Flashing and Trim

1.02 References

- A. American Society for Testing and Materials (ASTM)
 - 1. D412 Standard Test Methods for Vulcanized Rubber and Elastomeric Tension
 - 2. D461 Standard Test Methods for Felt
 - 3. D903 Test Methods for Peel or Stripping Strength of Adhesive Bonds
 - 4. D1970 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet a. Materials Used as Steep Roofing Underlayment for Ice Dam Protection
 - 5. D3767 Standard Practice for Rubber Measurement of Dimensions
 - 6. E96 Standard Test Methods for Water Vapor Transmission of Materials

1.03 Submittals

- A. Manufacturer's product data sheet and product sample.

1.04 Quality Assurance

- A. Manufacturer Qualifications: Self-adhesive membrane roofing underlayment shall be manufactured and marketed by W. R. Grace & Co.-Conn., Grace Construction Products, Cambridge, MA or a firm with a minimum of 25 years experience in the production and sales of self-adhered membrane roofing underlayments.

1.06 Delivery, Storage and Handling

- A. The membrane and accessory products must be handled properly. Read all product labels and Material Safety Data Sheets (MSDSs) for proper handling and disposal. Deliver all materials in manufacturer's unopened packages and store all materials under cover. Do not double stack palletized material.

Part 2 Products

2.02 Manufacturers and Products

- A. Acceptable Products and Manufacturers:
 - 1. Grace Ice & Water Shield manufactured by W. R. Grace & Co.-Conn., Grace Construction Products, Cambridge, MA.

2.03 Materials

- A. Grace Ice & Water Shield is a cold-applied, self-adhering membrane composed of a high density, cross laminated polyethylene film coated on one side with a layer of rubberized asphalt adhesive. An embossed, slip resistant surface is

provided on the polyethylene. Grace Tee & Water Shield is interwound with a disposable silicone coated release sheet. Membrane shall conform to the physical properties as listed in the chart below:

Property	Value	Test Method
Color	Gray-black	
Thickness, membrane	40 mil (1.02 mm)	ASTM 03767 procedure A (Section
Tensile strength, membrane	250 psi (1720 kN/m ²)	ASTM 0412 (Die C
Elongation, membrane	250%	ASTM 0412 (Die C
Low temperature flexibility	Unaffected @ -20°F (-29°C)	ASTM 01970
Adhesion to plywood	3.0 lbs/in. width (525 N/m)	ASTM 0903
Permeance (max)	0.05 Perms (2.9 ng/m ² s Pa)	ASTM E96
Material weight installed	0.3 lb/ft ² (1.3 kg/m ²)	ASTM 0461

2.04 Accessories

- A. Accessory Products: Perm-A-BalTier" WB Primer.
- B. Prime wood composition and gypsum sheathing with Perm-A-BalTier WB Primer if adhesion is found to be marginal. (Refer to Technical Letter 12, Use on Oriented Strand Board (OSB) Roof Sheathing.) Apply at same rate.
- C. Priming is not required for other suitable surfaces provided that they are clean and dry.

Part 3 Execution

3.02 Preparation

- A. Install the membrane directly on a clean, dry, continuous structural deck. Some suitable deck materials include plywood, wood composition, wood plank, metal, concrete, or gypsum sheathing. Remove dust, dirt, loose nails, and old roofing materials. Protrusions from the deck area must be removed. Decks shall have no voids, damaged, or unsupported areas. Repair deck areas before installing the membrane.
Prime concrete, masonry surfaces and DensDeck® with Perm-A-Barrier WB Primer at a rate of 250-350 ft²/gal (6-8 m²/L).

3.03 Installation

- A. Install in strict accordance with manufacturer's printed application procedures, precautions, and limitations.

END OF SECTION 075000

SECTION 076000 FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Construction Agreement and Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section includes the following sheet metal fabrications, flashing and counterflashing, and trim:
 - 1. Metal flashing, drip caps, fascia roof edge, and drip edge strips at porch waterproofing.
 - 2. Gutters and downspouts.
 - 3. Counter-flashing and reglets.
 - 4. Soffit Vents
- B. Related Sections include the following:
 - 1. Division 6 Sections "Rough Carpentry" and "Finish Carpentry" for wood trim, wood nailers, and blocking.
 - 2. Section "Metal Roof Panels".
 - 3. Section SBS-Modified Bituminous Sheet Roofing
 - 4. Section - Manufactured Roof Specialties for parapet wall coping.
 - 5. Section - Joint/Sealers.

1.3 PERFORMANCE REQUIREMENTS

- A. All sheet metal work shall be in conformance with details and recommendations of the Sheet Metal and Air Conditioning Contractor's National Association (SMACNA), Architectural Sheet Metal Manual (latest edition).
- B. Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing, rattling, leaking, and fastener disengagement.
- C. Fabricate and install roof edge flashing and copings capable of resisting the following forces according to recommendations in FMG Loss Prevention Data Sheet 1-49:
- D. Wind Zone 2: For velocity pressures of 31 to 45 pounds-force per square foot: 90 pounds-force per square foot perimeter uplift force, 120 pounds-force per square foot corner uplift force, and 45 pounds-force per square foot outward force.
- E. Thermal Movements: Provide sheet metal flashing and trim that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of sheet metal and trim thermal movements. Base engineering calculation on surface temperatures of materials due to both solar heat gain and night time-sky heat loss.
- F. Temperature Change (Range): 120 degrees F, ambient; 180 degrees F, material surfaces.

Water Infiltration: Provide sheet metal flashing and trim that do not allow water infiltration to building interior.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Stainless Steel Sheet: ASTM a 240, Type 302 or 304, finished as follows:
- B. Match finish of adjacent metal roofing.

2.2 UNDERLAYMENT MATERIALS

- A. Self-Adhering, High-Temperature Sheet: 30 to 40 mils thick minimum, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.

2.4 FLASHING AND SHEET METAL

- A. General: Provide materials and types of fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation.
- B. Fasteners: Wood screws, annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads.
 - 1. Exposed Fasteners: Heads matching color of sheet metal by means of plastic caps or factory-applied coating.
- C. Fasteners for Flashing and Trim: Blind fasteners or self-drilling screws, gasketed, with hex washer head.
- D. Blind Fasteners: High-strength stainless-steel rivets.
- E. Sealing Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealing tape with release-paper backing. Provide permanently elastic, non-sag, nontoxic, non-staining tape.
- F. Elastomeric Sealant: ASTM C 920, elastomeric polyurethane sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- G. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil dry film thickness per coat. Provide inert-type non-corrosive compound free of asbestos fibers, sulfur components, and other deleterious impurities.
- H. Asphalt Roofing Cement: ASTM D 4586, asbestos free, of consistency required for application.

2.5 FABRICATION, GENERAL

- A. General: Custom fabricate sheet metal flashing and trim to comply with recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated. Shop fabricate items where practicable. Obtain field measurements for accurate fit before shop fabrication.
- B. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal. Fabricate sheet metal flashing and trim without excessive

oil canning, buckling, and tool marks and true to line and levels indicated, with exposed edges folded back to form hems.

- C. Seams for Stainless Steel: Provide watertight, continuously welded seams..
- D. Sealed Joints: Form non-expansion but movable joints in metal to accommodate elastomeric sealant to comply with SMACNA recommendations.
- E. Expansion Provisions: Where lapped or bayonet-type expansion provisions in the Work cannot be used, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
- F. Conceal fasteners and expansion provisions where possible on exposed-to-view sheet metal flashing and trim, unless otherwise indicated.
- G. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, non-corrosive metal.
- H. Thickness: As indicated in the Drawings, but not less than as recommended by SMACNA's "Architectural Sheet Metal Manual" for application, and not less than thickness of metal being secured.

2.6 SHEET METAL FABRICATIONS

- A. Stainless Steel: Fabricate from 0.018- inch material, unless indicated otherwise.

2.7 ROOF DRAINAGE SHEET METAL FABRICATIONS

- A. Gutters: Manufactured formed gutter in uniform section lengths not exceeding 12 feet, with mitered and welded or soldered corner units, end caps, outlet tubes, and other accessories. Elevate back edge at least 1 inch above front gutter rim. Furnish with expansion joints and expansion-joint covers fabricated from same metal as gutters. Fabrication shall be in accordance with SMACNA recommendations.

- 1. Fabricate from stainless steel, per SMACNA but not less than .018"

thick.

- C. Expansion Joints: lop type.
- D. Accessories: Valley baffles.
- E. Downspouts: 6" diameter with mitered elbows, manufactured from stainless steel, not less than .018" thick.
- F. Furnish matching wall brackets with stainless steel anchors.
 - 1. Conform to SMACNA Figure 1-35D.
 - 2. Hangers shall be spaced not less than 5'-0" apart.
 - 3. Anchor to veneer with 1/8-inch diameter stainless steel fasteners.

2.8 COUNTER-FLASHING

- A. Manufactured units in lengths not exceeding 12 feet designed to snap into reglets and compress against base flashing with joints lapped, from Stainless Steel: 0.0250 inch thick.
- B. Reglets: Manufactured units formed to provide secure interlocking of separate reglet and counter-flashing pieces, and compatible with flashing indicated, from the following exposed metal in thickness indicated: Stainless Steel: 0.0250 inch thick
 - 1. Type: For stucco application, with upturned fastening flange and extension leg of length to match thickness of applied finish materials.
- C. Accessories: Counter-flashing wind-restraint clips.

2.9 FINISHES

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical and pointed finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions and other conditions affecting performance of work.
- B. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Field measure site conditions prior to fabricating work.
- B. Secure flashing in place using non-corrosive fasteners.
Fit flashing tight in place. Make corners square, surfaces true and straight, in planes and lines accurate to profiles.

3.3 INSTALLATION, GENERAL

- A. General: Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement. Use fasteners, solder, welding rods, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
- B. Metal Protection: Where dissimilar metals will contact each other or corrosive substrates, protect against galvanic action by pointing contact surfaces with bituminous coating or by other permanent separation as recommended by fabricator or manufacturers of dissimilar metals.
- C. Underlayment: Where installing metal flashing directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet or install a course of polyethylene underlayment.
- D. Bed flanges in thick coat of asphalt roofing cement where required for waterproof performance.
- E. Install exposed sheet metal flashing and trim without excessive oil canning, buckling, and tool marks.
- F. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
- G. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.
- H. Space cleats not more than 12 inches apart. Anchor each cleat with two fasteners. Bend tabs over fasteners.

- I. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.
- J. Space movement joints at a maximum of 10 feet with no joints allowed within 24 inches of corner or intersection. Where lapped or bayonet-type expansion provisions cannot be used or would not be sufficiently watertight, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with elastomeric sealant concealed within joints.
- K. Provide membrane flashing at penetrations such as electrical switches, wall penetrations, etc. Extend flashing 4 inches beyond opening, lap joints in direction of water flow, seal to substrate.
- L. At sheathed walls, seal flashing to sheathing and lap weather barrier over flashing a minimum of 6 inches.
- M. Pipe or Post Counter-flashing: Install counter-flashing umbrella with close-fitting collar with top edge flared for elastomeric sealant, extending a minimum of 4 inches over base flashing. Install stainless-steel draw bond and tighten.
- N. Counter-flashing: Coordinate installation of counter-flashing with installation of base flashing.
- O. Insert counter-flashing in reglets or receivers and fit tightly to base flashing. Extend counter-flashing 4 inches over base flashing. Lap counter-flashing joints a minimum of 4 inches and bed with elastomeric sealant.

3.4 WALL FLASHING INSTALLATION

- A. General: Install sheet metal wall flashing to intercept and exclude penetrating moisture according to SMACNA recommendations and as indicated. Coordinate installation of wall flashing with installation of wall-opening components such as windows, doors, and louvers.
- B. Openings Flashing in Frame Construction: Install continuous head, sill, and similar flashing to extend 4 inches beyond wall openings.

3.5 CLEANING AND PROTECTION

- A. First paragraph below is not applicable to stainless steel and painted or coated steel and aluminum.
- B. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- C. Clean and neutralize flux materials. Clean off excess solder and sealants.
- D. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain in a clean condition during construction.
- E. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION

SECTION 077110 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Roof-edge drainage systems.
 - 2. Rain Barrel

1.2 PERFORMANCE REQUIREMENTS

- A. FM Approvals' Listing: Manufacture and install roof-edge flashings that are listed in FM Approvals' "RoofNav" and approved for windstorm classification, Class 1-120. Identify materials with FM Approvals' markings.
- B. SPRI Wind Design Standard: Manufacture and install roof-edge flashings tested according to SPRI ES-1 and capable of resisting the following design pressures:
 - 1. Design Pressure: As indicated on Drawings.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: For roof specialties. Include plans, elevations, expansion-joint locations, keyed details, and attachments to other work. Distinguish between plant- and field-assembled work.
- C. Samples: For each exposed product and for each color and texture specified.
- D. Product test reports.
- E. Maintenance data.
- F. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

- A. Preinstallation Conference: Conduct conference at Project site.

1.5 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ROOF-EDGE DRAINAGE SYSTEMS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Basis-of-Design Product: Subject to compliance with requirements, provide comparable product by one of the following:
1. Andreas Renner KG.
 2. Architectural Products Company.
 3. ATAS International, Inc.
 4. Berger Building Products, Inc.
 5. Castle Metal Products.
 6. Cheney Flashing Company.
 7. CopperCraft by FABRAL; a Euramax company.
 8. Hickman Company, W. P.
 9. Klauer Manufacturing Company.
 10. Merchant & Evans, Inc.
 11. Metal-Era, Inc.
 12. Metal-Fab Manufacturing, LLC.
 13. MM Systems Corporation.
 14. National Sheet Metal Systems, Inc.
- C. Gutters: Manufactured in uniform section lengths not exceeding 12 feet (3.6 m) with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch (25 mm) above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.
1. Fabricate from the following exposed metal:
 - a. Stainless Steel: 0.016 inch (0.40 mm) thick .
 2. Gutter Profile: Half circle as indicated according to SMACNA's "Architectural Sheet Metal Manual."
 3. Corners: Factory mitered and continuously welded and sealed watertight.
 4. Gutter Supports: Straps Manufacturer's standard supports as selected by Architect with finish matching the gutters.
 5. Special Fabrications: Radiussed sections.

6. Gutter Accessories: Continuous hinged leaf guard of solid metal designed to shed leaves.
- D. Conductor Heads: Manufactured conductor heads, each with flanged back and stiffened top edge and of dimensions and shape indicated, complete with outlet tube that nests into upper end of downspout, exterior flange trim, and built-in overflow.
 1. Fabricate from the following exposed metal:
 - a. Stainless Steel: 0.016 inch (0.40 mm) thick.
- E. Stainless-Steel Finish: No. 4 (bright, polished directional satin).
- F. Rain Barrel: 50-Gallon Wood Grain Resin RTS Flat Back Rain Barrel or equivalent.
 1. Sit barrel on 30"x30" concrete pad see plans for locations.
 2. Provide Good Directions or equivalent 6'-0" copper rain chain attached to gutter above barrel opening.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. General: Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete roof-specialty systems.
 1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
 2. Provide uniform, neat seams with minimum exposure of solder and sealant.
 3. Install roof specialties to fit substrates and to result in watertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
 4. Torch cutting of roof specialties is not permitted.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
 1. Coat concealed side of stainless-steel roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
- C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.
 1. Space movement joints at a maximum of 12 feet (3.6 m) with no joints within 18 inches (450 mm) of corners or intersections unless otherwise shown on Drawings.

2. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- D. Fastener Sizes: Use fasteners of sizes that will penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws
- E. Seal joints with sealant as required by roofing-specialty manufacturer.
- F. Seal joints as required for watertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F (4 deg C).
- G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm) except reduce pre-tinning where pre-tinned surface would show in completed Work. Tin edges of uncoated copper sheets using solder for copper. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.2 ROOF-EDGE DRAINAGE-SYSTEM INSTALLATION

- A. General: Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions.
- B. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 24 inches (610 mm) apart. Attach ends with rivets and solder to make watertight. Slope to downspouts.
 1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet (15.2 m) apart. Install expansion joint caps.
 2. Install continuous leaf guards on gutters with noncorrosive fasteners, hinged to swing open for cleaning gutters.
- C. Downspouts: Provide stainless steel chain to 12" within rain barrel. Provide Stainless steel 12" diameter funnel w/ 4" outlet into rain barrel.
- D. Conductor Heads: Anchor securely to wall with elevation of conductor top edge 1 inch (25 mm) below gutter discharge.

3.3 CLEANING AND PROTECTION

- A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.
- B. Clean and neutralize flux materials. Clean off excess solder and sealants.
- C. Remove temporary protective coverings and strippable films as roof specialties are installed.

END OF SECTION 077100

SECTION 07920 JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Extent of each form and type of joint sealer is indicated on drawings and schedules.
- B. This Section includes joint sealants for but not limited to the following locations:
 - 1. Exterior and interior joints in vertical surfaces and non-traffic horizontal surfaces as indicated below.
 - a. Control and expansion joints in unit masonry.
 - b. Cement plaster stucco expansion joints.
 - c. Joints between different materials.
 - d. Perimeter joints between wall materials and frames of doors and windows.
 - e. Control and expansion joints in ceiling and overhead surfaces.
 - f. Under thresholds.
 - g. Pre-formed expansion joint seal
 - h. Other joints as indicated.
 - 2. Exterior joints in horizontal traffic surfaces as indicated below:
 - a. Control, expansion, and isolation joints in cast-in-place concrete slabs for sidewalks and paving. Where sidewalks abut the building.
- C. Sealing joints related to flashing and sheet metal for roofing is specified in Division-7 Section: "Sheet Metal Flashings and Trim."
- D. Sealants for glazing purposes are specified in Division-S Section "glazing."
- E. Sealing concealed perimeter joints of gypsum drywall partitions to reduce sound transmission characteristics is specified in Division-9 Section "Gypsum Drywall."
- F. Sealants submitted for joints in and adjacent to brick veneer and aluminum and glass framing systems shall be non-staining and non-bleeding type. Sealants must be tested on samples prior to submitting to verify that the sealant will not stain the brick veneer or aluminum framing and gloss.

1.3 SYSTEM PERFORMANCES

- A. Provide elastomeric joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals without causing staining or deterioration of joint substrates.

1.4 SUBMITTALS

- A. General: Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
- B. Product Data from manufacturers for each joint sealer product required, including instructions for joint preparation and joint sealer application.
- C. Samples for Initial Selection Purposes: Manufacturer's standard bead samples consisting of strips of actual products showing full range of colors available, for each product exposed to view.
- D. Samples for verification purposes of each type and color of joint sealer required.
Install joint sealer samples in 1/2 inch wide joints formed between two 6 inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealers. Provide minimum of three custom color samples as noted above for Architect/Owner review.
- E. Certificates from manufacturers of joint sealers attesting that their products comply with specification requirements and are suitable for the use indicated.
- F. Compatibility and adhesion test reports from elastomeric sealant manufacturer indicating that materials forming joint substrates and joint sealant backings have been tested for compatibility and adhesion with joint sealants. Include sealant manufacturers interpretation of test results relative to sealant performance and recommendations for primers and substrate preparation needed to obtain adhesion.
- G. Product test reports for each type of joint sealers indicated, evidencing compliance with requirements specified.
- H. Pre-construction field test reports indicating which products and joint preparation methods demonstrated acceptable adhesion to joint substrates.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an Installer who has successfully completed within the last 3 years at least 3 joint sealer applications similar in type and size to that of this Project.

- B. Single Source Responsibility for Joint Sealer Materials: Obtain joint sealer materials from a single manufacturer for each different product required.
- C. Pre-construction Compatibility and Adhesion Testing: Submit samples of all materials that will contact or affect joint sealers to joint sealer manufacturers for compatibility and adhesion testing, as indicated below:
1. Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealers to joint substrates.
 2. Perform tests under normal environmental conditions that will exist during actual installation.
- D. Product Testing: Provide comprehensive test data for each type of joint sealer based on tests conducted by a qualified independent testing laboratory on current product formulations within a 24-month period preceding date of Contractor's submittal of test results to Architect.
1. Test elastomeric sealants for compliance with requirements specified by reference to ASTM C 920. Include test results for hardness, stain resistance, adhesion and cohesion under cyclic movement (per ASTM C 719), lowtemperature flexibility, modulus of elasticity at 100 percent strain, effects of heat aging, and effects of accelerated weathering.
- E. Pre-construction Field Testing: Prior to installation of joint sealants, field-test their adhesion to joint substrates as follows:
1. locate test joints where indicated or, if not indicated, as directed by Architect.
 2. Conduct field tests for each application indicated below:
 - a. Each type of elastomeric sealant and joint substrate indicated.
 3. Notify Architect one week in advance of the dates and times when mock-ups will be erected.
 4. Arrange for tests to take place with Architect present.
 5. Test Method: Test joint sealers by hand pull method described below:
 - a. Install joint sealants in 5-foot joint lengths using same materials and methods for joint preparation and joint sealant installation required for completed Work. Allow sealants to cure fully before testing.
 - b. Make knife cuts as follows: A horizontal cut from one side of joint to the other followed by 2 vertical cuts approximately 2 inches long at side of joint and meeting horizontal cut at top of 2 inch cuts. Place a mark 1 inch from top of 2 inch piece.

c. Use fingers to grasp 2 inch piece of sealant just above 1 inch mark; pull firmly down at a 90 degree angle or more while holding a ruler along side of sealant. Pull sealant out of joint to the distance recommended by sealant manufacturer for testing adhesive capability, but not less than that equaling specified maximum movement capability in extension; hold this position for 10 seconds.

6. Report whether or not sealant in joint connected to pulled-out portion failed to adhere to joint substrates or tore cohesively. Include data on pull distance used to test each type of product and joint substrate.
7. Evaluation of Field Test Results: Sealants not evidencing adhesive failure from testing, in absence of other indications of noncompliance with requirements, will be considered satisfactory. Do not use sealants which fail to adhere to joint substrates during testing.

F. Field-Constructed Mock-Ups: Prior to installation of joint sealers, apply elastomeric sealants to the following selected building joints as indicated below for further verification of colors selected from sample submittals and to represent completed work for qualities of appearance, materials, and application:

1. Joints in field-constructed mock-ups of assemblies specified in other sections which are indicated to receive elastomeric joint sealants specified in this section.
2. Retain mock-ups during construction as standard for judging completed construction.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period for use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials in compliance with manufacturers' recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.7 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:
 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturers.

2. When joint substrates are wet due to rain, frost, condensation, or other causes.

- B. Joint Width Conditions: Do not proceed with installation of joint sealers where joint widths are less than allowed by joint sealer manufacturer for application indicated.
- C. Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

1.8 SEQUENCING AND SCHEDULING

- A. Sequence installation of joint sealers to occur not less than 21 nor more than 30 days after completion of waterproofing, unless otherwise indicated.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
- B. Colors: Provide color of exposed joint sealers indicated or, if not otherwise indicated, as selected by Architect from manufacturer's available colors. For all exterior applications, the sealant color shall match the color of the adjacent and adjoining materials. Product substitutions must offer at least the same number and quality of available colors as the products listed.

2.2 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Provide manufacturers standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses.
- B. One-Part Nonacid-Curing Silicone Sealant: Type S, Grade NS, Class 25, and complying with the following requirements for Uses and additional joint movement capability:

1. Uses NT, M, G, A, and, as applicable to joint substrates indicated, O.
 - a. Additional capability, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, to withstand the following percentage changes in joint width as measured at time of application and remain in compliance with other requirements of ASTM C 920 for Uses indicated:
 - b. 50 percent movement in both extension and compression for a total of 100 percent movement.
 - C. One-Part Mildew-Resistant Silicone Sealant: Type S; Grade NS; Class 25; Uses NT, G, A, and, as applicable to nonporous joint substrates indicated, O; formulated with fungicide; intended for sealing interior joints with nonporous substrates and subject to in-service exposure to conditions of high humidity and temperature extremes.
 - D. Multi-Part Pourable Urethane Sealant for Use T: Type M, Grade P, Class 25, and complying with the following requirements for Uses:
 1. Uses T, M, A, and, as applicable to joint substrates indicated, o.
 - E. Available Products: Subject to compliance with requirements and compatibility with the substrates, elastomeric sealants which may be incorporated in the Work include, but are not limited to, the following:
 1. One-Port Nonacid-Curing Silicone Sealant for joints in the stucco veneer, and at perimeter of aluminum and steel frames, and in joints of other exterior materials compatible with the sealant manufacturer's recommendations:
 - a. "Dow Corning 790"; Dow Corning Corp.
 - b. "Pecora 890", Pecora Corporation.
 2. One-Port Mildew-Resistant Silicone Sealant, for toilet and bathroom room tile and around toilet fixtures:
 - a. "Dow Corning 786¹¹"; Dow Corning Corp.
 - b. "SCS 1 702 Sanitary"; General Electric Co.
 - c. "898 #345 White"; Pecora Corp.
 3. Multi-Port, Pourable, Urethane Sealant for Use T, for parking areas, sidewalks:
 - a. "Vulkem 245"; Mameco International, Inc.
 - b. "NR-200 Urexpan"; Pecora Corp.
 - c. "THC-900"; Tremco Inc.
 4. Joints in cementitious siding and panels:
 - a. VIP FC33 Performance Joint
- Sealant

2.3 LATEX JOINT SEALANTS

- A. Acrylic-Emulsion Sealant: Manufacturer's standard, one part, non-sag, mildew-resistant, acrylic-emulsion sealant complying with ASTM C 834, formulated to be paintable and recommended for exposed applications on interior locations involving joint movement of not more than plus or minus 5 percent, at interior door and window frames.
- B. Available Products: Subject to compliance with requirements, latex joint sealants which may be incorporated in the Work include, but are not limited to, the following:
1. Acrylic-Emulsion Sealant:
 - a. "AC-20"; Pecora Corp.
 - b. "Tremflex 834"; Tremco Inc.

2.4 PREFORMED JOINT SEALANTS

- A. Preformed Foam Sealant: Manufacturer's standard preformed, pre-compressed, open-cell foam sealant that is manufactured from high-density urethane foam impregnated with a nondrying, water-repellent agent; is factory produced in precompressed sizes in roll or stick form to fit joint widths indicated; is coated on one side with a pressure-sensitive adhesive and covered with protective wrapping; develops a watertight and airtight seal when compressed to the degree specified by manufacturer; and complies with the following:
1. Available Products: EMSEAL Joint Systems, Ltd.; Emseal 20H.
 2. Properties: Permanently elastic, mildew resistant, non-migratory, non-staining, and compatible with joint substrates and other joint sealants.
 - a. Density, uncompressed: 10 pounds per cubic foot.

2.5 JOINT SEALANT BACKING

- A. General: Provide sealant backings of material and type which are non-staining; are compatible with joint substrates, sealants, primers and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Plastic Foam Joint Fillers: Preformed, compressible, resilient, non-staining, non-waxing, non-extruding strips of flexible, plastic foam of material indicated below; nonabsorbent to water and gas; and of size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

1. Open-cell or closed-cell polyethylene foam, as recommended by the sealant manufacturer.

- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

- A. Primer: Provide type recommended by joint sealer manufacturer required where adhesion of sealant to joint substrates indicated, as determined for from construction joint sealer-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Provide non-staining, chemical cleaners of type which are acceptable to manufacturers of sealants and sealant backing materials, which are not harmful to substrates and adjacent nonporous materials, and which do not leave oily residues or otherwise have a detrimental effect on sealant adhesion or in-service performance.
- C. Masking Tape: Provide non-staining, nonabsorbent type compatible with joint sealants and to surfaces adjacent to joints.

2.7 JOINT FILLERS FOR CONCRETE PAVING

- A. General: Provide joint fillers of thickness and widths indicated.
- B. Bituminous Fiber Joint Filler: Preformed strips of composition below, complying with ASTM D 1751:
 1. Asphalt saturated fiberboard.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealers, with Installer present, for compliance with requirements for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint

sealers to comply with recommendations of joint sealer manufacturers and the following requirements:

1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer); old joint sealers; oil; grease; waterproofing; water repellents; water; surface dirt; and frost.
 2. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
 3. Remove laitance and form release agents from concrete.
 4. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile; and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealants.
- B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on pre-construction joint sealer-substrate tests or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALERS

- A. General: Comply with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations of ASTM C 1193 for use of joint sealants as applicable to materials, applications and conditions indicated.
- C. latex Sealant Installation Standard: Comply with requirements of ASTM C 790 for use of latex sealants.
- D. Installation of Sealant Backings: Install sealant backings to comply with the following requirements:
 - 1. Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability.
 - a. Do not leave gaps between ends of joint fillers.
 - b. Do not stretch, twist, puncture, or tear joint fillers.
 - c. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.
 - 2. Install bond breaker tope between sealants and joint fillers, compression seals, or back of joints where adhesion of sealant to surfaces at back of joints would result in sealant failure.
 - 3. Install compressible seals serving as sealant backings to comply with requirements indicated above for joint fillers.
- E. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability. Install sealants at the same time sealant backings are installed.
- F. Install sealant in joints at the edges of cementitious siding panels, and the ends of lopped cementitious siding. Seal joints between siding and trim.
 - 1. Where batten strips are placed over joints between cementitious panels, seal joints before applying the batten strip.

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- G. Tooling of Non-sag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
1. Provide concave joint configuration per Figure 6A in ASTM C 962, unless otherwise indicated.
 2. Provide flush joint configuration per Figure 6B in ASTM C 962, where indicated.
 - a. Use masking tape to protect adjacent surfaces of recessed tooled joints.

3.4 CLEANING

- A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealers immediately and reseal joints with new materials to produce joint sealer installations with repaired areas indistinguishable from original work.

END OF SECTION 07900

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

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:
 - 1. Standard hollow metal doors and frames.
- B. Related Sections:
 - 1. Division 08 Section "Flush Wood Doors" for wood doors in hollow metal frames.
 - 2. Division 08 Section "Finish Hardware" for door hardware for hollow metal doors and frames.
 - 3. Division 09 Sections "Painting" for field painting hollow metal doors and frames.

1.3 DEFINITIONS

- A. Minimum Thickness: Minimum thickness of base metal without coatings.
- B. Standard Hollow Metal Work: Hollow metal work fabricated according to ANSI/SDI A250.8.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, core descriptions, hardware reinforcements, profiles, anchors, fire-resistance rating, temperature-rise ratings, and finishes.
- B. Shop Drawings: Include the following:
 - 1. Elevations of each door design.
 - 2. Details of doors, including vertical and horizontal edge details and metal thicknesses.
 - 3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.
 - 4. Locations of reinforcement and preparations for hardware.

5. Details of each different wall opening condition.
6. Details of anchorages, joints, field splices, and connections.
7. Details of accessories.
8. Details of moldings, removable stops, and glazing.
9. Details of electrical knockout boxes and preparations for power, signal, and control systems.

C. Samples for Verification:

1. Samples are only required by request of the architect and for manufactures that are not current members of Steel Door Institute.
2. For each type of exposed finish required, prepared on Samples of not less than 3 by 5 inches (75 by 125 mm).
3. For the following items, prepared on Samples about 12 by 12 inches (305 by 305 mm) to demonstrate compliance with requirements for quality of materials and construction:
 - a. Doors: Show vertical-edge, top, and bottom construction; core construction; and hinge and other applied hardware reinforcement. Include separate section showing glazing if applicable.
 - b. Frames: Show profile, corner joint, floor and wall anchors, and silencers. Include separate section showing fixed hollow metal panels and glazing if applicable.

D. Other Action Submittals:

1. Schedule: Provide a schedule of hollow metal work prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with door hardware schedule.

E. Oversize Construction Certification: For assemblies required to be fire rated and exceeding limitations of labeled assemblies.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain hollow metal work from single source from single manufacturer.
- B. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 (neutral pressure at 40" above sill) or UL 10C.
 1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
 2. Temperature-Rise Limit: Where indicated and at vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature

end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.

- C. Fire-Rated, Borrowed-Light Frame Assemblies: Assemblies complying with NFPA 80 that are listed and labeled, by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 257. Label each individual glazed lite.
- D. Smoke-Control Door Assemblies: Comply with NFPA 105.
- E. Preinstallation Conference: Conduct conference at Project site for hollow metal frames requiring electrical knockout boxes to verify installation of conduit on frames.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver hollow metal work palletized, wrapped, or crated to provide protection during transit and Project-site storage. Do not use nonvented plastic.
- B. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.
- C. Store hollow metal work under cover at Project site. Place in stacks of five units maximum in a vertical position with heads up, spaced by blocking, on minimum 4-inch- (102-mm-) high wood blocking. Do not store in a manner that traps excess humidity.
 - 1. Provide minimum 1/4-inch (6-mm) space between each stacked door to permit air circulation.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify actual dimensions of openings by field measurements before fabrication.

1.8 COORDINATION

- A. Coordinate installation of anchorages for hollow metal frames. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors. Deliver such items to Project site in time for installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with this section requirements, provide products by one of the following:
1. Ceco Door Products; an Assa Abloy Group company.
 2. Curries Company; an Assa Abloy Group company..
 3. Deansteel Manufacturing
 4. Steelcraft; an Ingersoll-Rand company.

2.2 MATERIALS

- A. Cold-Rolled Steel Sheets: Carbon steel complying with ASTM A 366 (ASTM A 366M), commercial quality, or ASTM A 620 (ASTM A 620M), drawing quality, special killed.
- B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.
- C. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z (12G) coating designation; mill phosphatized.
1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.
- D. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.
- E. Glazing: Comply with requirements in Division 08 Section "Glazing."

2.3 STANDARD HOLLOW METAL DOORS

- A. General: Provide 1 3/4" thick doors of design indicated, fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8.
1. Design: Flush panel
 2. Core Construction: Manufacturer's standard polystyrene or polyurethane.
 - a. Fire Door Core: As required to provide fire-protection and temperature-rise ratings indicated.
 - b. Thermal-Rated (Insulated) Doors: Where indicated, provide doors fabricated with thermal-rated assemblies with R Factor 11 or better.
 - 1) Locations: Exterior doors.
 3. Vertical Edges for Single-Acting Doors: Beveled edge

- a. Beveled Edge: 1/8 inch in 2 inches (3 mm in 50 mm).
- 4. Vertical Edges for Double-Acting Doors: Round vertical edges with 2-1/8-inch (54-mm) radius.
- 5. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- (1.0-mm-) thick, end closures or channels of same material as face sheets.
- 6. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."
- B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheets. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
 - 1. Level 3 and Physical Performance Level A (Extra Heavy Duty), minimum 16 ga thick steel, Model 2 (Seamless face and edges).
- C. Interior Doors: Face sheets fabricated from cold-rolled steel sheet unless metallic-coated sheet is indicated. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
 - 1. Level 3 and Physical Performance Level A (Extra Heavy Duty), minimum 16 gage thick steel, Model 2 (Seamless face and edges).
- D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.
- E. Fabricate concealed stiffeners and hardware reinforcement from either cold- or hot-rolled steel sheet.

2.4 STANDARD HOLLOW METAL FRAMES

- A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
- B. Exterior Frames: Fabricated from metallic-coated steel sheets.
 - 1. Fabricate frames with mitered or coped corners.
 - 2. Fabricate frames as face welded joints and back weld joints continuously, unless otherwise indicated.
 - 3. Frames for Level 3 Steel Doors: minimum 14 ga thick steel sheet.
- C. Interior Frames: Fabricated from cold-rolled steel sheet unless metallic-coated sheet is indicated.
 - 1. Fabricate frames with mitered or coped corners.
 - 2. Fabricate frames as face welded unless otherwise indicated.
 - 3. Fabricate knocked-down, drywall slip-on frames for in-place gypsum board partitions.
 - 4. Frames for Level 3 Steel Doors: minimum 14 ga thick steel sheet.

5. Frames 48-inches and wider in opening width are required to be minimum 14 ga steel sheet.
 6. Frames for Wood Doors: minimum 16 ga thick steel sheet.
 7. Frames for Borrowed Lights: minimum 16 ga thick steel sheet.
- D. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (50 mm) wide by 10 inches (250 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.
3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.

B. Floor Anchors: Formed from same material as frames, not less than 0.042 inch (1.0 mm) thick, and as follows:

1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.
2. Separate Topping Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 HOLLOW METAL PANELS

- A. Provide hollow metal panels of same materials, construction, and finish as specified for adjoining hollow metal work.

2.7 STOPS AND MOLDINGS

- A. Moldings for Glazed Lites in Doors: Minimum 0.032 inch (0.8 mm) thick, fabricated from same material as door face sheet in which they are installed.
- B. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated.
- C. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch (0.8 mm) thick, fabricated from same material as frames in which they are installed.

2.8 ACCESSORIES

- A. Mullions and Transom Bars: Join to adjacent members by welding or rigid mechanical anchors.
- B. Grout Guards: Formed from same material as frames, not less than 0.016 inches (0.4 mm) thick.

2.9 FABRICATION

- A. Fabricate hollow metal work to be rigid and free of defects, warp, or buckle. Accurately form metal to required sizes and profiles, with minimum radius for thickness of metal. Where practical, fit and assemble units in manufacturer's plant. To ensure proper assembly at Project site, clearly identify work that cannot be permanently factory assembled before shipment.
- B. Tolerances: Fabricate hollow metal work to tolerances indicated in ANSI/SDI A250.8
- C. Hollow Metal Doors:
 - 1. Exterior Doors:
 - a. Provide weep-hole openings in bottom of exterior doors to permit moisture to escape. Top of door to be flush and completely sealed joints in top edges of doors against water penetration.
 - b. Provide Polyurethane core.
 - 2. Glazed Lites: Factory cut openings in doors with applied flush trim to fit.
 - 3. Astragals: Provide overlapping astragal as noted in door hardware sets in Division 8 Door Hardware on one leaf of pairs of doors where required by NFPA 80 for fire-performance rating or where indicated. Extend minimum 3/4 inch (19 mm) beyond edge of door on which astragal is mounted.
 - 4. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge strap for continuous hinges specified in hardware sets in Division 8 Door Hardware.
 - 5. Electrical Raceways: Provide raceways for electrified door hardware specified in hardware sets in Division 8 Door Hardware.
 - 6. Seamless Edge: Provide seamless edge on hollow metal doors by intermittently tack welding seam, grinding smooth and finishing edge free from defects and blemishes.
- D. Hollow Metal Frames: Where frames are fabricated in sections due to shipping or handling limitations, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
 - 1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible. Continuously backweld joints at exterior frames.
 - 2. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.

3. High Frequency Hinge Reinforcement: Provide high frequency hinge reinforcements at door openings 48-inch and wider with mortise/butt type hinges at top hinge location.
4. Continuous Hinge Reinforcement: Provide welded continuous 12 gauge strap for continuous hinges specified in hardware sets in Division 8 Door Hardware.
5. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated for removable stops, provide security screws at exterior locations.
6. Grout Guards: Weld guards boxes to frame at back of hardware mortises in frames at all hinge and strike preps regardless of grouting requirements.
7. Provide 6 inch hospital stops with 45 degree slope to soffit to flush out with rabbet at base of frame at interior openings, except for double egress frames.
 - a. Provide welded base anchors for frames with hospital stops.
8. Electrical Knock Out Boxes: Factory weld 18 gauge electrical knock out boxes to frame for electrical hardware preps; included but not limited to electric thru wire hinges, electrical raceways, door position switches, electric strikes, jamb mount card readers, and magnetic locks as noted in door hardware sets in Division 8 Door Hardware.
 - a. Electrical knock out boxes are required at door position switches, electric strikes, card readers, and middle hinge locations for all exterior locations regardless of electrical hardware specified in Division 8 Door Hardware.
 - b. Provide electrical knock out boxes with a dual 1/2-inch and 3/4-inch knockouts.
 - c. Conduit to be coordinated and installed in field from middle hinge box and strike box to door position box.
 - d. Conduit to be factory installed for electric hardware preps. Frames with factory installed conduit to have weld in place anchors.
 - e. Electrical knock out boxes to comply with NFPA requirements and fit electrical door hardware as specified in hardware sets in Division 8 Door Hardware.
 - f. Electrical knock out boxes for continuous hinges should be located in the center of the vertical dimension on the hinge jamb.
 - g. Provide prewired and standardized plug connects for door hardware specified in Division 8 Door Hardware.
9. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
10. Jamb Anchors: Provide number and spacing of anchors as follows:
 - a. Masonry Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
 - 1) Two anchors per jamb up to 60 inches (1524 mm) high.
 - 2) Three anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - 3) Four anchors per jamb from 90 to 120 inches (2286 to 3048 mm) high.

- 4) Four anchors per jamb plus 1 additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 120 inches (3048 mm) high.
 - b. Stud-Wall Type: Locate anchors not more than 18 inches (457 mm) from top and bottom of frame. Space anchors not more than 32 inches (813 mm) o.c. and as follows:
 - 1) Three anchors per jamb up to 60 inches (1524 mm) high.
 - 2) Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.
 - 3) Five anchors per jamb from 90 to 96 inches (2286 to 2438 mm) high.
 - 4) Five anchors per jamb plus 1 additional anchor per jamb for each 24 inches (610 mm) or fraction thereof above 96 inches (2438 mm) high.
 - 5) Two anchors per head for frames above 42 inches (1066 mm) wide and mounted in metal-stud partitions.
11. Door Silencers: Except on weather-stripped or gasketed doors, drill stops to receive door silencers as follows. Keep holes clear during construction. Silencers to be supplied by frame manufacture regardless if specified in division 8 Door Hardware.
 - a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
 - b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.
- E. Fabricate concealed stiffeners, edge channels, and hardware reinforcement from either cold- or hot-rolled steel sheet.
- F. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware; include cutouts, reinforcement, mortising, drilling, and tapping according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
 1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
 2. Reinforce doors and frames to receive nontemplated, mortised and surface-mounted door hardware.
 3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.
 4. Coordinate locations of conduit and wiring boxes for electrical connections with Division 26 Sections.
- G. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints at fabricators shop

1. Single Glazed Lites: Provide fixed stops and moldings welded on secure side of hollow metal work.
2. Multiple Glazed Lites: Provide fixed and removable stops and moldings so that glazed lites are capable of being removed independently.
3. Provide fixed frame moldings on outside of exterior and on secure side of interior doors and frames.
4. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.
5. Gap for butted or mitered joints in glass stop should not exceed .0625-inch.

2.10 STEEL FINISHES

- A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.
 1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10 acceptance criteria; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine roughing-in for embedded and built-in anchors to verify actual locations before frame installation.
- C. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.
- B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:
 1. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.

2. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 3. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 4. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.
- C. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

- A. General: Install hollow metal work plumb, rigid, properly aligned, and securely fastened in place; comply with Drawings and manufacturer's written instructions.
- B. Hollow Metal Frames: Install hollow metal frames of size and profile indicated. Comply with ANSI/SDI A250.11.
1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
 - a. At fire-protection-rated openings, install frames according to NFPA 80.
 - b. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
 - c. Install frames with removable glazing stops located on secure side of opening.
 - d. Install door silencers in frames before grouting.
 - e. Remove temporary braces necessary for installation only after frames have been properly set and secured.
 - f. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
 - g. Field apply bituminous coating to backs of frames that are filled with grout containing antifreezing agents.
 2. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post installed expansion anchors.
 - a. Floor anchors may be set with powder-actuated fasteners instead of post installed expansion anchors if so indicated and approved on Shop Drawings.
 3. Metal-Stud Partitions: Solidly pack mineral-fiber insulation behind frames.
 4. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout.

5. Concrete Walls: Solidly fill space between frames and concrete with grout. Take precautions, including bracing frames, to ensure that frames are not deformed or damaged by grout forces.
 6. Field Supplied Ceiling Struts: Extend struts vertically from top of frame at each jamb to overhead structural supports or substrates above frame unless frame is anchored to masonry or to other structural support at each jamb. Bend top of struts to provide flush contact for securing to supporting construction. Provide adjustable wedged or bolted anchorage to frame jamb members.
 7. Grouting Requirements:
 - a. Do not grout head of frames unless reinforcing has been installed in head of frame.
 - b. Do not grout vertical or horizontal closed mullion members.
 8. Installation Tolerances: Adjust hollow metal door frames for squareness, alignment, twist, and plumb to the following tolerances:
 - a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
 - b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
 - c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
 - d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.
- C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Standard Steel Doors:
 - a. Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - b. Between Edges of Pairs of Doors: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
 - c. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
 - d. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).
 2. Fire-Rated Doors: Install doors with clearances according to NFPA 80.
 3. Smoke-Control Doors: Install doors according to NFPA 105.
- D. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with hollow metal manufacturer's written instructions.
1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (50 mm) o.c. from each corner.
 - a. Secure exterior removable stops with security head screws.

3.4 ADJUSTING AND CLEANING

- A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.
- B. Remove grout and other bonding material from hollow metal work immediately after installation.
- C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.
- D. Metallic-Coated Surfaces: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

END OF SECTION 081113

SECTION 081416 - FLUSH WOOD DOORS

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:
 - 1. Solid-core doors with wood-veneer faces.
 - 2. Factory finishing flush wood doors.
 - 3. Factory fitting flush wood doors to frames and factory machining for hardware.
- B. Related Sections:
 - 1. Division 08 Section "Glazing" for glass view panels in flush wood doors.

1.3 SUBMITTALS

- A. Product Data: For each type of door indicated. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; location and extent of hardware blocking; and other pertinent data.
 - 1. Indicate dimensions and locations of mortises and holes for hardware.
 - 2. Indicate dimensions and locations of cutouts.
 - 3. Indicate requirements for veneer matching.
 - 4. Indicate doors to be factory finished and finish requirements.
 - 5. Indicate fire-protection ratings for fire-rated doors.
- C. Samples for Initial Selection: For factory-finished doors.
- D. Samples for Verification:
 - 1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches (200 by 250 mm), for each material and finish.
 - a. Provide samples for each species of veneer and solid lumber required.
 - b. Finish veneer-faced door samples with same materials proposed for factory-finished doors.

2. Frames for light openings, 6 inches (150 mm) long, for each material, type, and finish required.

E. Warranty: Sample of special warranty.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Source Limitations: Obtain flush wood doors from single manufacturer.
- C. Quality Standard: In addition to requirements specified, comply with WDMA I.S.1-A, "Architectural Wood Flush Doors."
 1. Provide AWI Quality Certification Labels or an AWI letter of licensing for Project indicating that doors comply with requirements of grades specified.
 2. Provide WI-Certified Compliance Certificate indicating that doors comply with requirements of grades specified.
 3. Provide WI-Certified Compliance Certificate for installation.
- D. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252.
 1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
 2. Temperature-Rise Limit: At vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F above ambient after 30 minutes of standard fire-test exposure.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Mark each door on bottom rail with opening number used on Shop Drawings.

1.6 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weather-tight, wet work in spaces is complete and dry, and HVAC system is

operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

- B. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weather-tight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 25 and 55 percent during the remainder of the construction period.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Warping (bow, cup, or twist) more than 1/4 inch in a 42-by-84-inch section.
 - b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
 - 2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
 - 3. Warranty Period for Solid-Core Exterior Doors: Two years from date of Substantial Completion.
 - 4. Warranty Period for Solid-Core Interior Doors: Life of installation.
 - 5. Warranty Period for Hollow-Core Interior Doors: Two year(s) from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Algoma Hardwoods, Inc.
 - 2. Eggers Industries.
 - 3. Graham; an ASSA Abloy Group company.
 - 4. Marshfield Door Systems, Inc.
 - 5. VT Industries Inc.

2.2 DOOR CONSTRUCTION, GENERAL

- A. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea formaldehyde.
- B. WDMA I.S.1-A Performance Grade:
 - 1. Heavy Duty unless otherwise indicated.
 - 2. Extra Heavy Duty: Classrooms, public toilets, janitor's closets, assembly spaces, and exits.
- C. Particleboard-Core Doors:
 - 1. Particleboard: ANSI A208.1, Grade LD-2.
 - 2. Particleboard: Straw-based particleboard complying with ANSI A208.1, Grade LD-2 or M-2, except for density.
 - 3. Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
 - a. 5-inch top-rail blocking, in doors indicated to have closers.
 - b. 5-inch bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
 - c. 5-inch midrail blocking, in doors indicated to have exit devices.
- D. Structural-Composite-Lumber-Core Doors:
 - 1. Structural Composite Lumber: WDMA I.S.10.
 - a. Screw Withdrawal, Face: 700 lb.
 - b. Screw Withdrawal, Edge: 400 lb.
- E. Fire-Protection-Rated Doors: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
 - 1. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.
 - 2. Pairs: Provide fire-retardant stiles that are listed and labeled for applications indicated without formed-steel edges and astragals. Comply with specified requirements for exposed edges.
 - 3. Pairs: Provide formed-steel edges and astragals.
 - a. Finish steel edges and astragals with baked enamel, same color as doors.
 - b. Finish steel edges and astragals to match door hardware (locksets or exit devices).
- F. Mineral-Core Doors:
 - 1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.

2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as needed to eliminate through-bolting hardware.
 - a. 5-inch top-rail blocking.
 - b. 5-inch bottom-rail blocking, in doors indicated to have protection plates.
 - c. 5-inch midrail blocking, in doors indicated to have armor plates.
 - d. 5-inch midrail blocking, in doors indicated to have exit devices.
3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.

2.3 VENEERED-FACED DOORS FOR TRANSPARENT FINISH

A. Exterior Solid-Core Doors:

1. Grade: Economy (Grade B faces).
2. Species: Select white maple.
3. Cut: Plain sliced (flat sliced).
4. Match between Veneer Leaves: Book match.
5. Assembly of Veneer Leaves on Door Faces: Balance match.
6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
7. Exposed Vertical and Top Edges: Same species as faces or a compatible species.
8. Core: Particleboard.
9. Construction: Five plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering. Faces are bonded to core using a hot press.
10. Adhesives: Type I per WDMA TM-6.
11. WDMA I.S.1-A Performance Grade: Extra Heavy Duty.

B. Interior Solid-Core Doors:

1. Grade: Economy (Grade B faces).
2. Species: Select white maple.
3. Cut: Plain sliced (flat sliced).
4. Match between Veneer Leaves: Book match.
5. Assembly of Veneer Leaves on Door Faces: Balance match.
6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
7. Room Match: Match door faces within each separate room or area of building. Corridor-door faces do not need to match where they are separated by 10 feet or more.
8. Room Match: Provide door faces of compatible color and grain within each separate room or area of building.
9. Blueprint Match: Where indicated, provide doors with faces produced from same flitches as adjacent wood paneling and arranged to provide blueprint match with wood paneling.

10. Exposed Vertical and Top Edges: Applied wood-veneer edges of same species as faces and covering edges of faces.
11. Core: Particleboard.
12. Construction: Five plies. Stiles and rails are bonded to core, then entire unit abrasive planed before veneering. Faces are bonded to core using a hot press. Retain one of first two options in subparagraph above or retain first subparagraph below. Third option above applies to some five-ply doors. Glued-wood-stave core is only available with bonded construction and nonglued-wood-stave core is only available with nonbonded construction.
13. WDMA I.S.1-A Performance Grade: Extra Heavy Duty.

2.4 LOUVERS AND LIGHT FRAMES

- A. Wood Louvers: Door manufacturer's standard solid-wood louvers unless otherwise indicated.
 1. Wood Species: Species compatible with door faces.

2.5 LIGHT FRAMES

- A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads as follows unless otherwise indicated.
 1. Wood Species: Species compatible with door faces.
 2. Profile: Lipped tapered beads.
 3. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips approved for such use.
- B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.
- C. Metal Frames for Light Openings in Fire-Rated Doors: Manufacturer's standard frame formed of 0.048-inch thick, cold-rolled steel sheet; with baked-enamel- or powder-coated finish; and approved for use in doors of fire-protection rating indicated.

2.6 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 1. Comply with requirements in NFPA 80 for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.

1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
 2. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.
- C. Transom and Side Panels: Fabricate matching panels with same construction, exposed surfaces, and finish as specified for associated doors. Finish bottom edges of transoms and top edges of rabbeted doors same as door stiles.
1. Fabricate door and transom panels with full-width, solid-lumber meeting rails. Provide factory-installed spring bolts for concealed attachment into jambs of metal door frames.
- D. Openings: Cut and trim openings through doors in factory.
1. Light Openings: Trim openings with moldings of material and profile indicated.
 2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Division 08 Section "Glazing."
 3. Louvers: Factory install louvers in prepared openings.
- E. Exterior Doors: Factory treat exterior doors with water repellent after fabrication has been completed but before factory finishing.
1. Flash top of out swinging doors (with manufacturer's standard metal flashing).

2.7 SHOP PRIMING

- A. Doors for Transparent Finish: Shop prime doors with stain (if required), other required pretreatments, and first coat of finish as specified in Division 09 Section "Exterior Painting Staining and Transparent Finishing." Seal all four edges, edges of cutouts, and mortises with first coat of finish.

2.8 FACTORY FINISHING

- A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
1. Finish faces, all four edges, edges of cutouts, and mortises. Stains and fillers may be omitted on top and bottom edges, edges of cutouts, and mortises.
- B. Finish doors at factory.
- C. Transparent Finish:
1. Grade: Custom.
 2. Finish: AWI TR-7 Clear Polyester system.
 3. Sheen: Semi gloss.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames before hanging doors.
 - 1. Verify that frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see Division 08 Section "Door Hardware."
- B. Installation Instructions: Install doors to comply with manufacturer's written instructions and the referenced quality standard, and as indicated.
 - 1. Install fire-rated doors in corresponding fire-rated frames according to NFPA 80.
- C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.
 - 1. Clearances: Provide 1/8 inch at heads, jambs, and between pairs of doors. Provide 1/8 inch from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide 1/4 inch from bottom of door to top of threshold unless otherwise indicated.
 - a. Comply with NFPA 80 for fire-rated doors.
 - 2. Bevel non-fire-rated doors 1/8 inch in 2 inches at lock and hinge edges.
 - 3. Bevel fire-rated doors 1/8 inch in 2 inches at lock edge; trim stiles and rails only to extent permitted by labeling agency.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.
- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.

- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 081433 - STILE AND RAIL WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior stile and rail wood doors.
 - 2. Priming stile and rail wood doors.
 - 3. Fitting stile and rail wood doors to frames and machining for hardware.
 - 4. Pre-hanging doors in frames.

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and other pertinent data.
- C. Samples: Representing typical range of color and grain for each species of veneer and solid lumber required. Finish Sample with same materials proposed for factory-finished doors.

1.3 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.
- B. Forest Certification: Provide doors made with all wood products obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."
- C. Safety Glass: Provide products complying with testing requirements in 16 CFR 1201, for Category II materials, unless those of Category I are expressly indicated and permitted.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Use only materials that comply with referenced standards and other requirements specified. Assemble exterior doors and side lites with wet-use adhesives.

- B. Low-Emitting Materials: Provide doors made with adhesives and composite wood products that do not contain urea-formaldehyde resins.

2.2 EXTERIOR STILE AND RAIL WOOD DOORS

- A. Exterior Stile and Rail Wood Doors Type SRD: Exterior doors complying with WDMA I.S.6, "Industry Standard for Wood Stile and Rail Doors."
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 - a. Belentry Doors LLC.
 - b. International Door and Latch.
 - c. Jeld-Wen, Inc.
 - d. Karona, Inc.
 - e. McPhillips Manufacturing Company.
 - f. QSM Doors, Inc.
 - g. Simpson Door Company.
 - 3. Finish and Grade: Transparent and Premium or Select.
 - 4. Wood Species: Idaho white, lodge pole, ponderosa, or sugar pine.
 - 5. Glass: Uncoated, clear insulating-glass units made from two lites of 3.0-mm-thick, fully tempered glass with 1/4-inch (6.4-mm) inter space complying with Division 08 Section "Glazing."

2.3 INTERIOR STILE AND RAIL WOOD DOORS

- A. Interior Stile and Rail Wood Doors Type SRD: Interior doors complying with WDMA I.S.6, "Industry Standard for Wood Stile and Rail Doors."
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
 - a. Belentry Doors LLC.
 - b. International Door and Latch.
 - c. Jeld-Wen, Inc.
 - d. Karona, Inc.
 - e. McPhillips Manufacturing Company.
 - f. QSM Doors, Inc.
 - g. Simpson Door Company.
 - 3. Finish and Grade: Transparent and Premium or Select.
 - 4. Wood Species: Idaho white, lodgepole, ponderosa, or sugar pine.

5. Glass: Uncoated, clear, laminated glass made from two lites of 3.0-mm-thick annealed glass complying with Division 08 Section "Glazing."

2.4 STILE AND RAIL WOOD DOOR FABRICATION

- A. Fabricate stile and rail wood doors in sizes indicated for field fitting.
- B. Factory fit doors to suit frame-opening sizes indicated, with the following uniform clearances and bevels unless otherwise indicated:
 1. Clearances: Provide 1/8 inch (3 mm) at heads, jambs, and between pairs of doors. Provide 1/2 inch (13 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide not more than 3/8 inch (10 mm) from bottom of door to top of threshold.
 - a. Comply with NFPA 80 for fire-rated doors.
 2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
 3. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) on lock edge; trim stiles and rails only to extent permitted by labeling agency.
- C. Factory machine doors for hardware that is not surface applied.
- D. Glazed Openings: Trim openings indicated for glazing with solid wood moldings, with one side removable. Miter wood moldings at corner joints.
- E. Glazed Openings: Glaze doors at factory with glass of type and thickness indicated, complying with Division 08 Section "Glazing." Install glass using manufacturer's standard elastomeric glazing sealant complying with ASTM C 920. Secure glass in place with removable wood moldings. Miter wood moldings at corner joints.
- F. Transom and Side Panels: Fabricate panels to match adjoining doors in materials, finish, and quality of construction.
- G. Exterior Doors: Factory treat exterior doors after fabrication with water-repellent preservative to comply with WDMA I.S.4. Flash top of out-swinging doors with manufacturer's standard metal flashing.
- H. Pre-hung Doors: Provide stile and rail doors as pre-hung units including doors, frames, weather stripping, and hardware.
 1. Provide wood door frames that comply with Division 06 Section "Interior Finish Carpentry."
 2. Provide hardware, including weather stripping and thresholds, that complies with Division 08 Section "Door Hardware."

2.5 SHOP PRIMING

- A. Doors for Transparent Finish: Shop prime doors with stain (if required), other required pretreatments, and first coat of finish as specified in Division 09 Section "Staining and Transparent Finishing." Seal all four edges, edges of cutouts, and mortises with first coat of finish.

2.6 FINISHING

- A. Finish wood doors at factory that are indicated to receive transparent finish. For doors indicated to be factory finished, comply with AWI's "Architectural Woodwork Quality Standards," and with other requirements specified.
- B. Transparent Finish:
 - 1. Grade: Premium.
 - 2. Finish: AWI catalyzed polyurethane system.
 - 3. Staining: As selected by Architect from manufacturer's full range.
 - 4. Effect: Open-grain finish.
 - 5. Sheen: Satin.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Hardware: For installation, see Division 08 Section "Door Hardware."
- B. Install wood doors to comply with manufacturer's written instructions, WDMA I.S.6, "Industry Standard for Wood Stile and Rail Doors," and other requirements specified.
- C. Field-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted with fire-rated doors. Machine doors for hardware. Seal cut surfaces after fitting and machining.
 - 1. Clearances: Provide 1/8 inch (3 mm) at heads, jambs, and between pairs of doors. Provide 1/4 inch (6 mm) from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4 inch (6 mm) from bottom of door to top of threshold.
 - 2. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

END OF SECTION 081433

SECTION 08411 - ALUMINUM ENTRANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Documents: Conditions of the Contract, Division 1 - General Requirements, and Drawings apply to Work of this Section.
- B. Section Includes:
 - 1. Aluminum doors complete with hardware.
- D. Related Sections:
 - 1. Submittal requirements
 - 2. Metal Fabrications
 - 3. Rough Carpentry.
 - 4. Joint Sealants.
 - 5. Door Hardware.
 - 6. Glazing.

1.2 REFERENCES

- A. Aluminum Association (AA):
 - 1. DAF-45 Designation System for Aluminum Finishes.
- B. American Architectural Manufacturers Association (AAMA):
 - 1. 501.2 Field Check of Metal Curtain Walls for Water Leakage.
 - 2. 2605 Voluntary Specification for High Performance Organic Coatings on Architectural Extrusions and Panels.
 - 3. 606.1 Specifications and Inspection Methods for Integral Color Anodic Finishes for Architectural Aluminum.
 - 4. 607.1 Specifications and Inspection Methods for Clear Anodic Finishes for Architectural Aluminum.
 - 5. 608.1 Specification and Inspection Methods for Electrolytically Deposited Color Anodic Finishes for Architectural Aluminum.
 - 6. 701.2 Specifications for Pile Weather-stripping.
 - 7. Manual #10 Care and Handling of Architectural Aluminum From Shop to Site.
 - 8. SFM-1 Aluminum Storefront and Entrance Manual.
- C. American National Standards Institute (ANSI):
 - 1. A117.1 Safety Standards for the Handicapped.
- D. American Society for Testing and Materials (ASTM):
 - 1. A36 Structural Steel.
 - 2. A123 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
 - 3. B209 Aluminum and Aluminum - Alloy Sheet and Plate.
 - 4. B221 Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
 - 5. B308 Aluminum-Alloy 6061-T6 Standard Structural Shapes, Rolled or Extruded.
 - 6. E283 Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors.
 - 7. E330 Test Method for Structural Performance of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure

Difference.

8. E331 Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference.

E. Federal Specifications (FS):

1. TT-P-641G(1) Primer Coating, Zinc Dust-Zinc Oxide (For Galvanized Surfaces).
2. TT-P-645A Primer, Paint, Zinc Chromate, Alkyd Type.

F. Steel Structures Painting Council (SSPC):

1. Paint 12 Cold-Applied Asphalt Mastic (Extra Thick Film).

1.3 SYSTEM REQUIREMENTS

A. Design Requirements:

1. Drawings are diagrammatic and do not purport to identify nor solve problems of thermal or structural movement, glazing, anchorage, or moisture disposal.
2. Requirements shown by details are intended to establish basic dimension of units, sight lines and profiles of members.
3. Provide concealed fastening.
4. Provide entrance and storefront systems, including necessary modifications, to meet specified requirements and maintaining visual design concepts.
5. Attachment considerations are to take into account site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening or fracturing connection between units and building structure or between units themselves.
6. Anchors, fasteners and braces shall be structurally stressed not more than 50% of allowable stress when maximum loads are applied.
7. Provide for expansion and contraction due to structural movement without detriment to appearance or performance.

1.4 SUBMITTALS

A. General: Submit in accordance with Section 01300.

B. Product Data:

1. Submit manufacturer's descriptive literature and product specifications.
2. Include information for factory finishes, hardware, accessories, and other required components.
3. Include color charts for finish indicating manufacturer's standard colors available for selection.

C. Shop Drawings:

1. Submit shop drawings covering fabrication, installation and finish of specified systems.
2. Include following:
 - a. Fully dimensioned plans and elevations with detail coordination keys.
 - b. Locations of exposed fasteners and joints.
3. Provide detailed drawings of:
 - a. Composite members.
 - b. Joint connections for framing systems and for entrance doors.
 - c. Glazing methods and accessories.
4. Schedule of finishes.

D. Samples:

1. Submit manufacturers standard samples indicating quality of finish.
2. Where normal texture or color variations are expected, include additional samples illustrating range of variation.

1.5 QUALITY ASSURANCE

A. Single Source Responsibility:

1. To ensure quality of appearance and performance, obtain materials for systems from either a single manufacturer or from manufacturer approved by systems manufacturer.
- B. Installer Qualifications: Certified in writing by system manufacturer as qualified for installation of specified systems.
- C. Perform Work in accordance with AAMA SFM-1 and manufacturer's written instructions.
- D. Conform to requirements of ANSI A117.1 and local amendments.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of Section 01600.
- B. Protect finished surfaces as necessary to prevent damage.
- C. Do not use adhesive papers or sprayed coatings which become firmly bonded when exposed to sun.
- D. Do not leave coating residue on any surfaces.
- E. Replace damaged units.

1.7 WARRANTY

- A. Provide warranties in accordance with Section 01700.
- B. Provide written warranty in form acceptable to Owner jointly signed by manufacturer, installer and Contractor warranting work to be watertight, free from defective materials, defective workmanship, glass breakage due to defective design, and agreeing to replace components which fail within 1 year from date of Substantial Completion.
- C. Warranty shall cover following:
 1. Complete watertight and airtight system installation within specified tolerances.
 2. System is structurally sound and free from distortion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS AND PRODUCTS

- A. Subject to compliance with requirements indicated, provide products by one of the following:
 1. Vistawall Architectural Products
- B. Substitutions: Submit under provisions of Section 01630, a minimum of 10 days prior to bid date.
- C. Acceptable Entrance Systems:

Model 212 -narrow stile (4-1/2" bottom rail, 2-3/4" top rail, 1-5/8" verticals)

2.2 FRAMING MATERIALS AND ACCESSORIES

- A. Aluminum:
 - 1. ASTM B221, alloy 6063-T5 for extrusions; ASTM B209, alloy 5005-H16 for sheets; or other alloys and temper recommended by manufacturer appropriate for specified finish.
- B. Internal Reinforcing:
 - 1. ASTM A36 for carbon steel.
 - 2. Shapes and sizes to suit installation.
 - 3. Steel components factory coated with alkyd type zinc chromate primer complying with FS TT-P-645.
- C. Anchorage Devices:
 - 1. Manufacturer's standard formed or fabricated steel or aluminum assemblies of shapes, plates, bars or tubes.
 - 2. Hot-dip galvanize steel assemblies after fabrication, comply with ASTM A123, 2.0 ounce minimum coating.
- D. Fasteners:
 - 1. Aluminum, non-magnetic stainless steel or other non-corrosive materials compatible with items being fastened.
 - 2. Provide concealed fasteners wherever possible.
 - 3. For exposed locations, provide Phillips flathead screws with finish matching item fastened.
 - 4. For concealed locations, provide manufacturer's standard fasteners.
- E. Expansion Anchor Devices: Lead-shield or toothed-steel, drilled-in, expansion bolt anchors.
- F. Protective Coatings: Cold-applied asphalt mastic complying with SSPC-Paint 12, compounded for 30 mil thickness for each coat; or alkyd type zinc chromate primer complying with FS TT-P-645.
- G. Touch-Up Primer for Galvanized Components: Zinc oxide conforming with FS TT-P-641.
- H. Glazing Gaskets:
 - 1. Compression type design, replaceable, molded or extruded, of neoprene, polyvinyl chloride (PVC), or ethylene propylene diene monomer (EPDM).
 - 2. Profile and hardness as required to maintain uniform pressure for watertight seal.
- I. Weather-stripping:
 - 1. Wool pile conforming to AAMA 701.2.
 - 2. Provide EPDM or vinyl-blade gasket weather-stripping in bottom door rail, adjustable for contact with threshold.

2.3 GLAZING

- A. Refer to Section 088100.

2.4 DOOR HARDWARE

- A. Refer to Section 087100.

2.5 FABRICATION**A. Coordination of Fabrication:**

1. Check actual frame or door openings required in construction work by accurate field measurements before fabrication.
2. Fabricate units to withstand loads which will be applied when system is in place.

B. General

1. Conceal fasteners wherever possible.
2. Reinforce work as necessary for performance requirements, and for support to structure.
3. Separate dissimilar metals and aluminum in contact with concrete utilizing protective coating or preformed separators which will prevent contact and corrosion.
4. Comply with Section 08810 for glazing requirements.

D. Entrance Doors:

1. Fabricate with mechanical joints using internal [steel] reinforcing plates and shear blocks attached with fasteners and by welding.
2. Provide extruded aluminum glazing stops of rounded and mitered design, permanently anchored on security side and removable on opposite side.

E. Hardware:

1. Receive hardware supplied in accordance with Section 08710 and install in accordance with requirements of this Section.
2. Cut, reinforce, drill and tap frames and doors as required to receive hardware.
3. Comply with hardware manufacturer's templates and instructions.
4. Use concealed fasteners wherever possible.

F. Welding:

1. Comply with recommendations of the American Welding Society.
2. Use recommended electrodes and methods to avoid distortion and discoloration.
3. Grind exposed welds smooth and flush with adjacent surfaces; restore mechanical finish.

G. Flashings: Form from sheet aluminum with same finish as extruded sections. Material thickness as required to suit condition without deflection or "oilcanning".**2.6 FINISHES****A. Color Anodized:**

1. Conforming to AA-M12C22A44 and AAMA 606.1 and 608.1.
2. Architectural Class [I] [II], etched, medium matte, dark bronze colored anodic coating, 0.7 mil minimum thickness.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A.** Examine conditions and proceed with Work in accordance with Section 014000.

3.2 INSTALLATION

- A.** Erection Tolerances:

1. Limit variations from plumb and level:
 - a. 1/8 inch in 10'-0" vertically.
 - b. 1/8 inch in 20'-0" horizontally.
 2. Limit variations from theoretical locations: 1/4 inch for any member at any location.
 3. Limit offsets in theoretical end-to-end and edge-to-edge alignment: 1/16 inch from flush surfaces not more than 2 inches apart or out-of-flush by more than 1/4 inch.
- B. Install doors and hardware in accordance with manufacturer's printed instructions.
 - C. Set units plumb, level and true to line, without warp or rack of frame.
 - D. Anchor securely in place, allowing for required movement, including expansion and contraction.
 - E. Separate dissimilar materials at contact points, including metal in contact with masonry or concrete surfaces, with bituminous paint or preformed separators to prevent contact and corrosion.
 - F. Set sill members in bed of sealant. Set other members with internal sealants and baffles to provide weathertight construction.
 - G. Coordinate installation of perimeter sealant and backing materials between assemblies and adjacent construction in accordance with requirements of Section 07920.
 - H. Glazing: Refer to requirements of Section 08810.
- 3.3 ADJUSTING
- A. Test door operating functions. Adjust closing and latching speeds and other hardware in accordance with manufacturer's instructions to ensure smooth operation.
- 3.4 CLEANING
- A. Clean surfaces in compliance with manufacturer's recommendations; remove excess mastic, mastic smears, foreign materials and other unsightly marks.
 - B. Clean metal surfaces exercising care to avoid damage.

END OF SECTION

SECTION 085113 – VINYL WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes fixed and operable aluminum-framed windows.

1.2 PERFORMANCE REQUIREMENTS

- A. General: Provide vinyl windows capable of complying with performance requirements indicated, based on testing manufacturer's windows that are representative of those specified, and that are of minimum test size required by AAMA/WDMA 101/I.S.2/NAFS.
- B. Structural Performance: Provide vinyl windows capable of withstanding the effects of the following loads, based on testing units representative of those indicated for Project that pass AAMA/WDMA 101/I.S.2/NAFS, Uniform Load Structural Test:
 - 1. Design Wind Loads: Determine design wind loads applicable to Project from basic wind speed indicated in miles per hour (meters per second) at 33 feet (10 m) above grade, according to ASCE 7, Section 6.5, "Method 2-Analytical Procedure," based on mean roof heights above grade indicated on Drawings.
 - a. Basic Wind Speed: 90 mph (40 m/s).
 - b. Exposure Category: C.
 - 2. Deflection: Design glass framing system to limit lateral deflections of glass edges to less than 1/175 of glass-edge length or 3/4 inch (19 mm), whichever is less, at design pressure based on testing performed according to AAMA/WDMA 101/I.S.2/NAFS, Uniform Load Deflection Test or structural computations.
- C. Windborne-Debris Resistance: Provide glazed windows capable of resisting impact from windborne debris, based on the pass/fail criteria as determined from testing glazed windows identical to those specified, according to ASTM E 1886 and testing information in ASTM E 1996 and requirements of authorities having jurisdiction.
- D. Thermal Movements: Provide aluminum windows, including anchorage, that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 180 deg F (100 deg C) material surfaces.

1.3 SUBMITTALS

- A. Product Data: For each type of vinyl window indicated.
- B. Shop Drawings: Include plans, elevations, sections, details, hardware, attachments to other work, operational clearances, and installation details
- C. Samples: For each exposed finish.
- D. Product Schedule: Use same designations indicated on Drawings.
- E. Field quality-control test reports.
- F. Product test reports.
- G. Maintenance data.

1.4 QUALITY ASSURANCE

- A. Installer: A qualified installer, approved by manufacturer to install manufacturer's products.
- B. Glazing Publications: Comply with published recommendations of glass manufacturers and with GANA's "Glazing Manual" unless more stringent requirements are indicated.
- C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
- D. Pre-installation Conference: Conduct conference at Project site.

1.5 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace vinyl windows that fails in materials or workmanship within specified warranty period.
 1. Failures include, but are not limited to, the following:
 - a. Failure to meet performance requirements.
 - b. Structural failures including excessive deflection, water leakage, air infiltration, or condensation.
 - c. Faulty operation of movable sash and hardware.

- d. Deterioration of metals, other materials, and metal finishes beyond normal weathering.
 - e. Failure of insulating glass.
- 2. Warranty Period:
 - a. Window: Three years from date of Substantial Completion.
 - b. Glazing: 10 years from date of Substantial Completion.
 - c. Metal Finish: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- C. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated (Alenco 1111S or Jeld Wen) or a comparable product by one of the following:
 - 1. Gerkin Windows and Doors.
 - 2. Graham Architectural Products Corp.
 - 3. Kawneer; an Alcoa Company.
 - 4. Peerless Products Inc.
 - 5. Thermal Windows, Inc.
 - 6. TRACO.

2.2 WINDOW A,B,C,D,E.

- A. Window Type: As indicated in a schedule.
- B. Comply with AAMA/WDMA 101/I.S.2/NAFS.
 - 1. Performance Class and Grade: R20.
 - 2. Performance Class and Grade: LC30.
 - 3. Performance Class and Grade: C35.
 - 4. Performance Class and Grade: HC45.
 - 5. Performance Class and Grade: AW 45.
 - 6. Performance Class and Grade: As indicated.

- C. Condensation-Resistance Factor (CRF): Provide vinyl windows tested for thermal performance according to AAMA 1503, showing a CRF of 45.
- D. Thermal Transmittance: Provide vinyl windows with a whole-window, U-factor maximum indicated at 15-mph (24-km/h) exterior wind velocity and winter condition temperatures when tested according to ASTM E 1423.
 - 1. U-Factor: 0.40 Btu/sq. ft. x h x deg F (2.3 W/sq. m x K or less).
- E. Solar Heat-Gain Coefficient (SHGC): Provide vinyl windows with a whole-window SHGC maximum of 0.50, determined according to NFRC 200 procedures.

2.3 GLAZING

- A. Glass and Glazing Materials: Refer to Division 08 Section "Glazing" for glass units and glazing requirements applicable to glazed aluminum window units.
- B. Glass: Clear, insulating-glass units, argon gas filled, with low-E coating pyrolytic on second surface or sputtered on second or third surface, complying with Division 08 Section "Glazing."
- C. Glazing System: Manufacturer's standard factory-glazing system that produces weathertight seal and complies with requirements for windborne-debris resistance.

2.4 INSECT SCREENS

- A. General: Design windows and hardware to accommodate screens in a tight-fitting, removable arrangement, with a minimum of exposed fasteners and latches. Fabricate insect screens to fully integrate with window frame. Locate screens on outside of window and provide for each operable exterior sash or ventilator.
 - 1. Aluminum Tubular Frame Screens: Comply with SMA 1004, "Specifications for Aluminum Tubular Frame Screens for Windows," Residential R-20 class.
- B. Aluminum Insect Screen Frames: Manufacturer's standard aluminum alloy complying with SMA 1004. Fabricate frames with mitered or coped joints or corner extrusions, concealed fasteners, and removable PVC spline/anchor concealing edge of frame.
 - 1. Aluminum Tubular Framing Sections and Cross Braces: Roll formed from aluminum sheet with minimum wall thickness as required for class indicated.
 - 2. Finish: Match aluminum window members.
 - 3. Finish: Baked-on organic coating in color selected by Architect from manufacturer's full range.
 - 4. Finish: Manufacturer's standard.
- C. Aluminum Wire Fabric: 18-by-16 (1.1-by-1.3-mm) mesh of 0.011-inch- (0.28-mm-) diameter, coated aluminum wire.

1. Wire-Fabric Finish: Charcoal gray.

- D. Wickets: Provide sliding wickets, framed and trimmed for a tight fit and for durability during handling.

2.5 FABRICATION

- A. Fabricate vinyl windows that are re-glazable without dismantling sash or ventilator framing.
- B. Weather Stripping: Provide full-perimeter weather stripping for each operable sash and ventilator.
- C. Weep Holes: Provide weep holes and internal passages to conduct infiltrating water to exterior.
- D. Provide water-shed members above side-hinged ventilators and similar lines of natural water penetration.
- E. Mullions: Provide mullions and cover plates as shown, matching window units, complete with anchors for support to structure and installation of window units. Allow for erection tolerances and provide for movement of window units due to thermal expansion and building deflections, as indicated. Provide mullions and cover plates capable of withstanding design loads of window units.
- F. Subframes: Provide subframes with anchors for window units as shown, of profile and dimensions indicated but not less than 0.062-inch- (1.6-mm-) thick extruded aluminum. Miter or cope corners, and weld and dress smooth with concealed mechanical joint fasteners. Finish to match window units. Provide subframes capable of withstanding design loads of window units.
- G. Glazing Stops: Provide snap-on glazing stops coordinated with Division 08 Section "Glazing" and glazing system indicated. Provide glazing stops to match sash and ventilator frames.

2.6 VINYL FINISHES

- A. Vinyl Finish:
1. Color: As selected by Architect from full range of industry colors and color densities.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing windows, hardware, accessories, and other components.
- B. Install windows level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
- C. Set sill members in bed of sealant or with gaskets, as indicated, for weathertight construction.
- D. Install windows and components to drain condensation, water penetrating joints, and moisture migrating within windows to the exterior.
- E. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- F. Adjust operating sashes and ventilators, screens, hardware, and accessories for a tight fit at contact points and weather stripping for smooth operation and weather tight closure. Lubricate hardware and moving parts.
- G. Clean vinyl surfaces immediately after installing windows. Avoid damaging protective coatings and finishes. Remove excess sealants, glazing materials, dirt, and other substances.
- H. Clean factory-glazed glass immediately after installing windows. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels, and clean surfaces.
- I. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.

3.2 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to perform tests and inspections and prepare test reports.
 - 1. Testing and inspecting agency will interpret tests and state in each report whether tested work complies with or deviates from requirements.
- B. Testing Services: Testing and inspecting of installed windows shall take place as follows:

1. Testing Methodology: Testing of windows for air infiltration and water resistance shall be performed according to AAMA 502, Test Method A, by applying same test pressures required to determine compliance with AAMA/WDMA 101/I.S.2/NAFS in Part 1 "Performance Requirements" Article.
 2. Testing Extent: Three mockup windows as selected by Architect and a qualified independent testing and inspecting agency. Windows shall be tested immediately after installation.
 3. Test Reports: Shall be prepared according to AAMA 502.
- C. Remove and replace non-complying vinyl window and retest as specified above.
- D. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

END OF SECTION 085113

SECTION 08710 – FINISH HARDWARE

PART 1 – GENERAL:

1.1 SUMMARY:

- A. Section includes Finish Hardware
- B. Related Sections
 - Finish Carpentry – Division 6
 - Hollow Metal Doors and Frames – Division 8
 - Aluminum Storefront – Division 8

1.2 REFERENCES:

- A. Documents and Institutes that shall be used in estimating, detailing and installing the items specified.
 - 1. International Building Code – Current Edition
 - 2. ICC/ANSI A117.1 – Accessible and Usable Building and Facilities – Current Edition
 - 3. NFPA80 –Standards For Fire Doors and Fire Windows – Current Edition
 - 4. NFPA101 – Life Safety Code – Current Edition
 - 5. NFPA105 – Installation of Smoke-Control Door Assemblies – Current Edition.
 - 6. UL Labeled for Rated Doors.
 - 7. DHI – Door and Hardware Institute
 - 8. SDI- Steel Door Institute
 - 9. ANSI - American National Standards Institute
 - 10. BHMA – Builders Hardware Manufacturers Association
 - 11. Local Building Codes

1.3 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: Product data shall be provided, 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: Riser/Elevation and Point to Point Wiring Diagrams shall be provided. Include whatever information may be necessary for coordination with other trades.
- E. Samples: Samples shall be provided as requested by owner or architect with Heading # and Door# marked on boxes. All samples shall be returned to the contractor and used on doors for which they were marked
- F. Templates: Templates of finish hardware items to be supplied are to be furnished to each fabricator of doors, frames and other work to be factory-prepared for the installation of hardware.
- G. Keying Schedule: 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, furnish to the owner two copies of an owner's operation and maintenance manual. The manual shall consist of a labeled hardcover three ring binder with the following technical information:
 - 1. Title page containing: Project name, address and phone numbers.
Supplier's name, address and phone numbers.
 - 2. Table of Contents.
 - 3. Copy of final Finish Hardware Schedule and Keying Schedule
 - 4. Maintenance instruction for each item of hardware.
 - 5. Catalog pages for each product.
 - 6. Installation Instructions and Parts List for all Locks, Exit Devices and Door Closers.

1.4 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 suppliers. 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: Installer for mechanical hardware shall have a minimum of 2 years of experience of installing architectural finish hardware and attend a pre-installation meeting with the manufacturer's representative of locks, exit devices and closers.

1.5 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.

1.6 WARRANTY

- A. All finish hardware products shall be covered by a 1 year factory warranty from the date of substantial completion of the project.
- B. Supply warranty verification to the owner for products that provide factory warranties for periods longer than one year. Mechanical Door Closers shall carry a 10-year warranty.

1.7 MAINTENANCE:

A. Maintenance Service

1. None

B. Extra Materials:

1. All installation tools provided by the manufacturers shall be turned over to the owner at the completion of the job.

PART 2 – PRODUCTS

2.1 MANUFACTURER

A.	Manufacturer	Location	Abbreviation	Website

Bommer Ind, Inc.	Landrum, SC	BOM	www.bommer.com
Doromatic	Princeton, IL	COR	www.doromatic.com
Falcon	Security, CO	FAL	www.falconlock.com
Glynn Johnson	Indianapolis, IN	GLY	www.glynn-johnson.com
Hager Hinge Co	St Louis, MO	HAG	www.hagerhinge.com
Ives	Indianapolis, IN	IVE	www.iveshardware.com
LCN	Princeton, IL	LCN	www.lcnclosers.com
Monarch	Sheperdsville,	MON	www.monarchhardware.com
National Guard	Memphis, TN	NGP	www.ngpinc.com
Pemko	Ventura, CA	PEM	www.pemko.com
Rockwood	Rockwood, PA	ROC	www.rockwoodmfg.com
Sargent	New Haven, CT	SAR	www.sargentlock.com
Schlage	Security, CO	SCH	www.schlage.com
Trimco/BBW/Quality	Los Angeles, CA	TRI	www.trimcobbw.com
Von Duprin	Indianapolis, IN	VON	www.vonduprin.com

2.2 MATERIALS

A. Screws and Fasteners:

1. Closers and exit devices provided for exterior doors shall be provided with thru-bolts.
2. All finish hardware shall be installed to manufacturers 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 standard weight (.134 or .146 ga) five knuckle, ball bearing, full mortise type, stainless steel.
3. Interior: All interior hinges shall be standard weight (.134 or .146 ga) five knuckle, ball bearing, full mortise type.
4. Provide non-removable pins for outswinging doors at secured areas or as called for in this specification.
5. 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.
6. 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.
7. The width of hinge shall be sufficient to clear all trim.
8. Supply from the following list of manufacturers:
Ives
Hager
Bommer

C. Continuous Hinges

1. Hinges to be manufactured of 6063-T6 aluminum alloy with anodized finish.

2. Door and frame leaves to be machined, anodized and assembled as a matched pair.
3. Door and frame leaves to be anodized after all machining and drilling processes are complete.
4. all hinge profiles shall be manufactured to template screw locations, with standard duty and heavy duty hole patterns identical as to number and placement of holes.
5. All hinge profiles to be manufactured to template bearing locations, with standard duty bearing configurations at 5 1/8" spacing with a minimum of 16 bearings; and heavy duty at 2 9/16" spacing with a minimum of 32 bearings.
6. Hinge leaves to be extruded at a uniform 1/8" thickness from pivot point to outside edge of hinge leaf.
7. Uncut hinges shall be non-handed and shall be a pinless assembly of three interlocking extrusions applied to the full height of the door and frame without mortising.
8. Vertical door loads shall be carried on chemically lubricated thermoplastic thrust bearings.
9. The door and frame leaves shall be continuously geared together for the entire hinge length and this relationship secured with a full-length cover channel so that the hinge will operate through a full 180 degrees.
10. All rotating areas of the gear cap and geared leaves shall have a permanent lubricant which is factory applied along the full length of the hinge, and the lubricant shall last the life of the hinge with no additional maintenance required.
11. Fasteners supplied shall be 410 stainless steel, brite hardened and plated.
12. Supply from the following list of manufacturers:
Ives
Select
Zero

D. Flush Bolts

1. Provide constant latching flush bolts that remains latched until the door is opened, then the top bolt can be manually released. The bottom bolt is automatic as shown in hardware sets
2. UL listed for fire doors as required.
3. Fits standard ANSI A115.4 Door and Frame preparation.
4. Meets ANSI156.3, Type 27
5. As codes and conditions permit, provide on the inactive door of pairs, extension flush bolts at top of doors. Provide all necessary strikes, shim and guides to insure proper installation.
6. Supply from the following manufacturer:
Ives
Trimco
Rockwood

E. Coordinator

1. Provide coordinator that is a bar type.
2. UL listed for fire doors.
3. Meets ANSI/BHMA A156.3, Type 21A

4. Supply from the following manufacturer:
Ives
Trimco
Rockwood
- F. Cylindrical Locks/Latches
 1. Provide cylindrical locksets that comply with ANSI A156.2, Series 4000, Grade 1; tested to exceed 3,000,000 cycles. 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. Provide cylindrical locksets that comply with California Fire Safety Code; lever return to within 1/2" of the door where applicable.
 5. Lockset to have the ability to incorporate either a rigid or free-wheeling lever when in locked mode where shown in hardware sets.
 6. Chassis to be field-changeable to free-wheeling lever.
 7. Chassis to be one-piece, modular assembly.
 8. Chassis to be multi-functional; interchange of function assembly without disassembly of lockset.
 9. Spindle to be deep-draw manufactured. Manufacturers utilizing stamped spindles are not acceptable.
 10. Spring Cage to have double compression springs. Manufacturers utilizing torsion springs are not acceptable.
 11. Spindle and Spring Cage (internal) to be one-piece integrated assembly.
 12. Levers to be bi-directional, independent assemblies.
 13. Lever to be free-wheeling when locked where shown in hardware sets.
 14. Levers are to be solid. Manufacturers utilizing fillers of any kind are not acceptable.
 15. Levers are to be plated to match BHMA finishes.
 16. Levers to have grooved tactile warnings on back side of lever where shown in hardware sets. Manufactures that insert devices and/or apply materials for warning are not acceptable.
 17. Anti-rotation plate to be interlocking to lock chassis. Manufacturers utilizing anti-rotation plates with bit-tabs are not acceptable.
 18. Thru-bolts to be a minimum of 1/4" in diameter.
 19. Thru-bolts to secure anti-rotation plate without sheer line. Manufacturers utilizing fully threaded thru-bolts are not acceptable.
 20. Adjustment plate to be threaded for door thickness adjustment.
 21. Adjustment plate to adjust for doors from 1 5/8" thickness to 2 1/8" thickness.
 22. Adjustment plate to have visual chassis marking for doors 1 3/4" thick.
 23. Latchbolt to be steel with minimum 1/2" throw deadlatch on keyed and exterior functions; 3/4" throw anti-friction latchbolt on pairs of doors.
 24. Strike to be ANSI curved lip, 1 1/4" x 4 7/8", 16 gauge, with 1" deep box construction.
 25. Supply from the following list of manufacturers:
Schlage – ND Rhodes
Falcon – T
Sargent – 11 Line

G. Exit Devices

1. All exit devices are to be architectural grade touch bar type.
2. All exit devices to meet ANSI A156.3, 1994, Grade 1. All exit devices are UL listed for Accident Hazard or Fire Exit Hardware.
3. All lever trim to match lock trim in design and finish.
4. Dogging: All non-rated devices are to be provided with dogging. Cylinder dogging as shown in hardware sets.
5. All devices are to be supplied and installed with thru-bolts.
6. Mullion shall be removable. Keyed removable as shown in hardware sets.
7. All push pads shall be metal, no plastic inserts allowed.
8. Function and type as listed in hardware sets.
9. Supply from the following list of manufacturers:
Von Duprin 99 Series
Monarch 18 Series
Sargent 80 Series

H. Pull Plates

1. Pull Plates to meet ANSI 156.6 for .050" thickness. Plate size to 4" x 16" with 1" round on pull plate.
2. Supply from the following list of manufacturers
Ives
Trimco
Rockwood

I. Push Plates

1. Push Plates to meet ANSI 156.6 for .050" thickness. Plate size to be 4" x 16".
2. Supply from the following list of manufacturers
Ives
Trimco
Rockwood

J. Door Closers

1. Door closers shall meet the minimum requirements of the 1990 ADA act, in lieu of ANSI Standard A156.4 and ANSI, Grade 1.
2. Door closers shall be furnished with full cover. Sized in accordance with the manufacturers recommendations for door size and condition.
3. Door closers shall be furnished with backcheck, delayed action, hold-open and advanced backcheck as listed in the Hardware Schedule.
4. 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. Mount closer top jamb or on brackets and/or drop plates, where special conditions call for it. All closer installation on wood doors shall include sex nut bolts.
5. Supply from the following list of manufacturers
LCN 4040/1460
Doromatic SC71/SC81
Sargent 351/1431

- K. Door Protection Plates
1. Protective plates shall meet ANSI A156.6 requirements for .050 thickness.
 2. 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. Adjust Kickplate height to fit bottom rails when lites or louvers conflict.
 3. Armor plates shall be 34" by 2" less than door width or as indicated in hardware sets. Beveled 4 edges.
 4. Supply from the following list of manufacturers:
Ives
Rockwood
Trimco
- L. 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 surface overhead stops.
 3. Supply from the following list of manufacturers:
Ives
Glynn Johnson
Trimco
- M. Silencers
1. Provide silencers on all doors without smoke seal or weatherstrip. 3 for single doors and 2 for pairs.
 2. Provide silencers as required for frame conditions
 3. Supply from the following list of manufacturer's
Ives
Rockwood
Trimco
- N. Thresholds/Weatherstripping
1. All thresholds shall conform to state and local handicap codes.
 2. Smoke seal shall be teardrop design bulb seal.
 3. Perimeter seal shall be vinyl.
 4. Drip strips shall protrude 2 ½".
 5. Provide door sweeps with drip cap.
 6. Provide UL meeting stile gasketing for fire rated doors.
 7. Supply from the following list of manufacturer's
National Guard
Hager
Pemko

2.3 FINISHES

CATEGORY	FINISH
Butts	
Interior Non Labeled	652

Interior Labeled	652
Interior Corrosive Area	630
Exterior	630
Continuous Hinges	ALUM
Flush Bolts/Dust Proof Strikes	626
Locks/Latches	626
Cylinders	626
Exit Devices	626/630
Door Closers	ALUM
Push Plates	630
Pull Plates	630
Protective Plates	630
Door Stops and Holders	626
Overhead Stops/ HOLDERS	626
Weatherstrip and Threshold	ALUM

2.4 KEYING:

- A. General: Supplier will meet with owner to finalize keying requirements and provide a new Master Key System for the project.
- B. Keys: Provide nickel silver keys only. Furnish 3 change keys for each lock: 5 master keys for each master system and 5 grandmaster keys for each grandmaster key system. Deliver all keys to owners' representative.
- C. Provide Construction Masterkey system which permits voiding of the construction key system without removal of the cylinders. Removal of construction masterkey system is to be performed by the general contractor as directed by the owner.. Provide 12 construction masterkeys.

2.5 KEY CONTROL:

- A. Key Management: Key control shall be provided, by supplying a complete key storage and management system. Each key shall be fully cut, indexed, tagged and installed on cabinet hooks by the lock supplier and shipped with the locks. Key cabinet provided shall be wall-mounted type with capacity plus 50%.
- B. Key Lock Boxes: Designed for storage of two keys, with tamper switches to connect to intrusion detection system. 3200-series.
- C. Knox Company (KNX).

2.6 ACCESS CONTROL:

- A. Provide LockLink Express (Schlage) security management software.

PART 3 – EXECUTION:

3.1 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.

3.2 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, Carpenter, Supplier and Manufacturer's Representative for Exit Device, Locks and Closers before installation begins.

3.3 FIELD QUALITY CONTROL:

- A. After installation has been completed, obtain the services of a qualified hardware consultant to check for proper application of finish hardware, according to the finish hardware schedule and keying schedule. In addition, check all hardware for adjustments and proper operation.

3.4 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.

3.5 PROTECTION:

- A. The 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.

3.6 HARDWARE SCHEDULE

HW SET: 1

DOOR NUMBER:

102 111B

EACH TO HAVE:

1 EA CONTINUOUS HINGE 224HD-DOOR HEIGHT REQUIRED 628 IVE

FINISH HARDWARE

87100- 10 -

1	EA	DEADLOCK	MS1850SN	628	AR
2	EA	MORTISE CYLINDER	985 CMK	626	FA
1	PR	OFFSET PULLS	8190-0-M (BACK-TO-BACK)	630	IVE
1	EA	SURFACE CLOSER	SC71 X SNB	689	DOR
1	EA	MOUNTING PLATE	18PA	689	DOR
1	EA	FLOOR STOP/HOLDER	FS446	626	TRI
1	EA	DOOR SWEEP	100VA-LENGTH REQUIRED	628	NGP
1	EA	THRESHOLD	425 SIA -LENGTH REQUIRED	628	NGP
1	SET	WEATHER STRIP	BY DOOR MFG		B/O

HW SET: 2

DOOR NUMBER:
102

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8303-8 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	SC81 RW/PA	689	DOR
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

HW SET: 4

DOOR NUMBER:

105	106	107	109	110	111
112114	115	116			

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	OFFICE LOCK	T521 QUA CMK	626	FA
1	EA	WALL STOP	WS407CCV	630	IVE
3	EA	SILENCERS	SR64		IVE

HW SET: 05

DOOR NUMBER:

108, 113

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	EXIT HARDWARE	99L-F X SNB	628	VON
1	EA	RIM CYLINDER	951 CMK	626	FA
1	EA	SURFACE CLOSER	SC71 DS SNB	689	DOR

FINISH HARDWARE

87100- 11 -

1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	160-HEAD & JAMBS	BRN	NGP
1	EA	SWEEP	100VA-LENGTH REQD	628	NGP
1	EA	THRESHOLD	425-LENGTH REQD	628	NGP

HW SET: 06

DOOR NUMBER:
117

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	T581 QUA CMK	626	FA
1	EA	SURFACE CLOSER	SC71 DS SNB	689	DOR
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	160-HEAD & JAMBS	BRN	NGP
1	EA	SWEEP	100VA-LENGTH REQD	628	NGP
1	EA	THRESHOLD	425-LENGTH REQD	628	NGP

HW SET: 7

DOOR NUMBER:
118 119 120

EACH TO HAVE:

3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	T521 QUA CMK	626	FA
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEAL	5050	BWN	NGP
1	EA	DOOR BOTTOM	442N	ALU	NGP

M

END OF SECTION

SECTION 088100 Glazing

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Double-Glazed Solar Control Insulating Glass Units.

1.2 RELATED SECTIONS

- A. Section 08850 - Glazing Accessories.

1.3 REFERENCES

- A. ANSI Z 97.1 - Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test.
- B. ASTM C 1036 - Standard Specification for Flat Glass.
- C. ASTM C 1048 - Standard Specification for Heat-Treated Flat Glass--Kind HS, Kind FT Coated and Uncoated Glass.
- D. ASTM C 1376 - Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Glass.
- E. ASTM E 773 - Standard Test Method for Accelerated Weathering of Sealed Insulating Glass Units.
- F. ASTM E 774 - Standard Specification for the Classification of the Durability of Sealed Insulating Glass Units
- G. ASTM E 2188 - Standard Test Method for Insulating Glass Unit Performance.
- H. ASTM E 2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation.
- I. CPSC 16CFR-1201 - Safety Standard for Architectural Glazing Materials.
- J. Glass Association of North America (GANA) Glazing Manual.

1.4 DEFINITIONS

- A. Sealed Insulating Glass Unit Surfaces:
 - 1. Surface No. 1: Exterior surface of outer lite.
 - 2. Surface No. 2: Interior surface of outer lite.

- 3. Surface No. 3: Exterior surface of inner lite.
- 4. Surface No. 4: Interior surface of inner lite.

- B. Airspace: Space between lites of an insulating glass unit that contains dehydrated air or other inert specified gas.

1.5 SUBMITTALS

- A. Comply with Section 01330 - Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including performance characteristics and installation instructions.
- C. Shop Drawings: Submit manufacturer's or fabricator's shop drawings, including plans, elevations, sections, and details, indicating glass dimensions, tolerances, types, thicknesses, and coatings.
- D. Samples: Submit manufacturer's samples of each type, thickness, and coating.
- E. Fabricator's Certification: Submit fabricator's certification by manufacturer.
- F. Cleaning Instructions: Submit manufacturer's cleaning instructions.
- G. Warranty: Submit manufacturer's standard warranty for sealed insulating glass units.

1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Minimum of 5 years experience manufacturing solar control coated glass.
- B. Fabricator's Qualifications:
 - 1. Minimum of 5 years experience manufacturing sealed insulating glass units meeting ASTM E 2190, Class CBA.
 - 2. Certified by manufacturer.
- C. Mock-Ups:
 - 1. Comply with Section 01450 - Quality Control.
 - 2. Obtain acceptance of mock-ups by Architect before proceeding with work.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery:
 - 1. Deliver glass to site in accordance with manufacturer's instructions.
 - 2. Deliver glass in manufacturer's or fabricator's original containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Storage:

1. Store glass in accordance with manufacturer's instructions.
2. Store glass in clean, dry area indoors.
3. Protect from exposure to direct sunlight and freezing temperatures.
4. Apply temporary coverings loosely to allow adequate ventilation.
5. Protect from contact with corrosive chemicals.
6. Avoid placement of glass edge on concrete, metal, and other hard objects.
7. Rest glass on clean, cushioned pads at 1/4-points.

C. Handling:

1. Handle glass in accordance with manufacturer's instructions.
2. Protect glass from damage during handling and installation.
3. Do not slide 1 lite of glass against another.
4. Do not use sharp objects near unprotected glass.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Guardian Industries Corp., 14600 Romine Road, Carleton, Michigan 48117. Toll Free (800) 521-9040. Phone (734) 654-6264. Fax (734) 654-0935. Web Sites www.guardian.com, www.sunguardglass.com.
- B. Substitutions:
1. Not permitted.

2.2 FABRICATORS

- A. Sealed Insulating Glass Units, Heat-Strengthened Glass, Tempered Glass, and Spandrel Glass:
1. Acceptable Fabricators: Certified by Guardian Industries Corp. to fabricate SunGuard Solar Control Coated Glass products.

2.3 SOLAR CONTROL INSULATING COATED GLASS

- A. Double-Glazed Sputter-Coated Insulating Glass Units:
1. Conformance: ASTM E 2190, Class CBA.
 2. Outboard Lite: Sputter-coated clear float glass.
 - a. Annealed Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - b. Vacuum Deposition Sputtered Coating: ASTM C 1376.
 - c. Coating on Surface No. 2: Sun Guard SuperNeutral 68 (SN 68).
 - d. Glass Thickness: 6 mm (1/4 inch).
 - e. Heat Treatment: Heat-strengthened, ASTM C 1048, Kind HS.
 3. Air Space: 12 mm (1/2 inch) wide, hermetically sealed, dehydrated air space.
 4. Inboard Lite: Clear float glass.
 - a. Annealed Clear Float Glass: ASTM C 1036, Type 1, Class 1, Quality q3.
 - b. Glass Thickness: 6 mm (1/4 inch).
 - c. Heat-Treatment: None

5. Glass Unit Performance Characteristics:
 - a. Visible Light Transmittance: 44 percent
 - b. Visible Light Reflectance Outdoors: 8 percent
 - c. Direct Solar Energy Transmittance: 21 percent
 - d. Direct Solar Energy Reflectance Outdoors: 13 percent
 - e. Winter U-Value Nighttime: 0.29
 - f. Summer U-Value Daytime: 0.28
 - g. Shading Coefficient: 0.37
 - h. Solar Heat Gain Coefficient: 0.33
 - i. Summer Relative Heat Gain: 78
6. Edge Seals: ASTM E 773, with aluminum spacers and silicone sealant for glass-to-spacer seals.
7. Sealant: Approved by glass manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to receive glass. Notify Architect of conditions that would adversely affect installation. Do not proceed with installation until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Verify glazing openings are correct size and within tolerance.
- B. Verify glazing channels, recesses, and weeps are clean and free of obstructions.

3.3 GLAZING

- A. Install glass in accordance with manufacturer's instructions, except where local codes or GANA Glazing Manual indicate more stringent requirements.

3.4 FIELD QUALITY CONTROL

- A. Coated glass, when viewed from minimum of 10 feet, exhibiting slightly different hue or color not apparent in hand samples, will not be cause of rejection of glass units, as determined by Architect.
- B. Verify glass is free of chips, cracks, and other inclusions that could inhibit structural or aesthetic integrity.

3.5 CLEANING

- A. Clean glass promptly after installation in accordance with manufacturer's instructions.

- B. Remove labels from glass surface.
- C. Do not use harsh cleaning materials or methods that would damage glass.

3.6 PROTECTION

- A. Protect installed glass from damage during construction.
- B. Protect installed glass from contact with contaminating substances resulting from construction operations.
- C. Remove and replace glass that is broken, chipped, cracked, abraded, or damaged in other ways during construction period, including natural causes, accidents, and vandalism.

END OF SECTION

SECTION 08900

Louvers

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes: Metal louver vents.

B. Related Sections:

1. Section Structural Metal Stud Framing.
2. Section Rough Carpentry.
3. Section Gypsum Board Assemblies.

1.2 REFERENCES

A. ASTM International (ASTM):

1. ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products.
2. ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
3. ASTM C1002 Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
4. ASTM C1177 Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing.
5. ASTM C1280 Standard Specification for Application of Gypsum Sheathing.
6. ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction.
7. ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials.

1.3 SUBMITTALS

A. Product Data: Manufacturer's specifications and installation instructions for each product specified.

PART 2 PRODUCTS

2.1 MATERIALS

A. Glass-Mat Faced Gypsum Sheathing: ASTM C1177:

1. Thickness: 1/2 inch.
2. Width: 4 feet.
3. Length: 8 feet.
4. Weight: 1900 pounds per M square feet.
5. Edges: Square.

6. Surfacing: Coated glass mat on face, back, and long edges.
7. Racking Strength (Ultimate, not design value) (ASTM E72): Not less than 540 pounds per square foot, dry.
8. Flexural Strength, Parallel (ASTM C473): 80 lbf, parallel.
9. Humidified Deflection (ASTM C1177): Not more than 1/4 inch.
10. Permeance (ASTM E96): 23 perms.
11. R-Value (ASTM C518): 0.56.
12. Acceptable Products:
 - a. 1/2 inch DensGlass Gold, Georgia-Pacific Gypsum.

2.3 ACCESSORIES

- A. Screws: ASTM C1002, corrosion resistant treated.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:

1. Inspection: Verify that project conditions and substrates are acceptable, to the installer, to begin installation of work of this section.

3.2 INSTALLATION

- A. General: In accordance with ASTM C1280 and the manufacturer's recommendations.

1. Manufacturer's Recommendations:

- a. Current "Product Catalog", Georgia-Pacific Gypsum.

3.3 PROTECTION

- A. Protect gypsum board installations from damage and deterioration until date of Substantial Completion.

END OF SECTION 061643

SECTION 092600

GYPSUM BOARD ASSEMBLIES

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Construction Agreement and Division 1 Specification Sections apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Interior gypsum wallboard.
 - 2. Gypsum board panels for ceilings and soffits.
 - 3. Tile backing panels.
 - 4. Non-load-bearing steel framing.
 - 5. Metal trim with bonded paper face.
 - 6. Gypsum exterior wall sheathing
- B. Related Sections include the following:
 - 1. Division 5 Section " Metal Stud Framing" for load-bearing steel framing.
 - 2. Division 6 Section "Rough Carpentry" for plywood sheathing at vertical board-and-batten exterior wall panels.
 - 3. Division 7 Section "Building Insulation" for insulation installed in gypsum board assemblies.

1.3 DEFINITIONS

- A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Where accessory products are specified to be as recommended by a manufacturer, submit evidence of the manufacturer's recommendation with the associated product literature.

1.5 QUALITY ASSURANCE

- A. Fire- Test-Response Characteristics: For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
 - 1. Fire-Resistance-Rated Assemblies: Indicated by design designations from FM's "Approval Guide, Building Products," UL's "Fire Resistance Directory," GA-600, "Fire Resistance Design Manual."
- B. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.
 - 1. STC-Rated Assemblies: Indicated by design designations from GA-600 r "Fire Resistance Design Manual."
- C. Materials and installation shall conform to the following standards:

ASTM A924 Standard Specification for General Requirements for Steel Sheet, Metallic-coated by the Hot-dip Process.

1. ASTM C 645 Standard Specification for Non-structural Steel Framing Members.
2. ASTM C754 Standard Specification for Installation of Steel Framing Members to Receive Screw-attached Gypsum Panel Products.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

1.7 PROJECT CONDITIONS

- A. Environmental limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 1. Gypsum Board and Related Products:
 - a. American Gypsum Co.
 - b. G-P Gypsum Corp.
 - c. National Gypsum Company.
 - d. United States Gypsum Co.
 - e. James Hardie Gypsum
 - f. Temple-Inland Forest Products Corporation
 - g. Louisiana Pacific
 2. Metal trim with paper face: United States Gypsum Co. "Sheetrock" Paperfaced Metal Drywall Bead and Trim.
 - a. Contractor's option: In lieu of metal trim with paper face, provide "No-Coat" Structural Drywall Corners by Drywall Systems International.

2.3 GYPSUM WALLBOARD

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Gypsum Wallboard: ASTM C 36.
 1. Regular Type:
 - a. Thickness: 5/8 inch, unless indicated otherwise.
 - b. Long Edges: Tapered.
 - c. location: Vertical surfaces, unless otherwise indicated.
 3. Type X:
 - a. Thickness: 5/8 inch, unless indicated otherwise.

- b. long Edges: Tapered.
- c. location: As indicated and where required for fire-resistance-rated assembly.
- 4. Proprietary, Special Fire-Resistive Type: ASTM C 36, having improved fire resistance over standard Type X.
 - a. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - i. American Gypsum Co.; FireBloc Type C.
 - ii. G-P Gypsum Corp.; Firestop Type C.
 - iii. National Gypsum Company; Gold Bond Fire-Shield G.
 - iv. United States Gypsum Co.; SHEETROCK Brand Gypsum Panels, FIRECODE C Core.
 - b. Thickness: 5/8 inch, unless indicated otherwise.
 - c. long Edges: Tapered.
 - d. location: As indicated and Where required for specific fire-resistance-rated assembly indicated.

2.4 TILE BACKING PANELS

- A. Unless indicated otherwise, at walls that receive ceramic tile, finish provide moisture resistant wallboard where the ceramic tile-finished wallboard will not be subjected to water, such as in public toilet rooms, and
 - 1. in bathrooms except walls in wet areas that require silicone-treated wallboard. Provide tile backer board at three
 - 2. walls above bathtubs, at shower enclosure walls and curbs, and at other walls subject to wetting by plumbing fixtures.
 - 3. Panel size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Water-resistant Gypsum Backing Board: ASTM C 630.
 - 1. Core: 5/8 inch
 - 2. Type X where indicated.
- C. Silicone-treated core and moisture-resistant copolymer coating on the face.
 - 1. "Dens-Shield" by Georgia Pacific.
 - 2. Thickness: 5/8 inch
- D. Cementitious Backer Units: ANSI A118.9
 - 1. "Durock" Exterior Cement Board; United States Gypsum Co.
 - 2. Thickness: 5/8 inch

2.5 GYPSUM BOARD SHEATHING

- A. Gypsum Sheathing Board (Contractor's option):
Glass-Mat Gypsum Sheathing Board: Manufactured in accordance with ASTM C 1177.
 - 1. Product: "Dens-Glass Gold" by G-P Gypsum Corp.
 - a. 5/8 inch thick, unless noted otherwise.
 - b. Fiber-Reinforced Gypsum Wall Sheathing: meets ASTM C1278, and meets or exceeds physical property requirements of ASTM C79, ASTM C1177, and ASTM C931.
 - 2. Product: "Fiberock" Sheathing, USG

- a. 5/8 inch thick, unless noted otherwise.

2.6 TRIM ACCESSORIES

- A. Interior Trim: "USG "Sheetrock" Paper-faced Metal Drywall Bead and Trim.
- B. Corner beads: USG "Sheetrock B-1 "Superwide".

Contractor's option: In lieu of metal trim with paper face, provide copolymer plastic trim with bonded paper face.

- 1. "No-Coat" Structural Drywall Corners by Drywall Systems International. Phone 888-662-6281. Web site address www.no-coat.com.
- 2. Material: Copolymer plastic with paper face and joint tope backing, engineered for fully bonded adhesive application with joint compound and without mechanical fasteners. Bonding surface of corner bead shall be not less than 48 square inches per linear foot.
 - a. Shapes:
 - i. Corner bead: "PowerSeries" Corner.
 - ii. LC-Bead: "L Trim SmartSeries."
 - iii. Expansion (Control) Joint: Use where indicated.

2.7 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475.
- B. Joint Tape:
 - a. Interior Gypsum Wallboard: Paper.
 - b. Exterior Gypsum Soffit Board: Paper.
 - c. Tile Backing Panels: As recommended by panel manufacturer.
 - d. Paper-faced Metal Corner Bead does not require joint tape.
 - e. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
 - f. Pre-filling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
- C. Embedding and First Coat: For embedding tope and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
- D. Use USG "Durabond" setting compound for installing paper-faced trim accessories. Follow corner trim manufacturer's recommendations for materials and installation methods~
- E. Fill Coat: For second coat, use drying-type, all-purpose compound.
- F. Finish Coat: For third coat, use drying-type, all-purpose compound.
- G. Joint Treatment for Cementitious Backer Units: As recommended by panel manufacturer.
- H. Joint treatment for abuse-resistant wallboard: As recommended by the wallboard manufacturer.

2.10 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

- C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated. Use screws complying with ASTM C 954. for fastening panels to steel members from 0.033 to 0.112 inch thick.
- D. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch thick, in width to suit steel stud size.
- E. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
 - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- F. Thermal Insulation: As specified in Division 7 Section "Building Insulation."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorage to building structure have been installed to receive ceiling hangers at spacing required to support ceilings and that hangers will develop their full strength.
- B. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

3.6 INSTALLATION, SHEATHING

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction, unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the manufacturer/s installation instructions.
- D. Coordinate wall sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.

3.7 GYPSUM SHEATHING INSTALLATION

- A. Comply with GA-253 and with manufacturer's written instructions.
- B. Install gypsum sheathing where indicated/ including behind lapped siding:
- C. Fasten gypsum sheathing to wood framing with screws.

- E. Install boards with a 3/8-inch gap where non-load-bearing construction abuts structural elements.
- F. Install boards with a 1/4-inch gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
- G. Apply fasteners so heads bear tightly against face of sheathing boards but do not cut into facing.
- H. Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to bring long edges in contact with edges of adjacent boards without forcing. Abut ends of boards over centers of studs/ and stagger end joints of adjacent boards not less than one stud spacing. Attach boards at perimeter and within field of board to each steel stud.
- I. Vertical Installation: Install board vertical edges centered over studs. Abut ends and edges of each board with those of adjacent boards. Attach boards at perimeter and within field of board to each stud.
- J. Space fasteners approximately 8 inches o.c. and set back a minimum of 3/8 inch from edges and ends of boards.

3.8 INSTALLATION - WALLS

- A. Install drywall furring channels perpendicular to framing members.
- B. Space drywall furring channels maximum of 24 inches on center.
 - 1. Locate first drywall furring channel parallel to floor and maximum of 3 inches above floor and 1 drywall furring channel maximum of 6 inches from ceiling.

3.9 INSTALLATION - CEILINGS

- A. Install drywall furring channels perpendicular, parallel, or angular to framing members.
- B. Space Drywall Furring Channels:
 - 1. Maximum of 24 inches on center with:
 - 2. Single layer of 5/8-inch gypsum board.
 - 3. Double layer of 5/8-inch gypsum board, weighing less than 2.25 pounds per square foot per layer.
 - 4. Single layer of 1/2-inch high-strength gypsum board.
 - 5. Double layer of 1/2-inch high-strength gypsum board.
 - 6. Maximum of 16 inches on center with:
 - i. Double layer of 5/8-inch gypsum board.
 - ii. Single layer of 112-inch regular-strength gypsum board.
 - iii. Double layer of 1/2-inch regular-strength gypsum board.
 - iv. Reduce spacing of drywall furring channels to prevent potential for sagging of gypsum board or when additional loads are supported by resilient sound isolation clips.
- C. Locate drywall furring channels maximum of 3 inches from parallel wall assemblies.

3.10 APPLYING AND FINISHING PANELS, GENERAL

- A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216.
- B. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.
- C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling.

Stagger abutting end joints of adjacent panels not less than one framing member.

- D. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- E. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- G. Attach gypsum panels to framing provided at openings and cutouts.
- H. Form control and expansion joints with space between edges of adjoining gypsum panels.
- I. Isolate perimeter of non-load-bearing gypsum board partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- J. STC-Rated Assemblies: Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at all perimeter edges of both faces of partitions and through-penetrations. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.
 - 1. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
- K. Space fasteners in panels that are tile substrates maximum of 8 inches o.c.

3.11 PANEL APPLICATION METHODS

- A. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels in a manner which minimizes the number of end-butt joints, unless otherwise indicated or required by fire resistance-rated assembly, and minimize end joints. At high walls install boards horizontally, with end joints staggered over studs.
 - 3. Stagger abutting end joints not less than one framing member in alternate courses of board.
 - 4. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
- D. Single-layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- G. Tile Backing Panels:

1. Glass-Mat, Water-Resistant Backing Panel at showers, tubs, and where indicated.: Comply with manufacturer's written installation instructions and install at showers, tubs, and where indicated. Install with 1/ 4-inch gap where panels abut other construction or penetrations.
2. Bathroom Areas Not Subject to Wetting: Install standard moisture-resistant gypsum wallboard panels to produce a flat surface, except at showers, tubs, and other locations indicated to receive water-resistant panels.
3. Where tile backing panels abut other types of panels in the same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.12 INSTALLING TRIM ACCESSORIES

- A. General: Comply with trim manufacturer's installation instructions.
- B. Control Joints: Install control joints at locations indicated on Drawings. If not shown, install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect. Provide gypsum backing where control joints occur in fire-resistive partitions, as required to maintain fire rating, in accordance with Gypsum Association details and recommendations.

3.13 FINISHING GYPSUM BOARD ASSEMBLIES

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Pre-fill open joints, rounded or beveled edges, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
 1. level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where concealed from view unless a higher level of finish is required for fire resistance-rated assemblies and sound-rated assemblies.
 2. level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges where panels are substrate for ceramic tile or wood panels.
 3. level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges at panel surfaces that will be exposed to view, unless otherwise indicated.

3.14 FIELD QUALITY CONTROL

- A. Above-Ceiling Observation: Before Contractor installs gypsum board ceilings, Architect will conduct an above-ceiling observation and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.
 1. Notify Architect seven (7) days in advance of date and time when Project, or part of Project, will be ready for above-ceiling observation.
 2. Before notifying Architect, complete the following in areas to receive gypsum board ceilings:

- a. Installation of 80 percent of lighting fixtures, powered for operation.
- b. Installation, insulation, and leak and pressure testing of water piping systems.
- c. Installation of air-duct systems.
- d. Installation of air devices.
- e. Installation of mechanical system control-air tubing.
- f. Installation of ceiling support framing.

END OF SECTION

SECTION 093100 CERAMIC TILE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division- 1 Specification sections, apply to work of this section.

1.2 SUMMARY OF WORK

- A. Definition: Tile includes ceramic surfacing units made from clay or other ceramic materials.
- B. Extent of tile work is indicated on drawings and schedules.
- C. Types of tile work in this section include the following:
 - 1. Unglazed ceramic mosaic floor tile.
 - 2. Glazed wall tile.
 - 3. Waterproofing membrane for thin-set wall tile installations.
 - 4. Waterproof shower pan / membrane at shower floor
 - 5. Stone thresholds.
 - 6. Crack suppression system.
- D. Refer to Drawings for location and tile patterns.
- E. Division 7 Section " Joint Sealants".

1.3 QUALITY ASSURANCE

- A. Source of Materials: Provide materials obtained from one source for each type and color of tile, grout, and setting materials.
- B. Furnish engineered ceramic tile complying with standard grade requirements of ANSI A137.1 and as specified.
- C. Where industry standards are referred to, use most current version of the referenced standard.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's technical information and installation instructions for materials required, except bulk materials.
- B. Samples for Verification Purposes: Submit the following:
 - 1. Samples for each type of tile and for each color and texture required, not less than 12 inches square.
 - 2. 6-inch long samples of stone thresholds.
 - 3. Grout color samples.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Prevent damage or

contamination to materials by water, freezing, foreign matter or other causes.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions and protect work during and after installation to comply with referenced standards and manufacturers printed recommendations.
- B. Maintain temperatures at not less than 50 degrees F in tiled areas during installation and for 7 days after completion, unless higher temperatures are required by referenced installation standard or manufacturer's instructions.

1.7 ATTIC STOCK

- A. Provide attic stock amounting to 2 percent of the installed amount of each type and color of tile, but no less than one full box of each type and color.

PART 2 - PRODUCTS

2.1 PRODUCTS, GENERAL

- A. ANSI Standard for Ceramic Tile: Comply with ANSI A137.1 "American National Standard Specifications for Ceramic Tile" for types and grades of tile indicated.
 - 1. Furnish tile complying with "Standard Grade" requirements unless otherwise indicated.
- B. ANSI Standard for Tile Installation Materials: Comply with ANSI standard referenced with products and materials indicated for setting and grouting.
 - 1. Colors, Textures and Patterns: For tile, grout and other products requiring selection of colors, surface textures or other appearance characteristics, provide products to match characteristics indicated or, if not otherwise indicated, as selected by Architect from manufacturer's standards.
 - 2. Provide tile trim and accessories which match color and finish of adjoining flat tile.
 - 3. Mounting: Where factory-mounted tile is required, provide back or edge-mounted tile assemblies as standard with manufacturer, unless another mounting method is indicated.

2.2 SETTING MATERIALS

- A. Standard Thin-Set latex-Portland Cement Mortar or Bond Coat: ANSI A 118.4.
 - 1. Water emulsion acrylic latex additive: add at project site to prepackaged dry mortar mix recommended by latex manufacturer.
 - 2. For wall applications, provide non-sagging mortar that complies with Paragraph F-4.6.1 in addition to the other requirements in ANSI A 118.4.

3. latex-Portland Cement Mortar manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
- B. Custom Building Products; "FlexBond" Thin Set Mortar. laticrete International, Inc.; laticrete 211 "Crete Filler" Powder with Laticrete 4237 Thin-Set Mortar Additive.
 1. Mapei Inc.; "Kerabond" with "Keralasfic" additive.
 2. TEC Specialty Products, Inc.; "Full Set" TA-370 with "Acrylbond AMA" TA-862.
- C. Mortar Materials - Thick Set Beds:
 1. Site mix of portland cement, sand and water as specified.
 2. Manufacture's pre-packaged thick-bed mortar:
 3. 226 Thick Bed Mortar by laticrete.
 4. Mapecem Premix by Mapei
 5. Portland Cement: ASTM C 150, Type 1, gray.
 6. Sand: ASTM C 144, fine sand.
 7. Hydrated Lime: ASTM C 207, Type S.
 8. Waterproofing Compound: ANSI A 118.10.
 9. Water: potable.
 10. Slurry Bond Coat under bonded mortar beds. Acceptable Products:
 - i. laticrete 4237 latex Thin Set Mortar Additive mixed with 211 Crete Powder.
 - ii. Mapei Planicrete 50 Multi-Purpose latex Additive mixed with Portland Cement.

2.3 GROUTING MATERIALS

- A. Sanded Grout: latex-portland cement sanded grout consisting of a blended mixture of portland cement, color-fast pigments, and high strength aggregates complying with ANSI A 118.7, complete with second generation latex additive. Color as selected by Owner.
- B. laticrete 1500 Series Tri-Poly Fortified Sanded Grout with laticrete "1776 Grout Admix Plus" - Basis of Design.
- C. Grout colors: As indicated, or if not indicated, to be selected from the manufacturer's full range.
- D. Other Acceptable manufacturers and products:
- G. Un-sanded Grout: Wall grout consisting of a blended mixture of portland cement, color-fast pigments, and high strength aggregates complying with ANSI A 118.7.
- I. Acceptable manufacturers:
 1. laticrete International, Inc.: 1600 Series Tri-Poly Fortified Non-Sanded Grout
 2. Custom Building Products: "Polyblend" Non-sanded grout.
 3. Mapei Inc.: KER 800 polymer-modified un-sanded grout.

2.4 WATERPROOFING MEMBRANE

- A. Coordinate type and location of waterproofing membrane in showers with type of floor drain installed.
- B. Trowel-Applied waterproofing membrane. Conform to ANSI A 118.10.
 - 1. "Hydroment Ultra-Set" by Bostik.
 - 2. 9235 Membrane by laticrete International.
 - 3. "Mapelastic" by MapeL
 - 4. "Nobleseal TS", Noble Co. (distributed by H. B. Fuller Co.).
- C. Chlorinated-Polyethylene-Sheet Product: Non-plasticized, chlorinated polyethylene faced on both sides with high-strength, non-woven polyester fabric, for adhering to latex-portland cement mortar; 60 inches wide by 0.030-inch nominal thickness.
 - 1. Product: Noble Company (The); Nobleseal TS.
- D. Glazed Trim Units: Provide tile trim units to match characteristics of adjoining flat tile and to comply with the following requirements:
 - 1. Cove base to match wall tile.
 - 2. Preformed inside and outside corners, and miscellaneous trim.

2.6 MISCELLANEOUS MATERIALS

- A. Sealant in Conjunction with Tile: Provide mildew resistant silicone sealant under this Section in compliance with requirements specified under Section Sealants.
 - 1. Color: Color to be selected by Architect.
- B. Reinforcing Mesh: Welded wire fabric, 2 inch by 2 inch 16/16 gauge galvanized wire, complying with ASTM A 185 .
- C. Tile Cleaner: Product specifically acceptable to manufacturer of tile and grout manufacturer for application indicated and as recommended by National Tile Promotion Federation, 112 North Alfred Street, Alexandria, VA 22134 or Ceramic Tile Institute, 700 N. Virgil Avenue, Los Angeles, CA 90029.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive tile work and conditions under which tile will be installed. Do not proceed with tile work until surfaces and conditions comply with requirements indicated in referenced tile installation standard.
- B. Verify field dimensions and notify Architect of any discrepancies prior to installing tile.

3.2 INSTALLATION, GENERAL

- A. ANSI Tile Installation Standard: Comply with applicable parts of ANSI A 108 series of tile installation standards included under "American National Standard Specifications for the Installation of Ceramic Tile".
- B. TCA Installation Guidelines: TCA "Handbook for Ceramic Tile Installation"; comply with TCA installation methods indicated or, if not otherwise indicated, as applicable to installation conditions shown.
- C. Extend tile work into recesses and under or behind equipment and fixtures, to form a complete covering without interruptions, except as otherwise shown. Terminate work neatly at obstructions, edges and corners without disrupting pattern or joint alignments.
- D. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures and other penetrations so that plates, collars, or covers overlap tile.
- E. Jointing Pattern: Unless otherwise shown, lay tile in grid pattern. Align joints when adjoining tiles on floor, base, walls and trim are same size. Layout tile work and center tile fields in both directions in each space or on each wall area. Adjust to minimize tile cutting. Provide uniform joint widths, unless otherwise shown.
- F. Layout tile wainscots to next full tile beyond dimensions indicated.

3.3 WATERPROOFING MEMBRANE INSTALLATION

- A. Do not install tile over waterproofing until waterproofing has cured and has been tested to determine that it is watertight.

3.4 FLOOR INSTALLATION METHODS

- A. Ceramic Mosaic Tile: Install tile to comply with requirements indicated below for TCA installation methods related to types of subfloor construction, and grout types.
- B. Wet areas with floor drains, such as showers: TCA B420 or TCA B421 or TCA B422 Floor Setting Method:
- C. Coordinate TCA method with waterproofing membrane installation and floor drain type.
- E. Interior floor installation on concrete in dry areas; thin-set mortar; TCA Method FI13 and ANSI A 108.5.
- F. Stone Thresholds: Install stone thresholds at locations indicated; set in same type of setting bed as abutting field tile unless otherwise indicated. Threshold shall be located to be directly under the door leaf in the closed position.

3.5 WALL TILE INSTALLATION METHODS

- A. Setting method location: over coated glass mat backer board. Bathtub Walls with shower heads: TCA method B419-03 at Coated Glass Mat Backer Board (Georgia-Pacific IDenShield"), thin-set with

latex portland mortar bond coat over coated glass-mat tile backer board.

- B. Shower Walls: TCA method B420-03 and W245-03.
Setting method location: Where tile occurs on walls over gypsum board in dry areas, unless indicated otherwise.
- C. TCA Method W243: Thin-set with latex Portland cement mortar bond coat over gypsum wallboard over wood or metal studs.

3.6 CLEANING AND PROTECTION

- A. Cleaning: Upon completion of placement and grouting clean all ceramic tile surfaces so they are free of foreign matter.
- B. Unglazed tile may be cleaned with acid solutions only when permitted by tile and grout manufacturer's printed instructions but no sooner than 14 days after installation. Protect metal surfaces cast iron and vitreous plumbing fixtures from effects of acid cleaning. Flush surface with clean water before and after cleaning.
- C. Remove temporary wax coating from ceramic toilet using methods recommended by manufacturers of tile and grout.
- D. Finished Tile Work: leave finished installation clean and free of cracked, chipped, broken un-bonded or otherwise defective tile work.
- E. Protection: When recommended by tile manufacturer apply a protective coat of neutral protective cleaner to completed tile walls and floors. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining damage and wear.
- F. Prohibit foot and wheel traffic from using tiled floors for at least 7 days after grouting is completed.
- G. Before final inspection remove protective coverings and rinse neutral cleaner from tile surfaces.

END OF SECTION

SECTION 095113 -ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general conditions of Contract, including General and Supplementary Conditions and Divisions-1 Specification sections apply to work of this section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Acoustical ceiling panels.
 - 2. Exposed grid suspension system.
 - 3. Wire hangers, fasteners, main runners, cross tees, and wall angle moldings.
- B. Related Sections:
 - 1. Section 09250 - Gypsum Board
- C. Alternates
 - 1. Prior Approval: Unless otherwise provided for in the Contract documents, proposed product substitutions may be submitted no later than TEN (10) working days prior to the date established for receipt of bids. Acceptability of a proposed substitution is contingent upon the Architect's review of the proposal for acceptability and approved products will be set forth by the Addenda. If included in a Bid are substitute products which have not been approved by Addenda, the specified products shall be provided without additional compensation.
 - 2. Submittals which do not provide adequate data for the product evaluation will not be considered. The proposed substitution must meet all requirements of this section, including but not necessarily limited to, the following: Single source materials suppliers (if specified in Section 1.5); Underwriters' Laboratories Classified Acoustical performance; Panel design, size, composition, color, and finish; Suspension system component profiles and sizes; Compliance with the referenced standards.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM A 1008 Standard Specification for Steel, Sheet, Cold Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability.
 - 2. ASTM A 641 Standard Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
 - 3. ASTM A 653 Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
 - 4. ASTM C 423 Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
 - 5. ASTM C 635 Standard Specification for Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.

6. ASTM C 636 Recommended Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
7. ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials.
8. ASTM E 1414 Standard Test Method for Airborne Sound Attenuation Between Rooms Sharing a Common Ceiling Plenum.
9. ASTM E 1111 Standard Test Method for Measuring the Interzone Attenuation of Ceilings Systems.
10. ASTM E 1264 Classification for Acoustical Ceiling Products.
11. ASTM E 1477 Standard Test Method for Luminous Reflectance Factor of Acoustical Materials by Use of Integrating-Sphere Reflectometers.
12. ASTM D 3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber.
13. ASTM E 119 Standard Test Methods for Fire Tests of Building Construction and Material.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit and suspension system required.
- B. Samples: Minimum 6 inch x 6 inch samples of specified acoustical panel; 8 inch long samples of exposed wall molding and suspension system, including main runner and 4 foot cross tees.
- C. Shop Drawings: Layout and details of acoustical ceilings. Show locations of items which are to be coordinated with, or supported by the ceilings.
- D. Certifications: Manufacturer's certifications that products comply with specified requirements, including laboratory reports showing compliance with specified tests and standards. For acoustical performance, each carton of material must carry an approved independent laboratory classification of NRC, CAC, and AC.
- E. If the material supplied by the acoustical subcontractor does not have an Underwriter's Laboratory classification of acoustical performance on every carton, subcontractor shall be required to send material from every production run appearing on the job to an independent or NVLAP approved laboratory for testing, at the architect's or owner's discretion. All products not conforming to manufacturer's current published values must be removed, disposed of and replaced with complying product at the expense of the Contractor performing the work.

1.5 QUALITY ASSURANCE

- A. Single-Source Responsibility: Provide acoustical panel units and grid components by a single manufacturer.
- B. Fire Performance Characteristics: Identify acoustical ceiling components with appropriate markings of applicable testing and inspecting organization.
 1. Surface Burning Characteristics: As follows, tested per ASTM E 84 and complying with ASTM E 1264 for Class A products.
 - a. Flame Spread: 25 or less
 - b. Smoke Developed: 50 or less
- C. Coordination of Work: Coordinate acoustical ceiling work with installers of related work including, but not limited to building insulation, gypsum board, light fixtures, mechanical systems, electrical systems, and sprinklers.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

1.7 PROJECT CONDITIONS

A. Space Enclosure:

Standard Ceilings: Do not install interior ceilings until space is enclosed and weatherproof; wet work in place is completed and nominally dry; work above ceilings is complete; and ambient conditions of temperature and humidity are continuously maintained at values near those intended for final occupancy. Building areas to receive ceilings shall be free of construction dust and debris.

HumiGuard Plus Ceilings: Building areas to receive ceilings shall be free of construction dust and debris. Products with HumiGuard Plus performance and hot dipped galvanized steel, aluminum or stainless steel suspension systems can be installed up to 120°F (49°C) and in spaces before the building is enclosed, where HVAC systems are cycled or not operating. Cannot be used in exterior applications where standing water is present or where moisture will come in direct contact with the ceiling.

HumiGuard Max Ceilings: Building areas to receive ceilings shall be free of construction dust and debris. Ceilings with HumiGuard Max performance can be installed in conditions up to 120°F (49°C) and maximum humidity exposure including outdoor applications, and other standing water applications, so long as they are installed with either SS Prelude Plus, AL Prelude Plus, or Prelude Plus XL Fire Guard suspension systems. Products with HumiGuard Max performance can be installed in exterior applications, where standing water is present, or where moisture will come in direct contact with the ceiling. Only Ceramaguard with AL Prelude Plus suspension system can be installed over swimming pools.

1.8 WARRANTY

- A. Acoustical Panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace acoustical panels that fail within the warranty period. Failures include, but are not limited to:
 - 1. Acoustical Panels: Sagging and warping
 - 2. Grid System: Rusting and manufacturer's defects
- B. Warranty Period Standard:
 - 1. Acoustical panels: One (1) year from date of substantial completion.
 - 2. Cirrus Acoustical panels: Ten (10) year from date of substantial completion.
Note Space Enclosure requirements
 - 3. Grid: Ten years from date of substantial completion.
- C. Warranty Period HumiGuard:
 - 1. Acoustical panels: Ten (10) years from date of substantial completion.

2. Grid: Ten (10) years from date of substantial completion.
 3. Acoustical panels and grid systems with HumiGuard Plus or HumiGuard Max performance supplied by one source manufacturer is fifteen (15) years from date of substantial completion.
- D. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.9 MAINTENANCE

- A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
1. Acoustical Ceiling Units: Furnish quality of full-size units equal to 5.0 percent of amount installed.
 2. Exposed Suspension System Components: Furnish quantity of each exposed suspension component equal to 2.0 percent of amount installed.

Part 2-PRODUCTS

2.1 MANUFACTURERS

A. Ceiling Panels:

1. Armstrong World Industries, Inc. Ultima Beveled Tegalur

2.2.1 SUSPENSION SYSTEMS

- A. Components: All main beams and cross tees shall be commercial quality hot-dipped galvanized (galvanized steel, aluminum, or stainless steel) as per ASTM A 653. Main beams and cross tees are double-web steel construction with type exposed flange design. Exposed surfaces chemically cleansed, capping pre-finished galvanized steel (aluminum or stainless steel) in baked polyester paint. Main beams and cross tees shall have rotary stitching (exception: extruded aluminum or stainless steel).
1. Structural Classification: ASTM C 635 Intermediate Duty.
 2. Color: White and match the actual color of the selected ceiling tile, unless noted otherwise.
 3. Acceptable Product: Prelude Concealed Tee as manufactured by Armstrong World Industries, Inc.
- B. High Humidity Finish: Comply with ASTM C 635 requirements for Coating Classification for Severe Environment Performance where high humidity finishes are indicated.
1. SS Prelude Plus by Armstrong World Industries, Inc. - 100% Type 304 STAINLESS Steel.
 2. AL Prelude Plus by Armstrong World Industries, Inc. - all ALUMINUM
 3. Prelude Plus XL Fire Guard by Armstrong World Industries, Inc., G-60 Hot dipped galvanized /aluminum capping
 4. Structural Classification: ASTM C 635 duty class.
 5. Color: [Stainless for SS only][White aluminum][Clear Anodized Aluminum]

- C. Attachment Devices: Size for five times design load indicated in ASTM C 635, Table 1, Direct Hung unless otherwise indicated.
- D. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft temper, pre-stretched, with a yield stress load of at least three design load, but not less than 12 gauge.
- E. Edge Moldings and Trim: Metal or extruded aluminum of types and profiles indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations, including light fixtures, that fit type of edge detail and suspension system indicated. Provide moldings with exposed flange of the same width as exposed runner.
- F. Accessories

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not proceed with installation until all wet work such as concrete, terrazzo, plastering and painting has been completed and thoroughly dried out, unless expressly permitted by manufacturer's printed recommendations. (Exception: HumiGuard Max Ceilings)

3.2 PREPARATION

- A. Measure each ceiling area and establish layout of acoustical units to balance border widths at opposite edges of each ceiling. Avoid use of less than half width units at borders, and comply with reflected ceiling plans. Coordinate panel layout with mechanical and electrical fixtures.
- B. Coordination: Furnish layouts for preset inserts, clips, and other ceiling anchors whose installation is specified in other sections.
 - 1. Furnish concrete inserts and similar devices to other trades for installation well in advance of time needed for coordination of other work.

3.3 INSTALLATION

- A. Install suspension system and panels in accordance with the manufacturer's instructions, and in compliance with ASTM C 636 and with the authorities having jurisdiction.
- B. Suspend main beam from overhead construction with hanger wires spaced 4'-0" on center along the length of the main runner. Install hanger wires plumb and straight.
- C. Install wall moldings at intersection of suspended ceiling and vertical surfaces. Miter corners where wall moldings intersect or install corner caps.
- D. For reveal edge panels: Cut and reveal or rabbet edges of ceiling panels at border areas and vertical surfaces.
- E. Install acoustical panels in coordination with suspended system, with edges resting on flanges of main runner and cross tees. Cut and fit panels neatly against abutting surfaces. Support edges by wall moldings.

3.4 ADJUSTING AND CLEANING

- A. Replace damaged and broken panels.

- B. Clean exposed surfaces of acoustical ceilings, including trim, edge moldings, and suspension members. Comply with manufacturer's instructions for cleaning and touch up of minor finish damage. Remove and replace work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION

SECTION 09900 - PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to this section.

1.2 SUMMARY

- A. This Section includes surface preparation, painting, and finishing of exposed interior and exterior items and surfaces.
 - 1. Surface preparation, priming, and finish coats specified in this section are in addition to shop priming and surface treatment specified under other sections.
- B. Paint exposed surfaces whether or not colors are designated in "schedules," except where a surface or material is specifically indicated not to be painted or is to remain natural. Where an item or surface is not specifically mentioned, paint the same as similar adjacent materials or surfaces. If color or finish is not designated, the Architect will select from standard colors or finishes available.
- C. Painting is not required on pre-finished items, finished metal surfaces, concealed surfaces, operating parts, and labels.
 - 1. Pre-finished items not to be painted include the following factory-finished components:
 - a. Acoustic materials.
 - b. Finished mechanical and electrical equipment.
 - c. Light fixtures.
 - d. Electrical switch gear.
 - e. Distribution cabinets.
 - 2. Concealed surfaces not to be painted include wall or ceiling surfaces in the following generally inaccessible areas:
 - Foundation spaces.
 - a. Furred areas.
 - b. Pipe spaces.
 - c. Duct shafts.
 - 3. Finished metal surfaces not to be painted include:

- a. Anodized aluminum.
 - b. Stainless steel.
 4. Operating parts not to be painted include moving parts of operating equipment such as the following:
 - a. Valve and damper operators.
 - b. Linkages.
 - c. Sensing devices.
 - d. Motor and fan shafts.
 5. Labels: Do not paint over Underwriter's laboratories, Factory Mutual or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.
- D. Related Sections: The following sections contain requirements that relate to this section:
1. Division 5 Section "Structural Steel" for shop priming structural steel.
 2. Division 5 Section "Metal Fabrications" for shop priming ferrous metal.
 3. Electrical: Painting electrical work is specified in Division 16.

1.3 DEFINITIONS

- A. "Paint" includes coating systems materials, primers, emulsions, enamels, stains, sealers and fillers, and other applied materials whether used as prime, intermediate, or finish coats.

1.4 SUBMITTALS

- A. Product Data: Manufacturer's technical information, label analysis, and application instructions for each material proposed for use.
1. List each material and cross-reference the specific coating and finish system and application. Identify each material by the manufacturer's catalog number and general classification.
 2. Submit coating manufacturers recommended film thickness for each substrate.
- B. Samples for verification purposes: Provide samples of each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate. Define each separate coat, including block fillers and primers. Use representative colors when preparing samples for review. Resubmit until required sheen; color; and texture are achieved.
1. Provide a list of material and application for each coat of each sample. Label each sample as to location and application.
 2. Submit samples on the following substrates for the Architect's review of color and texture only:
 - a. Painted Wood: Provide two 12-inch square samples of each color and material on representative sample of wood.
 - b. Ferrous Metal: Provide two 4-inch-square samples of flat metal and two

- 8-inch-long samples of solid metal for each color and finish.
- c. Gypsum Board: Provide two 4-inch-square samples of each color and material on hardboard.

1.5 QUALITY ASSURANCE

- A. Single-Source Responsibility: Provide primers and undercoat paint produced by the same manufacturer as the finish coats.
- B. Coordination of Work: Review other sections in which primers are provided to ensure compatibility of the total systems for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.
 - 1. Notify the Architect of problems anticipated using the materials specified.
- C. Field Samples: On wall surfaces and other exterior and interior components; duplicate finishes of prepared samples. Provide full-coat finish samples on at least 100 square feet of surface until required sheen, color and texture are obtained; simulate finished lighting conditions for review of in-place work.
 - 1. Final acceptance of colors will be from job-applied samples.
 - 2. The Architect will select one room or surface to represent surfaces and conditions for each type of coating and substrate to be painted. Apply coatings in this room or surface in accordance with the schedule or as specified. After finishes are accepted, this room or surface will be used for evaluation of coating systems of a similar nature
 - 3. Final acceptance of colors will be from samples applied on the job. A minimum of two samples per color shall be included at no additional cost.
- D. Material Quality: Provide the manufacturer's best quality trade sale point material of the various coating types specified. Paint material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary names used to designate colors or materials are not intended to imply that products named are required or to exclude equal products of other manufacturers.
 - 2. Federal Specifications establish a minimum quality level for point materials, except where other product identification is used. Provide written certification from the manufacturer that materials provided meet or exceed these criteria.
 - 3. Products that comply with qualitative requirements of applicable Federal Specifications, yet differ in quantitative requirements, may be considered for use when acceptable to the Architect. Furnish material data and manufacturer's certificate of performance to Architect for proposed substitutions.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to the job site in the manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:

1. Product name or title of material.
 2. Product description (generic classification or binder type).
 3. Federal Specification number, if applicable.
 4. Manufacturer's stock number and date of manufacture.
 5. Contents by volume, for pigment and vehicle constituents.
 6. Thinning instructions.
 7. Application instructions.
 8. Color name and number.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and application.

1.7 JOB CONDITIONS

- A. Apply water-based paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 50 degrees F and 90 degrees F.
- B. Apply solvent-thinned paints only when the temperature of surfaces to be painted and surrounding air temperatures are between 45 degrees F and 95 degrees F.
- C. Do not apply paint in snow, rain, fog, or mist, when the relative humidity exceeds 85 percent, at temperatures less than 5 degrees F above the dew point, or too damp or wet surfaces.
1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by the manufacturer during application and drying periods.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
1. Benjamin Moore and Company (Moore).
 2. Farrell-Calhoun Paint, Inc.
 3. Pittsburgh Paints (PPG).
 4. Porter Paints (Porter).
 5. Pratt and Lambert (P & L).
 6. The Sherwin-Williams Company (SW)

2.2 PAINT MATERIALS, GENERAL

- B. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- C. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.
 - 1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers. Furnish manufacturers material data and certificates of performance for proposed substitutions.

D. Gypsum wallboard preparation for painting - Sheetrock brand "First Coat" by USG.

2.3 CONCRETE FLOORS

- A. Water-based acrylic curing and sealing compound.
 - 1. W.R. Meadows Vocomp-20 Acrylic Curing and Sealing Compound. Apply at rate of 300 square feet per gallon, in accordance with the manufacturer's recommendations.
 - 2. Seal-Krete Commercial Floor Sealer HS acrylic emulsion polymer. Apply 2 coats to acid-etched / neutralized concrete surface as recommended by the manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which painting will be performed for compliance with requirements for application of paint. Do not begin paint application until unsatisfactory conditions have been corrected.
 - 1. Start of painting will be construed as the Applicators acceptance of surfaces and conditions within a particular area.

3.2 PREPARATION

- A. General Procedures: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items in place that are not to be painted, or provide surface-applied protection prior to surface preparation and

painting. Remove these items if necessary for complete pointing of the items and adjacent surfaces. Following completion of pointing operations in each space or area, have items reinstalled by workers skilled in the trades involved.

1. Clean surfaces before applying point or surface treatments. Remove oil and grease prior to cleaning. Schedule cleaning and pointing so that dust and other contaminants from the cleaning process will not fall on wet, newly pointed surfaces.
- B. Surface Preparation: Clean and prepare surfaces to be painted in accordance with the manufacturer's instructions for each particular substrate condition and as specified.
 1. Provide barrier coats over incompatible primers or remove and re-prime. Notify Architect in writing of problems anticipated with using the specified finish-coat material with substrates primed by others.
 2. Gypsum drywall surfaces to be painted: treat with surface treatment to equalize porosity and surface texture of joint treatment and paper face of wallboard, and to minimize "telegraphing" or "banding" at the joints in the wallboard.
 3. Cementitious Materials: Prepare concrete, concrete masonry block, and mineral fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
 - a. Use abrasive blast-cleaning methods as recommended by the paint manufacturer.
 - b. Determine alkalinity and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause blistering and burning of finish paint, correct this condition before application. Do not paint surfaces where moisture content exceeds that permitted in manufacturer's printed directions.
 4. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
 - a. Scrape and clean small, dry, seasoned knots and apply a thin coat of white shellac or other recommended knot sealer before application of primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
 - b. Prime, stain, or seal wood to be painted. Allow all wood to products to acclimate to the environmental conditions where they will finally be installed prior to finishing. Prime edges, ends, faces, undersides, and backsides of wood, including cabinets, counters, cases, and paneling.
 - c. Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately upon delivery.
 5. Ferrous Metals: Clean non-galvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with recommendations of the Steel Structures Painting Council. .
 - a. Blast steel surfaces clean as recommended by the paint system

- manufacturer and in accordance with requirements of SSPC specification SSPC-SP 10.
- b. Treat bore and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
 - c. Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by the paint manufacturer, and touch up with the same primer as the shop coat.
6. Galvanized Surfaces: Clean galvanized surfaces with non-petroleum-based solvents so that the surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods. Pre-treat non-galvagrip metal with galvagrip acid and rinse process.
- C. Materials Preparation: Carefully mix and prepare paint materials in accordance with manufacturer's directions.
1. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
 2. Stir material before application to produce a mixture of uniform density; stir as required during application. Do not stir surface film into material. Remove film and, if necessary, strain material before using.
 3. Use only thinners approved by the paint manufacturer, and only within recommended limits.
- D. Tinting: Tint each undercoat a lighter shade to facilitate identification of each coat where multiple coats of the same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

- A. Apply paint in accordance with manufacturer's directions. Use applicators and techniques best suited for substrate and type of material being applied.
- B. Paint finish on interior wood doors shall be spray-applied. Brushing or rolling paint on wood doors is not acceptable.
- C. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
1. Paint, surface treatments, and finishes are indicated in "schedules." (Color schedule provided by Architect.)
 2. Provide finish coats that are compatible with primers used.
 3. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.
 4. Apply additional coats when undercoats, stains, or other conditions show

through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.

5. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.
 6. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only before final installation of equipment.
 7. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.
 8. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
 9. Finish interior of wall and base cabinets and similar field- finished casework to match exterior.
 10. Finish exterior doors on tops, bottoms, and side edges same as exterior faces.
 11. Sand lightly between each succeeding enamel or varnish coat.
 12. Primer may be omitted on shop-primed metal surfaces that are not exposed to the weather and touch-up paint. Field prime over shop primer steel that is exposed to the exterior / weather.
- D. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
1. Allow sufficient time between successive coats to permit proper drying. Do not re-coat until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure and where application of another coat of paint does not cause lifting or loss of adhesion of the undercoat.
- E. Minimum Coating Thickness: Apply materials at not less than the manufacturer's recommended spreading rate. Provide a total dry film thickness of the entire system as recommended by the manufacturer.
- F. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled. Inspect behind work and touch up as required to insure that all voids are filled. Apply a second coat if necessary to fill all CMU block pores and pin-holes in filler.
- G. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.
- H. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- I. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

3.5 FIELD QUALITY CONTROL

- A. The Owner reserves the right to invoke test procedure at any time and as often as the Owner deems necessary during the period when paint is being applied.
 - 1. The Owner will engage the services of an independent testing laboratory to sample the paint material being used. Samples of material delivered to the project will be taken, identified, sealed, and certified in the presence of the Contractor.

3.6 CLEANING

- A. Cleanup: At the end of each work day, remove empty cans, rags, rubbish, and other discarded paint materials from the site
- B. The number of coats and film thickness required is the same regardless of the application method. Do not apply succeeding coats until the previous coat has cured as recommended by the manufacturer. Sand between applications where sanding is required to produce an even smooth surface in accordance with the manufacturer's directions.
 - 1. Apply additional coats when undercoats, stains, or other conditions show through final coat of paint until paint film is of uniform finish, color, and appearance. Give special attention to ensure that surfaces, including edges, corners, crevices, welds, and exposed fasteners, receive a dry film thickness equivalent to that of flat surfaces.
 - 2. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures and similar components are in place. Extend coatings in these areas as required to maintain the system integrity and provide desired protection.
 - 3. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture with prime coat only before final installation of equipment.
 - 4. Paint interior surfaces of ducts, where visible through registers or grilles, with a flat, non-specular black paint.
 - 5. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
- C. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
 - 1. Finish exterior doors on tops, bottoms, and side edges same as exterior faces.
 - 2. Sand lightly between each succeeding enamel or varnish coat.
 - 3. Primer may be omitted on shop-primed metal surfaces that are not exposed to the weather and touch-up paint! primer. Field prime over shop primer steel that is exposed to the exterior / weather.
- D. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.
 - 1. Allow sufficient time between successive coats to permit proper drying. Do not re-coat until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure and where application of

another coat of paint does not cause lifting or loss of adhesion of the undercoat.

- E. Minimum Coating Thickness: Apply materials at not less than the manufacturer's recommended spreading rate. Provide a total dry film thickness of the entire system as recommended by the manufacturer.
- G. Prime Coats: Before application of finish coats, apply a prime coat of material as recommended by the manufacturer to material that is required to be painted or finished and has not been prime coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to assure a finish coat with no burn through or other defects due to insufficient sealing.
- H. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.
- I. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not in compliance with specified requirements.

3.7 PROTECTION

- A. Protect work of other trades, whether to be painted or not, against damage by painting. Correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
- B. Provide "Wet Paint" signs to protect newly painted finishes. Remove temporary protective wrappings provided by others for protection of their work after completion of painting operations.

At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces

3.8 EXTERIOR PAINT SCHEDULE

- A General: Provide the following paint systems for the various substrates indicated.
Exterior ferrous metals to be field-primed, if steel is shop-primed or unprimed. Prepare unprimed steel in strict accordance with primer manufacturer's recommendations.
- B. Ferrous Metal (Type 1):
 - 1. Gloss Acrylic: Two 2-part finish coats over epoxy primer. Three-coat total dry film thickness not less than 11.0 mils.
 - a. Primer: SW Macropoxy 646 Fast Cure Epoxy. Minimum dry film thickness - 5.0 mils.
 - b. First Coat: SW Acrolon 218 HS Acrylic Polyurethane B65-600 / B65V600. Minimum dry film thickness - 3.0 mils.
 - c. Second Coat: SW Acrolon 218 HS Acrylic Polyurethane B65-600 /

B65V600. Minimum dry film thickness - 3.0 mils.

C. Galvanized Metal (Type 2):

1. Flat Acrylic: Two finish coats over primer. Total film thickness not less than 5.1 mils.
 - a. Primer: Porter #290 Galvanized Metal Primer. Apply over primed or unprimed galvanized steel.
 - b. First Coat: Porter #719 Super Acrylic House Point - flat.
 - c. Second Coat: Porter #719 Super Acrylic House Point - flat.

D. Painted Wood Trim (Type 3):

1. Satin Acrylic: Two acrylic coats over latex primer. Total film thickness not less than 5.2 mils.
 - a. Primer: Sherwin Williams A-100 Exterior Wood Primer, Alkyd (Y24W20). Dry film thickness not less than 2.3 mils.
 - b. First Coat: Sherwin Williams "SuperPaint" A89 Series. Dry film thickness not less than 1.4 mils.
 - c. Second Coat: Sherwin Williams "SuperPaint" A89 Series. Dry film thickness not less than 1.4 mils.

F. PVC Piping:

1. Acrylic semi-gloss finish: 1 coat over primer
 - a. Primer: Porter #184 "Sta-Kil", not less than 1.5 mils dry film thickness.
 - b. Primer: Pittsburgh Paints #17 -21 "Seal Grip", thickness as recommended by manufacturer.
 - c. Finish: Porter #649 "Acri-Shield semi-gloss, not less than 1.5 mils dry film thickness.

G. Cast Iron Piping:

1. Acrylic semi-gloss finish: 1 coat over primer
 - a. Primer: Porter #272 "Porter Guard" Alkyd Metal Primer, not less than 2.0 mils dry film thickness.
 - b. Finish: Porter #649 "Acri-Shield semi-gloss, not less than 1.5 mils dry film thickness.

3.9 INTERIOR PAINT SCHEDULE

A. Ferrous Metal (Type 6):

1. Alkyd satin finish: 2 coats, minimum 3.4 mils over primer.
 - a. Porter #296 Gyptex Rust Inhibitive Metal Primer. Apply 2.0 mils DFT over shop primer.
 - b. First Coat: Porter #439 Porter Gyptex Eggshell Interior Alkyd Enamel.
 - c. Second Coat: Porter #439 Porter Gyptex Eggshell Interior Alkyd Enamel

B. Gypsum Drywall Systems Eggshell Latex: Walls, furr downs, and soffits.

1. Porter:
 - a. Primer: #426 Drywall Sealer with Pumice.

- b .. Two Finish Coats: #999 "Silken Touch" Eggshell. Dry film thickness: 1 mils - each coat.
- 2. Farrell-Calhoun:
 - a. Primer: #380 "Perfik-Seal" Latex Wall Primer. Dry film thickness 2.0 mils.
 - b. Two Finish Coats: #370 Line. Dry film thickness 1.9 mils per coat.
- C. Restrooms: Gypsum Drywall Epoxy Wall Paint: Semi-gloss Catalyzed Epoxy. Primer and two finish coats. Dry film thickness not less than 5.4 mils.
 - a. Primer: Porter "Blankit" #1129 Acrylic Primer, with a dry film thickness of 1.4 mils.
 - b. Finish Coats: Porter #9321 "Dura-Gloze WB" two-component epoxy.
- D. Painted Wood Trim /Alkyd semi-gloss.
 - 1. Porter:
 - a. Primer: JIPro-Master 2000" Fast Dry Enamel Undercoat, #6064.
 - b. Two Finish Coats: "Glyptex" #439 Eggshell Interior Alkyd Enamel. Dry film thickness not less than 1.7 mils - each coat.
 - 2. Farrell-Calhoun:
 - a. Primer: #599 Enamel Undercoat. Dry film thickness 2.0 mils.
 - b. Two Finish Coats: #500 line Semi-Gloss Alkyd Enamel. Dry film thickness 2.0 mils - each coat.
- E. Gypsum Drywall /latex flat: Gypsum Board Ceilings.
 - 1. Porter:
 - a. Primer: #426 Drywall Sealer.
 - b. Two Finish Coats: #778 Flat latex Ceiling Point. Dry film thickness 1.0 mils - each coat.
 - 2. Farrell-Calhoun:
 - a. Primer: #380 "Perfik-Seal"
 - b. Two Finish Coats: #400 line Interior Flat latex Wall Point. Dry film thickness 1.6 mils - each coat.

END OF SECTION

SECTION 099300 - STAINING AND TRANSPARENT FINISHING

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes surface preparation and the application of wood finishes on the following substrates:

1. Exterior Substrates:

- a. Exposed glue-laminated beams and columns.
- b. Exposed dimension lumber (rough carpentry).
- c. Dressed lumber (finish carpentry).

2. Interior Substrates:

- a. Exposed glue-laminated beams and columns.
- b. Exposed dimension lumber (rough carpentry).
- c. Dressed lumber (finish carpentry).

1.2 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each finish and for each color and texture required.
- C. Product List: Printout of MPI's current "MPI Approved Products List" for each product category specified in Part 2, with the product proposed for use highlighted.

1.3 QUALITY ASSURANCE

A. MPI Standards:

- 1. Products: Complying with MPI standards indicated and listed in its "MPI Approved Products List."
- 2. Preparation and Workmanship: Comply with requirements in "MPI Architectural Painting Specification Manual" for products and finish systems indicated.

- B. Mockups: Apply benchmark samples of each finish system indicated and each color selected to verify preliminary selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

- 1. Architect will select one surface to represent surfaces and conditions for application of each type of finish system and substrate.

- a. Vertical and Horizontal Surfaces: Provide samples of at least 1 sq. ft.
 - b. Other Items: Architect will designate items or areas required.
2. Final approval of stain color selections will be based on benchmark samples.
 - a. If preliminary stain color selections are not approved, apply additional benchmark samples of additional stain colors selected by Architect at no added cost to Owner.

1.4 EXTRA MATERIALS

- A. Furnish extra materials described below that are from same production run (batch mix) as materials applied and that are packaged for storage and identified with labels describing contents.
 1. Quantity: Furnish an additional 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Material Compatibility:
 1. Provide materials for use within each finish system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a finish system, provide products recommended in writing by manufacturers of topcoat for use in finish system and on substrate indicated.
- B. VOC Content of Field-Applied Interior Primers, Stains, and Transparent Finishes: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24); these requirements do not apply to primers, stains, and transparent finishes that are applied in a fabrication or finishing shop:
 1. Primers, Sealers, and Undercoaters: VOC content of not more than 200 g/L.
 2. Clear Wood Finishes, Varnishes: VOC not more than 350 g/L.
 3. Stains: VOC not more than 250 g/L.
- C. Stain Colors: As selected by Architect from manufacturer's full range.

2.2 PRIMERS AND SEALERS

- A. Wood Preservative: MPI #37.
 1. VOC Content: E Range of E1.

2.3 STAINS

- A. Exterior Semitransparent Stain (Solvent Based): MPI #13.
 - 1. VOC Content: E Range of E1.
- B. Interior Wood Stain (Semitransparent): MPI #90.
 - 1. VOC Content: E Range of E1.

2.4 POLYURETHANE FINISHES

- A. Two-Component Aliphatic Polyurethane (Clear): MPI #78.
 - 1. VOC Content: E Range of E1.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of work.
 - 1. Maximum Moisture Content of Wood Substrates: 15 percent when measured with an electronic moisture meter.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes.
 - 3. Begin finish application only after unsatisfactory conditions have been corrected and surfaces are dry.
 - 4. Beginning application of finish system constitutes Contractor's acceptance of substrate and conditions.

3.2 PREPARATION AND APPLICATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates indicated.
- B. Apply wood filler paste to open-grain woods, as defined in "MPI Architectural Painting Specification Manual," to produce smooth, glasslike finish.
- C. Protect work of other trades against damage from finish application. Correct damage by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced finished wood surfaces.

3.3 EXTERIOR WOOD-FINISH-SYSTEM SCHEDULE

- A. Exposed Glue-Laminated Beam and Column Substrates:
 - 1. Clear, Two-Component Polyurethane Over Stain System: MPI EXT 6.1E.
 - a. Stain Coat: Exterior semitransparent stain (solvent based).
 - b. Two Finish Coats: Two-component aliphatic polyurethane (clear).
- B. Exposed Rough Carpentry Substrates:
 - 1. Semitransparent Stain System: MPI EXT 6.2L.
 - a. Two Stain Coats: Exterior semitransparent stain (solvent based).
 - 2. Clear, Two-Component Polyurethane System: MPI EXT 6.2H.
 - a. Three Finish Coats: Two-component aliphatic polyurethane (clear).

3.4 INTERIOR WOOD-FINISH-SYSTEM SCHEDULE

- A. Exposed Glue-Laminated Beam and Column Substrates:
 - 1. Polyurethane Varnish Over Stain System: MPI INT 6.1J.
 - a. Stain Coat: Interior wood stain (semitransparent).
 - b. Two Finish Coats: Interior, oil-modified, clear urethane (satin).
- B. Exposed Rough Carpentry Substrates:
 - 1. Polyurethane Varnish Over Stain System: MPI INT 6.2J.
 - a. Stain Coat: Interior wood stain (semitransparent).
 - b. Two Finish Coats: Interior, oil-modified, clear urethane (satin).
- C. Finish Carpentry Substrates:
 - 1. Polyurethane Varnish Over Stain System: MPI INT 6.3E.
 - a. Stain Coat: Interior wood stain (semitransparent).
 - b. Two Finish Coats: Interior, oil-modified, clear urethane (satin).

END OF SECTION 099300

SECTION 101400 - SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes the following:

1. Plaques.
2. Dimensional characters.

1.2 DEFINITIONS

- A. ADA-ABA Accessibility Guidelines: U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines."

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication and installation details for signs.
1. Show sign mounting heights, locations of supplementary supports to be provided by others, and accessories.
 2. Provide message list, typestyles, graphic elements, including tactile characters and Braille, and layout for each sign.
- C. Samples: For each sign type and for each color and texture required.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable provisions in ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Acrylic Sheet: ASTM D 4802, Category A-1 (cell-cast sheet), Type UVA (UV absorbing).

- B. Applied Vinyl: Die-cut characters from vinyl film of nominal thickness of 3 mils (0.076 mm) with pressure-sensitive adhesive backing, suitable for exterior applications.

2.2 PLAQUES

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- C. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - 1. Advance Corporation; Braille-Tac Division.
 - 2. A. R. K. Ramos.
 - 3. Gemini Incorporated.
 - 4. Matthews International Corporation; Bronze Division.
 - 5. Metal Arts; Div. of L&H Mfg. Co.
 - 6. Mills Manufacturing Company.
 - 7. Nelson-Harkins Industries.
 - 8. Southwell Company (The).

2.3 DIMENSIONAL CHARACTERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
- C. Basis-of-Design Product: Subject to compliance with requirements, provide the product indicated on Drawings or a comparable product by one of the following:
 - 1. ACE Sign Systems, Inc.
 - 2. Advance Corporation; Braille-Tac Division.
 - 3. Bunting Graphics, Inc.
 - 4. Charleston Industries, Inc.
 - 5. Gemini Incorporated.
 - 6. Grimco, Inc.
 - 7. Innerface Sign Systems, Inc.
 - 8. Mills Manufacturing Company.
 - 9. Mohawk Sign Systems.
 - 10. Nelson-Harkins Industries.
 - 11. Signature Signs, Incorporated.
 - 12. Southwell Company (The).

- D. Cutout Characters: Provide characters with square-cut, smooth edges. Comply with the following requirements:
1. Acrylic: 0.25 inch (6.35 mm) thick.
 - a. Color: As selected by Architect from manufacturer's full range.
 2. Vinyl: Pressure sensitive, 3.5 mils (0.09 mm) thick.
 - a. Color: As selected by Architect from manufacturer's full range.
 3. Mounting: Projected with concealed noncorroding studs for substrates encountered.

2.4 ACCESSORIES

- A. Anchors and Inserts: Provide nonferrous-metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or lead expansion-bolt devices for drilled-in-place anchors. Furnish inserts, as required, to be set into concrete or masonry work.

2.5 FABRICATION

- A. General: Provide manufacturer's standard signs of configurations indicated.
1. Welded Connections: Comply with AWS standards for recommended practices in shop welding. Provide welds behind finished surfaces without distortion or discoloration of exposed side. Clean exposed welded surfaces of welding flux and dress exposed and contact surfaces.
 2. Mill joints to tight, hairline fit. Form joints exposed to weather to exclude water penetration.
 3. Conceal fasteners if possible; otherwise, locate fasteners where they will be inconspicuous.

2.6 ACRYLIC SHEET FINISHES

- A. Colored Coatings for Acrylic Sheet: For copy and background and frame colors, provide colored coatings, including inks, dyes, and paints, that are recommended by acrylic manufacturers for optimum adherence to acrylic surface and that are UV and water resistant for five years for application intended.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Locate signs and accessories where indicated, using mounting methods of types described and complying with manufacturer's written instructions.

1. Install signs level, plumb, and at heights indicated, with sign surfaces free of distortion and other defects in appearance.
 2. Interior Wall Signs: Install signs on walls adjacent to latch side of door where applicable. Where not indicated or possible, such as double doors, install signs on nearest adjacent walls. Locate to allow approach within 3 inches (75 mm) of sign without encountering protruding objects or standing within swing of door.
- B. Wall-Mounted Signs: Comply with sign manufacturer's written instructions except where more stringent requirements apply.
1. Shim Plate Mounting: Provide 1/8-inch- (3-mm-) thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other mounting methods are not practicable. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach panel signs to plate using method specified above.
 2. Mechanical Fasteners: Use non-removable mechanical fasteners placed through predrilled holes. Attach signs with fasteners and anchors suitable for secure attachment to substrate as recommended in writing by sign manufacturer.
 3. Signs Mounted on Glass: Provide matching opaque plate on opposite side of glass to conceal mounting materials.
- C. Bracket-Mounted Signs: Provide manufacturer's standard brackets, fittings, and hardware for mounting signs that project at right angles from walls and ceilings. Attach brackets and fittings securely to walls and ceilings with concealed fasteners and anchoring devices to comply with manufacturer's written instructions.
- D. Dimensional Characters: Mount characters using standard fastening methods to comply with manufacturer's written instructions for character form, type of mounting, wall construction, and condition of exposure indicated. Provide heavy paper template to establish character spacing and to locate holes for fasteners.
1. Flush Mounting: Mount characters with backs in contact with wall surface.
 2. Projected Mounting: Mount characters at projection distance from wall surface indicated.

END OF SECTION 101400

SECTION 10522 FIRE EXTINGUISHER CABINETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division- 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK

- A. Extent of fire extinguishers, cabinets and accessories is indicated on drawings and as required by local code.
- B. Type of products in this section include:
 - 1. Fire extinguishers.
 - 2. Fire extinguisher cabinets.

1.3 QUALITY ASSURANCE

- A. Single Source Responsibility: Obtain products in this section from one manufacturer.
 - UL-Listed Products: Provide new portable fire extinguishers which are UL-listed and bear UL "Listing Mark" for type, rating, and classification of extinguisher indicated.
- B. Fire-Rated Fire-Protection Cabinets: Listed and labeled to comply with requirements of ASTM E 814 for fire-resistance rating of walls where they are installed.

1.4 SUBMITTALS

- A. Product Data: Submit product data for each type of product included in this section.

For fire extinguisher cabinets include roughing-in dimensions and details showing mounting methods, relationships of box and trim to surrounding construction, door hardware, cabinet type and materials, trim style and door construction, and panel style and materials.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. FIRE EXTINGUISHER CABINETS
 - 1. Basis-of-Design Product: The design for each product is based on the product named. Subject to compliance with requirements, provide either the named product or a comparable product by one of the other manufacturers specified.
 - a. Larsen's Manufacturing Co.
 - i. Extinguisher Type F1 – SS-O-2409 Solid Door, Black Die Cut Vertical Lettering
 - ii. Extinguisher Type F2 – SS-R-2409-SM

2.2 FIRE EXTINGUISHERS

- A. General: Provide fire extinguishers for each extinguisher cabinet and other locations indicated, in specified finishes. Comply with requirements of

governing authorities. Fill and service extinguishers to comply with requirements of governing authorities and manufacturer.

- B. Extinguisher Type F1 - Multi-purpose Dry Chemical Type, UL-rated 4A-60B:C, 10 pound nominal capacity, for Class A, Class B, and Class C fires - Larson's MP10.
- C. Extinguisher Type F2 - Multi-Purpose Dry Chemical Type, UL-rated 2A-10B:C, 5 pound nominal capacity, for Class A, Class B and Class C fires - Larson's MP5.

2.3 FIRE EXTINGUISHER CABINETS

- A. General: Provide fire extinguisher cabinets where indicated, of suitable size for housing fire extinguishers of types and capacities indicated.
- B. Comply with NAAMM "Metal Finishes Manual" for finish designations and application recommendations except as otherwise indicated. Apply finishes in factory after products are assembled. Protect cabinets with plastic or paper covering, prior to shipment.
- C. Construction: Manufacturer's standard enameled steel box, with trim, frame, door and hardware to suit cabinet type, trim style, and door style indicated. Weld all joints and grind smooth. Miter and weld perimeter door frames.

PART 3: EXECUTION

3.01 INSPECTION

- A. Verify that rough openings for cabinets are correctly sized and located.

3.02 INSTALLATION

- A. Install the items of this Section in strict accordance with the original design, approved shop drawings, and requirements of agencies having jurisdiction, as approved by the Architect, anchoring all components firmly into position.

END OF SECTION

SECTION 10800 TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division- 1 Specification sections, apply to work of this section.

1.2 DESCRIPTION OF WORK:

- A. This Section includes the following:
 - 1. Public-use washroom accessories.
 - 2. Under-lavatory pipe insulation guards.
 - 3. Custodial accessories.
- B. Unframed Mirrors: Specified in Section 08800.

1.3 QUALITY ASSURANCES:

- A. Inserts and Anchorage: Furnish inserts and anchoring devices which must be set in concrete or built into wood frame construction; coordinate delivery with other work to avoid delay.
- B. Accessory Locations: Coordinate accessory locations with other work to avoid interference and to assure proper operation and servicing of accessory units.
- C. Products: Provide products of same manufacturer for each type of accessory unit and for units exposed in same areas, unless otherwise acceptable to Architect-

1.4 SUBMITTALS:

- A. Product Data: Submit manufacturer's technical data and installation instructions for each toilet accessory.
- B. Setting Drawings: Provide setting drawings, templates, instructions, and directions for installation of anchorage devices and cut-out requirements in other work.

PART 2- PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS:

- A. The brand name and model indicated are the basis of design.

Other brands may be incorporated, provided they are equal to the products indicated and acceptable to the architect.

2.2 MATERIALS, GENERAL:

- A. Stainless Steel: AISI Type 302/304/ with polished No.4 finish, 22 gauge (.034 inch) minimum, unless otherwise indicated.
- B. Sheet Steel: Cold rolled, commercial quality ASTM A 366, 20-gauge (.040 inch) minimum, unless otherwise indicated. Surface preparation and metal pretreatment as required for applied finish.
- C. Galvanized Steel Sheet: ASTM A 527, G60.
- D. Chromium Plating: Nickel and chromium electro-deposited on base metal, ASTM B 456/ Type SC 2.
- E. Galvanized Steel Mounting Devices: ASTM A 153, hot-dip galvanized after fabrication.
- F. Fasteners: Screws, bolts, and other devices of same material as accessory unit or of galvanized steel where concealed.

2.3 FABRICATION

- A. General: Only an unobtrusive stamped logo of manufacturer, as approved by Architect, is permitted on exposed face of toilet or bath accessory units. On either interior surface not exposed to view or back surface, provide additional identification by means of either a printed, waterproof label or a stamped nameplate, indicating manufacturer's name and product model number.
- B. Surface-Mounted Toilet Accessories, General: Except where otherwise indicated, fabricate units with tight seams and joints, exposed edges rolled. Hang doors or access panels with continuous stainless steel piano hinge. Provide concealed anchorage wherever possible.

2.4 LAVATORY PIPE INSULATION

- A. Insulation for supply lines, P-traps, and drain lines under accessible lavatories in the Toilet Rooms shall be equal to "Lav Guard" under-sink protective pipe covers as manufactured by Trubro, inc. color: white
- B. Under-sink pipe insulation at accessible lavatories shall be UL classified, and meet the requirements of the ADAAG 4.19.4, and Florida Accessibility Requirements.

PART 3 - EXECUTION

3.1 INSTALLATION:

- A. Install toilet accessory units in accordance with manufacturers' instructions, using fasteners that are appropriate to substrate and recommended by manufacturer of unit. Install units plumb and level, firmly anchored in locations indicated.

3.2 UNDER-SINK PIPE INSULATION

- A. Coordinate under-sink pipe covers and accessories with plumbing provisions. Provide and install trap covers, tailpiece covers, waste arm covers, supply tube covers, cut-off valve covers, and wheelchair offset at strainer, as required.
- B. Install per the manufacturer's recommendations. Secure pipe cover with reusable snap-clips. Provide angle stop "Lock-lid" access cover at supply cut-off valves.

3.3 ADJUSTING AND CLEANING:

- A. Adjust toilet accessories for proper operation and verify that mechanisms function smoothly. Replace damaged or defective items.
- B. Clean and polish all exposed surfaces after removing temporary labels protective coatings.
- C. Manufacturer's service and parts manual shall be provided to building owner/manager upon completion of project.

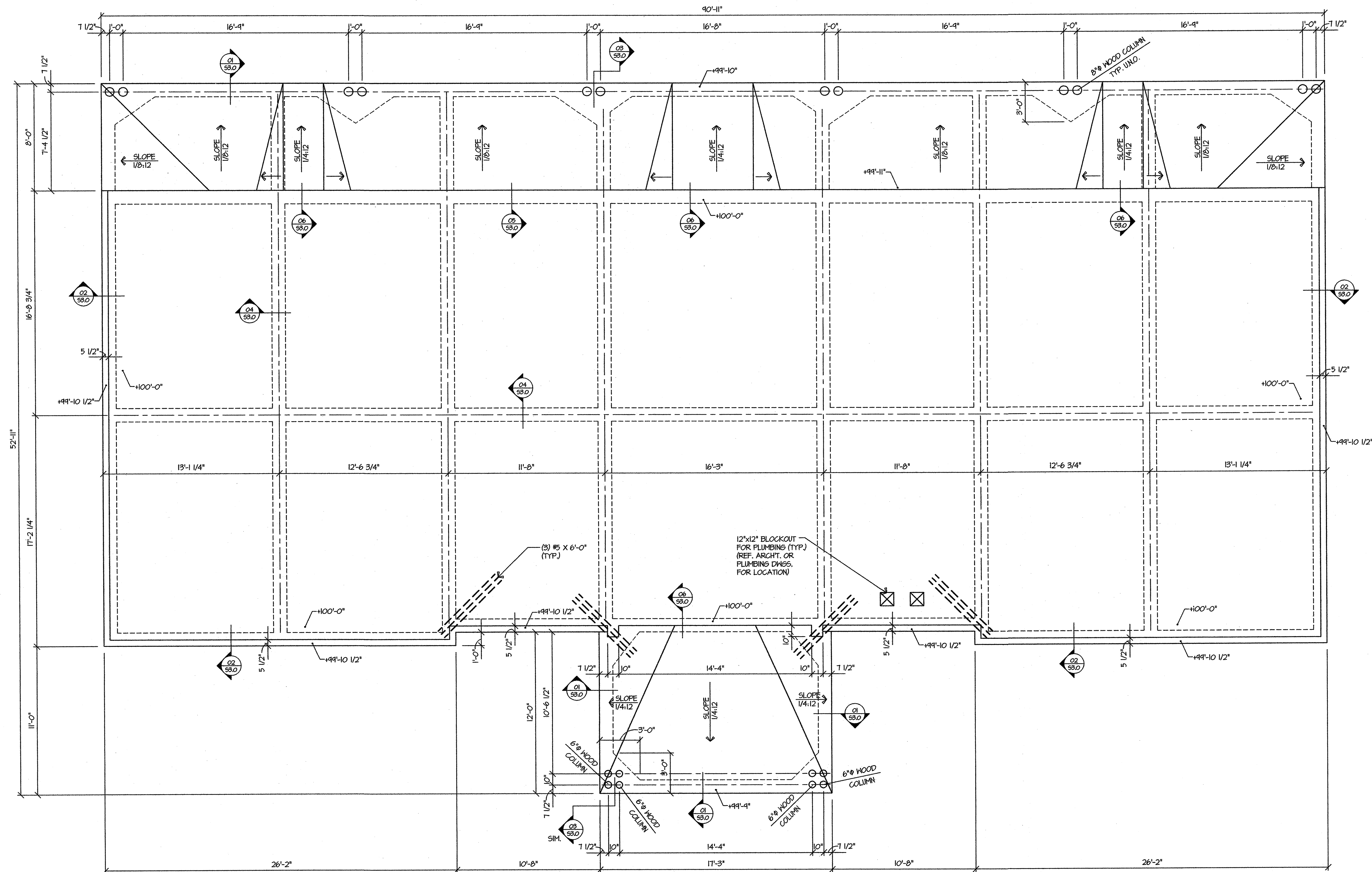
3.4 TOILET ACCESSORIES SCHEDULE

- A. TA-1: PARTITION-MOUNTED TOILET SEAT COVER DISPENSER, SANITARY NAPKIN DISPOSAL, AND TOILET TISSUE DISPENSER
 - 1. Recessed toilet-seat-cover dispenser, sanitary napkin disposal, and toilet tissue dispenser shall be type-304 stainless steel with all welded construction. Exposed surfaces shall have satin finish. Toilet tissue dispensers shall be ABS plastic with a type-304 stainless steel waste deflector attached to the top tissue dispenser. Unit shall mount flush against side wall of barrier-free toilet compartment to allow clearance for grab bar across front of unit. Door shall be one piece, seamless construction; secured to cabinet with full-length, stainless steel piano hinge and be equipped with a concealed tumbler lock keyed like other Bobrick washroom accessories. Toilet-seat cover dispenser shall fill from below the internal shelf and hold 500 paper covers. Self-closing disposal panel shall be secured to door with a spring-loaded, full length piano hinge, has hemmed edges and equipped with an international graphic symbol identifying napkin disposal. Sanitary napkin disposal shall be furnished with a removable, leak-proof, molded polyethylene receptacle with a capacity of 0.8 gallon. Unit shall be equipped with two theft-

- resistant, high impact polystyrene toilet tissue spindles that hold standard core-rolls up to a 5 1/4 inches in diameter. Spindle shall have a concealed locking mechanism opened with special key furnished.
- 2. Bobrick #B-3574
 - B. TA-2: Towel Bar
 - 1. Bobrick #B-673
 - C. TA-3: Robe Hook
 - 1. Bobrick #B-76727
 - E. TA-5: Grab Bars
 - 1. Grab bar shall be type-304 stainless steel with satin finish. Grab bar shall have 18-gauge wall thickness and 1-112 inch outside diameter. Clearance between the grab bar and wall shall be 1 - 112 inches. Concealed mounting flanges shall be 1/8-inch thick stainless steel plate, 2 inches by 3- 1 18 inches long, and equipped with two screw holes for attachment to wall. Flange covers shall be 22 gauge, 3-1/4 inch diameter by 1/2 inch deep, and shall snap over mounting flange to conceal mounting screws and/or "Wing-It" fasteners. Ends of grab bar shall pass through concealed mounting flanges and be heliarc welded to form one structural unit. Grab bar shall comply with barrier-free accessibility guidelines for structural strength.
 - 2. Bobrick #B-6806 Series; configuration as indicated.
 - F. STAINLESS STEEL MIRROR
 - 1. Mirror shall have one-piece, polished stainless steel 1/2" x 112" x 1/2" channel frame. Mirror frame shall have 90-degree uniform comers; open or uneven mitered comers are not acceptable. Mirror shall be No.1 quality, 1/4-inch (6mm) float/plate glass. All mirror edges shall be protected by filler strips. Mirror back shall be protected by full-size shock-absorbing, water-resistant, nonabrasive 1/8-inch (3-mm) thick polyethylene padding. Galvanized steel back with formed edges for additional strength shall have integral hanging brackets for mounting on concealed one-piece rectangular wall hanger(s). Mirror shall be secured to hanger with concealed Phillips head locking setscrews in bottom of frame. Manufacturer's service and parts manual shall be provided to building owner/manager upon completion of project.
 - 2. Bobrick #B- 1556
 - G. TA-7: COMBINATION TOWEL DISPENSER/WASTE RECEPTICAL UNITS:
 - 1. Semi-recessed paper towel dispenser and waste receptical shall be constructed entirely of type-304 stainless steel. Exposed surfaces shall have satin finish. Flange shall be drawn, one piece, seamless beveled construction. Door shall be secured to cabinet with full-length, stainless steel piano hinge and be equipped with a concealed tumbler lock. Rounded towel tray shall be equipped with five-position adapter; adjustable to dispense 600 C-Fold, 800 multifold, or 1,100 single-fold paper towels. Removable stainless steel waste receptacle shall be secured to cabinet by tumbler lock; top and bottom edges shall be hemmed for safe handling. Minimum capacity: 12 gallons.
 - 2. Bobrick #B-3904; where indicated
 - I. TA-9 LAVATORY-MOUNTED SOAP DISPENSER FOR SOAPS AND DETERGENTS

1. Lavatory-mounted soap dispenser shall dispense liquid and lotion soaps. Piston and spout assembly shall be type-304 stainless steel with bright polished finish. Escutcheon shall lock to body with concealed locking mechanism that is opened only with special key provided. Spout shall rotate 360 degrees without damage to valve mechanism. Piston, spout, and supply-tube assemble shall be removable from top for filling and maintenance. Valve shall be equipped with plastic cylinder, stainless steel spring, U-packing seal, and duckbills. Shank shall accommodate mounting thicknesses up to 1 inch. Translucent, shatter-resistant polyethylene container shall have a capacity of 20 fluid ounces.
2. Bobrock #B-2740

END OF SECTION 10800



- PLAN NOTES**
- 1) REFER TO CIVIL SITE PLANS FOR ACTUAL FINISH FLOOR ELEVATIONS. ASSUMED ELEVATION OF 100'-0" FOR ALL SLAB AREAS UNLESS NOTED ON FOUNDATION PLAN OR IN ARCHITECTURAL PLANS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATIONS OF SLAB DROPS AND SLOPES AND FOR COORDINATION OF ALL SLAB AND GRADE BEAM PENETRATIONS.
 - 2) PROVIDE CORNER BARS IN GRADE BEAMS PER DETAIL 11/53.0.
 - 3) PLUMBING FIXTURES ARE SHOWN FOR REFERENCE ONLY. REFER ARCHITECTURAL AND PLUMBING PLANS FOR LOCATIONS, TYPE AND QUANTITIES.
 - 4) REFER TO DETAIL 06/53.0 FOR ALL PIPE/CONDUIT IN THE FOUNDATION.
 - 5) REFER TO DETAIL 04 AND 10/53.0 FOR GRADE-BEAM PENETRATIONS.

4" CONCRETE SLAB
FINISH FLOOR ELEVATION = 100'-0"
REINFORCE WITH #3 @ 12" O.C.E.W.
SUPPORTED ON 1 3/4" METAL CHAIRS
W/ SAND PLATES AT 48" O.C.E.W.
PROVIDE VAPOR BARRIER.

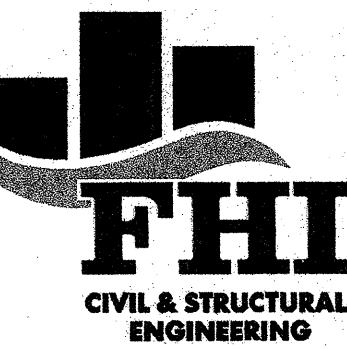


A

FOUNDATION PLAN

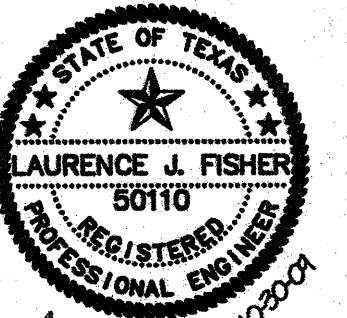
1/4" = 1'-0"

Revisions:



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Project :

Regional Park Headquarters
ROUND ROCK, TEXAS

Drawn by: MP

Checked by: RT

Approved by: LF

Job Number: 09042

Date: 10/30/2009

Submittal Type:

CONSTRUCTION

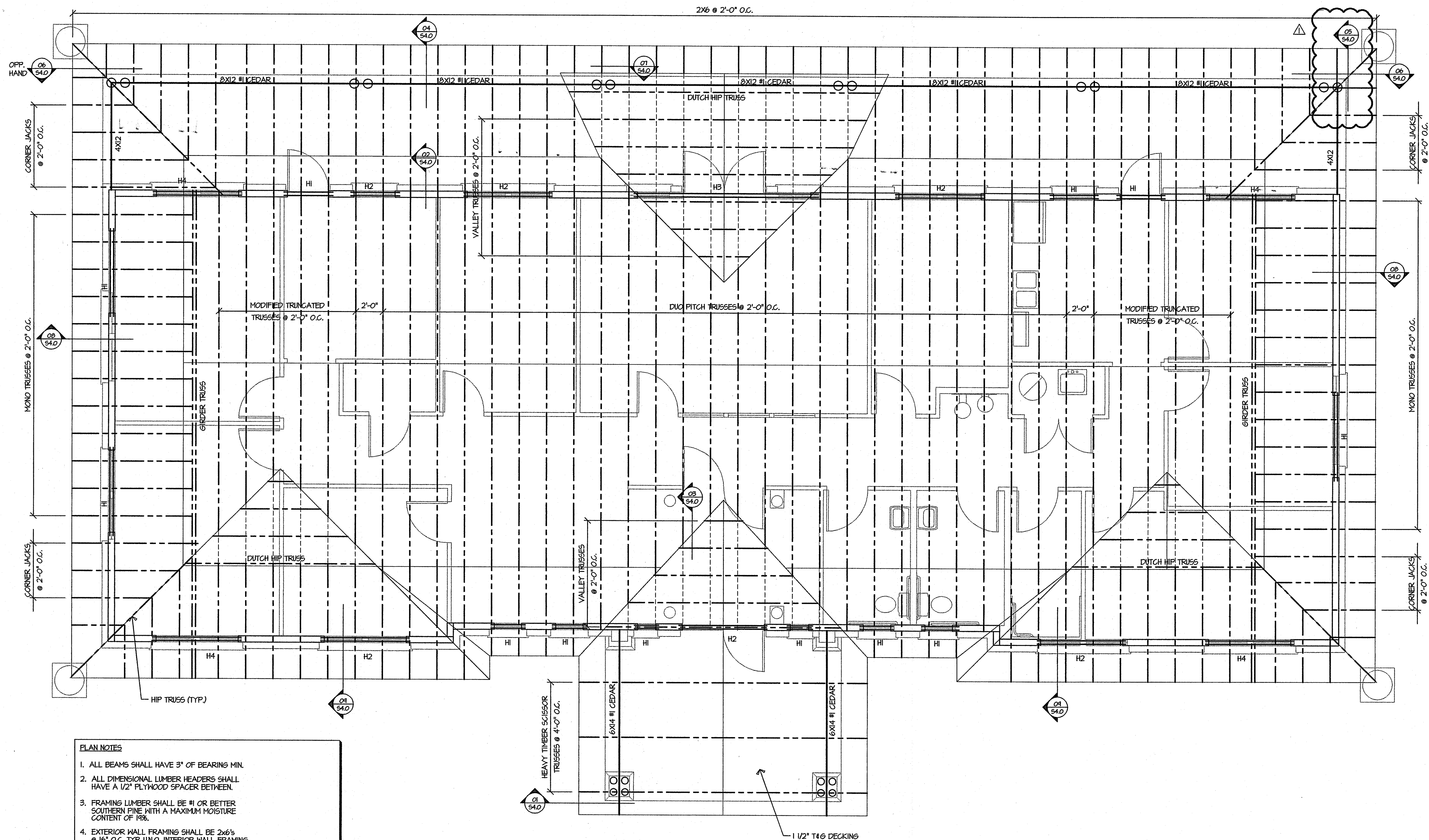
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Sheet Title:

FOUNDATION
PLAN

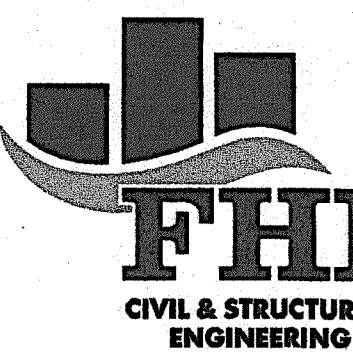
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S1.1



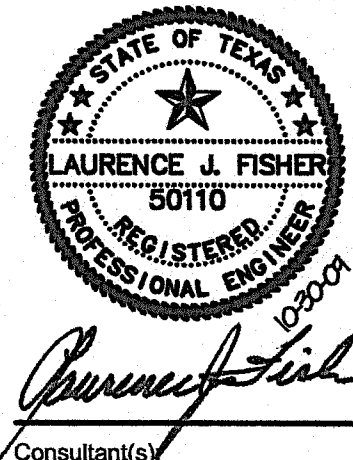
- PLAN NOTES**
1. ALL BEAMS SHALL HAVE 3" OF BEARING MIN.
 2. ALL DIMENSIONAL LUMBER HEADERS SHALL HAVE A 1/2" PLYWOOD SPACER BETWEEN.
 3. FRAMING LUMBER SHALL BE #1 OR BETTER SOUTHERN PINE WITH A MAXIMUM MOISTURE CONTENT OF 18%.
 4. EXTERIOR WALL FRAMING SHALL BE 2x6 @ 16" O.C. TYP. UNO. INTERIOR WALL FRAMING SHALL BE 2x4 @ 16" O.C. UNO.
 5. NO HOLES, NOTCHES OR OTHER CUTS SHALL BE MADE ON ANY BEAM, JOIST, RAFTER OR OTHER FRAMING MEMBER WITHOUT WRITTEN APPROVAL BY THE ENGINEER.
 6. NO HOLE LARGER THAN 1" IN DIAMETER WILL BE ALLOWED IN ANY LOAD BEARING OR EXTERIOR WALL STUD. 1" DIAMETER AND SMALLER HOLES SHALL BE LOCATED ON THE CENTERLINE OF THE WIDE AXIS AND SPACED NO LESS THAN 6" O.C. NO OTHER HOLES WILL BE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
 7. ALTERNATE FRAMING - 6005131-33 MIL METAL STUDS @ 16" O.C.

Revisions:
H-25-04 REVISED AS NOTED



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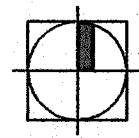
Project:

Regional Park Headquarters
ROUND ROCK, TEXAS

Drawn by: MP
Checked by: RT
Approved by: LF
Job Number: 09042
Date: 10/30/2009
Submittal Type:
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Cad File:
Sheet Title:
ROOF FRAMING PLAN

Sheet No.:
S2.0



A

ROOF FRAMING PLAN

1/4" = 1'-0"

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01	SECTION	02	SECTION	03	SECTION	04	SECTION
1"=1'-0"	ST320034	1"=1'-0"	ST320008	1"=1'-0"	ST320031	1"=1'-0"	ST320019
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40855E16		ST320006		ST320007		ST320008	

Revisions:

11-23-01 REVISED AS NOTED

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STATE OF TEXAS

LAURENCE J. FISHER

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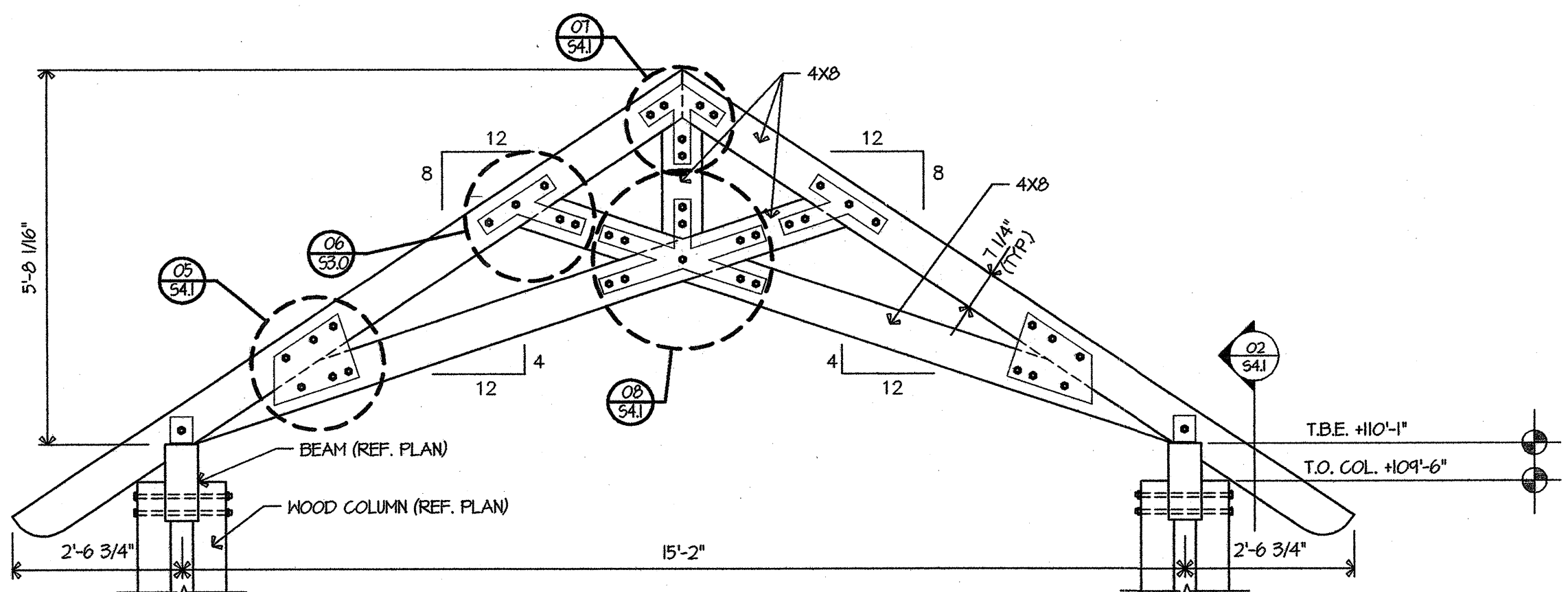
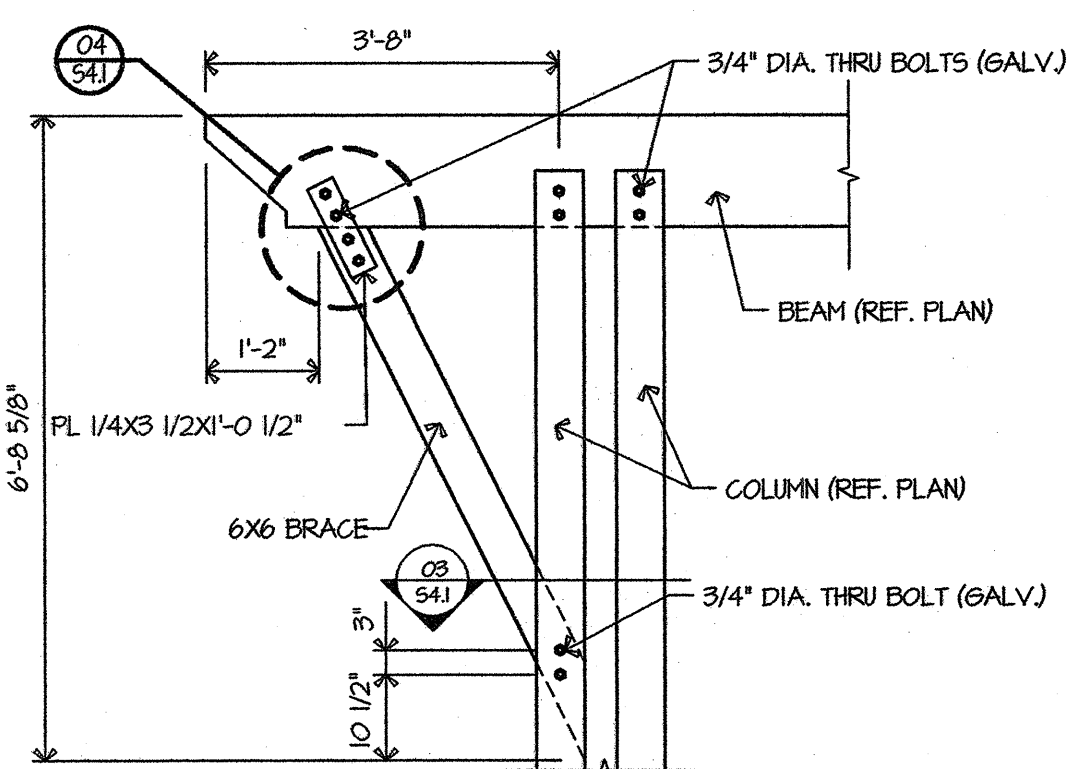
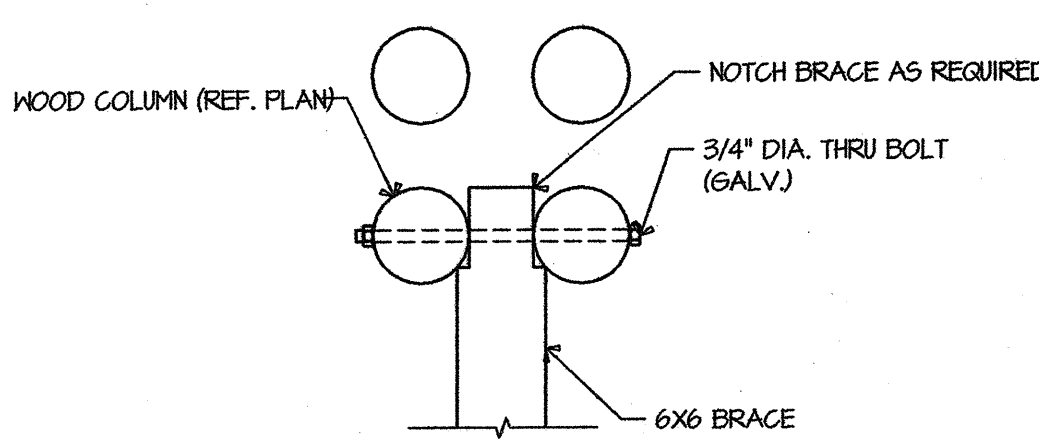
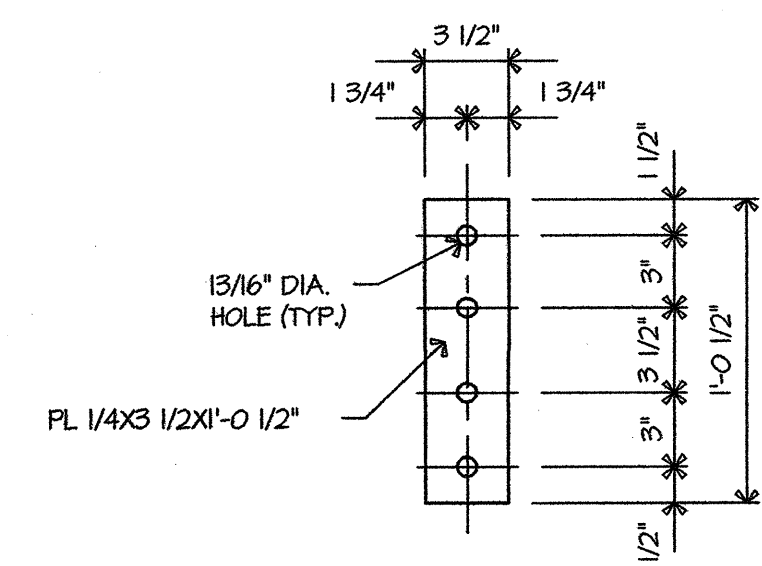
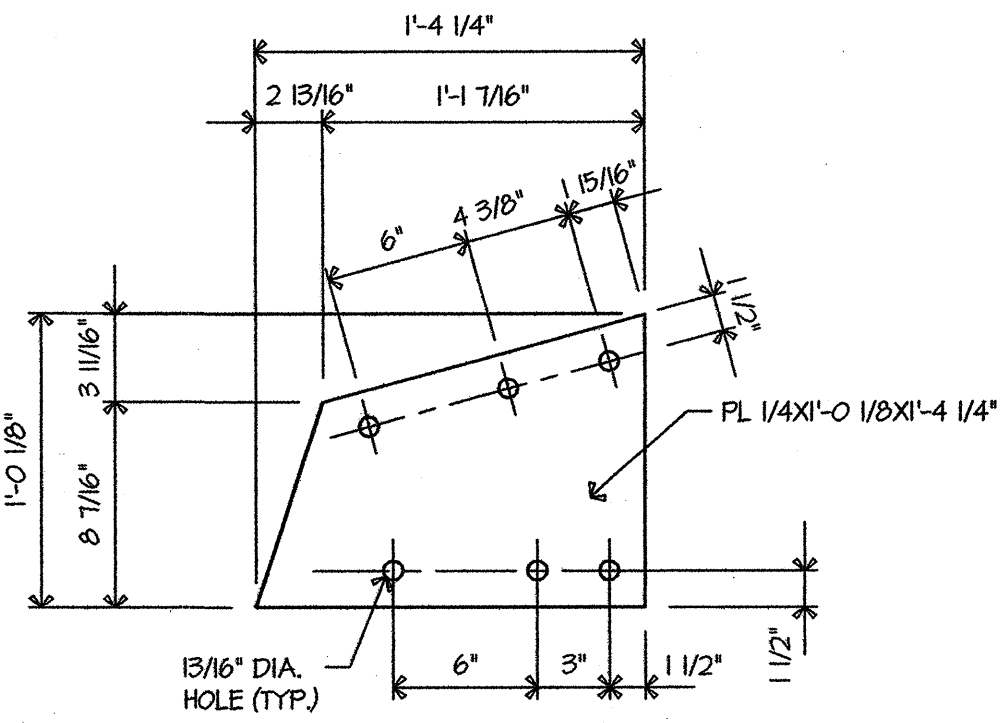
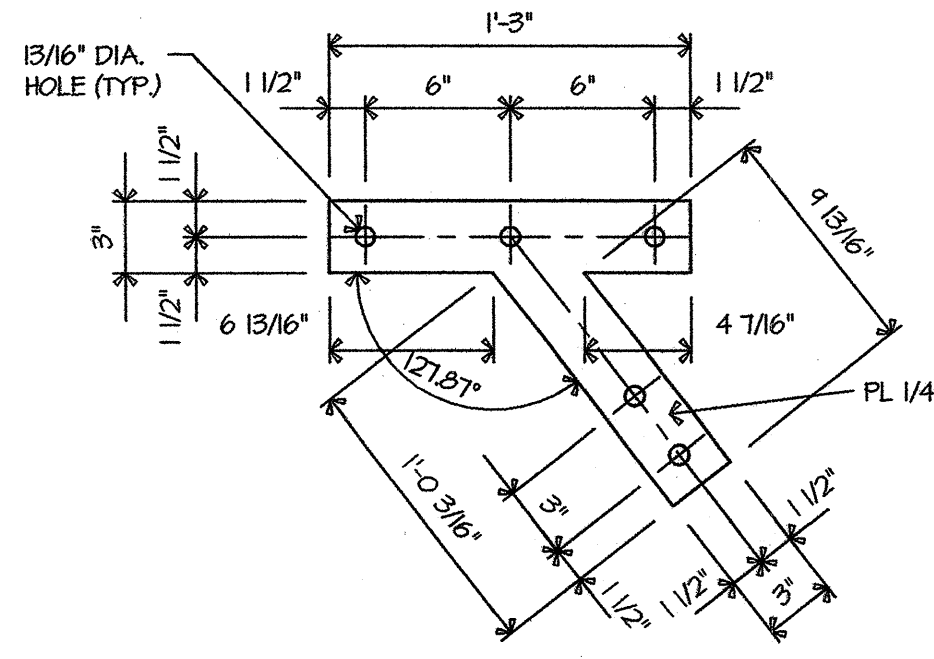
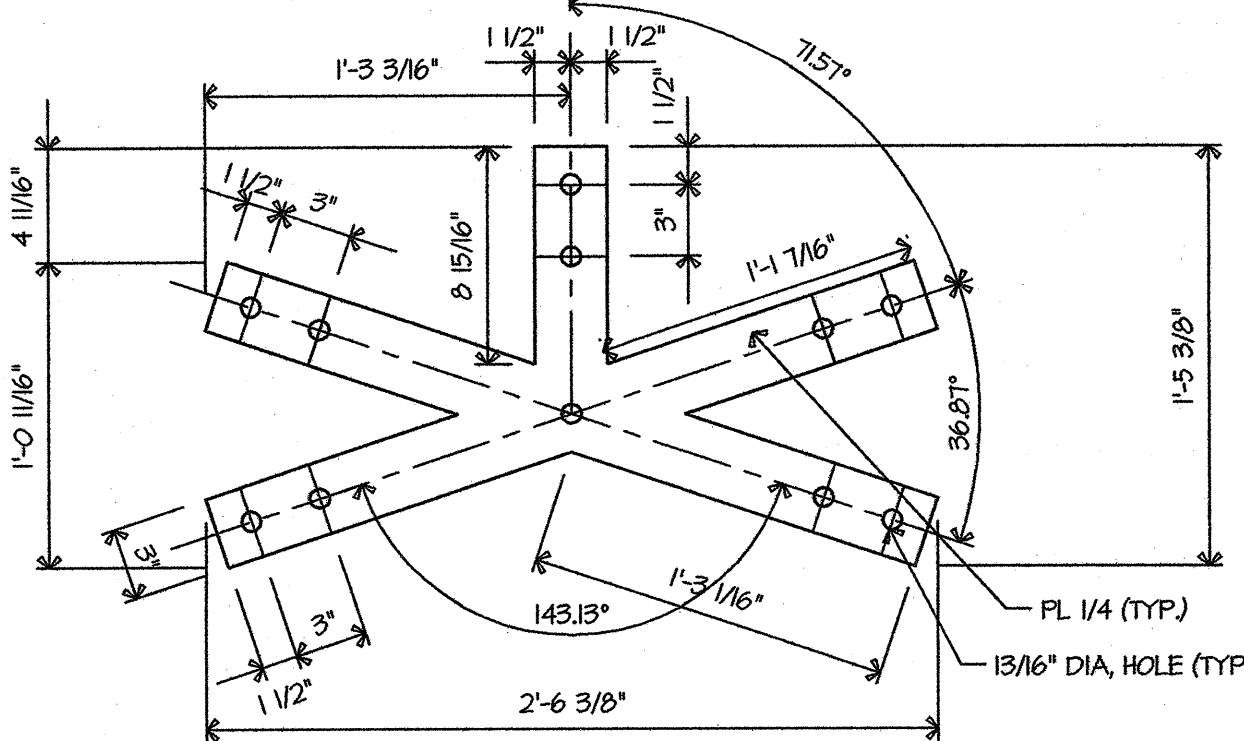
Project :

Regional Park Headquarters
ROUND ROCK, TEXAS

Drawn by: MP
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Cad File:
Sheet Title:
FOUNDATION
DETAILS
Sheet No.:
S3.0

Regional Park Headquarters
ROUND ROCK, TEXAS

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 DETAILS
 Sheet No.:
S3.0

							
01	HEAVY TIMBER TRUSS ELEVATION	02	SECTION	03	SECTION		
1/2"=1'-0"	90855E06	1/2"=1'-0"	90855E07	1"=1'-0"	90855E08		
							
04	TRUSS PLATE DETAIL	05	TRUSS PLATE DETAIL	06	TRUSS PLATE DETAIL	07	TRUSS PLATE DETAIL
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12	SECTION	13	SECTION	14	SECTION	15	SECTION

Revisions:

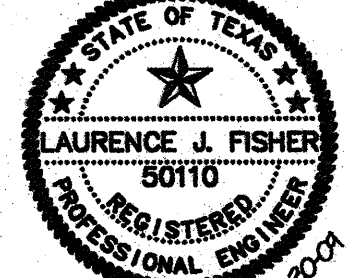


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Project:

Regional Park Headquarters
ROUND ROCK, TEXAS

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Cad File:
Sheet Title:
**FRAMING
DETAILS**
Sheet No.:
S4.1

Regional Park Headquarters

Schedule of Bid Items

Item No.	Description (with unit price in words)	Unit Price	Total Price
BASE BID SCHEDULE			
1.01	Mobilization/General Requirements of Contract at _____ Dollars and _____ Cents per lump sum	_____	_____
1.02	Compliance with SWPPP at _____ Dollars and _____ Cents per lump sum	_____	_____
1.03	Sitework at _____ Dollars and _____ Cents per lump sum	_____	_____
1.04	Concrete at _____ Dollars and _____ Cents per linear foot	_____	_____
1.05	Masonry at _____ Dollars and _____ Cents per lump sum	_____	_____
1.06	Metals at _____ Dollars and _____ Cents per acre	_____	_____
1.07	Rough Carpentry at _____ Dollars and _____ Cents per lump sum	_____	_____
1.08	Prefabricated Wood Trusses at _____ Dollars and _____ Cents per lump sum	_____	_____
1.09	Siding at _____ Dollars and _____ Cents per lump sum	_____	_____
1.10	Finish Carpentry at _____ Dollars and _____ Cents per lump sum	_____	_____
1.11	Cabinetry at _____ Dollars and _____ Cents per lump sum	_____	_____
1.12	Weatherproofing at _____ Dollars and _____ Cents per lump sum	_____	_____
1.13	Doors and Windows at _____ Dollars and _____ Cents per lump sum	_____	_____
1.14	Wall and Ceiling Finishes at _____ Dollars and _____ Cents per lump sum	_____	_____
1.15	Flooring at _____ Dollars and _____ Cents per lump sum	_____	_____
1.16	Painting and Staining at _____ Dollars		

Regional Park Headquarters

Schedule of Bid Items

Item No.	Description (with unit price in words)	Unit Price	Total Price
	and _____ Cents	_____	_____
	per lump sum		
1.17	Signage		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.18	Fire Extinguisher Cabinets		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.19	Toilet and Bath Accessories		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.20	Site Electrical		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.21	Building Electrical		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.22	Mechanical		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.23	Plumbing Labor and Rough-Ins		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.24	Plumbing Fixtures		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.25	Automated Logic		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		
1.26	Miscellaneous		
	at _____ Dollars		
	and _____ Cents	_____	_____
	per lump sum		

BID SUMMARY

BID SCHEDULE NO.:

TOTAL BID AMOUNT : _____

It is understood the quantities of work to be done at unit prices are approximate and are intended for bidding purposes only. Amounts are to be shown in both words and figures. In case of discrepancy the amount shown in words shall govern.

Owner reserves the right to delete certain items of work via a change order at the time of award of the contract to delete bid item quantities to reduce project cost within available funding at the time of award and execution of the contract.

Regional Park Headquarters **Bid Item Descriptions**

BASE BID SCHEDULE NO. 1 (TRAIL SECTION 1 – STATIONS 75+00 TO 142+64.56)

Pay Item 1.01. **Mobilization/General Requirements of Contract:** This item covers the movement of personnel, construction equipment, and supplies to the project site or to the vicinity of the project site in order to enable the Contractor to begin work on the project. This item also includes any bonds, insurance, administrative and supervision, and temporary facilities to perform the contracted work.

Pay Item 1.02. **Compliance with SWPPP:** This item covers compliance with the Technical Specifications, Plans, preparation of the SWPPP, submittal of NOI, performance of inspections and maintenance records according to the SWPPP. This item covers the installation of temporary erosion control measures not specifically listed elsewhere as pay items but required in accordance with the SWPPP.

Pay Item 1.03. **Sitework:** This item covers all work required 5' and further from the building perimeter not already covered under other headings.

Pay Item 1.04. **Concrete:** This item covers foundations and all other concrete work performed under Division 3.

Pay Item 1.05. **Masonry:** This item covers the exterior stone veneer and all other masonry work performed under Division 4.

Pay Item 1.06. **Metals:** This item covers the roofing, flashing, and all other metal work performed under Division 5 and Division 7.

Pay Item 1.07. **Rough Carpentry:** This item covers the site framing and materials for rough carpentry performed under Division 6.

Pay Item 1.08. **Prefabricated Wood Trusses:** This item covers the roof trusses and installation performed under Division 6.

Pay Item 1.09. **Siding:** This item covers fiber cement siding, soffits, and cornice carpentry work labor and materials performed under Division 6.

Pay Item 1.10. **Finish Carpentry:** This item covers exposed wood trim and finish carpentry labor and materials performed under Division 6.

Pay Item 1.11. **Cabinetry:** This item covers cabinetry labor and materials performed under Division 6.

Pay Item 1.12. **Weatherproofing:** This item covers the waterproofing, insulation, and sealants labor and materials performed under Division 7.

Pay Item 1.13. **Doors and Windows:** This item covers the doors and windows labor and materials performed under Division 8.

Pay Item 1.14. **Wall and Ceiling Finishes:** This item covers the gypsum board and acoustical tile wall and ceiling finishes labor and materials performed under Division 9.

Pay Item 1.15. **Flooring:** This item covers the flooring performed under Division 9.

Pay Item 1.16. **Painting and Staining:** This item covers the painting and staining labor and materials performed under Division 9.

Pay Item 1.17. **Signage:** This item covers the signage performed under Division 10.

Pay Item 1.18. **Fire Extinguisher Cabinets:** This item covers the fire extinguisher cabinets labor and materials performed under Division 10.

Pay Item 1.19. **Toilet and Bath Accessories:** This item covers the toilet and bath accessories labor and materials performed under Division 10.

Pay Item 1.20. **Site Electrical:** This item covers all conduits, electrical, data, and low voltage scope to provide service outside of and up to the building materials and labor performed per the Electrical Construction Drawings.

Pay Item 1.21. **Building Electrical:** This item covers all electrical materials and labor within the building performed per the Electrical Construction Drawings.

Pay Item 1.22. **Mechanical:** This item covers the mechanical systems labor and materials performed per the Mechanical Construction Drawings.

Pay Item 1.23. **Plumbing Labor and Rough-Ins:** This item covers the plumbing labor and materials performed per the Plumbing Construction Drawings, but excludes Plumbing Fixtures.

Pay Item 1.24. **Plumbing Fixtures:** This item covers the plumbing fixtures required per the Plumbing Construction Drawings.

Pay Item 1.25. **Automated Logic:** This item covers the Automated Logic system materials and labor to Williamson County Specification as notated on the Electrical Construction Drawings.

Pay Item 1.26. **Miscellaneous:** This item covers all items required by the plans and specifications not reasonably attributable to Pay Items 1.01 through 1.19.

End of Bid Item Descriptions

Extra and Voluntary Duty Pay BA Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Lisa Moore, County Auditor
Submitted For: David Dukes
Department: County Auditor
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge additional revenues for January 2011 Extra Duty and Voluntary Duty:

Background

Extra Duty and Voluntary Duty for law enforcement are now paid through payroll.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq
	0100.0000.341220	Vol Duty Revenue, SO	\$10,049.28	01
	0100.0000.341240	Ex Duty Revenue, SO	\$28,831.22	02
	0100.0000.341221	Revenue, Const 1	\$1,790.48	03
	0100.0000.341222	Revenue, Const 2	\$1,538.93	04
	0100.0000.341224	Revenue, Const 4	\$405.54	05
	0100.0000.341226	Revenue, Juv	\$168.98	06

Attachments

No file(s) attached.

Form Routing/Status

Form Started By: Lisa Moore
 Started On: 01/26/2011 12:34 PM
 Final Approval Date: 01/27/2011

Extra and Voluntary Duty Pay BA

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Lisa Moore, County Auditor
Submitted For: David Dukes
Department: County Auditor
Agenda Category: Regular Agenda Items

Information

Agenda Item

Consider an order declaring an emergency and a grave necessity due to unforeseeable circumstances and approve a budget amendment to acknowledge additional expenditures for January 2011 Extra Duty and Voluntary Duty pay:

Background

Extra Duty and Voluntary Duty for law enforcement are now paid through payroll.

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq
	0100.0551.001118	Payroll, Const 1	\$1,443.35	01
	0100.0551.002010	FICA, Const 1	\$110.42	02
	0100.0551.002020	Retirement, Const 1	\$164.54	03
	0100.0551.002050	Worker's Comp, Const 1	\$72.17	04
	0100.0552.001118	Payroll, Const 2	\$1,240.57	05
	0100.0552.002010	FICA, Const 2	\$94.90	06
	0100.0552.002020	Retirement, Const 2	\$141.42	07
	0100.0552.002050	Worker's Comp, Const 2	\$62.03	08
	0100.0554.001117	Payroll, Const 4	\$360.00	09
	0100.0554.002010	FICA, Const 4	\$27.54	10
	0100.0554.002050	Worker's Comp, Const 4	\$18.00	11
	0100.0560.001117	Vol Duty, SO	\$7,145.30	12
	0100.0560.001118	Extra Duty, SO	\$23,241.61	13
	0100.0560.002010	FICA, SO	\$2,324.60	14
	0100.0560.002020	Retirement, SO	\$2,649.54	15
	0100.0560.002050	Worker's Comp, SO	\$1,519.35	16
	0100.0570.001117	Payroll, Jail	\$1,775.50	17
	0100.0570.002010	FICA, Jail	\$135.83	18
	0100.0570.002050	Worker's Comp, Jail	\$88.78	19

	0100.0576.001117	Payroll, Juv	\$150.00	20
	0100.0576.002010	FICA, Juv	\$11.48	21
	0100.0576.002050	Worker's Comp, Juv	\$7.50	22

Attachments

No file(s) attached.

Form Routing/Status

Form Started By: Lisa Started On: 01/26/2011 12:42
 Moore PM
 Final Approval Date: 01/27/2011

Discuss Real Estate Matters

Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Charlie Crossfield, Road Bond
Submitted For: Charlie Crossfield
Department: Road Bond
Agenda Category: Executive Session

Information

Agenda Item

Discuss real estate matters (EXECUTIVE SESSION as per VTCA Govt. Code sec. 551.0721 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.)

1. Proposed or potential purchase of lease of property by the County:
 - a) Discuss proposed acquisition of property for right-of-way for RM 2338 Phase II.
 - b) Discuss proposed acquisition of property for right-of-way for SH 195 0.805 South of Bell County Line to IH 35.
 - c) Discuss proposed acquisition of property for right-of-way for US 183 Extension from 1,000 feet South of San Gabriel to 1,000 feet North of SH 29.
 - d) Discuss proposed acquisition of property for right-of-way for O'Connor Boulevard and 620 project.
 - e) Discuss proposed acquisition of property for right-of-way for Ronald Reagan Blvd. Phase II project from FM 3405 to Reagan Blvd.
 - f) Discuss proposed acquisition of property for right-of-way for Ronald Reagan Blvd. Phase III and Phase IV.
 - g) Discuss proposed acquisition of property for proposed SH 29 project.
 - h) Discuss proposed acquisition of property for right-of-way on CR 274/San Gabriel Parkway.
 - i) Discuss proposed acquisition of property for right-of-way along Lakeline extension.
 - j) Discuss proposed acquisition of property for right-of-way along SW By-Pass.
 - k) Discuss proposed acquisition of property for right-of-way along Pearson and Neenah.

l) Discuss proposed Northwoods Road District.

m) Discuss conveyance of University Boulevard right-of-way.

n) Discuss proposed acquisition of property for right-of-way for US 79 Section 3 from East of Hutto to CR 402.

o) Discuss proposed realignment project along FM 1660.

p) Discuss proposed acquisition of property for right-of-way along Pond Springs Road.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

No file(s) attached.

Form Routing/Status

Form Started By: Charlie Crossfield Started On: 01/27/2011 10:08 AM

Final Approval Date: 01/27/2011

Discuss pending or contemplated litigation Commissioners Court - Regular Session

Date: 02/01/2011
Submitted By: Charlie Crossfield, Road Bond
Submitted For: Charlie Crossfield
Department: Road Bond
Agenda Category: Executive Session

Information

Agenda Item

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) Cause No. 10-1166-C277; GTE Southwest Incorporated d/b/a Verizon Southwest vs. Williamson County, in the District Court of Williamson County, Texas, 277th Judicial District.

Background

Fiscal Impact

From/To	Acct No.	Description	Amount	Sort Seq

Attachments

No file(s) attached.

Form Routing/Status

Form Started By: Charlie Crossfield Started On: 01/27/2011 10:10 AM
 Final Approval Date: 01/27/2011
