Addendum No. 3

To: All Plan Holders

Project: DPS Hangar Project

Airport: South Texas International Airport at Edinburg

KSA Project No.: 100157

Date: Thursday, September 22, 2022

Client Project No.: TxDOT CSJ No. 22HGEDINB

The plans, specifications, and contract documents are modified as described below. All bidders shall acknowledge receipt of this and all other addenda on page 6 of 7 on the revised bid form titled **REVISED PER ADDENDUM NO. 3**. This addendum becomes a part of the contract documents. All provisions of the original plans, specifications, and contract documents shall remain in full force and effect, except as modified by this addendum.

I. **Contract Document Revisions**

A. **Bid Form**

Replace with the attached **Revised** Bid Form. Note that the award of bids will be based on the bid items and quantities listed in the **Revised** Bid Form. Any variance in the bid submittals from the **Revised** Bid Form will result in the bid being disqualified. The revised bid form is not attached to the addendum but can be located on the TxDOT website with the other contract documents associated with this project.

II. **Plan Revisions**

A. Plan Sheet 02, Index of Sheets
   1. Replace with the attached Revised Plan Sheet 03, Index of Sheets

B. Plan Sheet 03, Summary of Quantities
   1. Replace with the attached Revised Plan Sheet 03, Summary of Quantities

C. Plan Sheet 06, Project Layout
   1. Replace with the attached Revised Plan Sheet 06, Project Layout

D. Plan Sheet 07, Dimensional Control
   1. Replace with the attached Revised Plan Sheet 07, Dimensional Control

E. Plan Sheet 25, Storm Water Pollution Prevention Plan
   1. Replace with the attached Revised Plan Sheet 25, Storm Water Pollution Prevention Plan

F. Plan Sheet 26, Storm Water Pollution Prevention Plan Layout
   1. Replace with the attached Revised Plan Sheet 26, Storm Water Pollution Prevention Plan Layout

G. Plan Sheet 27, Storm Water Pollution Prevention Details
   1. Replace with the attached Revised Plan Sheet 27, Storm Water Pollution Prevention Details

H. Plan Sheet 28, Site Utility Plan
   1. Replace with the attached Revised Plan Sheet 28, Site Utility Plan

I. Plan Sheet 29, Utility Details 1
   1. Replace with the attached Revised Plan Sheet 29, Utility Details 1

J. Plan Sheet 30, Utility Details 2
   1. Replace with the attached Revised Plan Sheet 30, Utility Details 2

K. Plan Sheet 33, Site Grading and Drainage Plan 1
   1. Replace with the attached Revised Plan Sheet 33, Site Grading and Drainage Plan 1

L. Plan Sheet 34, Site Grading and Drainage Plan 2
   1. Replace with the attached Revised Plan Sheet 34, Site Grading and Drainage Plan 2

M. Plan Sheet 34A, Access Driveway at FM490 – Grading and Drainage Plan
   1. Replace with the attached Revised Plan Sheet 34A, Access Driveway at FM490 – Grading and Drainage Plan

N. Plan Sheet 35, Storm Drainage Details 1
   1. Replace with the attached Revised Plan Sheet 35, Storm Drainage Details 1

O. Plan Sheet 35A, Storm Drainage Details 2
   1. Replace with the attached Revised Plan Sheet 35A, Storm Drainage Details 2

P. Plan Sheet 36, Detention Calculations
   1. Replace with the attached Revised Plan Sheet 36 Detention Calculations

Q. Plan Sheet 37, Airfield Detention Pond Expansion
   1. Replace with the attached Revised Plan Sheet 37, Airfield Detention Pond Expansion

R. Plan Sheet 38, Detention Pond Cross Sections
   1. Replace with the attached Revised Plan Sheet 38, Detention Pond Cross Sections

S. Plan Sheet 53, Paving Details 1
   1. Replace with the attached Revised Plan Sheet 53, Paving Details 1

T. Plan Sheet A1.00, Site Plan
   1. Replace with the attached Revised Plan A1.00, Site Plan

U. Plan Sheet A2.00, Floor Plan
   1. Replace with the attached Revised Plan A2.00, Floor Plan

V. Plan Sheet A2.20, Floor Finish Plan
   1. Replace with the attached Revised Plan Sheet A2.20, Floor Finish Plan

W. Plan Sheet A4.00, Building Sections
   1. Replace with the attached Revised Plan Sheet A4.00, Building Sections

III. **Specification Revisions**

A. FAA Specification C-100, Contractor Quality Control Program (CQCP)
   A. Delete this item in its entirety and replace with the attached Specification C-100, Contractor Quality Control Program (CQCP) shown as **REVISED PER ADDENDUM NO. 3** in the footer.

B. FAA Specification C-102, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control
   A. Delete this item in its entirety and replace with the attached Specification C-102, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control shown as **REVISED PER ADDENDUM NO. 3** in the footer.

C. FAA Specification D-701, Pipe for Storm Drains and Culverts
   A. Delete this item in its entirety and replace with the attached Specification D-701, Pipe for Storm Drains and Culverts shown as **REVISED PER ADDENDUM NO. 3** in the footer.

D. FAA Specification D-751, Manholes, Catch Basins, Inlets and Inspection Holes
   A. Delete this item in its entirety and replace with the attached Specification D-751, Manholes, Catch Basins, Inlets and Inspection Holes shown as **REVISED PER ADDENDUM NO. 3** in the footer.

E. FAA Specification D-752, Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures
   A. Delete this item in its entirety and replace with the attached Specification D-751, Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures shown as **REVISED PER ADDENDUM NO. 3** in the footer.

F. Architectural Specification 011000, Summary
   A. Delete this item in its entirety and replace with the attached Specification 011000, Summary as shown as **REVISED PER ADDENDUM NO. 3** in the footer.

G. Architectural Specification 012300, Alternates
   A. Delete this item in its entirety and replace with the attached Specification 012300, Alternates as shown as **REVISED PER ADDENDUM NO. 3** in the footer.

H. Architectural Specification 111300, Jib Crane
   A. Delete this item in its entirety from the contract documents.

IV. **Attachments**

A. Revised Plan Sheet 03, Index of Sheets

B. Revised Plan Sheet 03, Summary of Quantities

C. Revised Plan Sheet 06, Project Layout

D. Revised Plan Sheet 07, Dimensional Control

E. Revised Plan Sheet 25, Storm Water Pollution Prevention Plan

F. Revised Plan Sheet 26, Storm Water Pollution Prevention Plan Layout

G. Revised Plan Sheet 27, Storm Water Pollution Prevention Details

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Q. Revised Plan Sheet 37, Airfield Detention Pond Expansion

R. Revised Plan Sheet 38, Detention Pond Cross Sections

S. Revised Plan Sheet 53, Paving Details 1

T. Revised Sheet A1.00, Site Plan

U. Revised Sheet A2.00, Floor Plan

V. Revised Sheet A2.20, Floor Finish Plan

W. Revised Sheet A4.00, Building Sections

X. FAA Specification C-100, Contractor Quality Control Program (CQCP)

Y. FAA Specification C-102, Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

V. FAA Specification D-701, Pipe for Storm Drains and Culverts

W. FAA Specification D-751, Manholes, Catch Basins, Inlets and Inspection Holes

X. FAA Specification D-752, Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures

Y. Architectural Specification 011000, Summary

Z. Architectural Specification 012300, Alternates

AA. Architectural Addendum

BB. Structural Addendum

Addendum No. 3 Issued By:
KSA

Craig A. Clairmont, P.E.
Sr. Project Manager

STATE OF TEXAS
CRAIG A. CLAIRMONT
130795
LICENSED
PROFESSIONAL ENGINEER
09/22/2022

TBPE Firm Registration No. F-1356

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MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\CIVIL\ 100157_EDN_C-GI-0002_INDX-QUAN.DWG | SHT INDX1
DRAWING PATH/NAME LAYOUT | PLOT DATE - TIME

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: INDEX OF SHEETS

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3252 F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/15/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
02

SUMMARY OF QUANTITIES

Item No.	Spec. No.	Description	Units	Estimated Quantities
Item 1 - Hangar Site Work (Outside of Hangar Foundation), Access Drive, Parking Lot, Apron and Connector Taxiway Pavement:				
1.01	C-100-14.1	Contractor Quality Control Program (CQCP)	LS	1
1.02a	C-102-5.1a	Installation and Removal Silt Fence (Per Detail 3 sheet 27)	LF	802
1.02b	C-102-5.1b	Installation and Removal Silt Fence (per Detail 5 sheet 27)	LF	530
1.03	C-102-5.2	Rock Construction Exit	EA	2
1.04	C-102-5.3	Inlet Protection Barrier	EA	5
1.05	C-105-6.1	Mobilization	LS	1
1.06	P-101-5.1	Pavement Removal (Full Depth)	SY	69
1.07	P-152	Unclassified Excavation	CY	3,170
1.08	P-152	Unclassified Embankment	CY	5,500
1.09	P-605-5.1	Joint Sealing Filler	LF	11,000
1.10	P-620-5.2a	Yellow Pavement Markings (Reflective)	SF	3,000
1.11	P-620-5.2b	Black Pavement Markings (Non-Reflective)	SF	4,500
1.12a	D-701-5.1	15" Class V RCP	LF	146
1.12b	D-701-5.2	18" Class V RCP	LF	100
1.13	D-701-5.3	24" Class V RCP	LF	187
1.14	D-701-5.4	13.5" x 22", Class IV Arch Pipe	LF	244
1.15	D-701-5.5	2' X 4' Reinforced Concrete Box Culvert	LF	422
1.16	D-751-5.1	3' x 3' Grate Inlet	EA	2
1.17	D-751-5.2	6' x 6' Grate Inlet	EA	1
1.18	D-751-5.3	6' x 6' Junction Box	EA	2
1.19	D-752-5.1	2' x 4' Box Culvert Headwall (4:1 Slope, With Pipe Runners)	EA	1
1.20	D-752-5.2	Headwall for 2 - 13.5" x 22" Arch Pipes (6:1 Slope, With Pipe Runners)	EA	1
1.21a	D-752-5.3a	Safety End Treatment 18" RCP (6:1 Slope, With Pipe Runners)	EA	2
1.21b	D-752-5.3b	Safety End Treatment 24" RCP (4:1 Slope, With Pipe Runners)	EA	1
1.22a	D-752-5.4	Safety End Treatment for 2' x 4' Box Culvert (4:1 Slope, With Pipe Runners)	EA	1
1.22b	D-752-5.5	Headwall for 2 - 36" CMP (6:1 Slope, With Pipe Runners)	EA	1
1.23	D-754-5.1	Concrete Flume	SY	372
1.24	T-901-5.1	Temporary Cool or Warm Weather Seeding	AC	5
1.25	T-901-5.2	Hydromulch, Seed, Lime & Fertilizer for Permanent Application	AC	5
1.26	T-904-5.1	Sodding	SY	1,757
1.27	T-905-5.1	Topsoil (Obtained on Site or Removed from Stockpile)	CY	3,248
1.28	F-162-5.1	6' Chain-Link Fence w/3-Strand Barbwire	LF	1,075
1.29	F-162-5.2a	24' Electric Access Secuity Gate	EA	2
1.30	F-162-5.2b	Pedestrian Access Gate	EA	1
1.31	F-162-5.3	Fence Removal	LF	985
1.32	Tx247-6.1	10" Flexible Base Course (Type A, Grade 1-2)	SY	3,755
1.33	Tx247-6.2	12" Flexible Base Course (Type A, Grade 1-2)	SY	7,340
1.34	Tx275-6.1	8" Cement Treated Subgrade (4% Cement)	SY	11,590
1.35	Tx310-6.1	Prime Coat (MC-30 @ 0.25 GAL/SY)	GAL	5,170
1.36	Tx340-6.1	3" HMAC (Type D)	TON	480
1.37	Tx360-6.1	7" Reinforced PCC	SY	7,565
1.38	Tx432-6.1	Rock Rip-Rap	SY	267
1.39	Tx644-6.1	Roadside Signs	EA	5
1.40	Tx666-6.1	Parking Lot and Access Drive Markings	LS	1
1.41	KSA-105-3.1	Traffic Control Devices and Personnel	LS	1
1.42	KSA-701-5.1	Taxiway Centerline Retroreflective Markers (Green)	EA	24
1.43	SEE PLANS	Connect to Existing 12" Waterline	EA	2
1.44	SEE PLANS	2" Water Meter and Box	LS	1
1.45	SEE PLANS	8" Water Meter Vault	LS	1
1.46	SEE PLANS	2" Corporation Stop and Saddle	LS	1
1.47	SEE PLANS	Tapping Sleve & Valve (12" x 8")	LS	1
1.48	SEE PLANS	6" C900 DR18 PVC Pipe	LF	38
1.49	SEE PLANS	8" C900 DR18 PVC Pipe	LF	225
1.50	SEE PLANS	2" Type "K" Copper Pipe	LF	215
1.51	SEE PLANS	Fire Hydrant	EA	2
1.52	SEE PLANS	Septic System	LS	1
1.53	SEE PLANS	Concrete Sidewalk (4.5")	SY	130
1.54	SEE PLANS	Bollards	EA	24
1.55	SEE PLANS	Telephone Cable Reloaction No. 1	LS	1
1.56	SEE PLANS	Telephone Cable Reloaction No. 2	LS	1
1.57	SEE PLANS	Standard Single Dupster Pad Enclosure	LS	1
1.58	SEE PLANS	Wheel Stops	EA	23
Item 2 - DPS Hangar:				
2.01	SEE PLANS	Hangar Building (Includes Cost For Everything Within the Footprint of the Foundation)	LS	1
Additive Alternate No. 1 - Painting Hangar Bay Structural Steel:				
A1.01	SEE PLANS	Painting All Structural Steel in Hangar bay	LS	1
Additive Alternate No. 2 - Emergency Generator:				
A2.01	SEE PLANS	Emergency Backup Generator	LS	1

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA.NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEET SETS\002 CIVIL\ 100157_EDIN_C-GI-0002_INDX-QUAN.DWG | QUAN |
DRAWING PATH/NAME | LAYOUT | PLOT DATE - TIME
100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: SUMMARY OF QUANTITIES

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

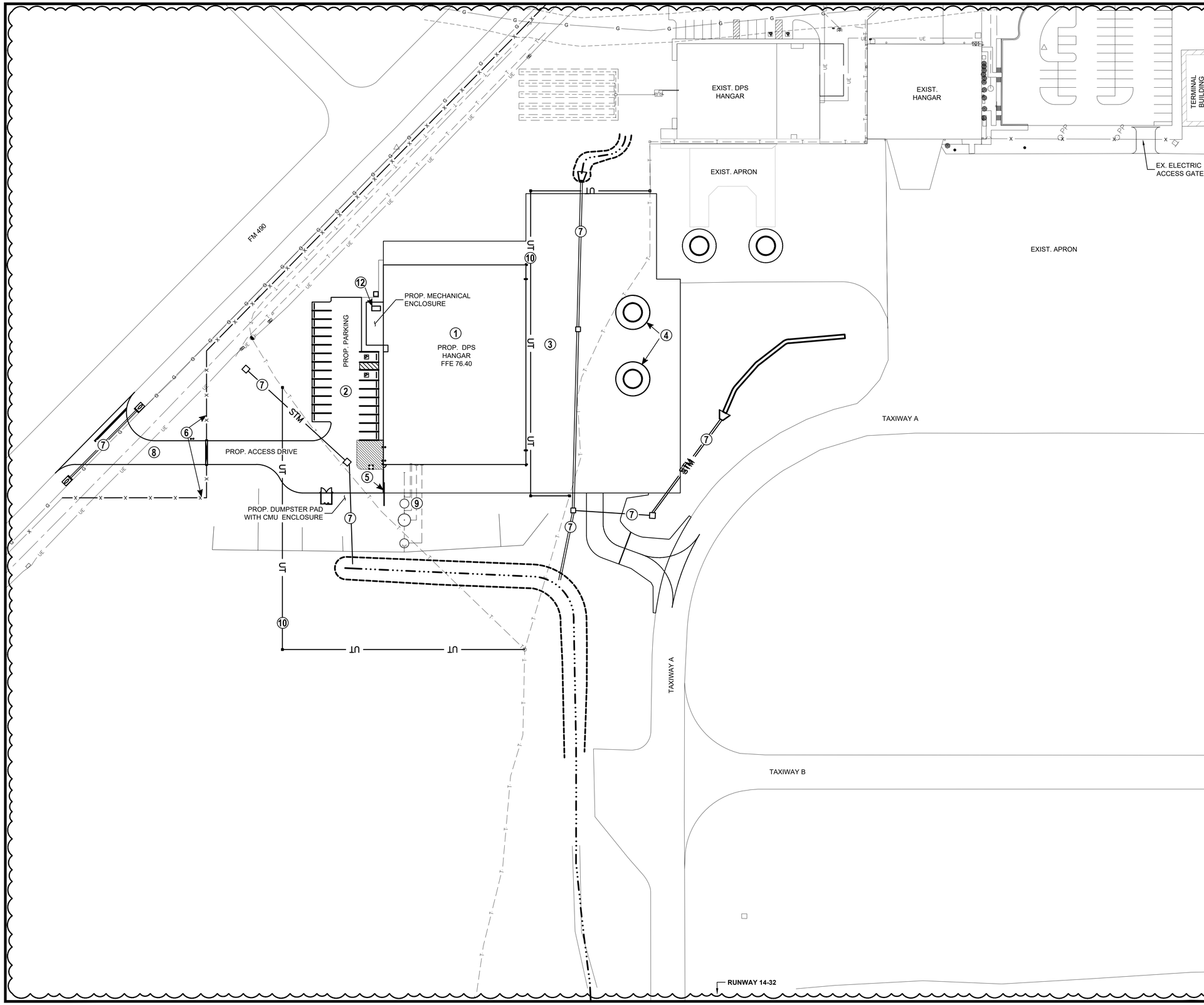
DRAWN BY: AJ
DESIGNED BY: NM/AG
LATEST REVISION: 09/15/2022
KSA JOB NO.: 100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3252 F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/15/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
03



50' 0 50' 100'

GRAPHIC SCALE IN FEET

BASE BID PROJECT SCOPE:

1. DPS HANGAR
2. AUTO PARKING (HMAC)
3. APRON PAVEMENT (PCC)
4. HELICOPTER PARKING SPACES
5. ELECTRIC APRON ACCESS GATE
6. SECURITY FENCE & ELECTRIC ACCESS GATE
7. STORM SEWER
8. ACCESS DRIVEWAY TO FM 490
9. SEPTIC SYSTEM
10. UTILITY RELOCATION (ATT)

ADDITIVE ALTERNATE NO. 1:

11. PAINTING OF ALL STRUCTURAL STEEL IN HANGAR BAY

ADDITIVE ALTERNATE NO. 2:

12. EMERGENCY BACKUP GENERATOR

LEGEND

- EXISTING FEATURES
- PROP. PAVEMENT EDGE
- EXIST. BUILDING / STRUCTURES
- EXISTING FENCE / PROP. FENCE
- PROP. GENERATOR
- PROP. STORM STRUCTURE / STORM PIPE

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA.NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDN_C-LO-PROJ.DWG | PROJ |
DRAWING PATH/NAME: LAYOUT | PLOT DATE - TIME

SHEET NAME: PROJECT LAYOUT

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG*
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

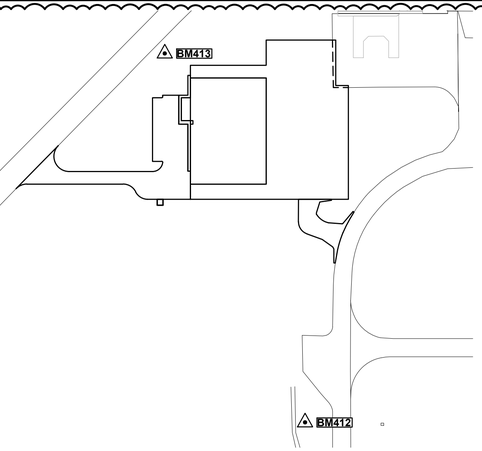
DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281.494.3252 F. 888.224.9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/15/2022

SEAL:
TBPE Firm Registration No. F-1356

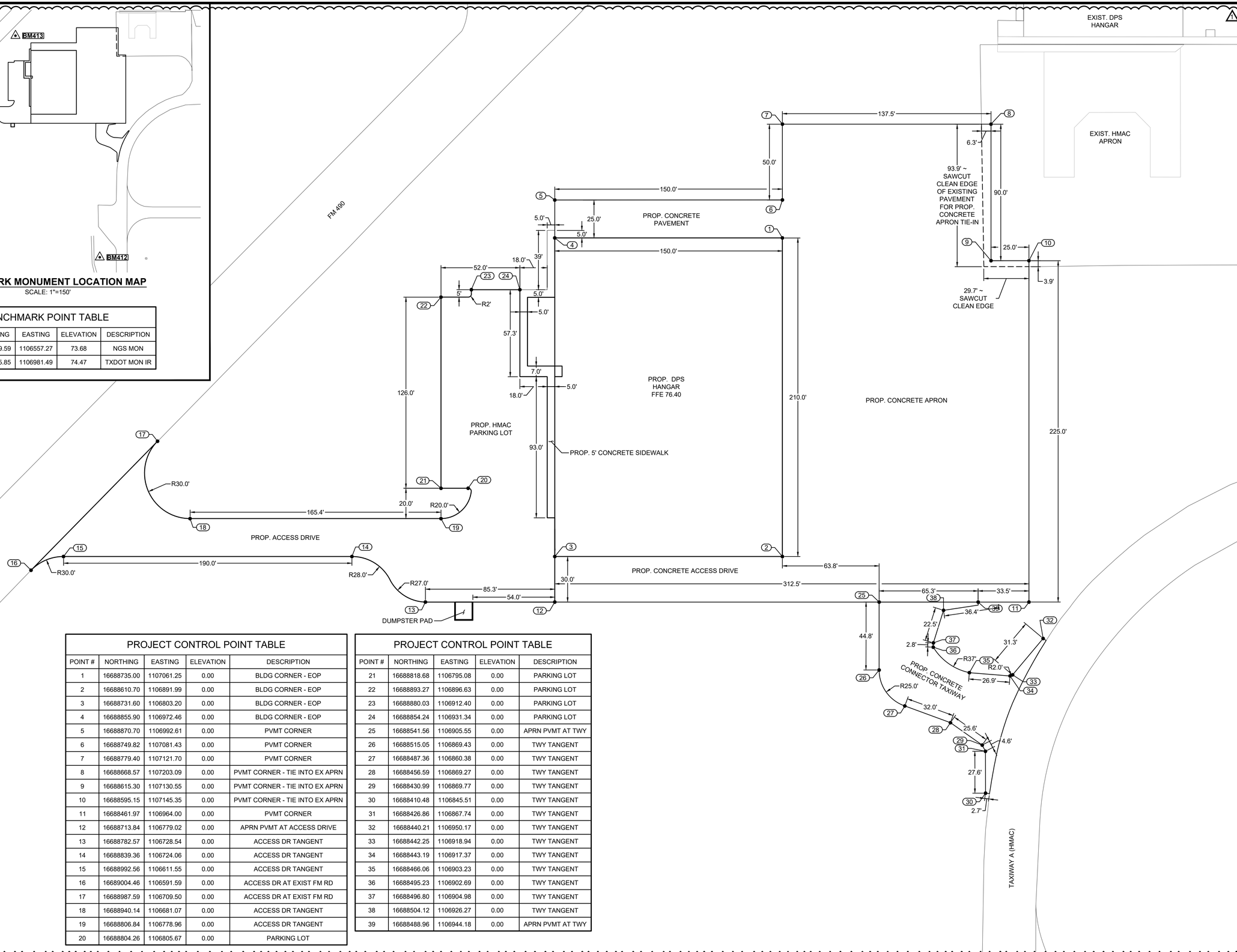
SHEET NO.
06



BENCHMARK MONUMENT LOCATION MAP

SCALE: 1"=150'

BENCHMARK POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
412	16688269.59	1106557.27	73.68	NGS MON
413	16688925.85	1106981.49	74.47	TXDOT MON IR



PROJECT CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	16688735.00	1107061.25	0.00	BLDG CORNER - EOP
2	16688610.70	1106891.99	0.00	BLDG CORNER - EOP
3	16688731.60	1106803.20	0.00	BLDG CORNER - EOP
4	16688855.90	1106972.46	0.00	BLDG CORNER - EOP
5	16688870.70	1106992.61	0.00	PVMT CORNER
6	16688749.82	1107081.43	0.00	PVMT CORNER
7	16688779.40	1107121.70	0.00	PVMT CORNER
8	16688668.57	1107203.09	0.00	PVMT CORNER - TIE INTO EX APRN
9	16688615.30	1107130.55	0.00	PVMT CORNER - TIE INTO EX APRN
10	16688595.15	1107145.35	0.00	PVMT CORNER - TIE INTO EX APRN
11	16688461.97	1106964.00	0.00	PVMT CORNER
12	16688713.84	1106779.02	0.00	APRN PVMT AT ACCESS DRIVE
13	16688782.57	1106728.54	0.00	ACCESS DR TANGENT
14	16688839.36	1106724.06	0.00	ACCESS DR TANGENT
15	16688992.56	1106611.55	0.00	ACCESS DR TANGENT
16	16689004.46	1106591.59	0.00	ACCESS DR AT EXIST FM RD
17	16688987.59	1106709.50	0.00	ACCESS DR AT EXIST FM RD
18	16688940.14	1106681.07	0.00	ACCESS DR TANGENT
19	16688806.84	1106778.96	0.00	ACCESS DR TANGENT
20	16688804.26	1106805.67	0.00	PARKING LOT

PROJECT CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
21	16688818.68	1106795.08	0.00	PARKING LOT
22	16688893.27	1106896.63	0.00	PARKING LOT
23	16688880.03	1106912.40	0.00	PARKING LOT
24	16688854.24	1106931.34	0.00	PARKING LOT
25	16688541.56	1106905.55	0.00	APRN PVMT AT TWY
26	16688515.05	1106869.43	0.00	TWY TANGENT
27	16688487.36	1106860.38	0.00	TWY TANGENT
28	16688456.59	1106869.27	0.00	TWY TANGENT
29	16688430.99	1106869.77	0.00	TWY TANGENT
30	16688410.48	1106845.51	0.00	TWY TANGENT
31	16688426.86	1106867.74	0.00	TWY TANGENT
32	16688440.21	1106950.17	0.00	TWY TANGENT
33	16688442.25	1106918.94	0.00	TWY TANGENT
34	16688443.19	1106917.37	0.00	TWY TANGENT
35	16688466.06	1106903.23	0.00	TWY TANGENT
36	16688495.23	1106902.69	0.00	TWY TANGENT
37	16688496.80	1106904.98	0.00	TWY TANGENT
38	16688504.12	1106926.27	0.00	TWY TANGENT
39	16688488.96	1106944.18	0.00	APRN PVMT AT TWY

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NETGATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDA_C-LO-DCON.DWG | DCON |
DRAWING PATH/NAME: LAYOUT: | PLOT DATE - TIME

SHEET NAME: DIMENSIONAL CONTROL

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG*
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3252 F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/16/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
07

SITE DESCRIPTION

PROJECT LIMITS:
SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG, TEXAS.

PROJECT DESCRIPTION:
CONSTRUCT 150' x 210' AIRCRAFT STORAGE HANGAR, ACCESS DRIVEWAY, AUTO PARKING AND APRON PAVEMENT.

TOTAL PROJECT AREA: 853 ACRES ±

TOTAL AREA TO BE DISTURBED: 7 ACRES ±

WEIGHTED RUNOFF COEFFICIENT (AFTER CONSTRUCTION): 0.43

EXISTING CONDITION OF SOIL & VEGETATIVE COVER AND % OF EXISTING VEGETATIVE COVER:
CLAYEY SANDS AND CLAY SOILS WITH MIXED GRASSES AND WEEDS IN PAVEMENT AREAS.

NAME OF RECEIVING WATERS:
ON-SITE DETENTION WHICH DRAINS TO DONNA DRAIN, THENCE TO RIO GRANDE.

EROSION AND SEDIMENT CONTROLS

SOIL STABILIZATION PRACTICES:

- X TEMPORARY SEEDING (ONLY IF NECESSARY DUE TO SEASON)
- X PERMANENT PLANTING, SODDING, OR SEEDING
- ___ MULCHING
- ___ SOIL RETENTION BLANKET
- ___ BUFFER ZONES
- ___ PRESERVATION OF NATURAL RESOURCES

OTHER:

STRUCTURAL PRACTICES:

- X SILT FENCES
- ___ HAY BALES
- ___ ROCK FILTER DAMS
- ___ ROCK BERMS
- ___ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- ___ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- ___ DIVERSION DIKE AND SWALE COMBINATIONS
- ___ PIPE SLOPE DRAINS
- X PAVED FLUMES
- X ROCK BEDDING AT CONSTRUCTION EXIT
- ___ TIMBER MATTING AT CONSTRUCTION EXIT
- ___ CHANNEL LINERS
- ___ SEDIMENT TRAPS
- ___ SEDIMENT BASINS
- ___ STORM INLET SEDIMENT TRAP
- ___ STONE OUTLET STRUCTURES
- ___ CURBS AND GUTTERS
- X STORM SEWERS
- ___ VELOCITY CONTROL DEVICES

OTHER:

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT) ACTIVITIES:
EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED AS GRADING WORK PROGRESSES. ONCE INSTALLED, THESE DEVICES WILL BE MAINTAINED DURING THE DURATION OF THE PROJECT. EROSION AND SEDIMENT CONTROLS WILL BE REMOVED WHEN DIRECTED BY THE ENGINEER.

STORM WATER MANAGEMENT:
EXISTING DRAINAGE DITCHES WILL BE USED TO REMOVE WATER FROM THE SITE.

OTHER EROSION AND SEDIMENT CONTROLS:

MAINTENANCE:
EROSION AND SEDIMENT CONTROLS WILL BE CHECKED BY THE RESIDENT PROJECT REPRESENTATIVE EVERY 7 DAYS AND MAINTAINED BY THE CONTRACTOR. CONTRACTOR WILL CHECK ALL CONTROLS DAILY AND AFTER EACH RAINFALL EVENT.

INSPECTION:
INSPECTION OF ALL EROSION AND SEDIMENT CONTROLS WILL BE PERFORMED EVERY 7 DAYS (MINIMUM), AND AFTER EACH 0.5 INCH RAIN, BY THE CONTRACTOR AND RESIDENT PROJECT REPRESENTATIVE. INSPECTION REPORTS SHALL BE CREATED BY THE CONTRACTOR AND THE RESIDENT PROJECT REPRESENTATIVE AND DEFICIENCIES NOTED & CORRECTED.

WASTE MATERIALS:
ALL COLLECTED WASTE MATERIALS WILL BE STORED IN CONTAINERS FOR LEGAL DISPOSAL BY THE CONTRACTOR.

HAZARDOUS WASTE (INCLUDING SPILL REPORTING):
POTENTIAL HAZARDOUS WASTES INCLUDE FUEL, PAINTS, ACIDS, SOLVENTS, ASPHALTS, AND OTHER ITEMS NEEDED FOR CONSTRUCTION. ALL SPILLS WILL BE REPORTED AS SOON AS POSSIBLE TO THE APPROPRIATE AGENCY. ALL SPILLS MUST BE REPORTED IMMEDIATELY TO THE APPROPRIATE AGENCY.

SANITARY WASTE:
THE CONTRACTOR WILL PROVIDE TEMPORARY RESTROOM FACILITIES FOR EMPLOYEES. THE PROVIDER OF THE FACILITIES WILL LEGALLY DISPOSE OF SANITARY WASTE.

OFFSITE VEHICLE TRACKING:

- X HAUL ROADS DAMPENED FOR DUST CONTROL
- X LOADED HAUL TRUCKS TO BE COVERED WITH TARPAULIN
- X EXCESS DIRT ON ROAD REMOVED DAILY
- X STABILIZED CONSTRUCTION EXIT

OTHER:

REMARKS:
1. IN THE EVENT THAT UNANTICIPATED ARCHEOLOGICAL DEPOSITS ARE ENCOUNTERED DURING CONSTRUCTION, WORK IN THE IMMEDIATE AREA WILL CEASE AND THE TxDOT ENGINEER WILL CONTACT PROFESSIONAL ARCHEOLOGISTS TO INITIATE POST-REVIEW DISCOVERY PROCEDURES UNDER THE PROVISIONS OF 36 CFR 800.13.
2. IN THE EVENT THAT UNANTICIPATED HAZARDOUS MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION, WORK IN THE IMMEDIATE AREA WILL CEASE AND THE TxDOT PROJECT MANAGER WILL BE NOTIFIED.
3. STOCKPILES AND STAGING AREAS WILL NOT BE PLACED WITHIN ANY WATER OF THE UNITED STATES, INCLUDING WETLANDS.

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NETGATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDN_C-GI-0005_SWSP.DWG | SWSP | DRAWING PATHNAME LAYOUT | PLOT DATE - TIME

SHEET NAME: STORMWATER POLLUTION PREVENTION PLAN

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

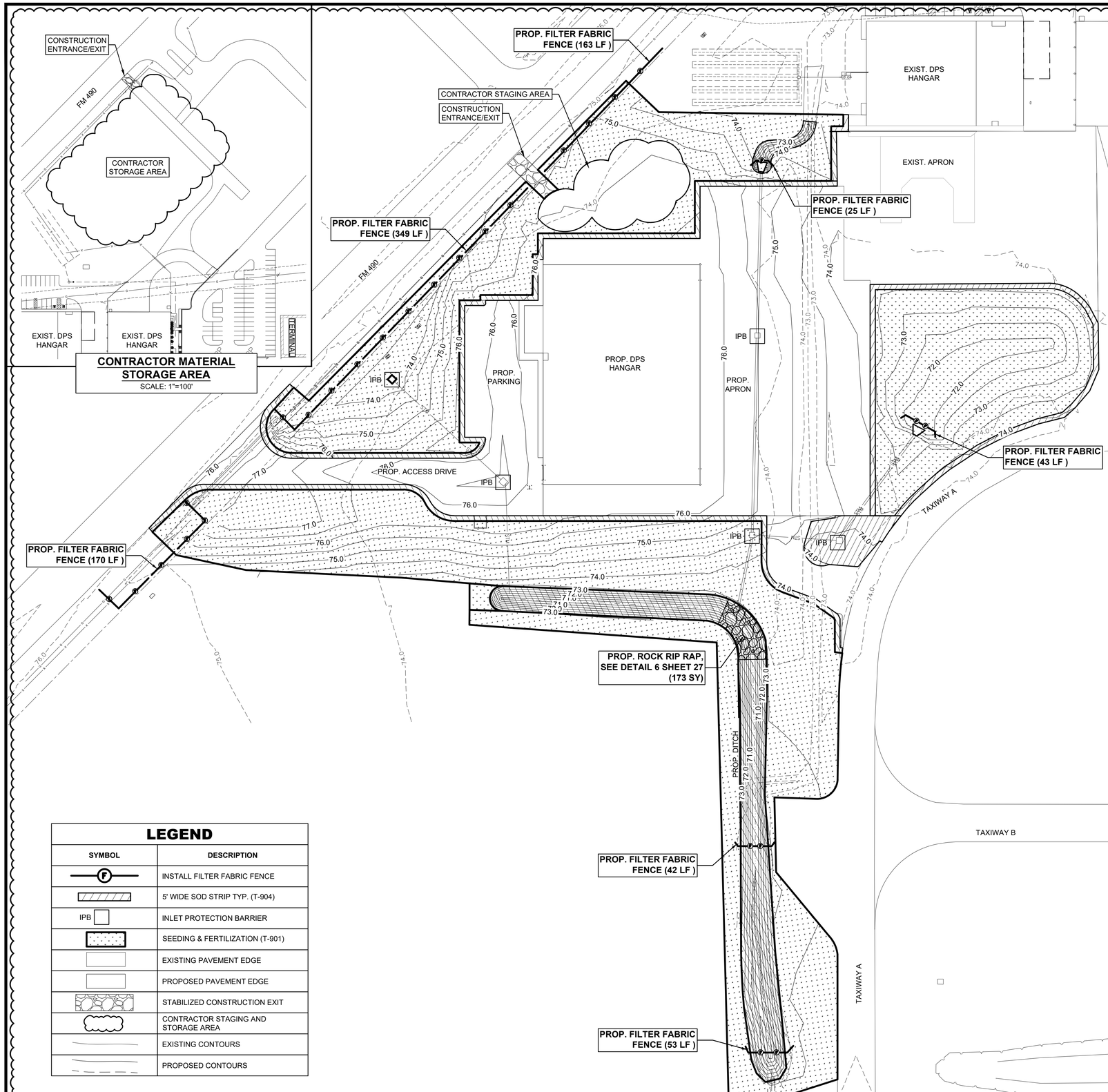
DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3252 F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/15/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
25



LEGEND

SYMBOL	DESCRIPTION
F	INSTALL FILTER FABRIC FENCE
	5' WIDE SOD STRIP TYP. (T-904)
IPB	INLET PROTECTION BARRIER
	SEEDING & FERTILIZATION (T-901)
	EXISTING PAVEMENT EDGE
	PROPOSED PAVEMENT EDGE
	STABILIZED CONSTRUCTION EXIT
	CONTRACTOR STAGING AND STORAGE AREA
	EXISTING CONTOURS
	PROPOSED CONTOURS

50' 0 50' 100'

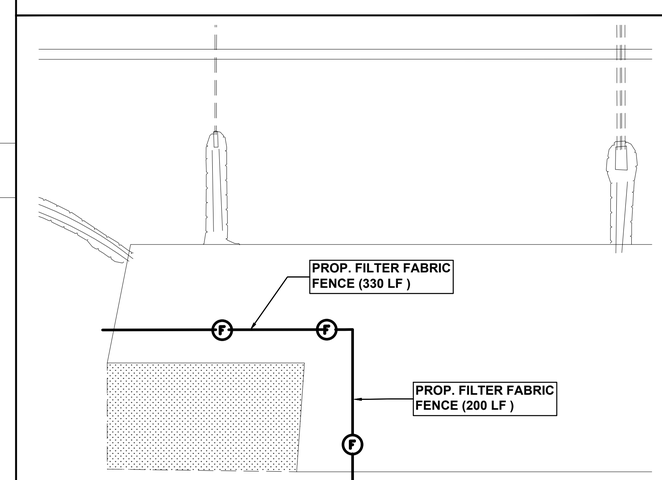
GRAPHIC SCALE IN FEET

GENERAL NOTES:

1. STORM WATER POLLUTION PREVENTION SHALL COMPLY WITH THE DETAILS SHOWN ON THE PLANS & DESCRIBED IN THE TECHNICAL SPECIFICATIONS.
2. UNDER NO CIRCUMSTANCES WILL HAY BALE DIKES BE USED IN STREAMS, SWALES, OR DITCHES THAT NORMALLY FLOW, OR BELOW NORMAL HIGH WATER MARKS ALONG STREAMS.
3. FILTER FABRIC FENCE SHALL NOT BE INSTALLED IN RUNWAY OR TAXIWAY SAFETY AREAS UNLESS INDICATED OTHERWISE.
4. CONTRACTOR SHALL INSTALL A STABILIZED CONSTRUCTION EXIT AT EXIT TO THE PROJECT SITE. CONSTRUCTION EXIT IS TO MINIMIZE THE TRACKING OF MUD FROM THE PROJECT ONTO THE PAVEMENT OF PUBLIC ROADS.
5. ALL DISTURBED AREAS OUTSIDE OF LIMITS OF GRADING SUCH AS HAUL ROUTES, AND STAGING AND STORAGE AREA, SHALL BE RESEEDED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
6. ALL AREAS INSIDE LIMITS OF CONSTRUCTION/GRADING WHERE SOD OR PAVEMENT WHERE NOT INSTALLED ARE TO TEMPORARILY SEEDED THROUGHOUT THE PROJECT AND PERMANENTLY SEEDED AT THE END OF PROJECT PER THE T-901 SPECIFICATION.
7. AT THE END OF PROJECT CONTRACTOR STAGING AND STORAGE AREA AND LOCATION OF STABILIZED CONSTRUCTION EXIT TO BE SEEDED PER THE T-901 SPECIFICATION OR SODDED PER THE T-904 SPECIFICATION.
8. HYDROMULCH, SEED, FERTILIZER AND WATER SHALL BE PAID FOR UNDER ITEM T-901. TOPSOIL SHALL BE PAID FOR UNDER ITEM T-905.
9. LOCATIONS SHOWN FOR FILTER FABRIC FENCE CAN BE FIELD ADJUSTED WITH ENGINEER'S APPROVAL.

EROSION CONTROL QUANTITIES

FILTER FABRIC FENCE (PER DETAIL 3 SHEET 27)	802 LF
FILTER FABRIC FENCE (PER DETAIL 5 SHEET 27)	530 LF
INLET PROTECTION BARRIERS	5 EA
SODDING	1,757 SY
SEEDING	5.0 AC
TOPSOIL: REMOVE - STOCKPILE - REINSTALL	3,248 CY



DETENTION POND EXPANSION
SCALE: 1"=100'

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDN_C-LO-SW3P.DWG | SW3P |
DRAWING PATH/NAME | LAYOUT | PLOT DATE - TIME

SHEET NAME:
STORMWATER POLLUTION PREVENTION PLAN LAYOUT

PROJECT NAME:
SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	AJ
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KSA JOB NO.:	100157

KSA
816 Park Two Dr.
South Houston, Texas 77478
T. 281-494-3252 F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
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09/15/2022

SEAL:
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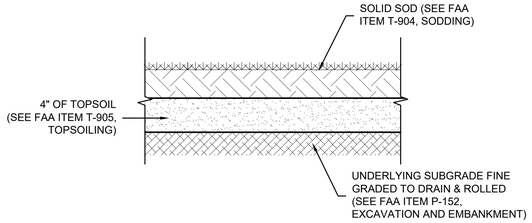
SHEET NO.
26

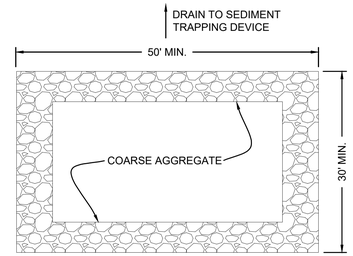


SODDING DETAIL NOTES:

1. SOD SHALL BE PLACED WITH NO GAPS BETWEEN ADJACENT SOD BLOCKS.
2. AREA TO BE SODDED SHALL BE FINE GRADED TO DRAIN AND ROLLED SMOOTH PRIOR TO SODDING. ALL FOREIGN OBJECTS SHALL BE REMOVED PRIOR TO SODDING.
3. ALL SODDED AREA SHALL BE ROLLED WITH HEAVY LAWN ROLLERS TO SET THE SOD. THE ROLLED SOD SHALL DRAIN FREELY AND CONTAIN NO RUTS. DEPRESSIONS, OR RIDGES.
4. CONTRACTOR SHALL WATER SOD AS NECESSARY TO ESTABLISH GROWTH AND REPLACE ANY SOD WHICH DIES WITHIN A ONE YEAR PERIOD.
5. SOD SHALL BE PLACED SUCH THAT A 1-1/2" LIP IS CREATED FROM THE TOP OF THE ADJACENT PAVEMENT TO THE TOP OF THE SOD.

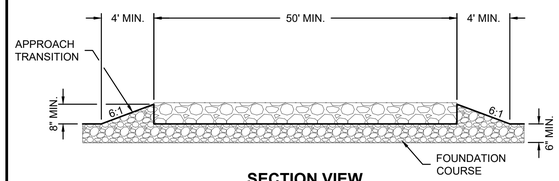
1 SODDING DETAIL

N.T.S.



PLAN VIEW

N.T.S.



SECTION VIEW

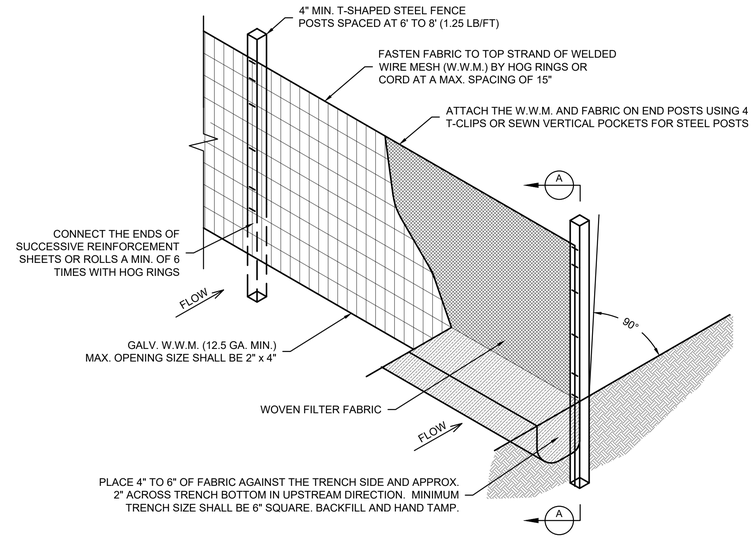
N.T.S.

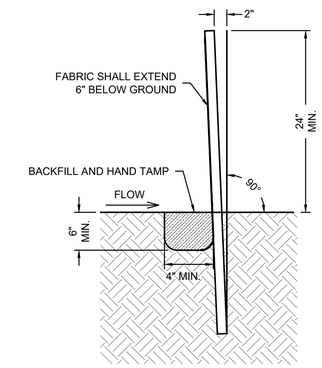
STABILIZED CONSTRUCTION EXIT DETAIL NOTES:

1. THE STONE OR ROCK SHOULD BE OPEN GRADED WITH A NOMINAL SIZE OF 4" TO 8" AND SHALL BE APPROVED BY THE ENGINEER.
2. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
3. THE FOUNDATION COURSE SHALL BE FLEXIBLE BASE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
4. THE STABILIZED CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
5. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL REMOVE STABILIZED CONSTRUCTION EXIT AND GRADE AREA TO DRAIN. THE CONTRACTOR WILL THEN SEED THE AREA UNDER FAA ITEM T-904, SODDING (NO DIRECT PAY).

2 STABILIZED CONSTRUCTION EXIT DETAIL

N.T.S.





SECTION VIEW A-A

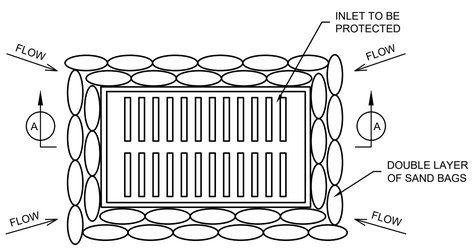
N.T.S.

TEMPORARY FILTER FABRIC FENCE DETAIL NOTES:

1. PAYMENT WILL BE MADE UNDER ITEM C-102.
2. THIS DETAIL FOR FILTER FABRIC FENCE SHALL BE USED FOR ALL FILTER FABRIC FENCE NOT ASSOCIATED WITH THE DETENTION POND.

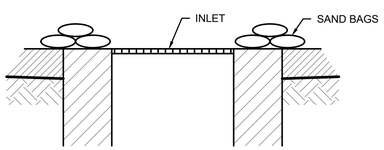
3 TEMPORARY FILTER FABRIC FENCE DETAIL

N.T.S.



PLAN VIEW

N.T.S.



SECTION VIEW A-A

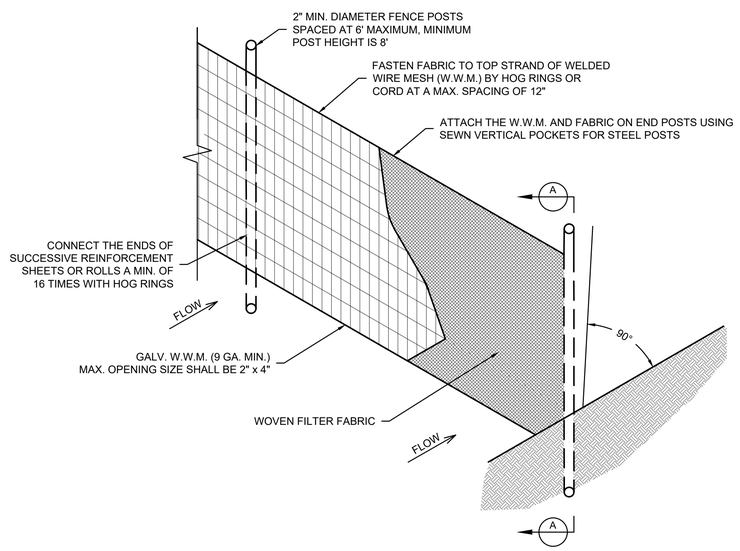
N.T.S.

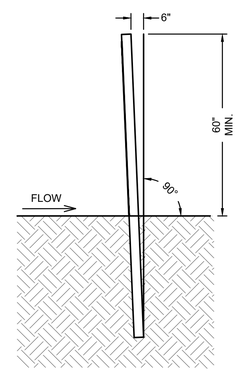
INLET PROTECTION DETAIL NOTES:

1. TEMPORARY SAND BAGS OR SOME ALTERNATE MEDIA FILTER SHALL BE USED TO INTERCEPT SILT.
2. SAND BAGS SHALL BE STAGGERED.
3. REMOVE SAND BAGS PRIOR TO OPENING PAVEMENT TO AIRCRAFT ACCESS.
4. TEMPORARY SAND BAGS SHALL BE REMOVED ONCE PERMANENT VEGETATION IS ESTABLISHED.
5. REMOVE SILT BUILDUP AS INSTRUCTED BY RPR.

4 INLET PROTECTION DETAIL

N.T.S.





SECTION VIEW A-A

N.T.S.

TEMPORARY FILTER FABRIC FENCE DETAIL NOTES:

1. PAYMENT WILL BE MADE UNDER ITEM C-102.
2. THIS DETAIL IS TO ONLY BE USED FOR THE FILTER FABRIC TO BE INSTALLED IN THE DETENTION POND.

5 TEMPORARY FILTER FABRIC FENCE DETAIL FOR DETENTION POND EXPANSION

N.T.S.

SPACE NOT USED

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDN_C-DT-SW3P.DWG | DTL - SW3P | PLOT DATE - TIME

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: STORMWATER POLLUTION PREVENTION DETAILS

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG* DPS HANGAR PROJECT (TXDOT CSJ NO. 22HGEDINB) EDINBURG, TEXAS

DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
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KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3322 F. 888-224-9418
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09/16/2022

SEAL:
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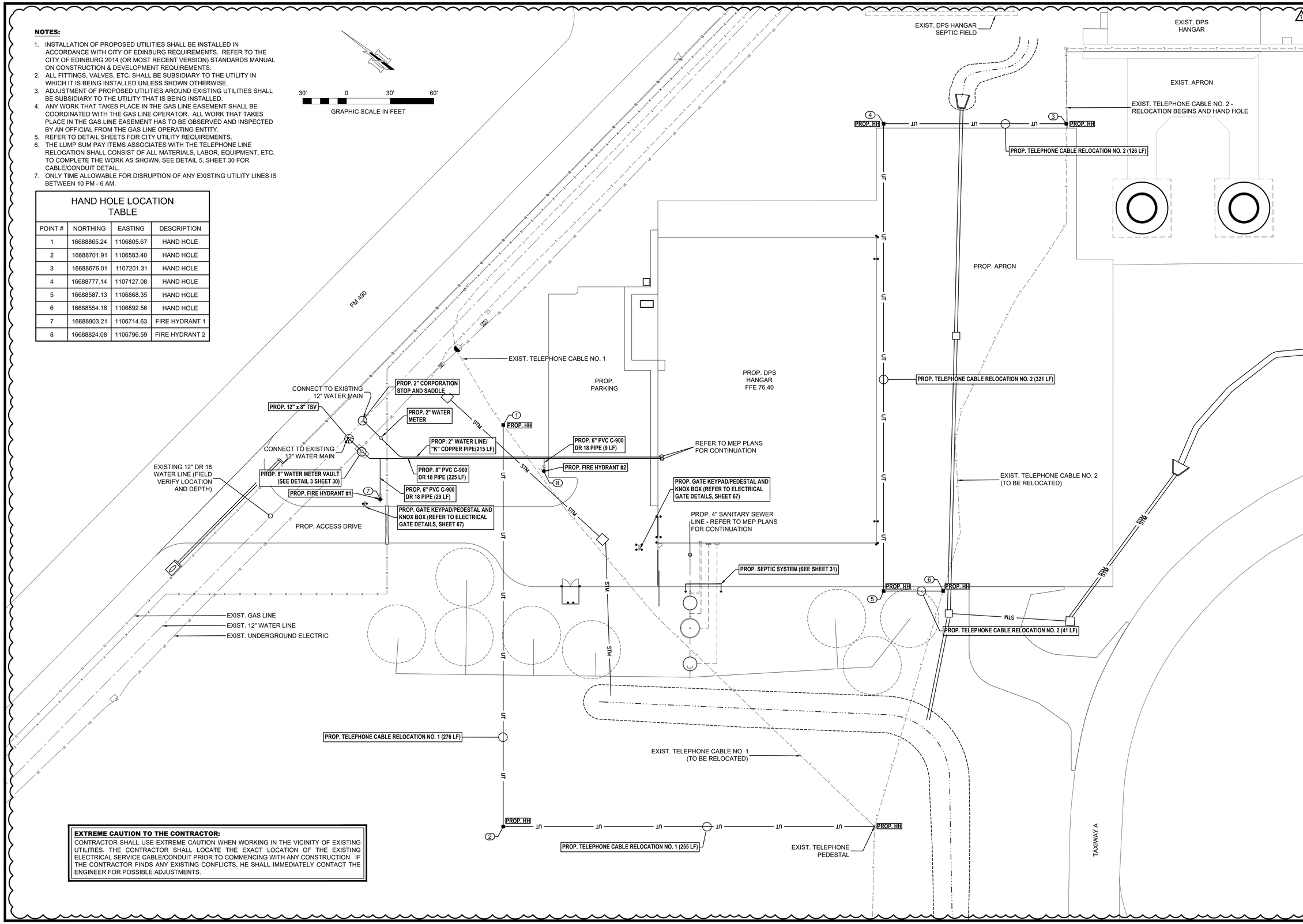
SHEET NO.
27

NOTES:

1. INSTALLATION OF PROPOSED UTILITIES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF EDINBURG REQUIREMENTS. REFER TO THE CITY OF EDINBURG 2014 (OR MOST RECENT VERSION) STANDARDS MANUAL ON CONSTRUCTION & DEVELOPMENT REQUIREMENTS.
2. ALL FITTINGS, VALVES, ETC. SHALL BE SUBSIDIARY TO THE UTILITY IN WHICH IT IS BEING INSTALLED UNLESS SHOWN OTHERWISE.
3. ADJUSTMENT OF PROPOSED UTILITIES AROUND EXISTING UTILITIES SHALL BE SUBSIDIARY TO THE UTILITY THAT IS BEING INSTALLED.
4. ANY WORK THAT TAKES PLACE IN THE GAS LINE EASEMENT SHALL BE COORDINATED WITH THE GAS LINE OPERATOR. ALL WORK THAT TAKES PLACE IN THE GAS LINE EASEMENT HAS TO BE OBSERVED AND INSPECTED BY AN OFFICIAL FROM THE GAS LINE OPERATING ENTITY.
5. REFER TO DETAIL SHEETS FOR CITY UTILITY REQUIREMENTS.
6. THE LUMP SUM PAY ITEMS ASSOCIATES WITH THE TELEPHONE LINE RELOCATION SHALL CONSIST OF ALL MATERIALS, LABOR, EQUIPMENT, ETC. TO COMPLETE THE WORK AS SHOWN. SEE DETAIL 5, SHEET 30 FOR CABLE/CONDUIT DETAIL.
7. ONLY TIME ALLOWABLE FOR DISRUPTION OF ANY EXISTING UTILITY LINES IS BETWEEN 10 PM - 6 AM.

HAND HOLE LOCATION TABLE

POINT #	NORTHING	EASTING	DESCRIPTION
1	16688865.24	1106805.67	HAND HOLE
2	16688701.91	1106583.40	HAND HOLE
3	16688676.01	1107201.31	HAND HOLE
4	16688777.14	1107127.08	HAND HOLE
5	16688587.13	1106868.35	HAND HOLE
6	16688554.18	1106892.56	HAND HOLE
7	16688903.21	1106714.63	FIRE HYDRANT 1
8	16688824.08	1106796.59	FIRE HYDRANT 2



EXTREME CAUTION TO THE CONTRACTOR:
CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF EXISTING UTILITIES. THE CONTRACTOR SHALL LOCATE THE EXACT LOCATION OF THE EXISTING ELECTRICAL SERVICE CABLE/CONDUIT PRIOR TO COMMENCING WITH ANY CONSTRUCTION. IF THE CONTRACTOR FINDS ANY EXISTING CONFLICTS, HE SHALL IMMEDIATELY CONTACT THE ENGINEER FOR POSSIBLE ADJUSTMENTS.

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDN_C-LO-UTIL.DWG | UTIL |
DRAWING PATH/NAME | LAYOUT | PLOT DATE - TIME

SHEET NAME: SITE UTILITY PLAN

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

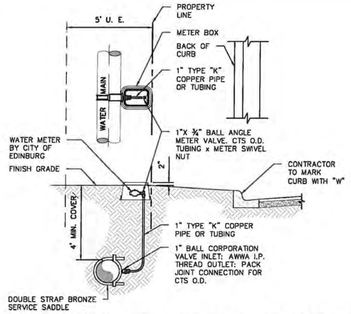
DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3252 F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED PROFESSIONAL ENGINEER
09/15/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
28

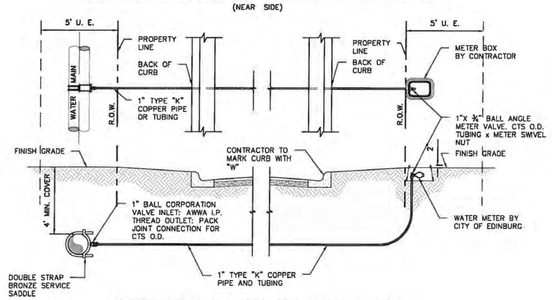


TYPICAL SINGLE WATER SERVICE CONNECTION

(NEAR SIDE)

NOTES:

1. METER AND METER BOX TO BE PROVIDED BY CONTRACTOR. (MULTI-FAMILY ONLY)
2. FOR MORE THAN FOUR-PLEX OR FOUR COMMERCIAL BUILDING USE 4" BALL CORP. VALVES, 4" TYPE "K" COPPER AND 8" PVC CASING.
3. 4' MIN. COVER FOR WATER MAINS 5' MIN. FOR ALL ARTERIAL OR GREATER CLASSIFICATIONS
4. COMMERCIAL INSTALLATIONS TO BE 2" SINGLE SERVICE UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.



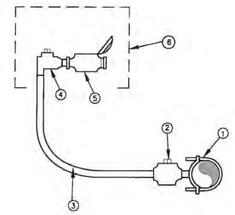
TYPICAL SINGLE WATER SERVICE CONNECTION

(FAR SIDE)

1 SINGLE WATER SERVICE CONNECTION DETAILS

N.T.S.

THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (JAN. 2014)



2" METER SERVICE

1. X" x 2" DOUBLE STRAP BRASS SADDLE
2. 2" BALL CORP. MIPX C.T.S.
3. 2" COPPER TUBING TYPE "K"
4. 2" BRASS ANGLE STOP
5. WATER METER NY CITY OF EDINBURG
6. LAGE C.I. METER BOX WILL BE PROVIDED BY CITY OF EDINBURG.

* ALL WATER METERS 4" AND ABOVE SHALL BE PLACED IN A CONCRETE METER VAULT APPROVED BY THE CITY OF EDINBURG.

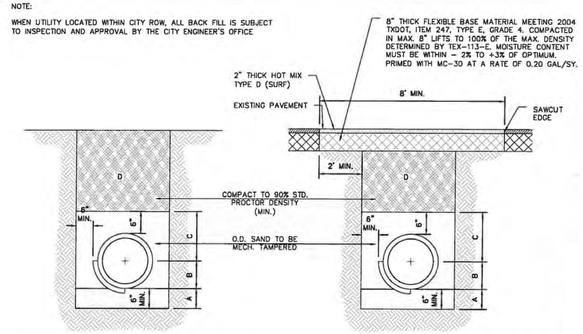
2 METER SERVICE DETAIL

N.T.S.

THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (JAN. 2014)

NOTE:

WHEN UTILITY LOCATED WITHIN CITY ROW, ALL BACK FILL IS SUBJECT TO INSPECTION AND APPROVAL BY THE CITY ENGINEER'S OFFICE



STANDARD PIPE BEDDING (MAIN & SERVICE LATERALS)

APPLICABLE BENEATH FUTURE/UNPAVED STREETS

A. SAND BEDDING PLACED BEFORE PIPE IS LAID TO FLOW LINE OF PIPE (MIN. THICKNESS = 6")

B. SAND BACK FILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, MECH. TAMPED)

C. SAND BACK FILL PLACED FROM SPRING LINE OF PIPE TO 6" ABOVE TOP OF PIPE. (6" LIFTS, MECH. TAMPED)

D. FILL TRENCH WITH SELECT BACKFILL, WITH 12" LIFTS COMPACT TO 90% STD. PROCTOR.

FOUNDATION PREPARATION (WELL POINTS), GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

BACK FILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY. THE THICKNESS OF EACH LOOSE LAYER SHALL BE SAND, APPROVED SITE SOIL OR OTHER APPROVED SUBSTITUTE.

STANDARD PIPE BEDDING (MAIN ONLY)

(PARALLEL WITHIN EXIST. STREET)

A. SAND BEDDING PLACED BEFORE PIPE IS LAID TO FLOW LINE OF PIPE (MIN. THICKNESS = 6")

B. SAND BACK FILL PLACED AFTER PIPE IS LAID FROM BOTTOM OF PIPE TO SPRING LINE OF PIPE. (4" LIFTS, MECH. TAMPED)

C. SAND BACK FILL PLACED FROM SPRING LINE OF PIPE TO 6" ABOVE TOP OF PIPE. (6" LIFTS, MECH. TAMPED)

D. FILL TRENCH WITH SELECT BACKFILL, WITH 12" LIFTS COMPACT TO 90% STD. PROCTOR.

FOUNDATION PREPARATION (WELL POINTS), GRAVEL OR CEMENT STABILIZATION, OR APPROVED SUBSTITUTE) SHALL BE REQUIRED WHEN TRENCH BOTTOM IS UNSTABLE.

BACK FILLING AT STRUCTURES SHALL BE PLACED IN UNIFORM LAYERS, MOISTENED AS REQUIRED TO APPROXIMATE OPTIMUM MOISTURE CONTENTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY. THE THICKNESS OF EACH LOOSE LAYER SHALL BE SAND, APPROVED SITE SOIL OR OTHER APPROVED SUBSTITUTE.

NOTE:

ALL EXISTING/ACTIVE STREET CROSSING SHALL REQUIRE SAND BACKFILL OF ENTIRE TRENCH.

3 WATER STANDARD PIPE BEDDING DETAILS

N.T.S.

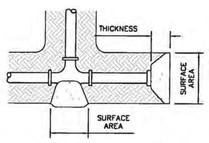
THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (FEB. 2010)

THRUST BLOCK SIZE

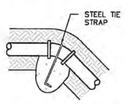
DIAMETER OF PIPE IN INCHES	SURFACE AREA SQ. FT.	THICKNESS IN INCHES	WEIGHT AT VERTICAL BENDS-LBS.
HORIZONTAL BENDS			
22-1/2" BENDS			
6 OR LESS	2	8	1,700
8	3	12	3,000
10	3.5	12	4,500
12	4	14	6,600
14	5	18	9,000
16	6	18	11,800
45° BEND			
6 OR LESS	4	12	3,200
8	5	14	5,800
10	6	18	9,000
12	7	18	13,000
14	8	24	17,000
16	11.5	24	23,200
90° BEND			
6 OR LESS	6	12	6,000
8	8	15	10,700
10	10	18	16,700
12	12	18	24,000
14	18	24	32,600
16	21	24	42,700
TEES & DEAD ENDS			
6 OR LESS	3	12	--
8	4	15	--
10	6	18	--
12	8.5	18	--
14	11.5	24	--
16	15	24	--

NOTE:

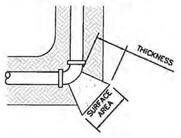
ALL VALUES SHOWN ARE MIN. FOR A HYDROSTATIC PRESSURE OF 150 PSI AND A SOIL RESISTANCE OF 2,000 LBS PER SQ. FT. WITH PIPELINE HAVING A MIN. OF 3 FT. OF COVER WITH CURB AND GUTTER AND A 5 FT. MIN. WITHOUT CURB AND GUTTER



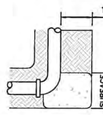
TEES & DEAD ENDS



VERTICAL BENDS



HORIZONTAL BENDS



HYDRANT BURYS

THRUST BLOCKS DETAILS

NOTE: SEE THRUST BLOCK SIZE CHART FOR PROPER THICKNESS AND SURFACE AREAS

4 THRUST BLOCKS DETAILS

N.T.S.

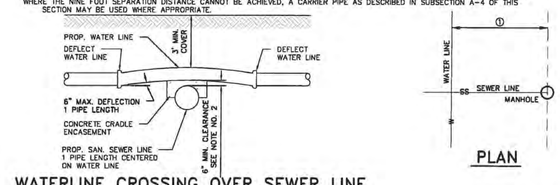
THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (FEB. 2010)

NOTES AS PER TEXAS DEPT. OF HEALTH MANUAL:

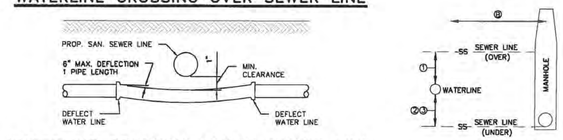
A. WATER LINE/NEW SEWER LINE SEPARATION.
WHEN NEW SANITARY SEWERS ARE INSTALLED, THEY SHALL BE INSTALLED NO CLOSER TO WATERLINE THAN NINE FEET IN ALL DIRECTIONS. SEWERS THAT PARALLEL WATERLINES MUST INSTALLED IN SEPARATE TRENCHES, WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE FOLLOWING GUIDELINES WILL APPLY

1. WHERE A SANITARY SEWER PARALLELS A WATERLINES, THE SEWER SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC. MEETING ASTM SPECIFICATIONS WITH A PRESSURE RATING FOR BOTH THE PIPE AND JOINTS OF 150 PSI. THE VERTICAL SEPARATION SHALL BE MINIMUM OF TWO FEET BETWEEN OUTSIDE DIAMETERS AND HORIZONTAL SEPARATION SHALL BE A MINIMUM OF FOUR FEET BETWEEN OUTSIDE DIAMETER. THE SEWER SHALL BE LOCATE BELOW THE WATERLINE.
2. WHERE A SANITARY SEWER CROSSES A WATERLINE AND THE SEWER IS CONSTRUCTED OF CAST IRON, DUCTILE IRON OF PVC WITH A MINIMUM PRESSURE RATING OF 150 PSI, AN ABSOLUTE MINIMUM DISTANCE OF 6 INCHES BETWEEN OUTSIDE DIAMETER SHALL BE MAINTAINED, IN ADDITION THE SEWER SHALL BE LOCATED BELOW THE WATERLINE WHERE POSSIBLE AND ONE LENGTH OF THE SEWER PIPE MUST BE CENTERED ON THE WATERLINE.
3. WHERE A SEWER CROSSES UNDER A WATERLINE AND THE SEWER IS CONSTRUCTED OF ABS TRUSS PIPE, SIMILAR SEMI-RIGID PLASTIC COMPOSITE PIPE, CLAY PIPE OR CONCRETE PIE WITH GASKETS JOINTS, A MINIMUM TWO FEET SEPARATION DISTANCE SHALL BE MAINTAINED. THE INITIAL BACKFILL SHALL BE CEMENT STABILIZED SAND (TWO OR MORE BAGS OF CEMENT PER CUBIC YARD OF SAND) THE INITIAL BACKFIELD SHALL BE CEMENT STABILIZED SAND (TWO OF MORE BAGS OF CEMENT). FOR ALL SECTIONS OF SEWER WITHIN NINE FEET OF WATERLINE. THE INITIAL BACK FILL BE FROM ONE QUARTER DIAMETER.
4. WHERE A SEWER CROSSES OVER A WATERLINE ALL PORTIONS OF THE SEWER WITHIN NINE FEET OF THE WATERLINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON, OR PVC PIPE WITH A PRESSURE RATING OF A LEAST 150 PSI USING APPROPRIATE ADAPTERS, IN LIEU OF THIS PROCEDURE THE NEW CONVEYANCE MAY BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE NEW CONVEYANCE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT 5 FEET INTERVALS WITH SPACERS OF THE FILLED TO THE SPRING-LINE WITH WASHED SANO. THE ENCASEMENT PIPE SHOULD BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL.

B. WATER LINE/MANHOLE SEPARATION:
UNLESS SANITARY SEWER MANHOLES AND THE CONNECTING SEWER CAN BE MADE WATERTIGHT AND TESTED FOR LEAKAGE, THEY MUST BE INSTALLED SO AS TO PROVIDE A MINIMUM OF NINE FEET OF HORIZONTAL CLEARANCE FROM AN EXISTING OR PROPOSED WATERLINE, WHERE THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, A CARRIER PIPE AS DESCRIBED IN SUBSECTION A-4 OF THIS SECTION MAY BE USED WHERE APPROPRIATE.



WATERLINE CROSSING OVER SEWER LINE

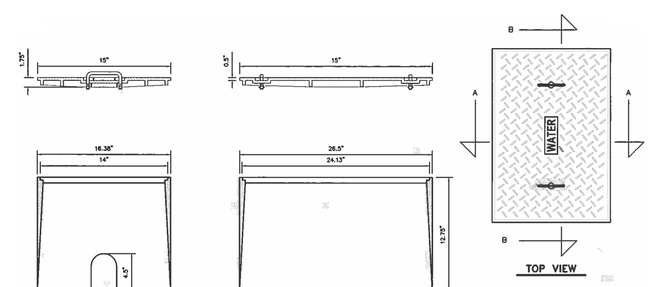


WATERLINE CROSSING UNDER SEWER LINE

5 WATER/SANITARY SEWER CROSSING DETAILS

N.T.S.

THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (FEB. 2010. 2014)



CAST IRON METER

NOTES:
A. MATERIAL - CAST IRON PER ASTM A48 CLASS 30B
B. LIFT HANDLES - 3-8" DIA. STEEL STANDARD.
C. DIMENSIONS IN INCHES

6 COMMERCIAL CAST IRON METER COVER DETAIL

N.T.S.

THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (JAN. 2014)

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30-SHEETS\02 CIVIL\100157_EDIN_C-01-UTIL-0001.DWG | UTIL DRAWING PATH\NAME LAYOUT | PLOT DATE - TIME

SHEET NAME: UTILITY DETAILS 1

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	AJ
DESIGNED BY:	NMVAG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3322 F. 888-224-9418
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STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED PROFESSIONAL ENGINEER
09/16/2022

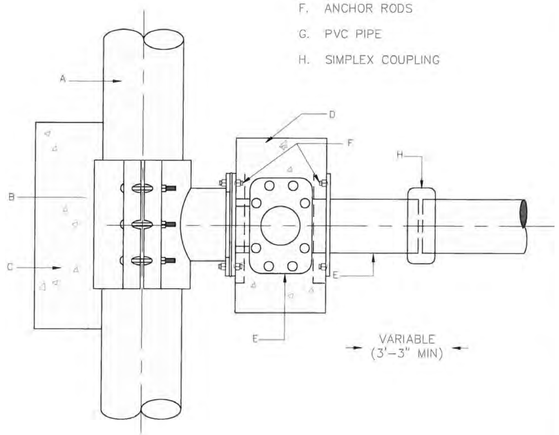
SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
29

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

CONSTRUCTION NOTES:
1. ALL CONCRETE TO HAVE A MINIMUM OF 28 DAYS COMPRESSIVE STRENGHT OF 3,000 P.S.I.

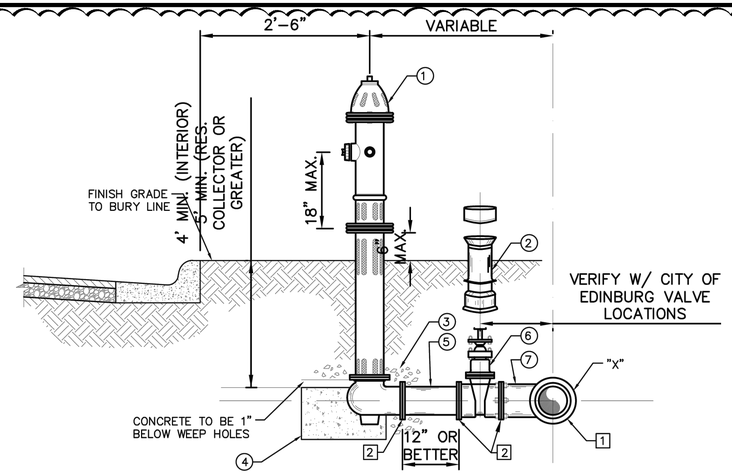
CONSTRUCTION NOTES:
A. WATER MAIN (SEE PLANS AND SPECIFICATIONS).
B. TAPPING SLEEVE (SIZE AS REQUIRED).
C. CONCRETE SUPPORT UNDER TAPPING SLEEVE AND BEHIND.
D. THRUST BLOCK AS PER SPECIFICATIONS.
E. FLANGED AND HUB ENDS "O" RING SEALS WITH 2" SQUARE WRENCH NUT GATE VALVE.
F. ANCHOR RODS
G. PVC PIPE
H. SIMPLEX COUPLING



1 WATER TAPPING SLEEVE AND VALVE INSTALLATION ON LARGER PIPE DETAILS

N.T.S.

THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (JAN. 2014)



NOTE:
1. OIL SHALL BE PLACED IN HYDRANT AT THE TIME OF INSTALLATION
2. PUMPER NOZZLE SHALL FACE ROADWAY. (5½" N.S.T.)
3. IN CERTAIN INSTANCES, WHERE DISTANCES PERMITS, A PARALLEL TEE OR UNION-TITE 90° ELBOW WITH RESTRAINING LUGS MAY BE USED IN LIEU OF STANDARD TEE. FINAL APPROVAL BUY THE CITY OF EDINBURG.
4. IF AMERICAN DARLING IS USED MODEL B-84-B WITH EPOXY COAT VALVE PLATE AND INTERIOR SHOE.
5. TAPPING SLEEVES TO HAVE STAINLESS STEEL BOLTS AND NUTS
6. ALL VALVES, FITTINGS AND HYDRANTS AND ACCESSORIES TO BE GREASED WRAPPED IN PLASTIC.
7. ALL VALVES, FITTINGS AND ACCESSORIES, VALVE BOXES METER BOXES AND COVERS MUST ME APPROVED BY THE CITY OF EDINBURG.

FIRE HYDRANT INSTALLATION CONSIST OF FIRE HYDRANT, VALVE AND VALVE BOX

FIRE HYDRANT UNIT SHALL INCLUDE:
1. FIRE HYDRANT WITH (4½" PUMPER NOZZLE)
2. VALVE BOX (DOMESTIC)
3. 3 CU. FT. GRAVEL
4. 3 CU. FT. CONCRETE 1" BELOW HYDRANT WEEPHOLES
5. 1" OR BETTER PVC SPOOLS
6. 6" RESILIENT SEAT GATE VALVE (FLANGED X M.J.)
7. X"x6" CAST IRON TEE (FLANGED X M.J.) "X" WATER MAIN DIA.

[1] MECHANICAL JOINT

[2] FLANGE

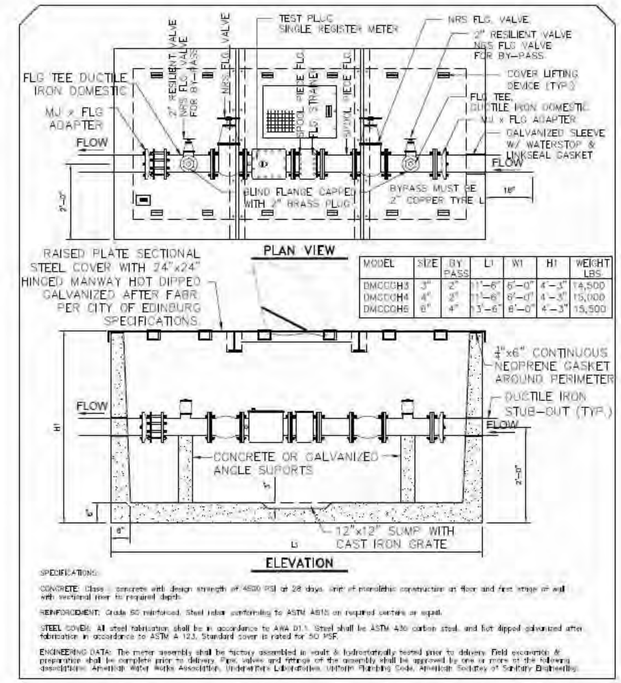
2 STANDARD FIRE HYDRANT INSTALLATION

N.T.S.

THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (JAN. 2014)

MULLER (SUPER CENTURION 250 A-423) OR AMERICAN DARLING B-64-B (SEE NOTE 4) ONLY

NOTE: FIRE HYDRANT TO BE PAINTED RED.



MODEL	SIZE	BY PASS	L1	W1	H1	WEIGHT LBS
DMCCOH3	3"	2"	11'-6"	6'-0"	4'-3"	14,500
DMCCOH4	4"	2"	11'-6"	6'-0"	4'-3"	15,000
DMCCOH6	6"	4"	13'-6"	6'-0"	4'-3"	15,500

SPECIFICATIONS:

CONCRETE: Class C concrete with design strength of 4500 PSI at 28 days. Unit of monolithic construction at floor and first stage of wall with vertical rise to required depth.

REINFORCEMENT: Grade 60 reinforced. Steel rebar conforming to ASTM A615 on required sections or equal.

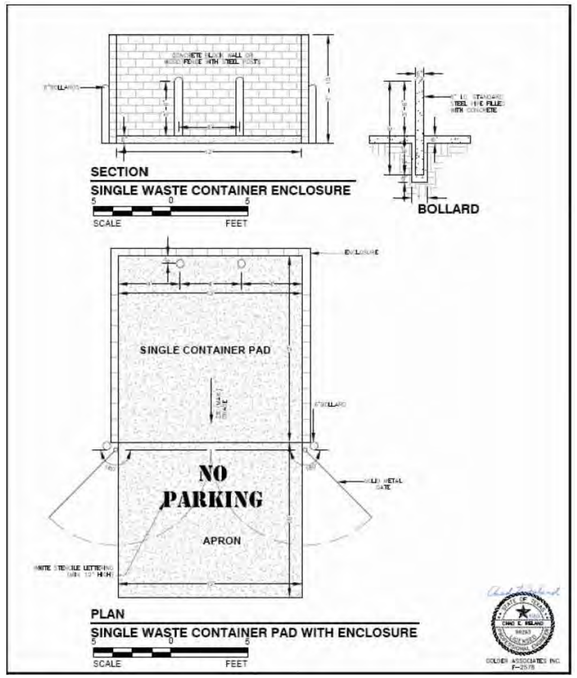
STEEL COVER: All steel fabrication shall be in accordance to AWA D1.1. Steel shall be ASTM A36 carbon steel, and hot dipped galvanized after fabrication in accordance to ASTM A 123. Standard cover is rated for 50 PSF.

ENGINEERING DATA: The meter assembly shall be factory assembled in vault & hydrostatically tested prior to delivery. Field excavation & preparation shall be complete prior to delivery. Pipe, valves, and fittings of the assembly shall be approved by one or more of the following associations: American Water Works Association, Underwriters Laboratories, Uniform Plumbing Code, American Society of Sanitary Engineering.

3 WATER METER VAULT DETAILS

N.T.S.

THE CITY OF EDINBURGH PUBLIC WORKS DEPT. - STANDARD DETAIL (JAN. 2014)

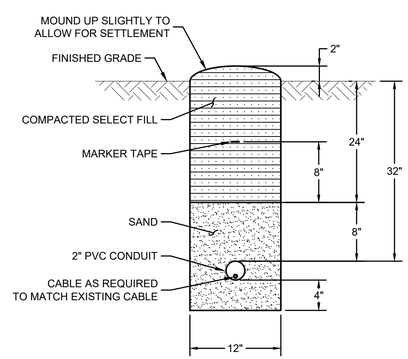


4 STANDARD SINGLE DUMPSTER PAD ENCLOSURE DETAIL

N.T.S.

THE CITY OF EDINBURGH DEPARTMENT OF SOLID WASTE MANAGEMENT, VERSION 1.3 (JULY 2017)

SPECIAL NOTE: PAY ITEM ASSOCIATED WITH STANDARD SINGLE DUMPSTER PAD ENCLOSURE ACCOUNTS FOR CONCRETE BLOCK/CMU WALL, GATES/GATE SUPPORTS, BOLLARDS, ETC.



5 TELEPHONE CABLE/CONDUIT DETAIL

N.T.S.

SPACE NOT USED

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA.NET\GATEWAY\PROJECTS\100157\00B CAD\30-S-3002 CIVIL\100157_EDIN_C-01-UTIL-0001.DWG | UTIL SETE 2
DRAWING PATH/NAME LAYOUT | PLOT DATE - TIME

SHEET NAME: UTILITY DETAILS 2

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG*
DPS HANGAR PROJECT
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LATEST REVISION:	09/15/2022
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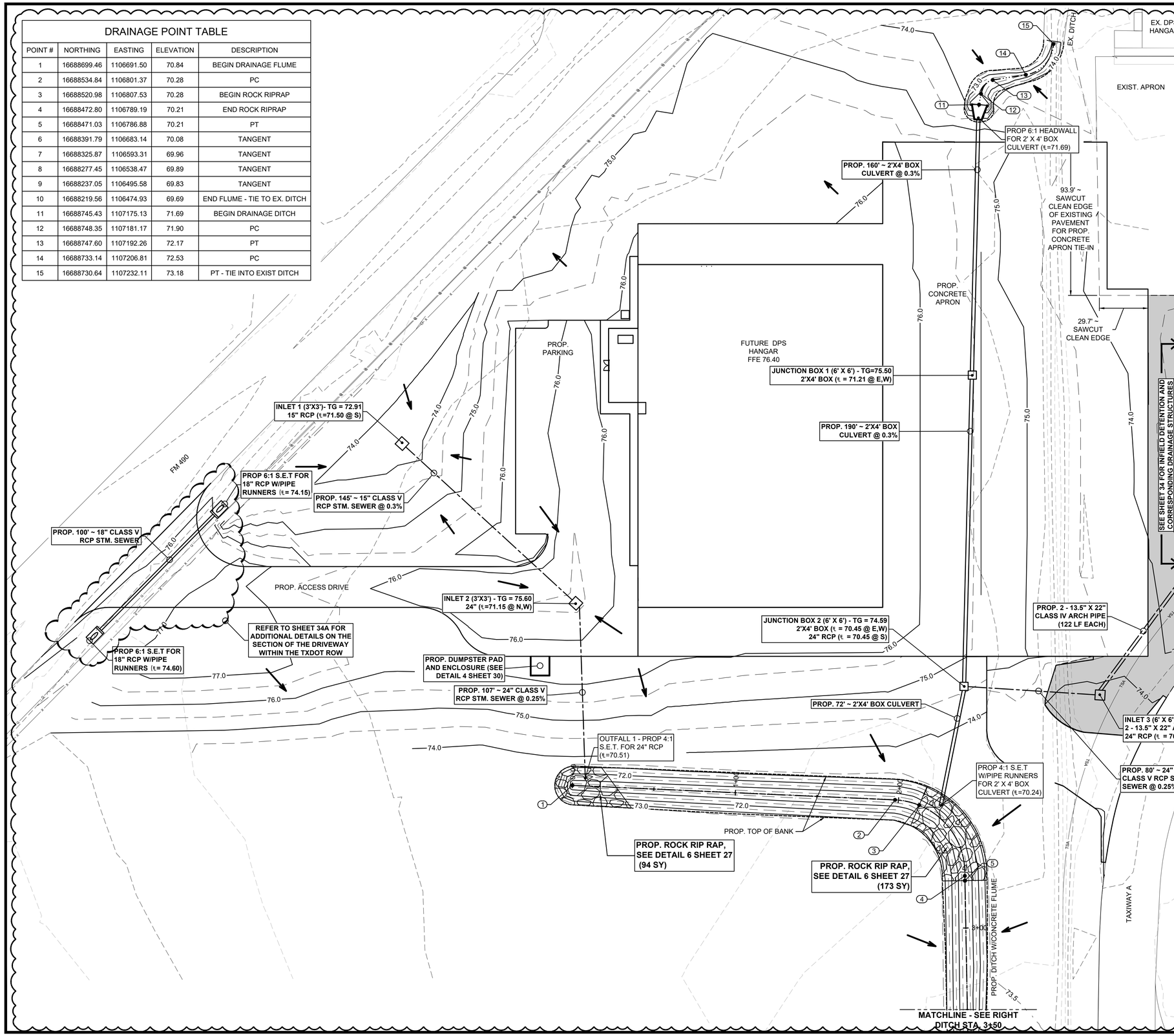
09/16/2022

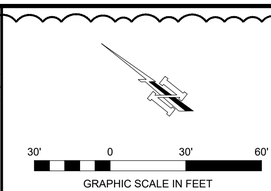
SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
30

DRAINAGE POINT TABLE

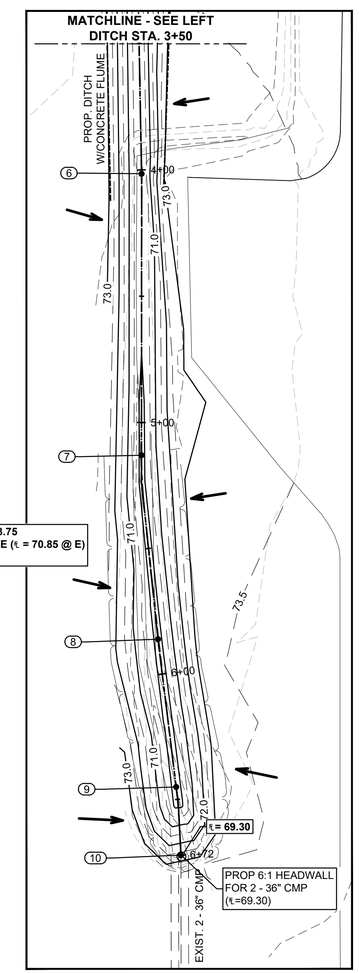
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	16688699.46	1106691.50	70.84	BEGIN DRAINAGE FLUME
2	16688534.84	1106801.37	70.28	PC
3	16688520.98	1106807.53	70.28	BEGIN ROCK RIPRAP
4	16688472.80	1106789.19	70.21	END ROCK RIPRAP
5	16688471.03	1106786.88	70.21	PT
6	16688391.79	1106683.14	70.08	TANGENT
7	16688325.87	1106593.31	69.96	TANGENT
8	16688277.45	1106538.47	69.89	TANGENT
9	16688237.05	1106495.58	69.83	TANGENT
10	16688219.56	1106474.93	69.69	END FLUME - TIE TO EX. DITCH
11	16688745.43	1107175.13	71.69	BEGIN DRAINAGE DITCH
12	16688748.35	1107181.17	71.90	PC
13	16688747.60	1107192.26	72.17	PT
14	16688733.14	1107206.81	72.53	PC
15	16688730.64	1107232.11	73.18	PT - TIE INTO EXIST DITCH





NOTES:

1. CONTRACTOR SHALL USE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF THE EXISTING UTILITIES. THE CONTRACTOR SHALL LOCATE THE EXACT LOCATION OF THE EXISTING GAS LINE, SANITARY SYSTEM LINES, WATER LINES, ELECTRICAL SERVICE CABLE/CONDUITS AND TELEPHONE LINES PRIOR TO COMMENCING WITH ANY CONSTRUCTION. IF THE CONTRACTOR FINDS ANY EXISTING CONFLICTS, HE SHALL IMMEDIATELY CONTACT THE ENGINEER FOR POSSIBLE ADJUSTMENTS.
2. THE CONTRACTOR SHALL PLACE LOW LIGHTED BARRICADES ALONG THE OUTER EDGE OF CONSTRUCTION AREA PER THE "TEMPORARY BARRICADE DETAILS" IN THIS SET OF PLANS. COORDINATE PLACEMENT OF THESE BARRICADES WITH THE RPR.
3. ACCESS TO ACTIVE AREAS OF AIRPORT (TAXIWAYS, APRONS, RUNWAYS, ETC.), FOR EXAMPLE TO VERIFY CONTROL POINTS, MUST BE SCHEDULED AT LEAST 48 HOURS IN ADVANCE WITH THE RPR. AN ESCORT FROM THE AIRPORT STAFF WILL BE REQUIRED.
4. SEE SHEET 50 FOR TOP OF PAVEMENT SPOT ELEVATIONS FOR ALL PAVING AREAS.
5. CONTRACTOR SHALL VERIFY PAVEMENT TIE-IN ELEVATIONS WHERE CONNECTIONS ARE BEING MADE. ANY DISCREPANCIES IN PLAN ELEVATIONS SHOULD BE REPORTED TO THE ENGINEER IMMEDIATELY.



MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

WKSA:NETGATEWAY/PROJECTS\100157/00B CAD\30 SITE PREP\TOTAL\100157_EDN_C-LC-GRAD.DWG | GRAD-DRAIN 1 | DRAWING PATHNAME LAYOUT | PLOT DATE - TIME

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: SITE GRADING AND DRAINAGE PLAN 1

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG* DPS HANGAR PROJECT (TXDOT CSJ NO. 22HGEDINB) EDINBURG, TEXAS

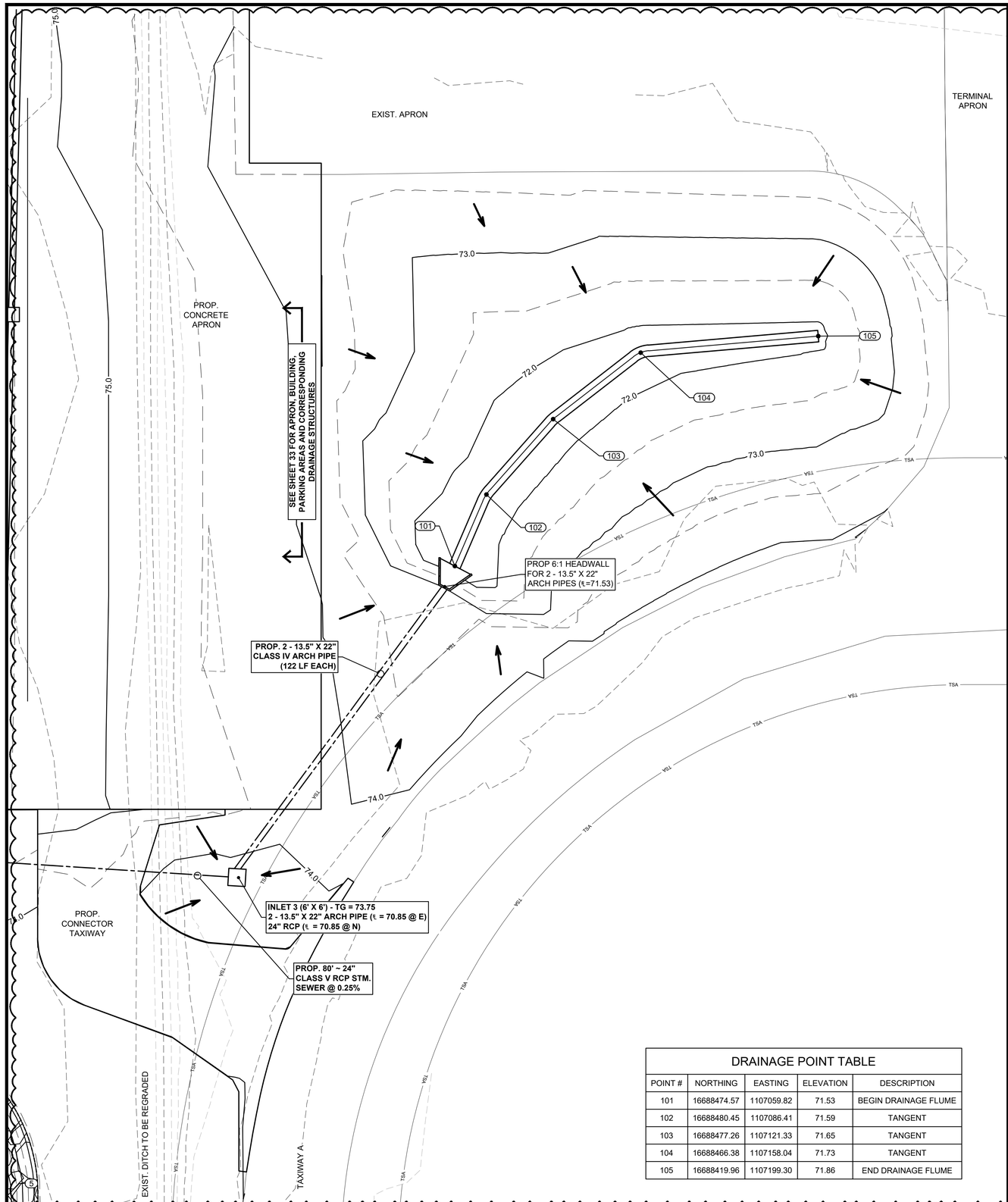
DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

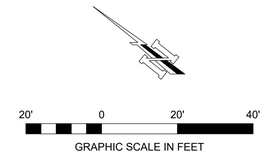
KSA
816 Park Two Dr.
Sugar Land, TX 77478
T. 281.494.2202 F. 888.224.9418
www.ksamg.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED PROFESSIONAL ENGINEER
09/16/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
33





DRAINAGE POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	16688474.57	1107059.82	71.53	BEGIN DRAINAGE FLUME
102	16688480.45	1107086.41	71.59	TANGENT
103	16688477.26	1107121.33	71.65	TANGENT
104	16688466.38	1107158.04	71.73	TANGENT
105	16688419.96	1107199.30	71.86	END DRAINAGE FLUME

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEET FOLDER\TOTAL\ 100157_EDA_C-LC-GRAD.DWG | GRAD-DRAIN 2 |
DRAWING PATHNAME | LAYOUT | PLOT DATE - TIME

SHEET NAME:
SITE GRADING AND DRAINAGE PLAN 2

PROJECT NAME:
SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

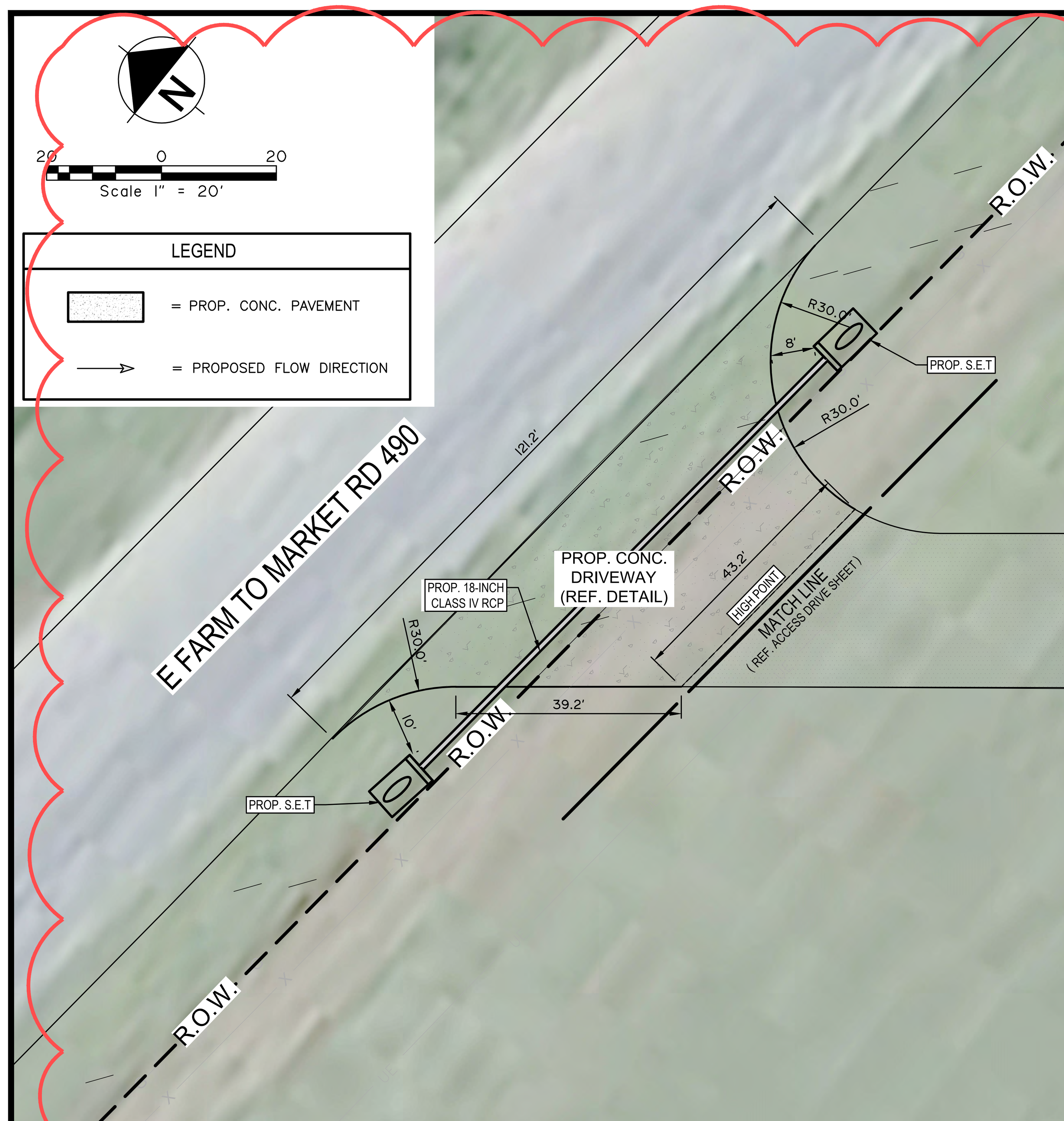
KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3202, F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/16/2022

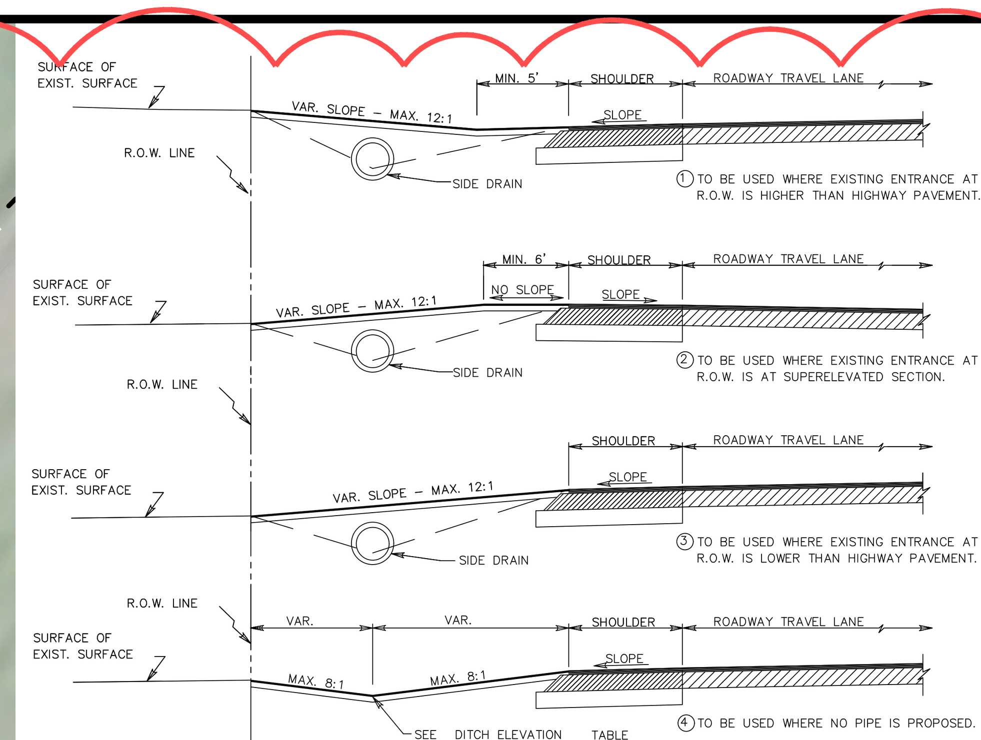
SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
34

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS



ACCESS DRIVEWAY DIMENSION CONTROL PLAN



NOTES:

ALL ENTRANCES CONSTRUCTED ON THIS PROJECT ARE SUBJECT TO CONCURRENCE WITH EXISTING GOVERNING REGULATIONS AS SET OUT BY THE STATE HIGHWAY COMMISSION.

ENTRANCE'S BASE AND SURFACING MAY BE EXTENDED BEYOND R.O.W. LINE AS REQUIRED TO MEET EXISTING GRADE IN A SATISFACTORY MANNER OF WHICH NO STEEPER THAN 12:1 SLOPE WILL BE CONSTRUCTED.

ALL FLEXIBLE BASE USED FOR PRIVATE DRIVES & COMMERCIAL DRIVES WILL NOT REQUIRE LIME TREATMENT.

EXACT LOCATIONS, DIMENSIONS, AND TYPE TO BE ESTABLISHED DURING CONSTRUCTION BY THE ENGINEER.

PROP. WIDTH OF DRIVEWAYS TO MATCH EXISTING WIDTH AT R.O.W. LINE.

114 #/SY ACP (COMPACTED) IS EQUAL TO 1 IN. DEPTH
171 #/SY ACP (COMPACTED) IS EQUAL TO 11/2IN. DEPTH.

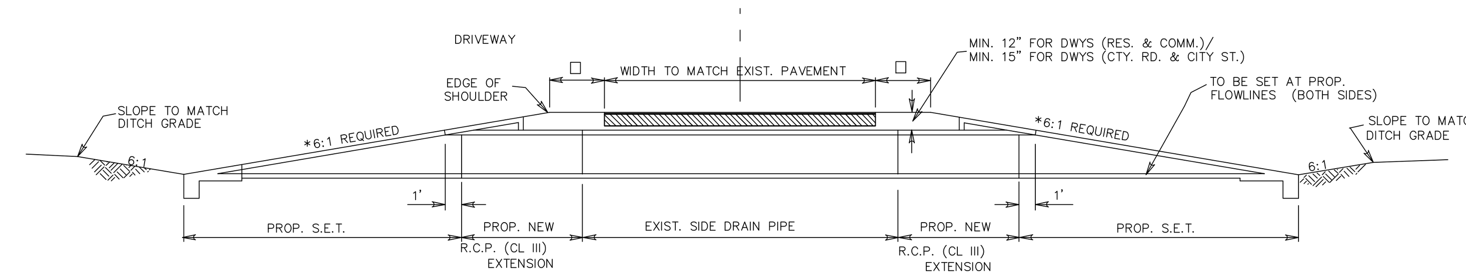
SIDE DRAINS TO BE INSTALLED WHERE ROADWAY DITCH DRAINAGE IS NECESSARY, AS INDICATED ON PLANS AND/OR AS DIRECTED BY THE ENGINEER.

SIDE DRAINS TO BE INSTALLED WITH A MINIMUM OF 12" COVER BY PROPOSED RESIDENTIAL & COMMERCIAL MATERIAL OR 15" COVER OF PROPOSED COUNTY RD. & CITY STREET ROADWAY MATERIAL.

AVERAGE DIMENSIONS SHOWN ON TABLE OF DRIVEWAYS ARE FOR ESTIMATING PURPOSES ONLY.

THE RATE OF PRIME SHALL BE 0.10 GAL/SY FOR PRIVATE AND/OR COMMERCIAL DRIVEWAYS AND 0.20 GAL/SY FOR PUBLIC DRIVEWAYS.

TYPICAL ENTRANCE PROFILE FOR DRIVEWAYS W/OUT C&G



□ – 1' MIN. ON DRIVEWAYS (RES. & COMM.)
2' MIN. ON DRIVEWAYS (COUNTY RD. & CITY ST.)

* – 6:1 SLOPE REQUIRED

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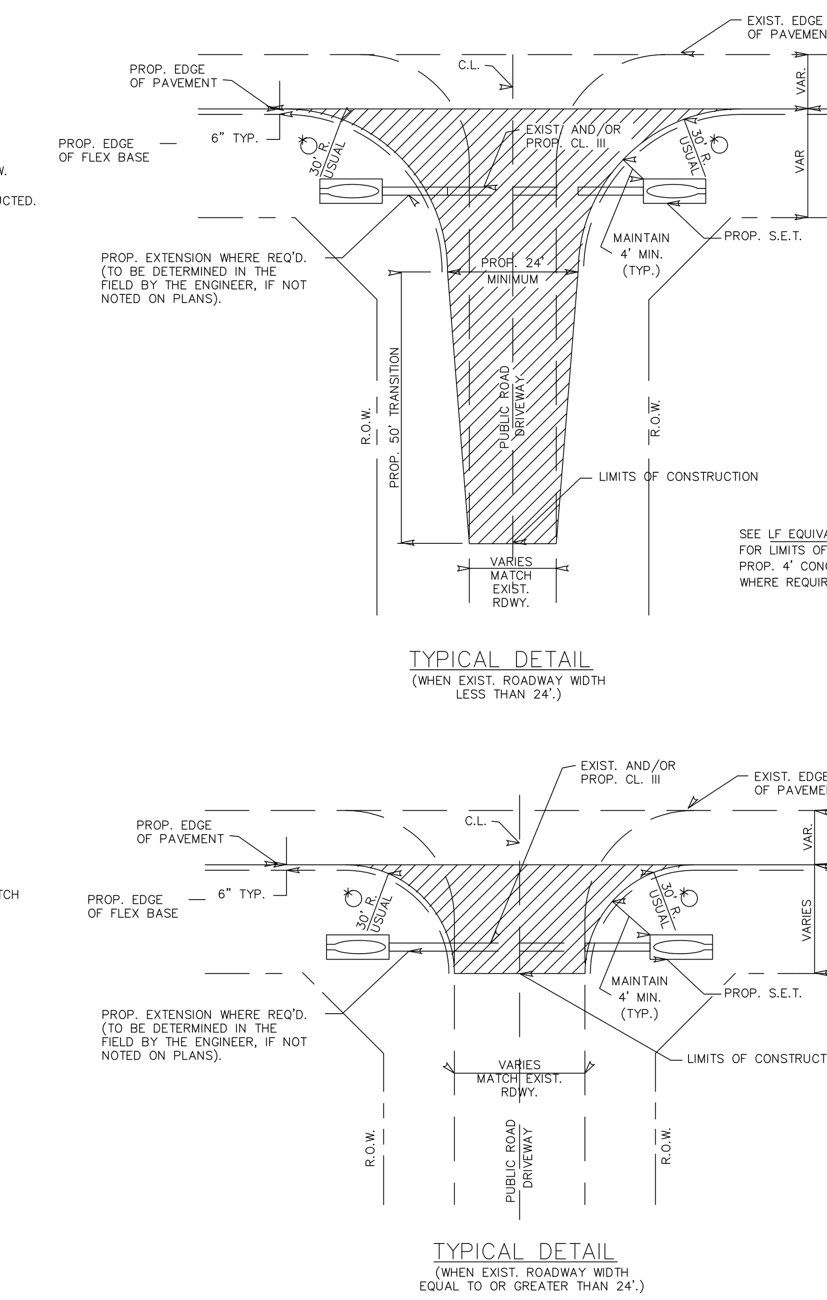
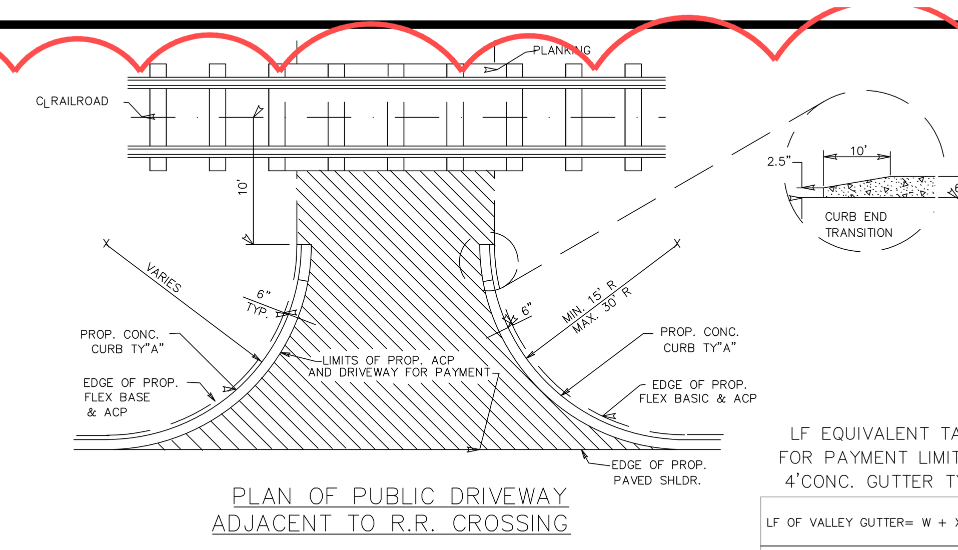
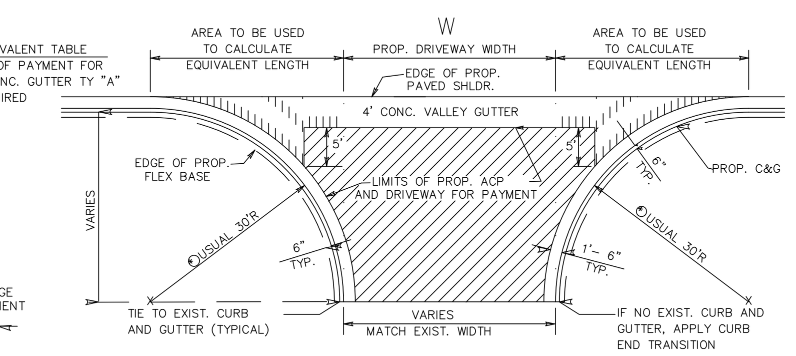
TEXAS DEPARTMENT OF TRANSPORTATION
DRIVEWAY PROFILE DETAILS
REV. 9/16 DRIVEWAY1.DGN

FED.RD. DIV.NO.	STATE AID PROJECT NO.		FILE NO.			SHEET NO.
6						
STATE	STATE DIST.NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
TEXAS	21					

① TxDOT STANDARD DRIVEWAY DETAIL
NOT TO SCALE







LF EQUIVALENT TABLE FOR PAYMENT LIMITS OF 4'CONC. GUTTER TY."A"

LF OF VALLEY GUTTER= W + X1 + X2

WHERE X1 AND X2 MAY VARY DEPENDING ON RADIUS

Prop. Driveway Radius	X1 or X2 (Sq Ft Area / 4') Equivalent LF Length
10	3
15	7
20	12
25	19
30	27
35	37
40	48
45	61
50	75
55	91
60	109
65	127
70	148
75	170

GENERAL NOTES:

AVERAGE DIMENSIONS SHOWN ON TABLE OF DRIVEWAYS ARE FOR ESTIMATING PURPOSES ONLY.

LOCATIONS LISTED ON THE TABLE ARE APPROXIMATE, EXACT LOCATIONS, DIMENSIONS, AND TYPE TO BE ESTABLISHED DURING CONSTRUCTION BY THE ENGINEER AS REQUIRED.

SEE DRIVEWAY TABLE, TURNING RADIUS MAY BE REDUCED AS APPROVED BY THE ENGINEER.

SEE TABLE OF DRIVEWAYS FOR TOTAL LENGTH OF PROP. 4' CONC. VALLEY GUTTER FOR EACH LOCATION.

TY P

EXIST. PAVED DRIVEWAYS TO BE SURFACED W/171#/SY ACP.

TY PRB1

EXIST. PAVED, CALICHE AND/OR GRAVEL DRIVEWAYS TO BE SCARIFIED AND RECONTRUCTED WITH 4" NEW FLEX. BASE W/1% LIME TO MATCH THE PROPOSED WIDENED SECTION, THEN PRIMED AND SURFACED WITH 171#/SY ACP

TY PBS1

EXIST. UNPAVED PUBLIC DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 12" LIME TREAT. SUBGRADE, 8" FLEX. BASE 1% LIME, THEN PRIMED AND SURFACED WITH 171#/SY ACP.

TY PBS2

EXIST. DRIVEWAY TO BE CONSTRUCTED SAME AS ROADWAY.

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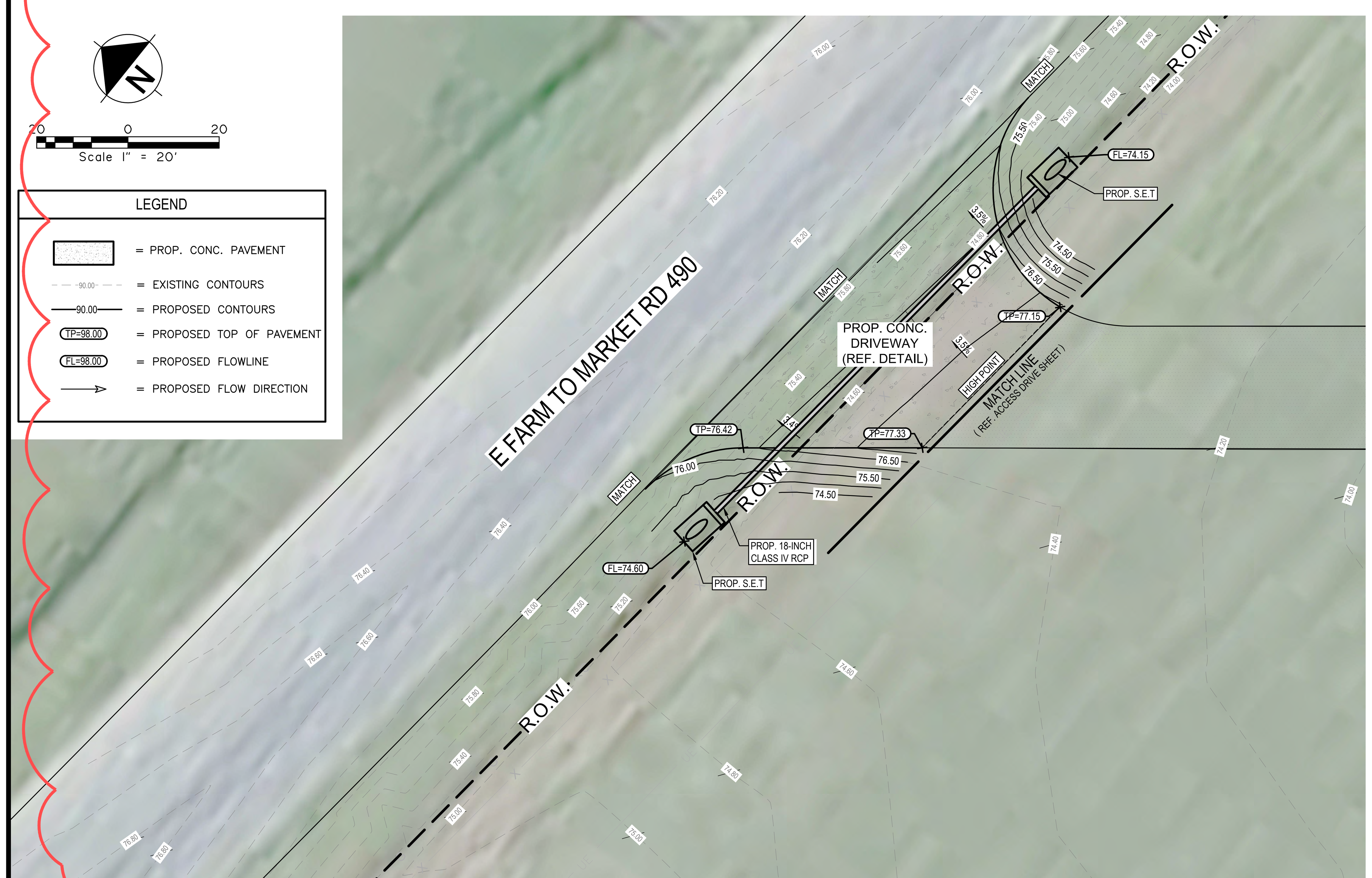
TEXAS DEPARTMENT OF TRANSPORTATION
DRIVEWAY DETAILS
PUBLIC
(COUNTY ROAD–CITY STREET)
REV. 4/05 DRIVEWAY3.DGN

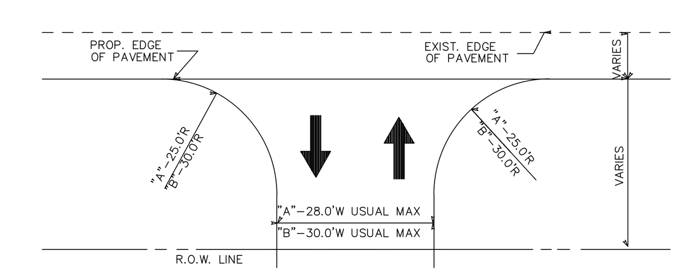
FED.RD. DIV.NO.	STATE AID PROJECT NO.		FILE NO.			SHEET NO.
6						
STATE	STATE DIST.NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
TEXAS	21					

③ TxDOT STANDARD DRIVEWAY DETAIL
NOT TO SCALE



ACCESS DRIVEWAY GRADING & DRAINAGE PLAN

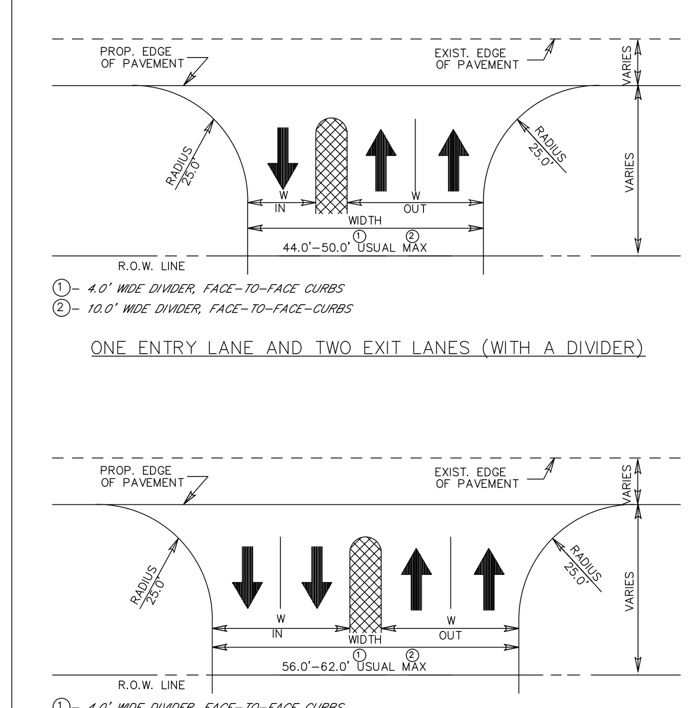
DESIGNS FOR TWO–WAY COMMERCIAL DRIVEWAYS



"A"– ONE ENTRY LANE AND ONE EXIT LANE, FEWER THAN 4 LARGE VEHICLES PER HOUR
"B"– ONE ENTRY LANE AND ONE EXIT LANE, 4 OR MORE SINGLE UNIT VEHICLES PER HOUR
①– DRIVEWAY DESIGNS FOR LARGER VEHICLES WILL BE CONSIDERED ON A CASE BY CASE BASIS

ONE ENTRY LANE AND TWO EXIT LANES (WITHOUT DIVIDERS)

DESIGNS FOR TWO–WAY COMMERCIAL DRIVEWAYS

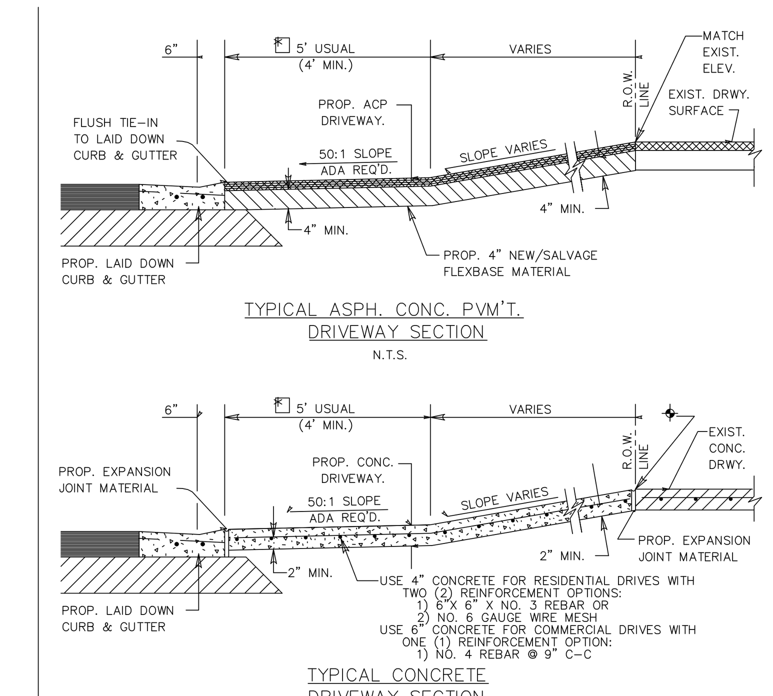


①– 4.0' WIDE DIVIDER, FACE–TO–FACE CURBS
②– 10.0' WIDE DIVIDER, FACE–TO–FACE–CURBS

ONE ENTRY LANE AND TWO EXIT LANES (WITH A DIVIDER)

①– 4.0' WIDE DIVIDER, FACE–TO–FACE CURBS
②– 10.0' WIDE DIVIDER, FACE–TO–FACE–CURBS

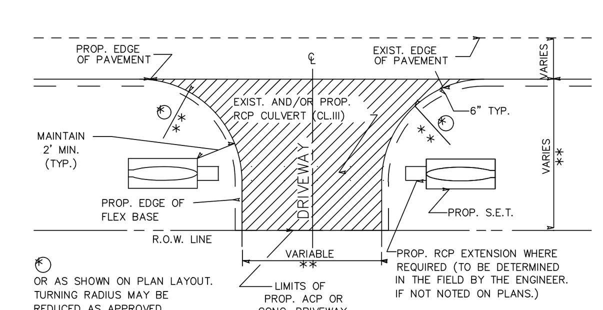
TWO ENTRY LANES AND TWO EXIT LANES (WITH A DIVIDER)



CONC. SHALL BE SAW CUT TO THE LIMITS OF REMOVAL WHERE APPLICABLE.

PROP./FUTURE SIDEWALK CROSSING LOCATION UNLESS SHOWN ELSEWHERE ON P&P SHEETS. SEE P&P SHEETS FOR PROP. SIDEWALK LOCATION IF SIDEWALKS ARE INCLUDED AS PART OF PROJECT. REFER TO STATE STANDARDS – PEDESTRIAN FACILITIES – FOR ADDITIONAL REQUIREMENTS.

PRIVATE AND COMMERCIAL DRIVES WITHOUT CURB & GUTTER

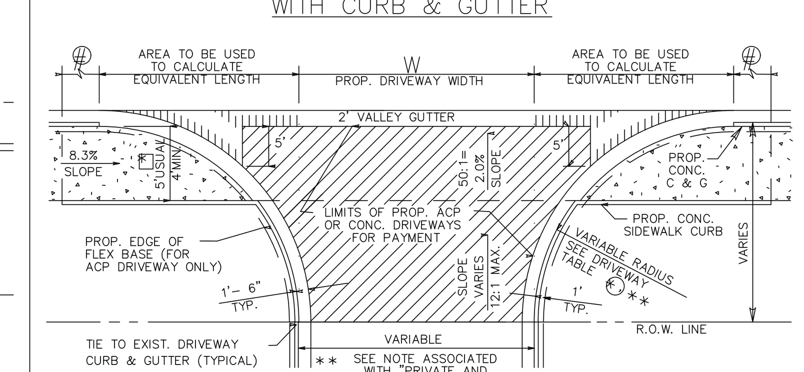


OR AS SHOWN ON PLAN LAYOUT. TURNING RADIUS MAY BE REDUCED AS APPROVED BY THE ENGINEER.

PLAN OF PRIVATE AND COMMERCIAL DRIVES

** FOR PRIVATE RESIDENTIAL DRIVES, TRY TO MATCH EXISTING WITH A MINIMUM WIDTH OF 12 FT. AND A MAXIMUM WIDTH OF 24 FT. WITH 15 FT. USUAL RADIUS. FOR COMMERCIAL DRIVES, USE ABOVE COMMERCIAL DRIVEWAY DETAILS.

PRIVATE AND COMMERCIAL DRIVES WITH CURB & GUTTER



PLAN OF PRIVATE AND COMMERCIAL DRIVES
SEE P&P SHEETS FOR LOCATIONS OF DRIVES
N.T.S.

PROP./FUTURE CONC. SIDEWALK LOCATION UNLESS SHOWN ELSEWHERE ON P&P SHEETS. REFER TO STATE STANDARDS – PEDESTRIAN FACILITIES – FOR ADDITIONAL REQUIREMENTS.

LIMITS OF SLOPE FOR PROP. CONC. CURB BASED ON 8.3% SLOPE FOR SIDEWALK

LF EQUIVALENT TABLE FOR PAYMENT LIMITS OF 2' VALLEY GUTTER

LF OF VALLEY GUTTER= W + X1 + X2

WHERE X1 AND X2 MAY VARY DEPENDING ON RADIUS

Prop. Driveway Radius	X1 or X2 (Sq Ft Area / 2') Equivalent LF Length
5'	1
8'	2
10'	4
12'	6
15'	9
18'	12
20'	15
22'	18
25'	24
28'	30
30'	34

SEE DRIVEWAY TABLE FOR LIMITS OF LAID DOWN CURB TO BE PAID FOR AS CURB AND GUTTER

DRIVEWAY TYPES

TY PB–1
EXIST. PRIVATE OR COMMERCIAL DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 4" NEW AND/OR SALVAGE FLEX. BASE, PRIMED AND SURFACED WITH \ 114#/SY ACP.

CONCRETE (RESIDENTIAL)
EXIST. PRIVATE DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 4" CONCRETE. TO BE PAID FOR BY THE SQ.YD.

CONCRETE (COMMERCIAL)
EXIST. BUSINESS DRIVEWAYS TO BE CONSTRUCTED AS SHOWN WITH 6" CONCRETE. TO BE PAID FOR BY THE SQ.YD.

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TEXAS DEPARTMENT OF TRANSPORTATION
DRIVEWAY DETAILS
PRIVATE
(RESIDENTIAL–COMMERCIAL)
REV. 01/15 DRIVEWAY2.DGN

FED.RD. DIV.NO.	PROJECT NO.		FILE NO.			SHEET NO.
6						
STATE	STATE DIST.NO.	COUNTY	CONT.	SECT.	JOB	HIGHWAY NO.
TEXAS	21					

② TxDOT STANDARD DRIVEWAY DETAIL
NOT TO SCALE

MARK	REVISION	DATE
1	- ADD 3	9/15/22

H:\KSA DPS HANGAR\DESIGN\DWG\ 01_KSA_GD2.DWG | LAYOUT1 (4) | 9/15/2022 - 9:06 AM
DRAWING PATHNAME | LAYOUT | PLOT DATE - TIME

RUNWAY 14-32 AND TAXIWAY A SAFETY IMPROVEMENTS PROJECT ~ McALLEN INTERNATIONAL AIRPORT ~ McALLEN, TEXAS

SHEET NAME: DIMENSION CONTROL / GRADING AND DRAINAGE

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

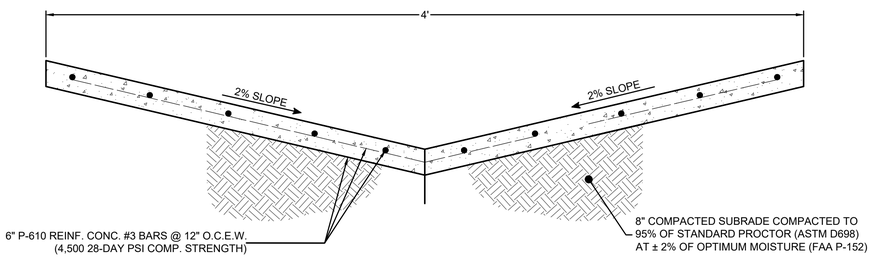
DRAWN BY:
DESIGNED BY:
Date: 5/13/2022
PCE JOB NO.:

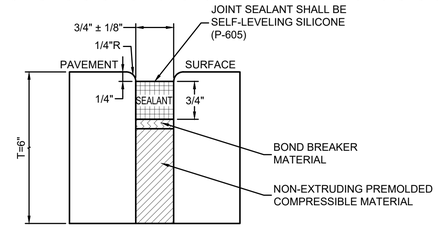
PCE Perez Consulting Engineers
Texas Registered Engineering Firm F-2158
808 Dallas Ave. McAllen, Texas 78501
(956) 631-4482 fax (956) 682-1545

STATE OF TEXAS
J. DAVID PEREZ
89429
LICENSED PROFESSIONAL ENGINEER
9-15-22

SEAL:
TBPE Firm Registration No. F-2158

EXHIBIT NO.
34A

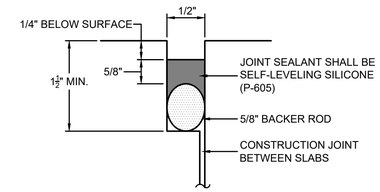




DETAIL 1

N.T.S.

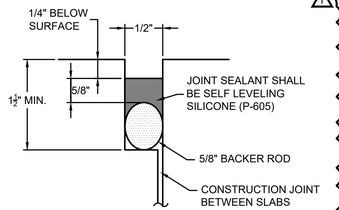
NOTE:
DIMENSIONS MAY VARY WITH SEALANT MANUFACTURER'S WIDTH-TO-DEPTH RATIO REQUIREMENTS. ACTUAL DIMENSION SHALL BE APPROVED BY ENGINEER.



DETAIL 2

N.T.S.

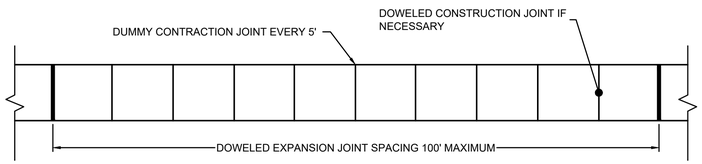
NOTE:
DIMENSIONS MAY VARY WITH SEALANT MANUFACTURER'S WIDTH-TO-DEPTH RATIO REQUIREMENTS. ACTUAL DIMENSION SHALL BE APPROVED BY ENGINEER.

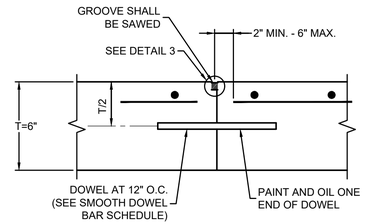


DETAIL 3

N.T.S.

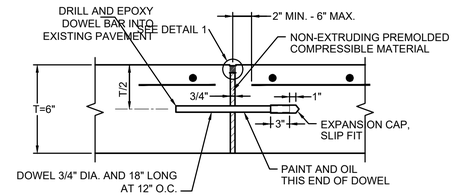
NOTE:
DIMENSIONS MAY VARY WITH SEALANT MANUFACTURER'S WIDTH-TO-DEPTH RATIO REQUIREMENTS. ACTUAL DIMENSION SHALL BE APPROVED BY ENGINEER.





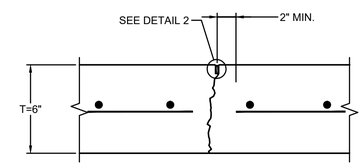
DOWELED CONSTRUCTION JOINT

SCALE: N.T.S.



DOWELED EXPANSION JOINT

SCALE: N.T.S.



DUMMY CONTRACTION JOINT

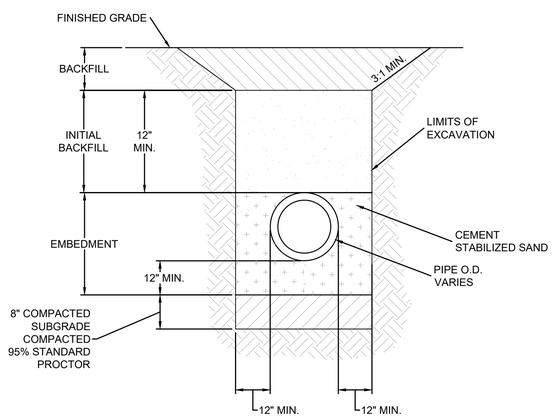
SCALE: N.T.S.

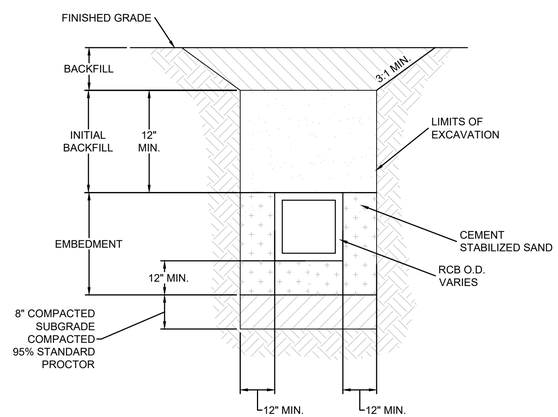
NOTES:

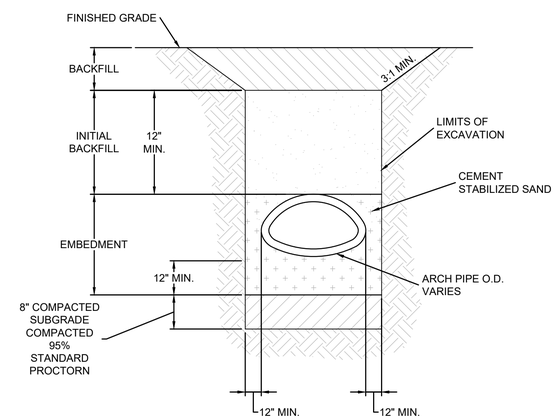
1. THE JOINT DETAILS SHOWN ON THIS SHEET ARE FOR THE CONCRETE FLUME ONLY.
2. SEALING OF CONCRETE FLUME JOINTS WILL NOT BE PAID FOR DIRECTLY BUT SHALL BE SUSIDIARY TO CONCRETE FLUME PAY ITEM.

1 REINFORCED CONCRETE DRAINAGE FLUME DETAILS

N.T.S.







STORM WATER NOTES:

1. PIPE BEDDING SHALL BE CEMENT STABILIZED SAND (1.5 SACKS PER CUBIC YARD) COMPACTED TO 95% STANDARD PROCTOR TO TOP OF PIPE. NO DIRECT PAY.
2. OUTSIDE OF PAVEMENT, NO CLOSER THAN 3' FROM EDGE OF PAVEMENT, BACKFILL SHALL BE NATIVE MATERIAL, FREE OF DEBRIS, COMPACTED TO 95% STANDARD PROCTOR DENSITY @ ±2% OF OPTIMUM MOISTURE CONTENT.
3. JOINTS OF ALL CONCRETE STORM SEWER PIPES SHALL BE WRAPPED WITH DUPONT TYPAR FILTER FABRIC OR EQUAL. THE FABRIC SHALL OVERLAP A MINIMUM OF 24" AROUND THE PIPE AND SHALL BE 24" WIDE.
4. 8" OF COMPACTED SUBGRADE IS SUBSIDIARY TO THE PIPE INSTALLATION.
5. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED WHERE REQUIRED. NO DIRECT PAY.
6. TRENCH DEWATERING SHALL BE PROVIDED AS NECESSARY, SUBSIDIARY TO ITEM D-701.
7. MINIMUM SPACING BETWEEN MULTIPLE PARALLEL RUNS OF PIPE SHALL BE 12" FROM WIDEST PART OF PIPE.

2 REINFORCED CONCRETE STORM WATER PIPE TRENCH AND BACKFILL DETAIL

N.T.S.

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NETGATEWAYPROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDA_C-DT-STRM.DWG | DTL - STRM
DRAWING PATHNAME LAYOUT | PLOT DATE - TIME

SHEET NAME: STORM DRAINAGE DETAILS 1

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

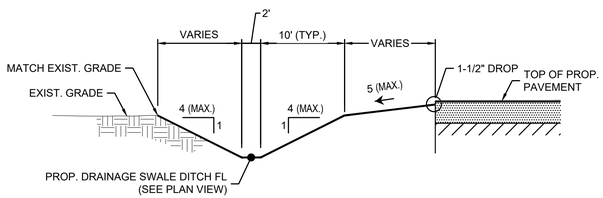
DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281.494.3252 F. 888.724.9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/16/2022

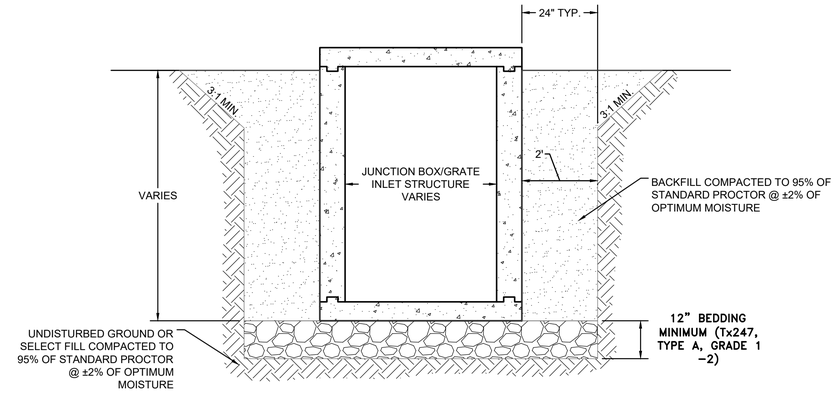
SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
35



1 TYPICAL DRAINAGE SWALE DITCH SECTION

NOT TO SCALE

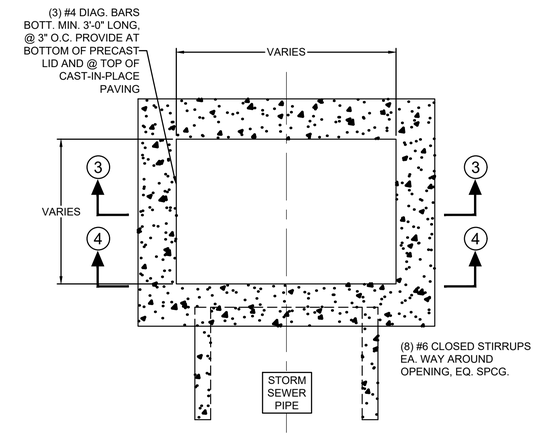


NOTES:

1. FOR THE JUNCTION BOX THE BACKFILL UP TO THE PAVEMENT SUBGRADE SHALL BE CEMENT STABILIZED SAND (1.5 SACKS PER CUBIC YARD) COMPACTED TO 95% STANDARD PROCTOR DENSITY.
2. BEDDING SHALL BE 12" CRUSHED AGGREGATE COMPACT TO 95% STANDARD PROCTOR @ ±2% OPTIMUM MOISTURE.
3. BACKFILL MATERIAL SHALL CONSIST OF NATIVE SOILS COMPACTED IN ACCORDANCE WITH P-152 REQUIREMENTS.
4. TRENCH SHORING, IN ACCORDANCE WITH OSHA, SHALL BE INSTALLED WHERE REQUIRED.

2 JUNCTION BOX & GRATE INLET STRUCTURE BEDDING & BACKFILL DETAIL

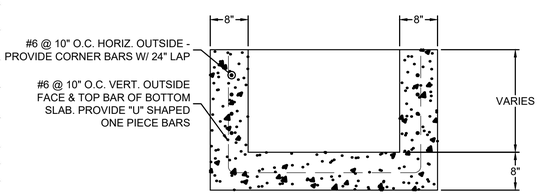
N.T.S.



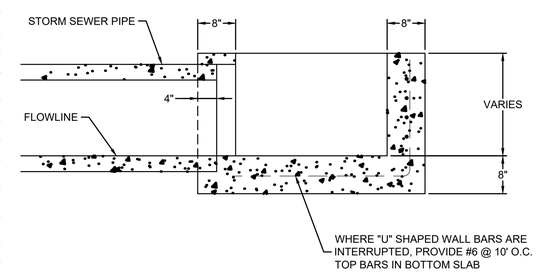
NOTES:

1. CAP REINFORCING DETAILS SIMILAR IN BOTH PRIMARY DIRECTIONS OF CAP.
2. CAP REINFORCING NOT SHOWN FOR CLARITY.

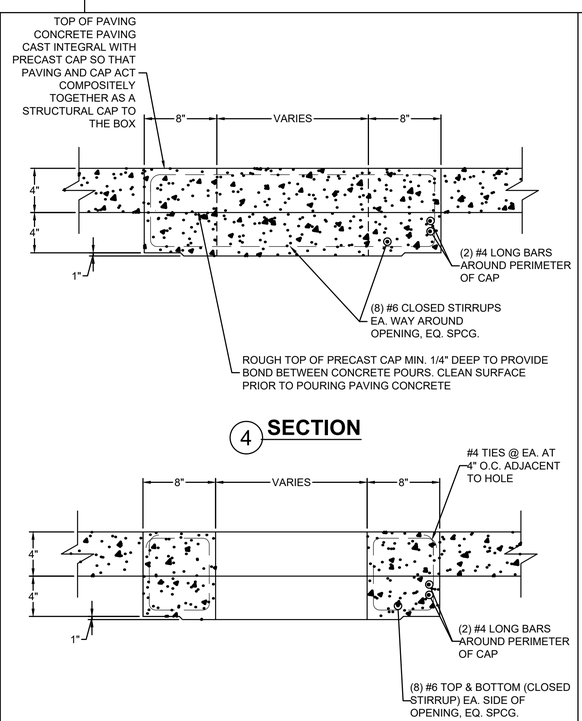
3 TYPICAL JUNCTION BOX OR INLET STRUCTURE



TYPICAL WALL SECTION



4 TYPICAL SECTION @ OPENING



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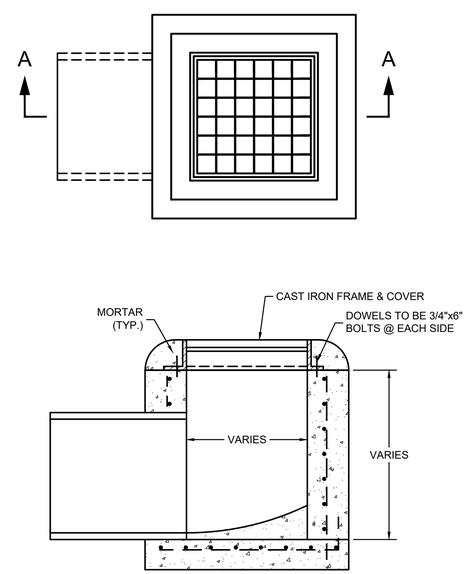


6 STORM SEWER INLET

N.T.S.

GENERAL NOTES:

1. GRATES AND FRAMES SHALL BE BOLTED AND DESIGNED FOR A 100,000 LBS. MINIMUM (EXTRA HEAVY DUTY) PROOF LOAD. ALL GRATES AND FRAMES SHALL BE DUAL UNLESS OTHERWISE NOTED ON THE PLANS.
2. MANHOLE FRAME AND GRATE SHALL BE BOLTED AND DESIGNED FOR AIRPORT LOADINGS (100,000 LBS. MINIMUM).
3. JUNCTION BOXES SHALL BE PRECAST. CONTRACTOR SHALL SUBMIT DRAWINGS SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL. JUNCTION BOXES SHALL MEET OR EXCEED THE DESIGN REQUIREMENTS PROVIDED ON THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL VERIFY DIMENSIONS AND WALL OPENINGS FOR RCP AND PRE-CAST BOXES PROPOSED FOR USE IN THIS PROJECT.
4. ALL REINFORCING STEEL SHALL BE NEW, REBAR, ASTM A-615 GRADE 60.
5. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4".
6. INLETS, JUNCTION BOXES AND MANHOLES SHALL BE SITED ACCORDING TO DIMENSIONS ON THE PLANS AND PLAN/PROFILE SHEETS.
7. CONCRETE: MINIMUM 28 DAY CYLINDER STRENGTH OF 4,000 PSI FOR JUNCTION BOX, CONFORMING TO SPECIFICATION Tx360.
8. CONCRETE REINFORCING STEEL SHALL HAVE ADEQUATE COVER AS REQUIRED BY THE BUILDING CODE. CODE REQUIRED TYPICAL COVER IS:
   CONCRETE CASE DIRECTLY AGAINST EARTH: 3"
   CONCRETE EXPOSED TO WEATHER: 2"

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\100157_EDA_C-01-STRM.DWG | D/L - STRM
DRAWING PATHNAME: LAYOUT | PLOT DATE - TIME

SHEET NAME: STORM DRAINAGE DETAILS 2

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG* DPS HANGAR PROJECT (TXDOT CSJ NO. 22HGEDINB) EDINBURG, TEXAS

DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

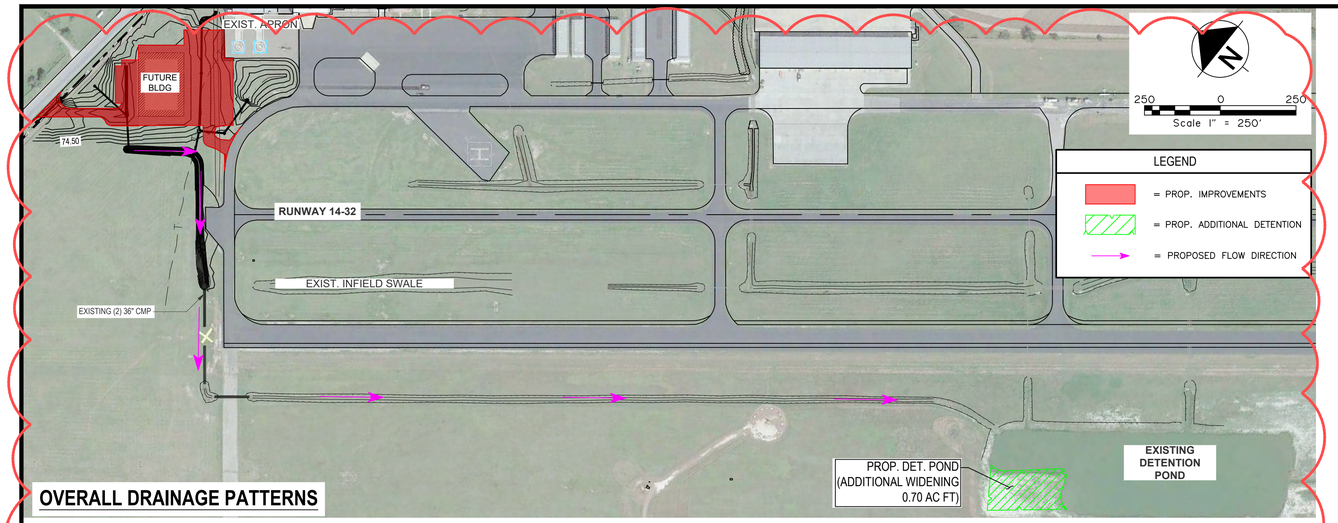
KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3352 F. 888-274-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED PROFESSIONAL ENGINEER
09/15/2022

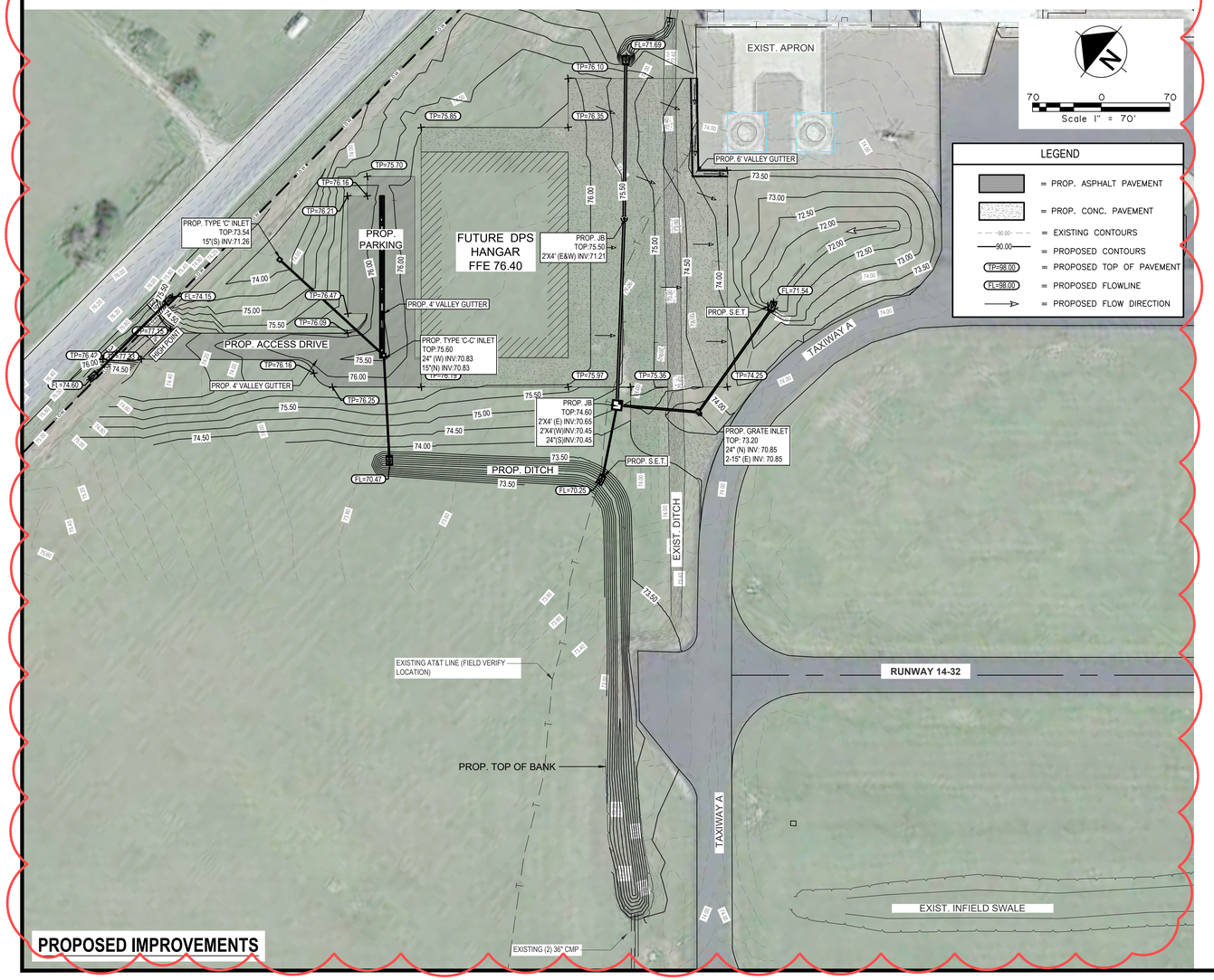
SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
35A

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS



OVERALL DRAINAGE PATTERNS



PROPOSED IMPROVEMENTS

DRAINAGE AREA CHARACTERISTICS

	Area:	2.85	acres	Developed Inlet Time							50	YEAR STORM				
	Length to Discharge:	534	feet	(Estimated)					LIMIT OUTFLOW:		3.88	CFS				
	Slope	0.375	%	10	min.	Dev Tc					Developed					
	Undeveloped tc:	26.00	min.						tc	Intensity	Peak Disch.	Acc. Runoff	Runoff	Acc. Disch.	Net Storage	
PRE DEVELOPED LAND CHARACTER				POST DEVELOPED LAND CHARACTER					(min)	(in/hr.)	(cfs)	acre ft.	Difference	Acre ft.	Acre Feet	
0.00	acres	0.9	Impervious	2.85	acres	0.9	Impervious		10	10.83	26.23	0.361	0.3613	0.053	0.308	
2.85	acres	0.25	Pervious	0.00	acres	0.25	Pervious		15	9.10	22.06	0.456	0.0944	0.067	0.389	
0.25	C (composite)					0.85	C (composite)		20	7.91	19.16	0.528	0.0722	0.080	0.448	
									25	7.03	17.02	0.586	0.0583	0.094	0.493	
County:	HIDALGO COUNTY, TEXAS			PRE DEVELOPED					30	6.34	15.37	0.635	0.0489	0.107	0.528	
	2-year			OUTFLOW					35	5.80	14.05	0.677	0.0421	0.120	0.557	
e	b	d	I2 (in/hr)						40	5.35	12.96	0.714	0.0370	0.134	0.581	
0.831	74	9.6	3.80	Q2=	2.71				45	4.98	12.06	0.747	0.0331	0.147	0.600	
									50	4.66	11.29	0.777	0.0299	0.160	0.617	
	5-year								55	4.38	10.62	0.805	0.0273	0.174	0.631	
e	b	d	I5 (in/hr)						60	4.14	10.04	0.830	0.0252	0.187	0.643	
0.795	80	9.2	4.72	Q5=	3.36				65	3.93	9.53	0.853	0.0234	0.201	0.653	
									70	3.75	9.08	0.875	0.0218	0.214	0.661	
	10-year								75	3.58	8.67	0.896	0.0205	0.227	0.668	
e	b	d	I10 (in/hr)						80	3.43	8.30	0.915	0.0193	0.241	0.674	
0.778	87	9.2	5.45	Q10=	3.88				85	3.29	7.97	0.933	0.0183	0.254	0.679	
									90	3.16	7.67	0.950	0.0173	0.267	0.683	
	25-year								95	3.05	7.39	0.967	0.0165	0.281	0.686	
e	b	d	I25 (in/hr)						100	2.94	7.14	0.983	0.0158	0.294	0.689	
0.771	98	9.2	6.29	Q25=	4.48				105	2.85	6.90	0.998	0.0151	0.308	0.690	
									110	2.76	6.68	1.012	0.0145	0.321	0.691	
	50-year								115	2.67	6.48	1.026	0.0139	0.334	0.692	
e	b	d	I50 (in/hr)						120	2.60	6.29	1.040	0.0134	0.348	0.692	High Point
0.749	99	9.2	6.88	Q50=	4.90				125	2.52	6.11	1.053	0.0130	0.361	0.692	
									130	2.45	5.95	1.065	0.0125	0.374	0.691	
	100-year								135	2.39	5.79	1.077	0.0121	0.388	0.690	
e	b	d	I100 (in/hr)						140	2.33	5.65	1.089	0.0117	0.401	0.688	
0.74	103	9.6	7.32	Q100=	5.22				145	2.27	5.51	1.100	0.0114	0.415	0.686	
									150	2.22	5.38	1.112	0.0111	0.428	0.684	
						DEVELOPED			155	2.17	5.26	1.122	0.0108	0.441	0.681	
	2-year					OUTFLOW			160	2.12	5.14	1.133	0.0105	0.455	0.678	
e	b	d	I2 (in/hr)						165	2.08	5.03	1.143	0.0102	0.468	0.675	
0.831	74	9.6	6.24			Q2=	15.13		170	2.03	4.92	1.153	0.0099	0.481	0.671	
									175	1.99	4.82	1.163	0.0097	0.495	0.668	
	5-year								180	1.95	4.73	1.172	0.0095	0.508	0.664	
e	b	d	I5 (in/hr)						185	1.91	4.64	1.181	0.0093	0.522	0.660	
0.795	80	9.2	7.64			Q5=	18.50		190	1.88	4.55	1.190	0.0090	0.535	0.655	
									195	1.84	4.46	1.199	0.0089	0.548	0.651	
	10-year								200	1.81	4.38	1.208	0.0087	0.562	0.646	
e	b	d	I10 (in/hr)						205	1.78	4.31	1.216	0.0085	0.575	0.641	
0.778	87	9.2	8.73			Q10=	21.16		210	1.75	4.23	1.225	0.0083	0.588	0.636	
									215	1.72	4.16	1.233	0.0082	0.602	0.631	
	25-year								220	1.69	4.09	1.241	0.0080	0.615	0.626	
e	b	d	I25 (in/hr)						230	1.64	3.97	1.256	0.0156	0.642	0.614	
0.771	98	9.2	10.04			Q25=	24.33		240	1.59	3.85	1.271	0.0150	0.669	0.603	
									250	1.54	3.73	1.286	0.0145	0.695	0.591	
	50-year								260	1.50	3.63	1.300	0.0141	0.722	0.578	
e	b	d	I50 (in/hr)						270	1.46	3.53	1.314	0.0136	0.749	0.565	
0.749	99	9.2	10.83			Q50=	26.23		280	1.42	3.44	1.327	0.0132	0.776	0.551	
									290	1.38	3.35	1.340	0.0128	0.802	0.537	
	100-year								300	1.35	3.27	1.352	0.0125	0.829	0.523	
e	b	d	I100 (in/hr)						330	1.26	3.05	1.388	0.0355	0.909	0.478	
0.74	103	9.6	11.39			Q100 =	27.60		360	1.18	2.87	1.421	0.0330	0.990	0.431	

CITY OF EDINBURG
REQUIRED DRAINAGE DETENTION = 0.692 AC FT

MARK	REVISION	DATE
A	ADD 3	9/15/22

H:\KSA DPS HANGAR\DESIGN\DWG\ 01_KSA_G02.DWG | LAYOUT1 | 9/15/2022 - 9:08 AM
DRAWING PATHNAME | LAYOUT | PLOT DATE - TIME

SHEET NAME: DETENTION CALCULATIONS

RUNWAY 14-32 AND TAXIWAY A SAFETY IMPROVEMENTS PROJECT – McALLEN INTERNATIONAL AIRPORT – McALLEN, TEXAS

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

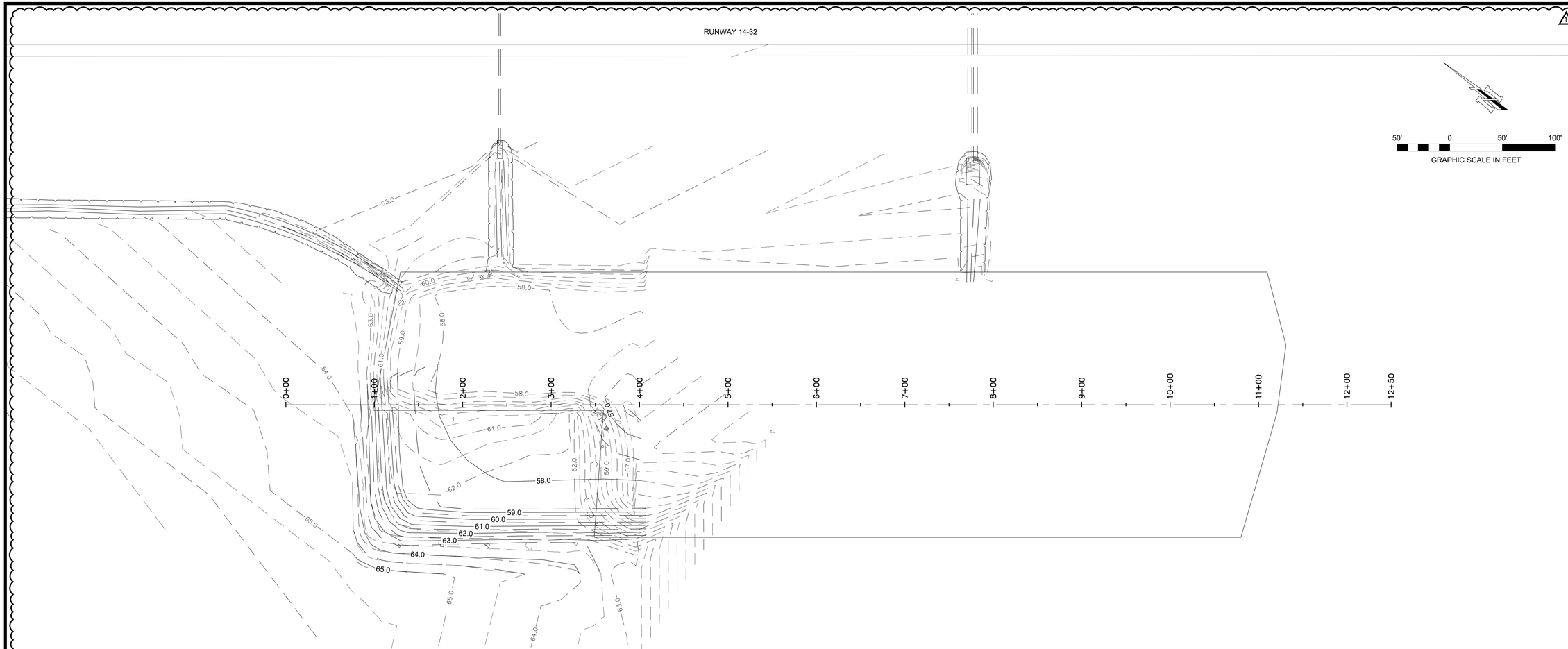
DRAWN BY:
DESIGNED BY:
Date: 5/13/2022
PCE JOB NO.:

PCE Petet Crossling Engineers
Texas Registered Engineering Firm F-2158
808 Dallas Ave. McAllen, Texas 78501
(956) 631-4482 fax (956) 682-1545

STATE OF TEXAS
J. DAVID PEREZ
89429
LICENSED PROFESSIONAL ENGINEER
9-15-22

SEAL:
TBPE Firm Registration No. F-2158

EXHIBIT NO.
36



DETENTION REQUIRED = 0.692 AC-FT
DETENTION PROVIDED = 2.0 AC-FT

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA-NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\ 100157_EDN_C-STRM-POND.DWG | POND 1 |

DRAWING PATH/NAME | LAYOUT | PLOT DATE - TIME

AIRFIELD DETENTION POND EXPANSION

SHEET NAME:

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SOUTH TEXAS INTERNATIONAL AIRPORT
AT EDINBURG

DPS HANGAR PROJECT

(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

PROJECT NAME:

DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

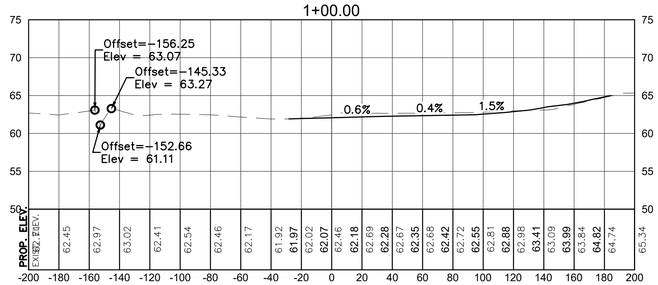
KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281.494.4262 F. 888.224.9418
www.ksaeng.com

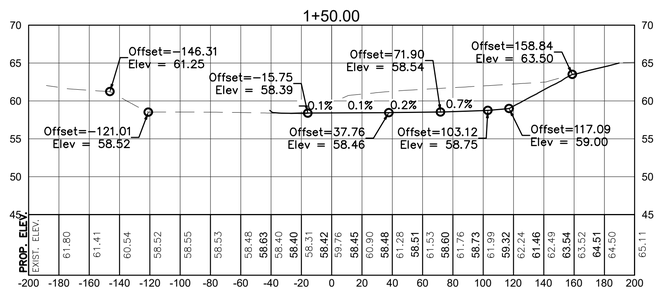
STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
07/15/2022

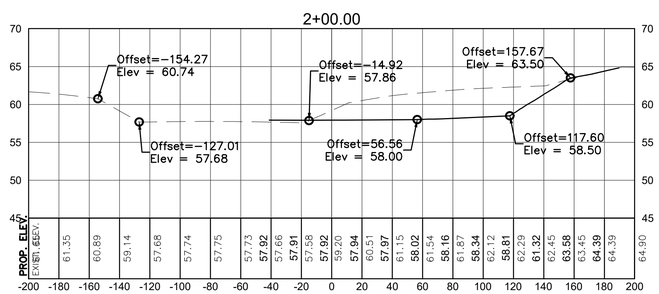
SEAL:
TBPE Firm Registration No. F-1356

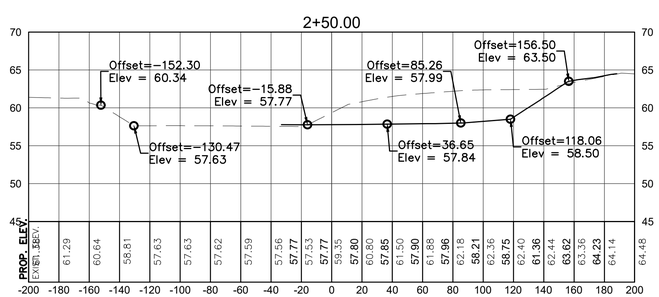
SHEET NO.

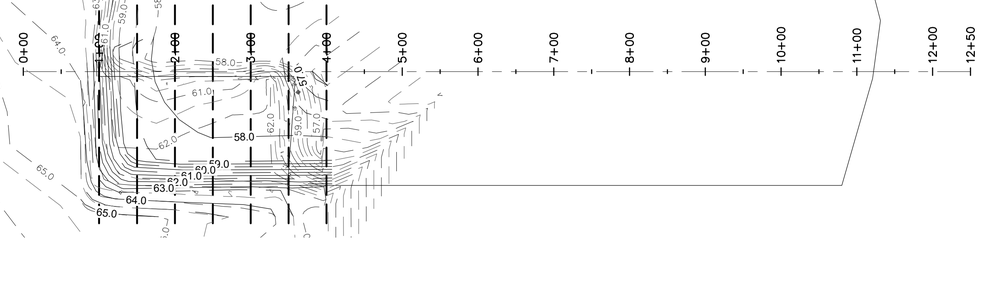
37

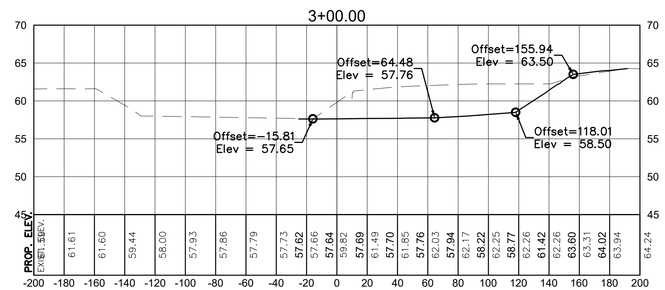


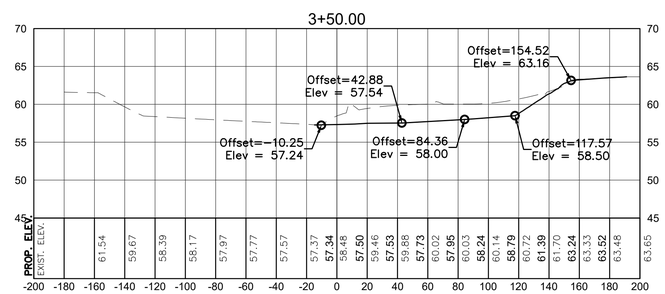


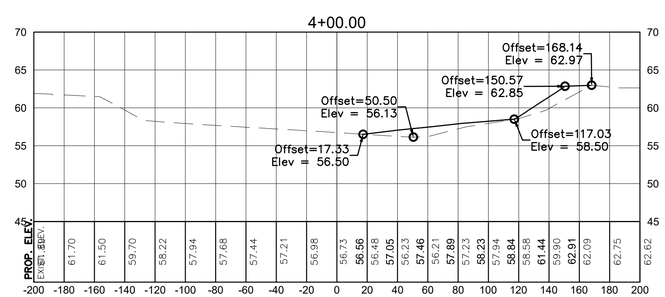












MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA.NET\GATEWAY\PROJECTS\100157\008 CAD\30 SHEETS\02 CIVIL\100157_EDN_C-STRM-POND.DWG | POND SHEET 1
DRAWING PATHNAME | LAYOUT | PLOT DATE - TIME

100157- DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME:

DETENTION POND CROSS SECTIONS

PROJECT NAME:

SOUTH TEXAS INTERNATIONAL AIRPORT
AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, TX 77478
T. 281.494.2202 F. 888.224.9418
www.ksaeng.com

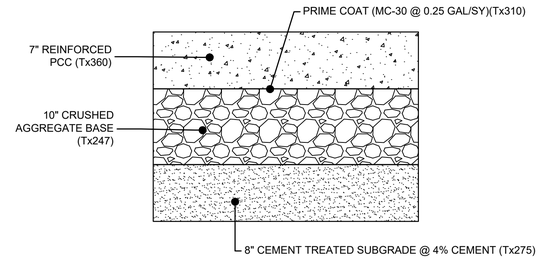
STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/16/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
38

SPACE NOT USED

SPACE NOT USED



1 CONCRETE PAVEMENT SECTION

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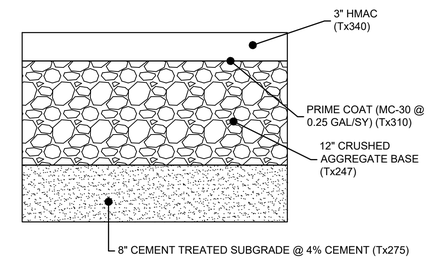
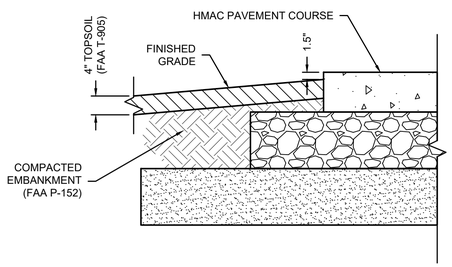


2 HMAC PAVEMENT SECTION

N.T.S.

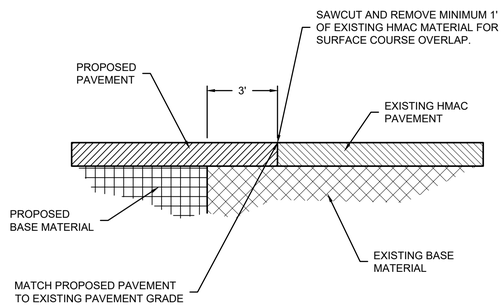


PAVEMENT DROP-OFF NOTES:

1. PROVIDE 1.5" DROP-OFF FROM TOP OF PAVEMENT TO ADJACENT FINISHED GRADE AT EDGE OF ALL PAVEMENT CONSTRUCTED IN THIS PROJECT
2. SUFFICIENT TOPSOIL MAY NOT BE AVAILABLE ON THE AIRPORT SITE. THE CONTRACTOR SHALL SUPPLY TOPSOIL FROM OFF-SITE AS REQUIRED. TOPSOIL MUST MEET THE REQUIREMENTS OF FAA T-905
3. THE TOPSOIL SHALL BE LIGHTLY ROLLED INTO PLACE
4. ALL TOPSOILED AREAS SHALL BE TREATED WITH SEED AND FERTILIZER IN ACCORDANCE WITH FAA T-905
5. PAVEMENT DROP-OFF DETAIL DOES NOT APPLY TO PAVEMENTS LOCATED WITHIN THE TXDOT RIGHT OF WAY.

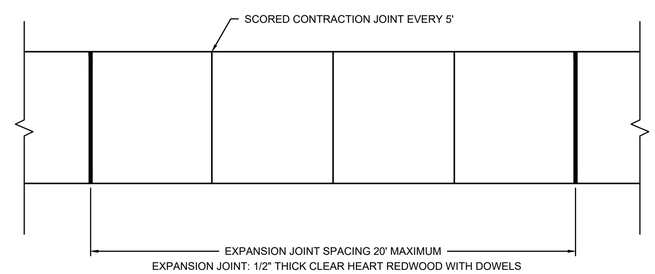
3 PAVEMENT DROP-OFF DETAIL

N.T.S.



4 SAWCUT DETAIL

N.T.S.



5 SIDEWALK JOINT DETAILS

N.T.S.

MARK	REVISION	DATE
1	ADDENDUM 3	9/15/22

\\KSA.NET\GATEWAY\PROJECTS\100157\00B CAD\30 SHEETS\02 CIVIL\ 100157_EDN_C-01-PAVE.DWG | PLOT DATE - TIME
DRAWING PATHNAME: LAYOUT | PLOT DATE - TIME

SHEET NAME: PAVING DETAILS 1

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG* DPS HANGAR PROJECT (TXDOT CSJ NO. 22HGEDINB) EDINBURG, TEXAS

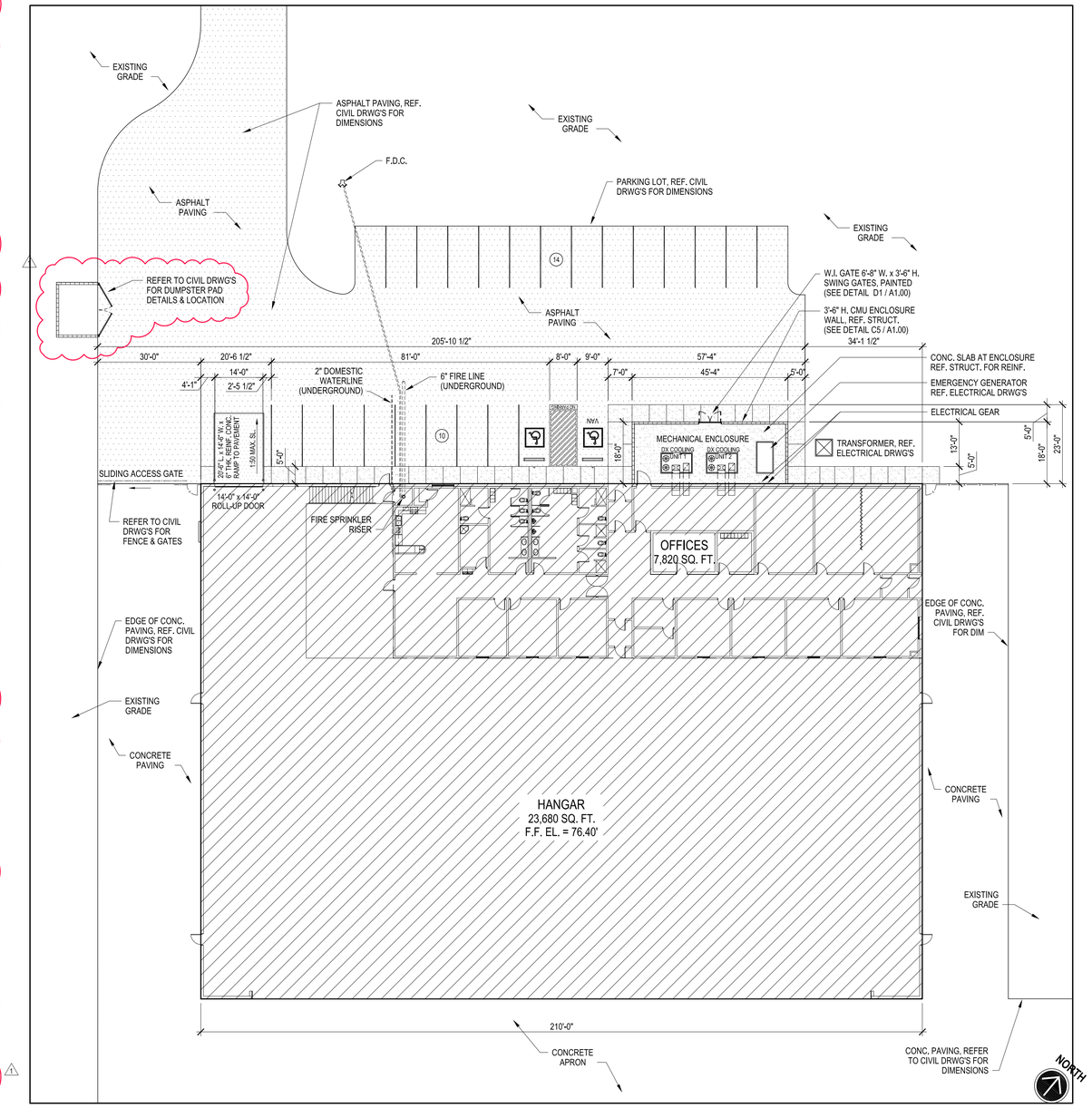
DRAWN BY:	AJ
DESIGNED BY:	NM/AG
LATEST REVISION:	09/15/2022
KSA JOB NO.:	100157

KSA
816 Park Two Dr.
Sugar Land, Texas 77478
T. 281-494-3322 F. 888-224-9418
www.ksaeng.com

STATE OF TEXAS
NATHAN T. MIKELL
136408
LICENSED
PROFESSIONAL ENGINEER
09/16/2022

SEAL:
TBPE Firm Registration No. F-1356

SHEET NO.
53



SITE PLAN (A1)

SCALE: 1" = 20'-0"

MARK	REVISION	DATE
1	DELETED DUMPSTER PAD DETAILS & REVISED LOCATION	8-25-22

M:\2210-DPS HANGER & APRON - EDINBURG\6_CONSTRUCTION DOCUMENTS\A1.00 TX DOT HANGER SITE PLAN.DWG | A1.00 SITE PLAN |
DRAWING PATH/NAME | LAYOUT | PLOT DATE - TIME

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: SITE PLAN

SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG

DPS HANGAR PROJECT

(TXDOT CSJ NO. 22HGEDINB)

EDINBURG, TEXAS

PROJECT NAME:

DRAWN BY:

DESIGNED BY:

LATEST REVISION: 07/15/2022

KSA JOB NO.: 100157

Boultinghouse Simpson Gates ARCHITECTS

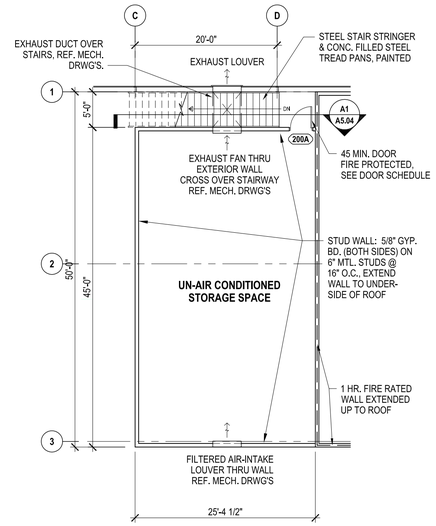
3301 McKELL RD MESQUITE TX 75181
P 972.329.5444 | F 972.329.2856

REGISTERED ARCHITECT HUBERT S. SIMPSON 8556 TEXAS

07-15-2022

SHEET NO.

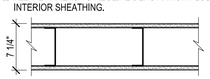
A1.00



STORAGE MEZZANINE FLOOR PLAN

WALL TYPES

GENERAL NOTES:
1. ALL INTERIOR WALLS ARE WALL **TYPE 1** U.N.O.
2. ALL WET AREAS TO RECEIVE DENS ARMOR PLUS INTERIOR SHEATHING.

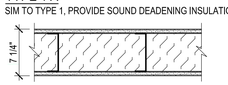


TYPE 1 - INTERIOR WALLS

5/8" GYP. BD. ON EACH SIDE OF 6" MTL. STUDS @ 16" O.C. TAPED, TEXTURED & PAINTED. EXTEND METAL STUDS UP TO BARRIER DECK.

TYPE 1 A

SIM TO TYPE 1, PROVIDE SOUND DEADENING INSULATION



TYPE 1 B

SIM TO TYPE 1, EXCEPT FIRE-RATED w/ 5/8" TYPE "X" GYP. BD. & FIRE SEALANT ON TOP AND BOTTOM OF WALL. INDICATED 1-HR WALL SYMBOL ABOVE SUSPENDED CEILING. PROVIDE 6" UN-FACED BATT INSULATION (R-19)

TYPE 1 C - TYP. RESTROOM WET WALLS

RESTROOM SIDE - 5/8" GYP. BD (DENS ARMOR PLUS AT WET AREAS) ON 6" MTL. STUDS @ 16" O.C. FROM SLAB TO DECK. TERMINATE AT DECK w/ DEFLECTION TRACK. PROVIDE FULL HT. SOUND DEADENING INSULATION. SEE ELEVATIONS FOR CERAMIC TILE LOCATIONS. 3'-0" MIN. ABOVE SUSPENDED CEILING HEIGHT FOR RESTROOM PRIVACY.

TYPE 1 D

5/8" GYP. BD (DENS ARMOR PLUS AT WET AREAS) ON BOTH SIDES & 6" MTL. STUDS @ 16" O.C. FROM SLAB TO DECK. TERMINATE AT DECK w/ DEFLECTION TRACK. PROVIDE FULL HT. SOUND DEADENING INSULATION. SEE ELEVATIONS FOR CERAMIC TILE LOCATIONS. 3'-0" MIN. ABOVE SUSPENDED CEILING HEIGHT FOR RESTROOM PRIVACY.

TYPE 1 E

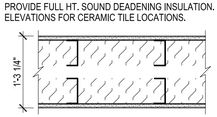
5/8" GYP. BD (DENS ARMOR PLUS AT WET AREAS) ON BOTH SIDES & 4" MTL. STUDS @ 16" O.C. FROM SLAB TO DECK. TERMINATE AT DECK w/ DEFLECTION TRACK. PROVIDE FULL HT. SOUND DEADENING INSULATION. SEE ELEVATIONS FOR CERAMIC TILE LOCATIONS. 3'-0" MIN. ABOVE SUSPENDED CEILING HEIGHT FOR RESTROOM PRIVACY.

TYPE 1 F

5/8" GYP. BD (DENS ARMOR PLUS AT WET AREAS) ON BOTH SIDES & 4" MTL. STUDS @ 16" O.C., 3'-0" ABOVE SUSPENDED CEILING HEIGHT FOR RESTROOM PRIVACY. SEE ELEVATIONS FOR CERAMIC TILE LOCATIONS.

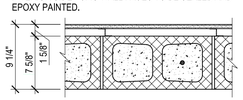
TYPE 1 G PLUMBING CHASE

RESTROOM SIDE - 5/8" GYP. BD (DENS ARMOR PLUS AT WET AREAS) ON 4" MTL. STUDS @ 16" O.C., 3'-0" ABOVE SUSPENDED CEILING HEIGHT FOR RESTROOM PRIVACY. PROVIDE FULL HT. SOUND DEADENING INSULATION. SEE ELEVATIONS FOR CERAMIC TILE LOCATIONS.



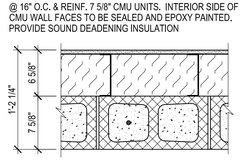
TYPE 2 - HIGH SECURITY AREAS

EXTERIOR SIDE - PTD. 5/8" GYP. BD. SECURED ON 1" Z-FURRING CHANNELS @ 16" O.C. & 7 5/8" CMU UNITS. INTERIOR SIDE - CMU WALL FACES TO BE SEALED AND EPOXY PAINTED.



TYPE 2 A - HIGH SECURITY AREAS

EXTERIOR SIDE - PTD. 5/8" GYP. BD. ON 3 5/8" MTL. STUDS @ 16" O.C. & REINF. 7 5/8" CMU UNITS. INTERIOR SIDE OF CMU WALL FACES TO BE SEALED AND EPOXY PAINTED. PROVIDE SOUND DEADENING INSULATION

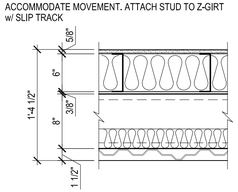


TYPE 2 B

SIM TO TYPE 2, REINF. CMU WALL ONLY, BOTH SIDES CMU WALL FACES TO BE SEALED AND EPOXY PAINTED.

TYPE 3 - EXTERIOR WALLS - OFFICE

EXTERIOR SIDE - METAL BUILDING PANELS ON 8" Z GIRTS w/ 3" VINYL-BACK INSULATION (R-10). INTERIOR SIDE - 5/8" DENS ARMOR PLUS ON ONE SIDE OF 6" MTL. STUDS @ 16" O.C. FROM SLAB TO 12" ABOVE SUSPENDED CEILING HEIGHT. PROVIDE 6" UN-FACED BATT INSULATION (R-19). PROVIDE 3/8" SPACE BETWEEN STUD & 8" Z-GIRT TO ACCOMMODATE MOVEMENT. ATTACH STUD TO Z-GIRT w/ SLIP TRACK



TYPE 3 A - EXTERIOR WALLS - OFFICE

SIM. TO TYPE 3 EXCEPT INTERIOR SIDE TO RECEIVE 4" CERAMIC TILE ON 5/8" DENS ARMOR PLUS.

TYPE 3 B - EXTERIOR WALLS - OFFICE

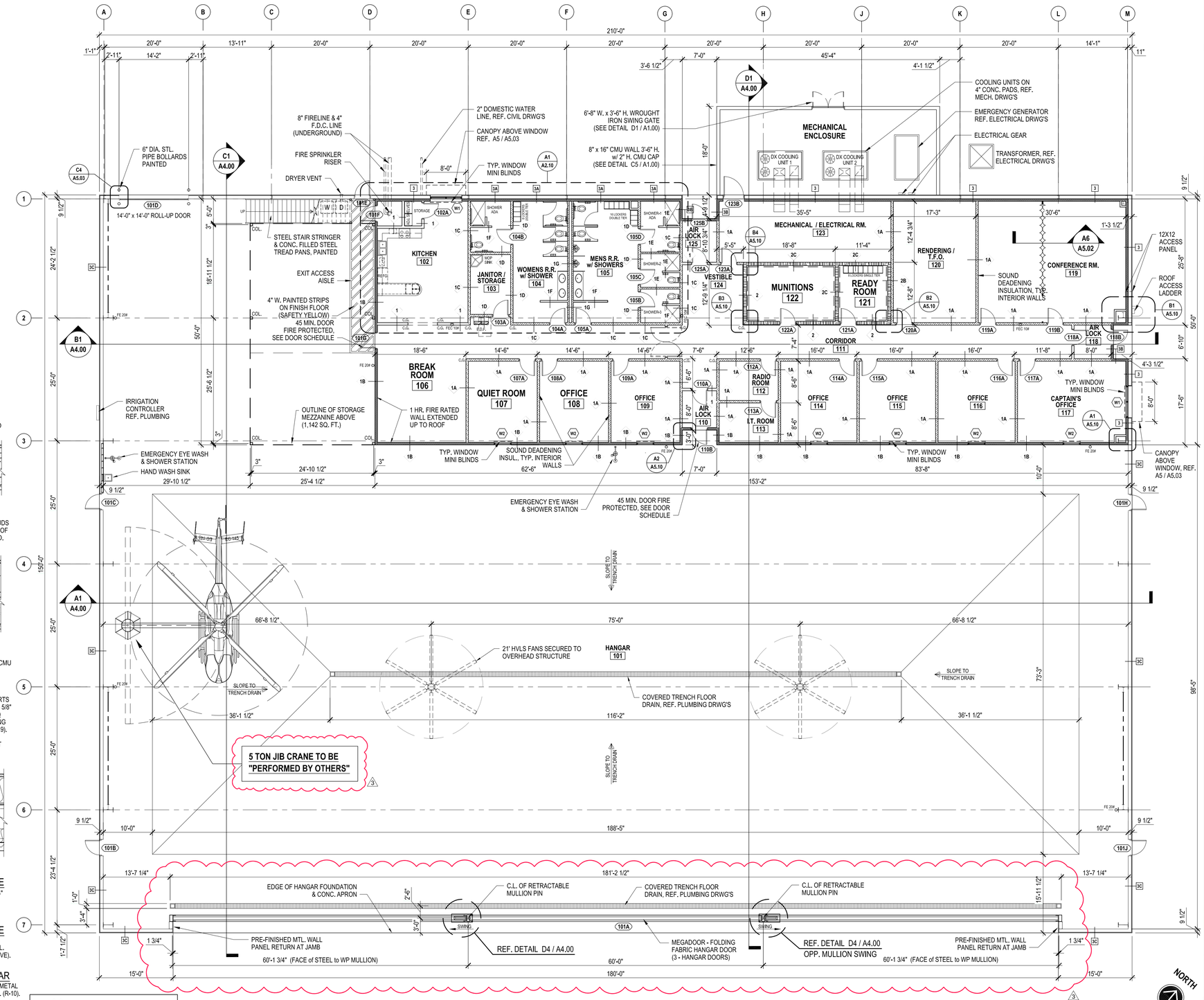
PRE-FINISHED METAL WALL PANEL ON PEEL & STICK MEMBRANE & 5/8" DENS-ARMOR SHEATHING ON 6" MTL. STUDS @ 16" O.C., (STUDS UP TO BOTT. OF DECK ABOVE).

TYPE 3 C - EXTERIOR WALLS - HANGAR

SIM. TO TYPE 3: EXCEPT DELETE INTERIOR FINISH & METAL SIN. STUDS ONLY EXPOSED 3 1/2" VINYL BACK INSUL. (R-10).

WALL TYPES

NO SCALE: **A5**



FLOOR PLAN

SCALE: 3/32" = 1'-0" **A1**

C.G.	CORNER GUARD
FEC 10#	FIRE EXTINGUISHER 10 LBS. IN SEMI-RECESSED CABINET
FE 20#	FIRE EXTINGUISHER 20 LBS. SURFACE MOUNTED

MARK	REVISION	DATE
3	ADDENDUM #3: ADDED HANGAR DOOR MULLION PITS & NOTED JIB CRANE "PERFORMED BY OTHERS"	9-21-22

M:\2210-DPS HANGER & APRON - EDINBURG\6. CONSTRUCTION DOCUMENTS\A2.00 TX DOT HANGER BASE PLAN.DWG [A2.00 FLOOR PLAN]
DRAWING PATHNAME | LAYOUT [PLOT DATE - TIME

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: FLOOR PLAN

SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

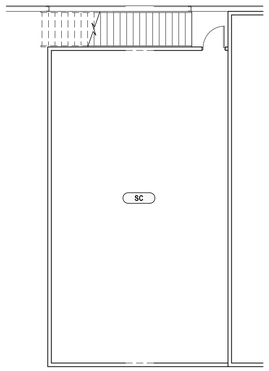
PROJECT NAME:

DRAWN BY:	GQ
DESIGNED BY:	BS
LATEST REVISION:	07/15/2022
KSA JOB NO.:	100157

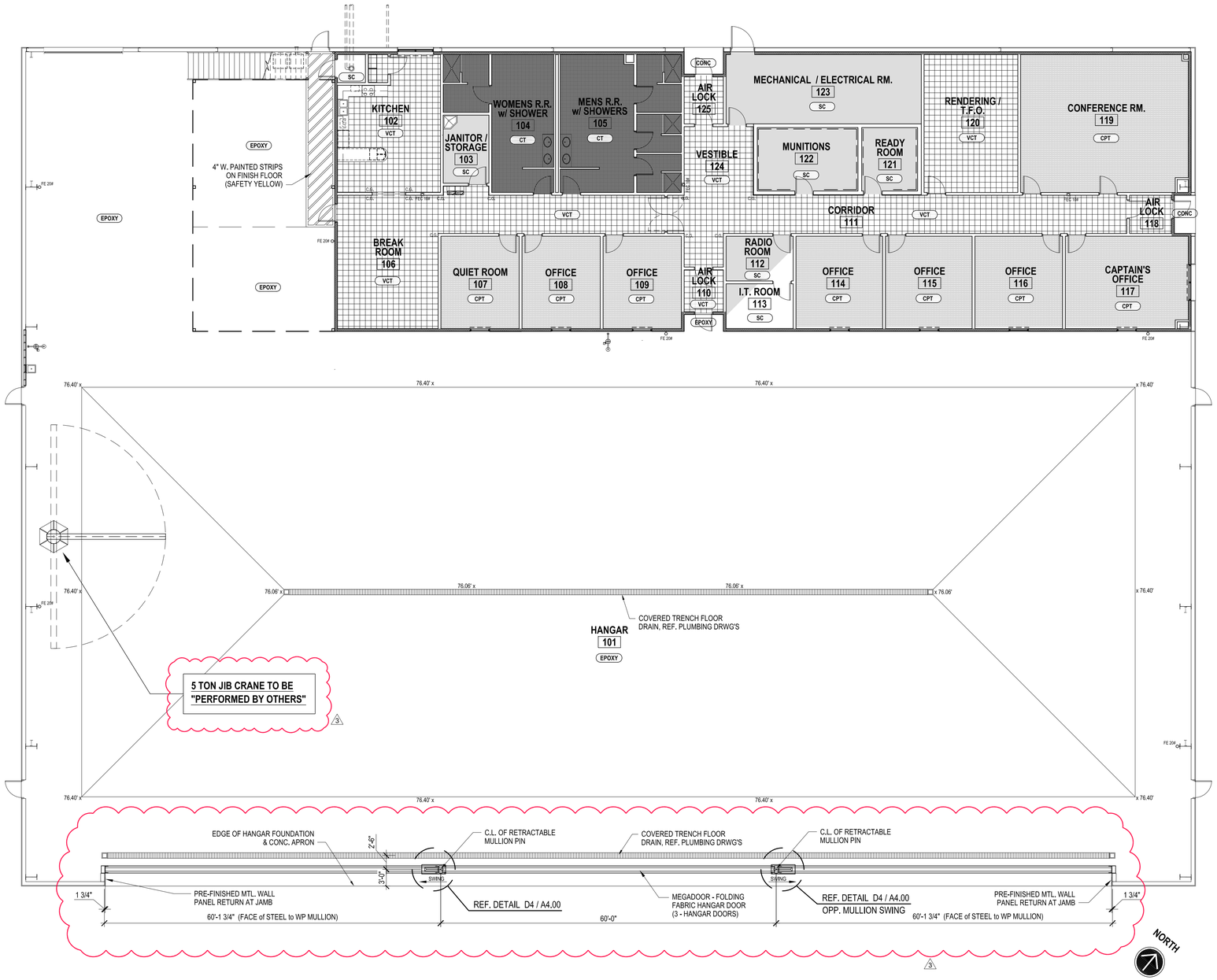
Boultinghouse Simpson Gates ARCHITECTS
3916 McCALL STREET, MALDEN, TX 75901
P 936.858.3484 | F 936.858.3555

REGISTERED ARCHITECT ROBERT S. SIMPSON 8755 TEXAS
07-15-2022

SHEET NO.
A2.00



STORAGE MEZZANINE FLOOR PLAN



FLOOR FINISH PLAN
SCALE: 3/32" = 1'-0"
1

KEYED NOTES - INTERIOR FLOOR FINISH PLAN

1. CONCRETE FLOOR SURFACE w/ EPOXY FLOOR COATING
2. CARPET AS PER ARCHITECT - PROVIDE TRANSITION STRIP AT DISSIMILAR FLOOR EDGES - SEE PLAN
3. EPOXY PAINT - COLOR BY ARCHITECT
4. VCT FLOOR TILE AS PER ARCHITECT - PROVIDE TRANSITION STRIP AT DISSIMILAR FLOOR EDGES
5. OPEN EDGED FOUNDATION SLAB RECESSED / RAISED EDGES TO RECEIVE YELLOW SAFETY PAINT STRIPE - SEE FLOOR PLAN FOR RECESSED SLAB LOCATIONS
6. GYP. BOARD - TAPE, FLOAT, TEXTURE AND PAINT.
7. CER. TILE ON SCHLUTER KERDI-BD - PROVIDE SCHLUTER TRIM AT EXPOSED EDGES. CENTER PATTERN ON RESPECTIVE WALL SURFACE SEE INTERIOR ELEVATIONS AND SECTIONS FOR HEIGHTS
8. CERAMIC FLOOR TILE AS PER ARCHITECT - CENTER PATTERN ON RESPECTIVE FLOOR SURFACE. SLOPE TO DRAIN WHERE SHOWN. PROVIDE TRANSITION STRIP AT FLOOR DISSIMILAR SURFACES.
9. ALL EXPOSED STRUCTURAL COMPONENTS AND UNDERSIDE OF ROOF DECK TO BE PAINTED ---
10. 48" L. CORNER GUARDS - MOUNT BOTTOM 4" A.F.F.
11. PAINTED GYP. BD. FURR-DOWN SURFACES
12. PLASTIC LAMINATE ON EXPOSED MILLWORK SURFACES.
13. 3/4" PLASTER ON MTL. LATH ON VAPOR BARRIER ON 5/8" DENS-ARMOR SUBSTRATE.
14. PTD. 5/8" GYP. BD. ON Z FURRING STRIPS @ 16" O.C. ON CMU
15. RESTROOM ACCESSORIES - PROVIDE INTERIOR WALL BLOCKING
16. FURNISHINGS BY OWNER (LOCATIONS TO BE DETERMINED). COORDINATE ELECTRICAL WITH PROPOSED LOCATIONS - RE: ELECTRCIAL
17. GROUT FILLED STL. REINF. 8" CMU WALL (RE: STRUCTURAL) TO BE SEALED AND PAINTED ALL EXPOSED SURFACES.
18. 1" ALUMINUM SLAT LOUVER BLINDS

MARK	REVISION	DATE
3	ADDENDUM #3; ADDED HANGAR DOOR MULLION PITS & NOTED JIB CRANE "PERFORMED BY OTHERS"	9-19-22

M22210-DPS HANGER & APRON - EDINBURGH, CONTROL PROTOTYPE DRAWING SET - 07-15-2022 - PLOT HANGER - FLOOR FINISH PLAN.DWG | A2.20 FLOOR FINISH PLAN |
DRAWING PATH/NAME | LAYOUT | PLOT DATE - TIME

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: FLOOR FINISH PLAN

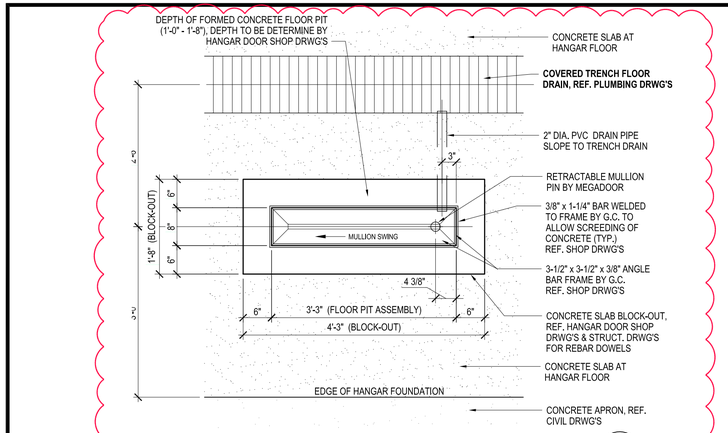
PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	GQ
DESIGNED BY:	GQ
LATEST REVISION:	BS
07/15/2022	
KSA JOB NO.:	100157

Boultinghouse Simpson Gates ARCHITECTS
300 N. McColl, 501 McAllen, TX 78501
P 956.630.9464 | F 956.630.3059

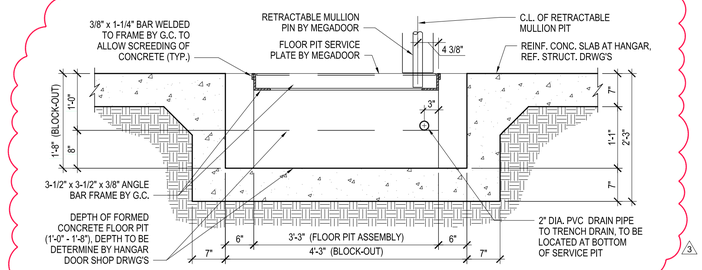
REGISTERED ARCHITECT AUBREY S. SIMPSON #3554
STATE OF TEXAS
07-15-2022

SHEET NO.
A2.20



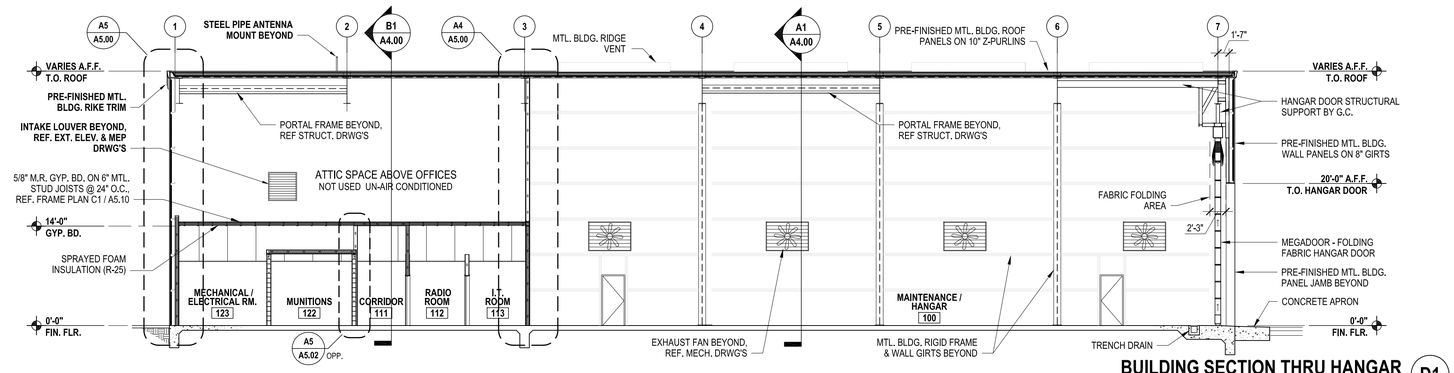
PLAN VIEW at HANGAR DOOR MULLION PIT (D4)

SCALE: 3/4" = 1'-0"



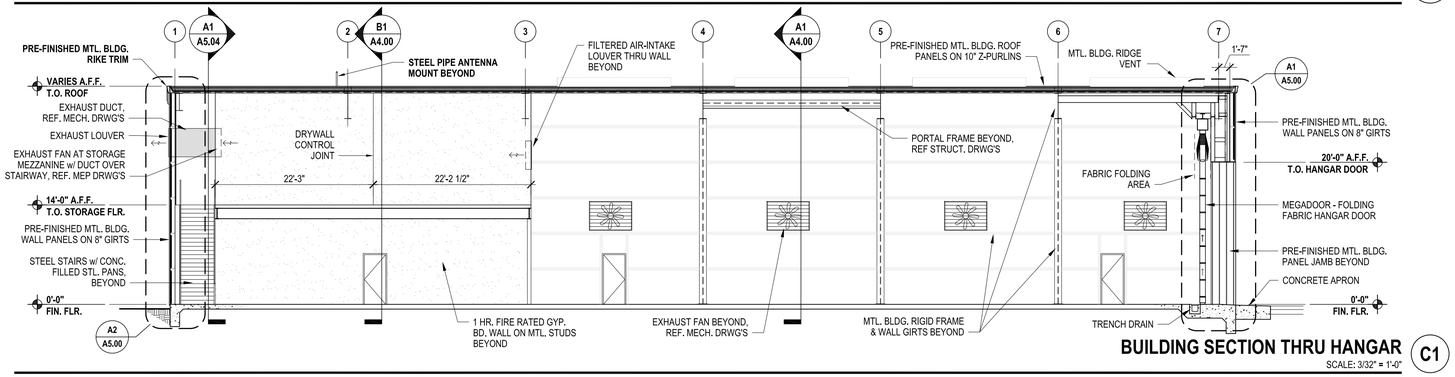
SECTION at HANGAR DOOR MULLION PIT (C4)

SCALE: 3/4" = 1'-0"



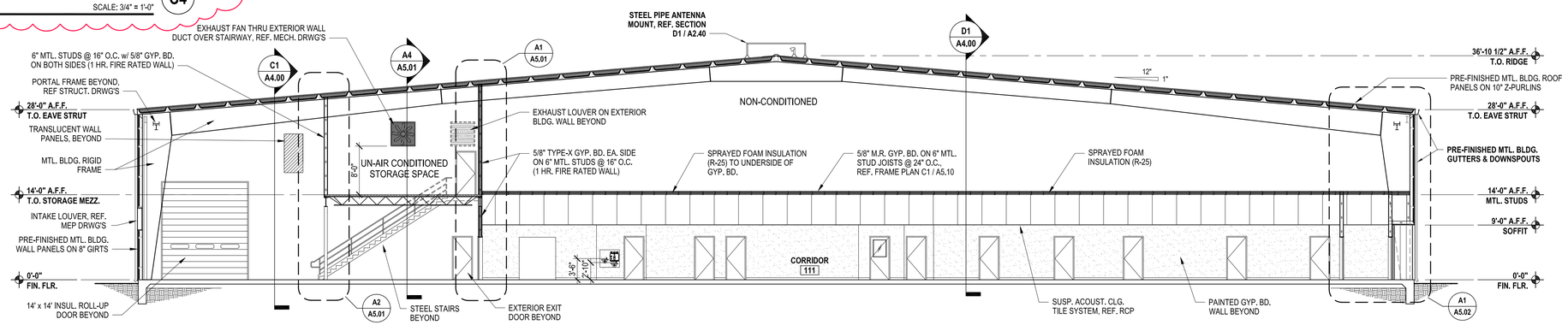
BUILDING SECTION THRU HANGAR (D1)

SCALE: 3/32" = 1'-0"



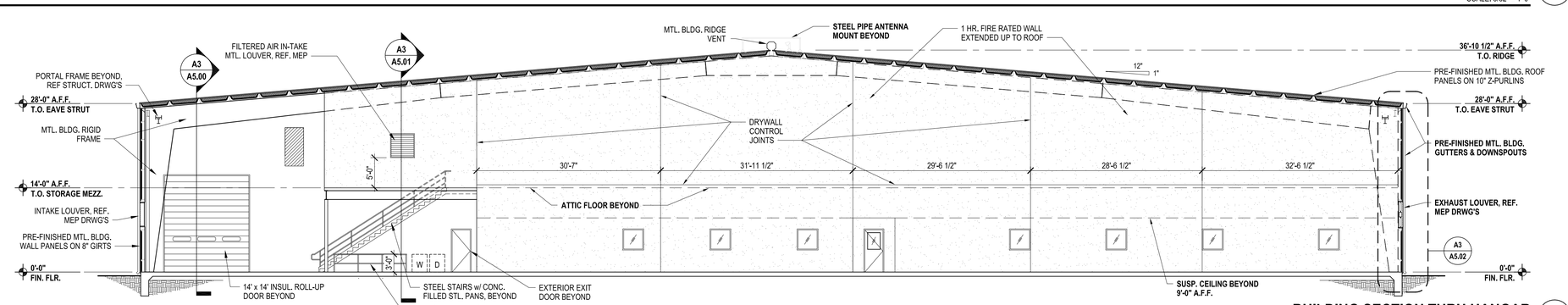
BUILDING SECTION THRU HANGAR (C1)

SCALE: 3/32" = 1'-0"



BUILDING SECTION THRU OFFICES (B1)

SCALE: 3/32" = 1'-0"



BUILDING SECTION THRU HANGAR (A1)

SCALE: 3/32" = 1'-0"

MARK	REVISION	DATE
3	ADDENDUM #3; ADDED HANGAR DOOR MULLION PIT	9-19-22

SECTION & DETAIL

M:\2210-DPS HANGER & APRON - EDINBURG\4_CONSTRUCTION DOCS\SHEETS\A4.00 - PLOT HANGER BUILDING SECTIONS.DWG | A4.00 BUILDING SECTIONS | DRAWING PATHNAME | LAYOUT | PLOT DATE - TIME

100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

SHEET NAME: BUILDING SECTIONS

PROJECT NAME: SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	GQ
DESIGNED BY:	BS
LATEST REVISION:	07/15/2022
KSA JOB NO.:	100157

Boultinghouse Simpson Gates ARCHITECTS
320 N MAIN, STE 200 MCALLEN, TX 78501
P 956.630.3441 | F 956.630.3206

REGISTERED ARCHITECT ROBERT S. SIMPSON 8755-0 TEXAS
07-15-2022

SHEET NO.
A4.00

Item C-100 Contractor Quality Control Program (CQCP)

100-1 General. Quality is more than test results. Quality is the combination of proper materials, testing, workmanship, equipment, inspection, and documentation of the project. Establishing and maintaining a culture of quality is key to achieving a quality project. The Contractor shall establish, provide, and maintain an effective Contractor Quality Control Program (CQCP) that details the methods and procedures that will be taken to assure that all materials and completed construction required by this contract conform to contract plans, technical specifications and other requirements, whether manufactured by the Contractor, or procured from subcontractors or vendors. Although guidelines are established and certain minimum requirements are specified here and elsewhere in the contract technical specifications, the Contractor shall assume full responsibility for accomplishing the stated purpose.

The Contractor shall establish a CQCP that will:

a. Provide qualified personnel to develop and implement the CQCP.

b. Provide for the production of acceptable quality materials.

c. Provide sufficient information to assure that the specification requirements can be met.

d. Document the CQCP process.

The Contractor shall not begin any construction or production of materials to be incorporated into the completed work until the CQCP has been reviewed and approved by the Engineer ~~Resident Project Representative (RPR)~~. No partial payment will be made for materials subject to specific quality control (QC) requirements until the CQCP has been reviewed and approved.

The QC requirements contained in this section and elsewhere in the contract technical specifications are in addition to and separate from the quality assurance (QA) testing requirements. QA testing requirements are the responsibility of the Engineer, RPR or Contractor as specified in the specifications.

A Quality Control (QC)/Quality Assurance (QA) workshop with the Engineer, Resident Project Representative (RPR), Contractor, subcontractors, testing laboratories, and Owner's representative must be held prior to start of construction. The QC/QA workshop will be facilitated by the Contractor. The ~~Contractor~~ Engineer shall coordinate with the Airport and the Agent ~~RPR on~~ and establish the time and location of the QC/QA workshop. It is anticipated that the QC/QA workshop will be held in conjunction with the pre-construction conference. Items to be addressed, at a minimum, will include:

a. Review of the CQCP including submittals, QC Testing, Action & Suspension Limits for Production, Corrective Action Plans, Distribution of QC reports, and Control Charts.

b. Discussion of the QA program.

c. Discussion of the QC and QA Organization and authority including coordination and information exchange between QC and QA.

d. Establish regular meetings to discuss control of materials, methods and testing.

e. Establishment of the overall QC culture.

100-2 Description of program.

a. General description. The Contractor shall establish a CQCP to perform QC inspection and testing of all items of work required by the technical specifications, including those performed by subcontractors.

The CQCP shall ensure conformance to applicable specifications and plans with respect to materials, off-site fabrication, workmanship, construction, finish, and functional performance. The CQCP shall be effective for control of all construction work performed under this Contract and shall specifically include surveillance and tests required by the technical specifications, in addition to other requirements of this section and any other activities deemed necessary by the Contractor to establish an effective level of QC.

b. Contractor Quality Control Program (CQCP). The Contractor shall describe the CQCP in a written document that shall be reviewed and approved by the Engineer ~~RPR~~ prior to the start of any production, construction, or off-site fabrication. The written CQCP shall be submitted to the Engineer for review and approval within 10 calendar days before the CQCP Workshop, allowing adequate time for any necessary revisions to the CQCP to obtain the approval. The Contractor's CQCP and QC testing laboratory must be approved in writing by the Engineer prior to the ~~Notice to Proceed (NTP)~~ QC/QA workshop and pre-construction conference.

The CQCP shall be organized to address, as a minimum, the following:

(1) QC organization and resumes of key staff

(2) Project progress schedule

(3) Submittals schedule

(4) Inspection requirements

(5) QC testing plan

(6) Documentation of QC activities and distribution of QC reports

(7) Requirements for corrective action when QC and/or QA acceptance criteria are not met

(8) Material quality and construction means and methods. Address all elements applicable to the project that affect the quality of the pavement structure including subgrade, subbase, base, and surface course. Some elements that must be addressed include, but is not limited to mix design, aggregate grading, stockpile management, mixing and transporting, placing and finishing, quality control testing and inspection, smoothness, laydown plan, equipment, and temperature management plan.

The Contractor must add any additional elements to the CQCP that is necessary to adequately control all production and/or construction processes required by this contract.

100-3 CQCP organization. The CQCP shall be implemented by the establishment of a QC organization. An organizational chart shall be developed to show all QC personnel, their authority, and how these personnel integrate with other management/production and construction functions and personnel.

The organizational chart shall identify all QC staff by name and function, and shall indicate the total staff required to implement all elements of the CQCP, including inspection and testing for each item of work. If necessary, different technicians can be used for specific inspection and testing functions for different items of work. If an outside organization or independent testing laboratory is used for implementation of all or part of the CQCP, the personnel assigned shall be subject to the qualification requirements of paragraphs 100-03a and 100-03b. The organizational chart shall indicate which personnel are Contractor employees and which are provided by an outside organization.

The QC organization shall, as a minimum, consist of the following personnel:

a. Program Administrator. The Contractor Quality Control Program Administrator (CQCPA) must be a full-time **[** on-site **]** employee of the Contractor, or a consultant engaged by the Contractor. The CQCPA must have a minimum of five (5) years of experience in QC pavement construction with prior QC experience on a project of comparable size and scope as the contract.

Included in the five (5) years of paving/QC experience, the CQCPA must meet at least one of the following requirements:

(1) Professional Engineer with one (1) year of airport paving experience.

(2) Engineer-in-training with two (2) years of airport paving experience.

(3) National Institute for Certification in Engineering Technologies (NICET) Civil Engineering Technology Level IV with three (3) years of airport paving experience.

(4) An individual with four (4) years of airport paving experience, with a Bachelor of Science Degree in Civil Engineering, Civil Engineering Technology or Construction.

The CQCPA must have full authority to institute any and all actions necessary for the successful implementation of the CQCP to ensure compliance with the contract plans and technical specifications. The CQCPA authority must include the ability to immediately stop production until materials and/or processes are in compliance with contract specifications. The CQCPA must report directly to a principal officer of the construction firm. The CQCPA may supervise the Quality Control Program on more than one project provided that person can be at the job site within two (2) hours after being notified of a problem.

b. QC technicians. A sufficient number of QC technicians necessary to adequately implement the CQCP must be provided. These personnel must be either Engineers, engineering technicians, or experienced craftsman with qualifications in the appropriate field equivalent to NICET Level II in Civil Engineering Technology or higher, and shall have a minimum of two (2) years of experience in their area of expertise.

The QC technicians must report directly to the CQCPA and shall perform the following functions:

(1) Inspection of all materials, construction, plant, and equipment for conformance to the technical specifications, and as required by paragraph 100-6.

(2) Performance of all QC tests as required by the technical specifications and paragraph 100-8.

(3) Performance of tests for the Engineer and RPR when required by the technical specifications.

Certification at an equivalent level of qualification and experience by a state or nationally recognized organization will be acceptable in lieu of NICET certification.

c. Staffing levels. The Contractor shall provide sufficient qualified QC personnel to monitor each work activity at all times. Where material is being produced in a plant for incorporation into the work, separate plant and field technicians shall be provided at each plant and field placement location. The scheduling and coordinating of all inspection and testing must match the type and pace of work activity. The CQCP shall state where different technicians will be required for different work elements.

100-4 Project progress schedule. Critical QC activities must be shown on the project schedule as required by Section 80, paragraph 80-03, *Execution and Progress*.

100-5 Submittals schedule. The Contractor shall submit a detailed listing of all submittals (for example, mix designs, material certifications) and shop drawings required by the technical specifications. The listing can be developed in a spreadsheet format and shall include as a minimum:

a. Specification item number

b. Item description

c. Description of submittal

d. Specification paragraph requiring submittal

e. Scheduled date of submittal

100-6 Inspection requirements. QC inspection functions shall be organized to provide inspections for all definable features of work, as detailed below. All inspections shall be documented by the Contractor as specified by paragraph 100-9.

Inspections shall be performed as needed to ensure continuing compliance with contract requirements until completion of the particular feature of work. Inspections shall include the following minimum requirements:

a. During plant operation for material production, QC test results and periodic inspections shall be used to ensure the quality of aggregates and other mix components, and to adjust and control mix proportioning to meet the approved mix design and other requirements of the technical specifications. All equipment used in proportioning and mixing shall be inspected to ensure its proper operating condition. The CQCP shall detail how these and other QC functions will be accomplished and used.

b. During field operations, QC test results and periodic inspections shall be used to ensure the quality of all materials and workmanship. All equipment used in placing, finishing, and compacting shall be inspected to ensure its proper operating condition and to ensure that all such operations are in conformance to the technical specifications and are within the plan dimensions, lines, grades, and tolerances specified. The CQCP shall document how these and other QC functions will be accomplished and used.

100-7 Contractor QC testing facility.

a. For projects that include Item Tx340 or Tx341, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM D3666, *Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials*:

- 8.1.3 Equipment Calibration and Checks;
- 8.1.9 Equipment Calibration, Standardization, and Check Records;
- 8.1.12 Test Methods and Procedures

b. For projects that include Tx360, the Contractor shall ensure facilities, including all necessary equipment, materials, and current reference standards, are provided that meet requirements in the following paragraphs of ASTM C1077, Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation:

- 7 Test Methods and Procedures
- 8 Facilities, Equipment, and Supplemental Procedures

100-8 QC testing plan. As a part of the overall CQCP, the Contractor shall implement a QC testing plan, as required by the technical specifications. The testing plan shall include the minimum tests and test frequencies required by each technical specification Item, as well as any additional QC tests that the Contractor deems necessary to adequately control production and/or construction processes.

The QC testing plan can be developed in a spreadsheet fashion and shall, as a minimum, include the following:

a. Specification item number (E.G., P-152, P-153, P-610, D-701, D-751, D-752, D-754, Tx247, Tx275, Tx340 and Tx360)

b. Item description (e.g., Hot Mix Asphalt Pavements)

c. Test type (e.g., gradation, grade, asphalt content)

d. Test standard (e.g., ASTM or American Association of State Highway and Transportation Officials (AASHTO) test number, as applicable)

e. Test frequency (e.g., as required by technical specifications or minimum frequency when requirements are not stated)

f. Responsibility (e.g., plant technician)

g. Control requirements (e.g., target, permissible deviations)

The QC testing plan shall contain a statistically-based procedure of random sampling for acquiring test samples in accordance with ASTM D3665. The Engineer and RPR shall be provided the opportunity to witness QC sampling and testing.

All QC test results shall be documented by the Contractor as required by paragraph 100-9.

100-9 Documentation. The Contractor shall maintain current QC records of all inspections and tests performed. These records shall include factual evidence that the required QC inspections or tests have been performed, including type and number of inspections or tests involved; results of inspections or tests; nature of defects, deviations, causes for rejection, etc.; proposed remedial action; and corrective actions taken.

These records must cover both conforming and defective or deficient features, and must include a statement that all supplies and materials incorporated in the work are in full compliance with the terms of the contract. Legible copies of these records shall be furnished to the Engineer and RPR daily. The records shall cover all work placed subsequent to the previously furnished records and shall be verified and signed by the CQCPA.

Contractor QC records required for the contract shall include, but are not necessarily limited to, the following records:

a. Daily inspection reports. Each Contractor QC technician shall maintain a daily log of all inspections performed for both Contractor and subcontractor operations. These technician's daily reports shall provide factual evidence that continuous QC inspections have been performed and shall, as a minimum, include the following:

(1) Technical specification item number and description

(2) Compliance with approved submittals

(3) Proper storage of materials and equipment

(4) Proper operation of all equipment

(5) Adherence to plans and technical specifications

(6) Summary of any necessary corrective actions

(7) Safety inspection.

[(8) Photographs and/or video **]**

The daily inspection reports shall identify all QC inspections and QC tests conducted, results of inspections, location and nature of defects found, causes for rejection, and remedial or corrective actions taken or proposed.

The daily inspection reports shall be signed by the responsible QC technician and the CQCPA. The Engineer and RPR shall be provided at least one copy of each daily inspection report on the work day following the day of record. When QC inspection and test results are recorded and transmitted electronically, the results must be archived.

b. Daily test reports. The Contractor shall be responsible for establishing a system that will record all QC test results. Daily test reports shall document the following information:

(1) Technical specification item number and description

(2) Test designation

(3) Location

(4) Date of test

(5) Control requirements

(6) Test results

(7) Causes for rejection

(8) Recommended remedial actions

(9) Retests

Test results from each day's work period shall be submitted to the Engineer and RPR prior to the start of the next day's work period. When required by the technical specifications, the Contractor shall maintain statistical QC charts. When QC daily test results are recorded and transmitted electronically, the results must be archived.

100-10 Corrective action requirements. The CQCP shall indicate the appropriate action to be taken when a process is deemed, or believed, to be out of control (out of tolerance) and detail what action will be taken to bring the process into control. The requirements for corrective action shall include both general requirements for operation of the CQCP as a whole, and for individual items of work contained in the technical specifications.

The CQCP shall detail how the results of QC inspections and tests will be used for determining the need for corrective action and shall contain clear rules to gauge when a process is out of control and the type of correction to be taken to regain process control.

When applicable or required by the technical specifications, the Contractor shall establish and use statistical QC charts for individual QC tests. The requirements for corrective action shall be linked to the control charts.

100-11 Inspection and/or observations by the Engineer and RPR. All items of material and equipment are subject to inspection and/or observation by the Engineer and RPR at the point of production, manufacture or shipment to determine if the Contractor, producer, manufacturer or shipper maintains an adequate QC system in conformance with the requirements detailed here and the applicable technical specifications and plans. In addition, all items of materials, equipment and work in place shall be subject to inspection and/or observation by the Engineer and RPR at the site for the same purpose.

Inspection and/or observations by the Engineer and RPR does not relieve the Contractor of performing QC inspections of either on-site or off-site Contractor's or subcontractor's work.

100-12 Noncompliance.

a. The Engineer ~~Resident Project Representative (RPR)~~ will provide written notice to the Contractor of any noncompliance with their CQCP. After receipt of such notice, the Contractor must take corrective action.

b. When QC activities do not comply with either the CQCP or the contract provisions or when the Contractor fails to properly operate and maintain an effective CQCP, and no effective corrective actions have been taken after notification of non-compliance, the Engineer ~~RPR~~ will recommend the Owner take the following actions:

(1) Order the Contractor to replace ineffective or unqualified QC personnel or subcontractors and/or

(2) Order the Contractor to stop operations until appropriate corrective actions are taken.

METHOD OF MEASUREMENT

100-13 Basis of measurement and payment. [Contractor Quality Control Program (CQCP) is for the personnel, tests, facilities and documentation required to implement the CQCP. The CQCP will be paid as a lump sum with the following schedule of partial payments:]

[a. With first pay request, 25% with approval of CQCP and completion of the Quality Control (QC)/Quality Assurance (QA) workshop.

b. When 25% or more of the original contract is earned, an additional 25%.

c. When 50% or more of the original contract is earned, an additional 20%.

d. When 75% or more of the original contract is earned, an additional 20%

e. After final inspection and acceptance of project, the final 10%.]

BASIS OF PAYMENT

100-14 Payment will be made under:

Item C-100-14.1 Contractor Quality Control Program per lump sum

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

National Institute for Certification in Engineering Technologies (NICET)

ASTM International (ASTM)

ASTM C1077	Standard Practice for Agencies Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Testing Agency Evaluation
ASTM D3665	Standard Practice for Random Sampling of Construction Materials
ASTM D3666	Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Road and Paving Materials

END OF ITEM C-100

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Item C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control

DESCRIPTION

102-1. This item shall consist of temporary control measures as shown on the plans or as ordered by the Engineer ~~Resident Project Representative (RPR)~~ during the life of a contract to control pollution of air and water, soil erosion, and siltation through the use of silt fences, berms, dikes, dams, sediment basins, fiber mats, gravel, mulches, grasses, slope drains, and other erosion control devices or methods.

Temporary erosion control shall be in accordance with the approved erosion control plan; the approved Construction Safety and Phasing Plan (CSPP) and AC 150/5370-2, *Operational Safety on Airports During Construction*. The temporary erosion control measures contained herein shall be coordinated with the permanent erosion control measures specified as part of this contract to the extent practical to assure economical, effective, and continuous erosion control throughout the construction period.

Temporary control may include work outside the construction limits such as borrow pit operations, equipment and material storage sites, waste areas, and temporary plant sites.

Temporary control measures shall be designed, installed and maintained to minimize the creation of wildlife attractants that have the potential to attract hazardous wildlife on or near public-use airports.

MATERIALS

102-2.1 Grass. Grass that will not compete with the grasses sown later for permanent cover per Item T-901shall be a quick-growing species (such as ryegrass, Italian ryegrass, or cereal grasses) suitable to the area providing a temporary cover. Selected grass species shall not create a wildlife attractant.

102-2.2 Mulches. Mulches may be hay, straw, fiber mats, netting, bark, wood chips, or other suitable material reasonably clean and free of noxious weeds and deleterious materials per Item T-908. Mulches shall not create a wildlife attractant.

102-2.3 Fertilizer. Fertilizer shall be a standard commercial grade and shall conform to all federal and state regulations and to the standards of the Association of Official Agricultural Chemists.

102-2.4 Slope drains. Slope drains may be constructed of pipe, fiber mats, rubble, concrete, asphalt, or other materials that will adequately control erosion.

102-2.5 Silt fence. Silt fence shall consist of polymeric filaments which are formed into a stable network such that filaments retain their relative positions. Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of six months of expected usable construction life. Silt fence shall meet the requirements of ASTM D6461.

102-2.6 Other. All other materials shall meet commercial grade standards and shall be approved by the Engineer ~~RPR~~ before being incorporated into the project.

CONSTRUCTION REQUIREMENTS

102-3.1 General. In the event of conflict between these requirements and pollution control laws, rules, or regulations of other federal, state, or local agencies, the more restrictive laws, rules, or regulations shall apply.

The Engineer and RPR shall be responsible for assuring compliance to the extent that construction practices, construction operations, and construction work are involved.

102-3.2 Schedule. Prior to the start of construction, the Contractor shall submit schedules in accordance with the approved Construction Safety and Phasing Plan (CSPP) and the plans for accomplishment of temporary and permanent erosion control work for clearing and grubbing; grading; construction; paving; and structures at watercourses. The Contractor shall also submit a proposed method of erosion and dust control on haul roads and borrow pits and a plan for disposal of waste materials. Work shall not be started until the erosion control schedules and methods of operation for the applicable construction have been accepted by the Engineer ~~RPR~~.

102-3.3 Construction details. The Contractor will be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the plans and approved CSPP. Except where future construction operations will damage slopes, the Contractor shall perform the permanent seeding and mulching and other specified slope protection work in stages, as soon as substantial areas of exposed slopes can be made available. Temporary erosion and pollution control measures will be used to correct conditions that develop during construction that were not foreseen during the design stage; that are needed prior to installation of permanent control features; or that are needed temporarily to control erosion that develops during normal construction practices, but are not associated with permanent control features on the project.

Where erosion may be a problem, schedule and perform clearing and grubbing operations so that grading operations and permanent erosion control features can follow immediately if project conditions permit. Temporary erosion control measures are required if permanent measures cannot immediately follow grading operations. The RPR shall limit the area of clearing and grubbing, excavation, borrow, and embankment operations in progress, commensurate with the Contractor's capability and progress in keeping the finish grading, mulching, seeding, and other such permanent control measures current with the accepted schedule. If seasonal limitations make such coordination unrealistic, temporary erosion control measures shall be taken immediately to the extent feasible and justified as directed by the Engineer ~~RPR~~.

The Contractor shall provide immediate permanent or temporary pollution control measures to minimize contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment as directed by the Engineer ~~RPR~~. If temporary erosion and pollution control measures are required due to the Contractor's negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or directed by the Engineer ~~RPR~~, the work shall be performed by the Contractor and the cost shall be incidental to this item.

The Engineer ~~RPR~~ may increase or decrease the area of erodible earth material that can be exposed at any time based on an analysis of project conditions.

The erosion control features installed by the Contractor shall be maintained by the Contractor during the construction period.

Provide temporary structures whenever construction equipment must cross watercourses at frequent intervals. Pollutants such as fuels, lubricants, bitumen, raw sewage, wash water from concrete mixing operations, and other harmful materials shall not be discharged into any waterways, impoundments or into natural or manmade channels.

102-3.4 Installation, maintenance and removal of silt fence. Silt fences shall extend a minimum of 16 inches (41 cm) and a maximum of 34 inches (86 cm) above the ground surface. Posts shall be set no more than 10 feet (3 m) on center. Filter fabric shall be cut from a continuous roll to the length required minimizing joints where possible. When joints are necessary, the fabric shall be spliced at a support post with a minimum 12-inch (300-mm) overlap and securely sealed. A trench shall be excavated approximately 4 inches (100 mm) deep by 4 inches (100 mm) wide on the upslope side of the silt fence. The trench shall be backfilled and the soil compacted over the silt fence fabric. The Contractor shall remove and dispose of

silt that accumulates during construction and prior to establishment of permanent erosion control. The fence shall be maintained in good working condition until permanent erosion control is established. Silt fence shall be removed upon approval of the Engineer ~~RPR~~.

METHOD OF MEASUREMENT

102-4.1 Temporary erosion and pollution control work required will be performed as scheduled or directed by the Engineer ~~RPR~~. Completed and accepted work will be measured as follows:

a. Installation and removal of silt fence will be measured by the linear foot (meter). This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation and maintenance of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item. **50% of the silt fence will be paid for when it is installed. The remaining 50% of the silt fence will not be paid until the silt fence has been removed. Contractor not allowed to remove silt fence without approval of the Engineer.**

b. Rock Construction Exits will be measured by each exit installed and accepted by the Engineer in accordance with the plans and specifications. This price shall be full compensation for furnishing all materials and for all preparation, assembly, and installation and maintenance of these materials, and for all labor, equipment, tools, and incidentals necessary to complete this item.

c. All work performed and materials furnished as prescribed for the Stormwater Pollution Prevention Plan (SWP3) Document shall be measured as a lump sum price for "Stormwater Pollution Prevention Plan (SWP3) Document". The total lump sum shall be paid pro-rata per month and the monthly amount shall be calculated by dividing the lump sum by the contract time in months. If the Contractor fails to update the SWP3 and provide and properly maintain control measures in compliance with the Contract requirements, as determined by the Engineer, the Contractor will be considered in noncompliance with this Item. Each month's pay request will not be processed until the SWP3 has been updated. The total payment for this Item will not exceed 10% of the total Contract amount before 70% native vegetative cover has been established or final stabilization has been approved by the Engineer and the NOT has been submitted in accordance with the TPDES GP TXR150000. If all work is completed in accordance with the TPDES GP TXR 150000 and accepted by the Engineer and before payment of the amount allowed by this Item, the balance due shall be paid on the next estimate after the Engineer's approval that 70% native background vegetative cover is met, or equivalent permanent stabilization have been employed in accordance with the TPDES GP TXR 150000.

102-4.2 Control work performed for protection of construction areas outside the construction limits, such as borrow and waste areas, haul roads, equipment and material storage sites, and temporary plant sites, will not be measured and paid for directly but shall be considered as a subsidiary obligation of the Contractor.

BASIS OF PAYMENT

102-5.1 Accepted quantities of temporary water pollution, soil erosion, and siltation control work ordered by the Engineer ~~RPR~~ and measured as provided in paragraph 102-4.1 will be paid for under:

Item C-102-5.1a	Installation and Removal of Silt Fence (Per Detail 3 Sheet 27) – per linear feet
Item C-102-5.1b	Installation and Removal of Silt Fence (Per Detail 5 Sheet 27) – per linear feet
Item C-102-5.2	Rock Construction Exit – per each

Item C-102-5.3 Inlet Protection Barrier – per each

Where other directed work falls within the specifications for a work item that has a contract price, the units of work shall be measured and paid for at the contract unit price bid for the various items.

Temporary control features not covered by contract items that are ordered by the Engineer ~~RPR~~ will be paid for in accordance with Section 90, paragraph 90-05 *Payment for Extra Work*.

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

Advisory Circulars (AC)

AC 150/5200-33 *Hazardous Wildlife Attractants on or Near Airports*

AC 150/5370-2 *Operational Safety on Airports During Construction*

ASTM International (ASTM)

ASTM D6461 *Standard Specification for Silt Fence Materials*

United States Department of Agriculture (USDA)

FAA/USDA Wildlife Hazard Management at Airports, A Manual for Airport Personnel

END OF ITEM C-102

Item D-701 Pipe for Storm Drains and Culverts

DESCRIPTION

701-1.1 This item shall consist of the construction of pipe culverts and storm drains in accordance with these specifications and in reasonably close conformity with the lines and grades shown on the plans.

MATERIALS

701-2.1 Materials shall meet the requirements shown on the plans and specified below. Underground piping and components used in drainage systems for terminal and aircraft fueling ramp drainage shall be noncombustible and inert to fuel in accordance with National Fire Protection Association (NFPA) 415.

701-2.2 Pipe. The pipe shall be of the type called for on the plans or in the proposal and shall be in accordance with the following appropriate requirements:

ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM C1577	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers Designed According to AASHTO LRFD

701-2.3 Concrete. [Not used. **]**

701-2.4 Rubber gaskets. [Rubber gaskets for rigid pipe shall conform to the requirements of ASTM C443. Rubber gaskets for PVC pipe, polyethylene, and polypropylene pipe shall conform to the requirements of ASTM F477. Rubber gaskets for zinc-coated steel pipe and precoated galvanized pipe shall conform to the requirements of ASTM D1056, for the "RE" closed cell grades. Rubber gaskets for steel reinforced thermoplastic ribbed pipe shall conform to the requirements of ASTM F477. **]**

701-2.5 Joint mortar. [Not used. **]**

701-2.6 Joint fillers. [Not used. **]**

701-2.7 Plastic gaskets. [Not used. **]**

701-2.8. Controlled low-strength material (CLSM). [Controlled low-strength material shall conform to the requirements of Item P-153. When CLSM is used, all joints shall have gaskets. **]**

701-2.9 Precast box culverts. Manufactured in accordance with and conforming to ASTM C1433.

701-2.10 Precast concrete pipe. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or American Concrete Pipe Association QCast Plant Certification program.

CONSTRUCTION METHODS

701-3.1 Excavation. The width of the pipe trench shall be sufficient to permit satisfactory jointing of the pipe and thorough tamping of the bedding material under and around the pipe, but it shall not be less than the external diameter of the pipe plus 12 inches (300 mm) on each side. The trench walls shall be approximately vertical.

The Contractor shall comply with all current federal, state and local rules and regulations governing the safety of men and materials during the excavation, installation and backfilling operations. Specifically, the Contractor shall observe that all requirements of the Occupational Safety and Health Administration (OSHA) relating to excavations, trenching and shoring are strictly adhered to. The width of the trench shall be sufficient to permit satisfactorily jointing of the pipe and thorough compaction of the bedding material under the pipe and backfill material around the pipe, but it shall not be greater than the widths shown on the plans trench detail.

Where rock, hardpan, or other unyielding material is encountered, the Contractor shall remove it from below the foundation grade for a depth of at least 8 inch (200 mm) or 1/2 inch (12 mm) for each foot of fill over the top of the pipe (whichever is greater) but for no more than three-quarters of the nominal diameter of the pipe. The excavation below grade should be filled with granular material to form a uniform foundation.

Where a firm foundation is not encountered at the grade established, due to soft, spongy, or other unstable soil, the unstable soil shall be removed and replaced with approved granular material for the full trench width. The RPR shall determine the depth of removal necessary. The granular material shall be compacted to provide adequate support for the pipe.

The excavation for pipes placed in embankment fill shall not be made until the embankment has been completed to a height above the top of the pipe as shown on the plans.

701-3.2 Bedding. The bedding surface for the pipe shall provide a foundation of uniform density to support the pipe throughout its entire length.

a. Rigid pipe. The bedding for RCP or box culverts shall conform to the details included in the plans. ~~The pipe bedding shall be constructed uniformly for the full length of the pipe barrel, as required on the plans. The maximum aggregate size shall be 1 in when the bedding thickness is less than 6 inches, and 1-1/2 in when the bedding thickness is greater than 6 inches. Bedding shall be loosely placed uncompacted material under the middle third of the pipe prior to placement of the pipe.~~

b. Flexible pipe. For flexible pipe, the bed shall be roughly shaped to fit the pipe, and a bedding blanket of sand or fine granular material shall be provided as follows:

Flexible Pipe Bedding

Pipe Corrugation Depth		Minimum Bedding Depth	
inch	**mm**	**inch**	**mm**
1/2	12	1	25
1	25	2	50
2	50	3	75
2-1/2	60	3-1/2	90

c. Other pipe materials. For PVC, polyethylene, polypropylene, or fiberglass pipe, the bedding material shall consist of coarse sands and gravels with a maximum particle size of 3/4 inches (19 mm). For pipes installed under paved areas, no more than 12% of the material shall pass the No. 200 (0.075 mm) sieve. For all other areas, no more than 50% of the material shall pass the No. 200 (0.075 mm) sieve. The bedding shall have a thickness of at least 6 inches (150 mm) below the bottom of the pipe and extend up around the pipe for a depth of not less than 50% of the pipe's vertical outside diameter.

701-3.3 Laying pipe. The pipe laying shall begin at the lowest point of the trench and proceed upgrade. The lower segment of the pipe shall be in contact with the bedding throughout its full length. Bell or groove ends of rigid pipes and outside circumferential laps of flexible pipes shall be placed facing upgrade.

Paved or partially lined pipe shall be placed so that the longitudinal center line of the paved segment coincides with the flow line.

Elliptical and elliptically reinforced concrete pipes shall be placed with the manufacturer's reference lines designating the top of the pipe within five degrees of a vertical plane through the longitudinal axis of the pipe.

701-3.4 Joining pipe. Joints shall be made with rubber gaskets.

Mortar joints shall be made with an excess of mortar to form a continuous bead around the outside of the pipe and shall be finished smooth on the inside. Molds or runners shall be used for grouted joints to retain the poured grout. Rubber ring gaskets shall be installed to form a flexible watertight seal.

a. Concrete pipe. Concrete pipe may be either bell and spigot or tongue and groove. Pipe sections at joints shall be fully seated and the inner surfaces flush and even. **[** `Concrete pipe joints shall be sealed with rubber gaskets meeting ASTM C443 when leak resistant joints are required.` **]**

b. Metal pipe. Metal pipe shall be firmly joined by form-fitting bands conforming to the requirements of ASTM A760 for steel pipe and AASHTO M196 for aluminum pipe.

c. PVC, Polyethylene, or Polypropylene pipe. Joints for PVC, Polyethylene, or Polypropylene pipe shall conform to the requirements of ASTM D3212 when leak resistant joints are required. Joints for PVC and Polyethylene pipe shall conform to the requirements of AASHTO M304 when soil tight joints are required. Fittings for polyethylene pipe shall conform to the requirements of AASHTO M252 or ASTM M294. Fittings for polypropylene pipe shall conform to ASTM F2881, ASTM F2736, or ASTM F2764.

d. Fiberglass pipe. `Not used`

701-3.5 Embedment and Overfill. Pipes shall be inspected before any fill material is placed; any pipes found to be out of alignment, unduly settled, or damaged shall be removed and re-laid or replaced at the Contractor's expense.

701-3.5-1 Embedment Material Requirements

a. Concrete Pipe. Embedment material and compaction requirements shall be in accordance with the applicable Type of Standard Installation (Types 1, 2, 3, or 4) per ASTM C1479. If a concrete cradle or CLSM embedment material is used, it shall conform to the plan details.

b. Plastic and fiberglass Pipe. Embedment material shall meet the requirements of ASTM D3282, A-1, A-2-4, A-2-5, or A-3. Embedment material shall be free of organic material, stones larger than 1.5 inches in the greatest dimension, or frozen lumps. Embedment material shall extend to 12 inches above the top of the pipe.

c. Metal Pipe. Embedment material shall be granular as specified in the contract document and specifications, and shall be free of organic material, rock fragments larger than 1.5 inches in the greatest dimension and frozen lumps. As a minimum, backfill materials shall meet the requirements of ASTM D3282, A-1, A-2, or A-3. Embedment material shall extend to 12 inches above the top of the pipe.

701-3.5-2 Placement of Embedment Material

The embedment material shall be compacted in layers not exceeding 6 inches (150 mm) on each side of the pipe and shall be brought up one foot (30 cm) above the top of the pipe or to natural ground level, whichever is greater. Thoroughly compact the embedment material under the haunches of the pipe without displacing the pipe. Material shall be brought up evenly on each side of the pipe for the full length of the pipe.

When the top of the pipe is above the top of the trench, the embedment material shall be compacted in layers not exceeding 6 inches (150 mm) and shall be brought up evenly on each side of the pipe to one foot (30 cm) above the top of the pipe. All embedment material shall be compacted to a density required under Item P-152.

Concrete cradles and flowable fills, such as controlled low strength material (CLSM) or controlled density fill (CDF), may be used for embedment provided adequate flotation resistance can be achieved by restraints, weighing, or placement technique.

It shall be the Contractor's responsibility to protect installed pipes and culverts from damage due to construction equipment operations. The Contractor shall be responsible for installation of any extra strutting or backfill required to protect pipes from the construction equipment.

701-3.6 Overfill

Pipes shall be inspected before any overfill is in place. Any pipes found to be out of alignment, unduly settled, or damaged shall be removed and relaid or replaced at the Contractor's expense. Evaluation of any damage to RCP shall be evaluated based on AASHTO R73.

Overfill material shall be place and compacted in layers as required to achieve compaction to at least 95 percent standard proctor per **[** ASTM D1557 **]**. The soil shall contain no debris, organic matter, frozen material, or stones with a diameter greater than one half the thickness of the compacted layers being placed.

701-3.7 Inspection Requirements

An initial post installation inspection shall be performed by the RPR no sooner than 30 days after completion of installation and final backfill. Clean or flush all lines prior to inspection.

[Reinforced concrete pipe shall be inspected, evaluated, and reported on in accordance with ASTM C1840, "Standard Practice for Inspection and Acceptance of Installed Reinforced Concrete Culvert, Storm Drain, and Storm Sewer Pipe." Any issues reported shall include still photo and video documentation. The zoom ratio shall be provided for all still or video images that document any issues of concern by the inspection firm. **]**

METHOD OF MEASUREMENT

701-4.1 The length of pipe shall be measured in linear feet (m) of pipe in place, completed, and accepted. It shall be measured along the centerline of the pipe from end or inside face of structure to the end or inside face of structure, whichever is applicable. The **[** 18" Class V RCP, 24" Class V RCP, and 4'x2' Reinforced Box Culvert **]** shall be measured separately. All fittings shall be included in the footage as typical pipe sections in the pipe being measured.

BASIS OF PAYMENT

701-5.0 These prices shall fully compensate the Contractor for furnishing all materials and for all preparation, excavation, and installation of these materials; and for all labor, equipment, tools, and incidentals necessary to complete the item.

701-5.1 Payment will be made at the contract unit price per linear foot (meter) installed complete in place and accepted by the Engineer.

Payment will be made under:

Item 701-5.1	15" Dia ASTM C76, Class V RCP per linear feet
Item 701-5.2	18" Dia ASTM C76, Class V RCP per linear feet
Item 701-5.3	24" Dia ASTM C76, Class V RCP per linear feet
Item 701-5.4	13.5" x 22" ASTM C506 Class IV RCP arch per linear feet
Item 701-5.5	2' x 4' Reinforced Concrete Box Culvert per linear feet

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M167	Standard Specification for Corrugated Steel Structural Plate, Zinc-Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M190	Standard Specification for Bituminous-Coated Corrugated Metal Culvert Pipe and Pipe Arches
AASHTO M196	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
AASHTO M219	Standard Specification for Corrugated Aluminum Alloy Structural Plate for Field-Bolted Pipe, Pipe-Arches, and Arches
AASHTO M243	Standard Specification for Field Applied Coating of Corrugated Metal Structural Plate for Pipe, Pipe-Arches, and Arches
AASHTO M252	Standard Specification for Corrugated Polyethylene Drainage Pipe
AASHTO M294	Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter

AASHTO M304	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter
AASHTO MP20	Standard Specification for Steel Reinforced Polyethylene (PE) Ribbed Pipe, 300- to 900-mm (12- to 36-in.) Diameter
ASTM International (ASTM)	
ASTM A760	Standard Specification for Corrugated Steel Pipe, Metallic Coated for Sewers and Drains
ASTM A761	Standard Specification for Corrugated Steel Structural Plate, Zinc Coated, for Field-Bolted Pipe, Pipe-Arches, and Arches
ASTM A762	Standard Specification for Corrugated Steel Pipe, Polymer Precoated for Sewers and Drains
ASTM A849	Standard Specification for Post-Applied Coatings, Pavings, and Linings for Corrugated Steel Sewer and Drainage Pipe
ASTM B745	Standard Specification for Corrugated Aluminum Pipe for Sewers and Drains
ASTM C14	Standard Specification for Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM C94	Standard Specification for Ready Mixed Concrete
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
ASTM C506	Standard Specification for Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
ASTM C507	Standard Specification for Reinforced Concrete Elliptical Culvert, Storm Drain and Sewer Pipe
ASTM C655	Standard Specification for Reinforced Concrete D-Load Culvert, Storm Drain and Sewer Pipe
ASTM C990	Standard Specification for Joints for Concrete Pipe, Manholes, and Precast Box Sections Using Preformed Flexible Joint Sealants
ASTM C1433	Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
ASTM D1056	Standard Specification for Flexible Cellular Materials Sponge or Expanded Rubber
ASTM D3034	Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3212	Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

ASTM D3262	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Sewer Pipe
ASTM D3282	Standard Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
ASTM D4161	Standard Specification for "Fiberglass" (Glass-Fiber Reinforced Thermosetting Resin) Pipe Joints Using Flexible Elastomeric Seals
ASTM D6690	Standard Specification for Joint and Crack Sealants, Hot Applied, for Concrete and Asphalt Pavements
ASTM F477	Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F667	Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings
ASTM F714	Standard Specification for Polyethylene (PE) Plastic Pipe (DR PR) Based on Outside Diameter
ASTM F794	Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe & Fittings Based on Controlled Inside Diameter
ASTM F894	Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
ASTM F949	Standard Specification for Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
ASTM F2435	Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
ASTM F2562	Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
ASTM F2736	Standard Specification for 6 to 30 in. (152 to 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
ASTM F2764	Standard Specification for 30 to 60 in. (750 to 1500 mm) Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications
ASTM F2881	Standard Specification for 12 to 60 in. (300 to 1500 mm) Polypropylene (PP) Dual Wall Pipe and Fittings for Non-Pressure Storm Sewer Applications

National Fire Protection Association (NFPA)

NFPA 415	Standard on Airport Terminal Buildings, Fueling Ramp Drainage, and Loading Walkways

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Item D-751 Manholes, Catch Basins, Inlets and Inspection Holes

DESCRIPTION

751-1.1 This item shall consist of construction of manholes, catch basins, inlets, and inspection holes, in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

751-2.1 Brick. The brick shall conform to the requirements of ASTM C32, Grade MS.

751-2.2 Mortar. Mortar shall consist of one part Portland cement and two parts sand. The cement shall conform to the requirements of ASTM C150, Type I. The sand shall conform to the requirements of ASTM C144.

751-2.3 Concrete. Plain and reinforced concrete used in structures, connections of pipes with structures, and the support of structures or frames shall conform to the requirements of Item P-610.

751-2.4 Precast concrete pipe manhole rings. Precast concrete pipe manhole rings shall conform to the requirements of ASTM C478. Unless otherwise specified, the risers and offset cone sections shall have an inside diameter of not less than 36 inches (90 cm) nor more than 48 inches (120 cm). There shall be a gasket between individual sections and sections cemented together with mortar on the inside of the manhole. Gaskets shall conform to the requirements of ASTM C443.

751-2.5 Corrugated metal. Corrugated metal shall conform to the requirements of American Association of State Highway and Transportation Officials (AASHTO) M36.

751-2.6 Frames, covers, and grates. The castings shall conform to one of the following requirements:

- **a.** ASTM A48, Class 35B: Gray iron castings
- **b.** ASTM A47: Malleable iron castings
- **c.** ASTM A27: Steel castings
- **d.** ASTM A283, Grade D: Structural steel for grates and frames
- **e.** ASTM A536, Grade 65-45-12: Ductile iron castings
- **f.** ASTM A897: Austempered ductile iron castings

All castings or structural steel units shall conform to the dimensions shown on the plans and shall be designed to support the loadings, aircraft gear configuration and/or direct loading, specified.

Each frame and cover or grate unit shall be provided with fastening members to prevent it from being dislodged by traffic but which will allow easy removal for access to the structure.

All castings shall be thoroughly cleaned. After fabrication, structural steel units shall be galvanized to meet the requirements of ASTM A123.

751-2.7 Steps. The steps or ladder bars shall be gray or malleable cast iron or galvanized steel. The steps shall be the size, length, and shape shown on the plans and those steps that are not galvanized shall be given a coat of asphalt paint, when directed.

751-2.8 Precast inlet structures. Manufactured in accordance with and conforming to ASTM C913.

CONSTRUCTION METHODS

751-3.1 Unclassified excavation.

a. The Contractor shall excavate for structures and footings to the lines and grades or elevations, shown on the plans, or as staked by the RPR. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximately only; and the RPR may direct, in writing, changes in dimensions or elevations of footings necessary for a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. Where concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to implement and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for the structure.

d. All bracing, sheathing, or shoring involved in the construction of this item shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage finished masonry. The cost of removal shall be included in the unit price bid for the structure.

e. After excavation is completed for each structure, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

751-3.2 Brick structures.

a. Foundations. A prepared foundation shall be placed for all brick structures after the foundation excavation is completed and accepted. Unless otherwise specified, the base shall consist of reinforced concrete mixed, prepared, and placed in accordance with the requirements of Item P-610.

b. Laying brick. All brick shall be clean and thoroughly wet before laying so that they will not absorb any appreciable amount of additional water at the time they are laid. All brick shall be laid in freshly made mortar. Mortar not used within 45 minutes after water has been added shall be discarded. Retempering of mortar shall not be permitted. An ample layer of mortar shall be spread on the beds and a shallow furrow shall be made in it that can be readily closed by the laying of the brick. All bed and head joints shall be filled solid with mortar. End joints of stretchers and side or cross joints of headers shall be fully buttered with mortar and a shoved joint made to squeeze out mortar at the top of the joint. Any bricks that may be loosened after the mortar has taken its set, shall be removed, cleaned, and re-laid with fresh mortar. No broken or chipped brick shall be used in the face, and no spalls or bats shall be used except where necessary to shape around irregular openings or edges; in which case, full bricks shall be placed at ends or corners where possible, and the bats shall be used in the interior of the course. In making closures, no piece of brick shorter than the width of a whole brick shall be used; and wherever practicable, whole brick shall be used and laid as headers.

c. Joints. All joints shall be filled with mortar at every course Exterior faces shall be laid up in advance of backing. Exterior faces shall be plastered or parged with a coat of mortar not less than 3/8 inch (9 mm) thick before the backing is laid up. Prior to parging, all joints on the back of face courses shall be

cut flush. Unless otherwise noted, joints shall be not less than 1/4 inch (6 mm) nor more than 1/2 inch (12 mm) wide and the selected joint width shall be maintained uniform throughout the work.

d. Pointing. Face joints shall be neatly struck, using the weather-struck joint. All joints shall be finished properly as the laying of the brick progresses. When nails or line pins are used, the holes shall be immediately plugged with mortar and pointed when the nail or pin is removed.

e. Cleaning. Upon completion of the work all exterior surfaces shall be thoroughly cleaned by scrubbing and washing with water. If necessary to produce satisfactory results, cleaning shall be done with a 5% solution of muriatic acid which shall then be rinsed off with liberal quantities of water.

f. Curing and cold weather protection. The brick masonry shall be protected and kept moist for at least 48 hours after laying the brick. Brick masonry work or pointing shall not be done when there is frost on the brick or when the air temperature is below 50°F (10°C) unless the Contractor has, on the project ready to use, suitable covering and artificial heating devices necessary to keep the atmosphere surrounding the masonry at a temperature of not less than 60°F (16°C) for the duration of the curing period.

751-3.3 Concrete structures. Concrete structures which are to be cast-in-place within the project boundaries shall be built on prepared foundations, conforming to the dimensions and shape indicated on the plans. The construction shall conform to the requirements specified in Item P-610. Any reinforcement required shall be placed as indicated on the plans and shall be approved by the RPR before the concrete is placed.

All invert channels shall be constructed and shaped accurately to be smooth, uniform, and cause minimum resistance to flowing water. The interior bottom shall be sloped to the outlet.

751-3.4 Precast concrete structures. Precast concrete structures shall be furnished by a plant meeting National Precast Concrete Association Plant Certification Program or another RPR approved third party certification program.

Precast concrete structures shall conform to ASTM C478. Precast concrete structures shall be constructed on prepared or previously placed slab foundations conforming to the dimensions and locations shown on the plans. All precast concrete sections necessary to build a completed structure shall be furnished. The different sections shall fit together readily. Joints between precast concrete risers and tops shall be full-bedded in cement mortar and shall: (1) be smoothed to a uniform surface on both interior and exterior of the structure or (2) utilize a rubber gasket per ASTM C443. The top of the upper precast concrete section shall be suitably formed and dimensioned to receive the metal frame and cover or grate, or other cap, as required. Provision shall be made for any connections for lateral pipe, including drops and leads that may be installed in the structure. The flow lines shall be smooth, uniform, and cause minimum resistance to flow. The metal or metal encapsulated steps that are embedded or built into the side walls shall be aligned and placed in accordance to ASTM C478. When a metal ladder replaces the steps, it shall be securely fastened into position.

751-3.5 Corrugated metal structures. Corrugated metal structures shall be prefabricated. All standard or special fittings shall be furnished to provide pipe connections or branches with the correct dimensions and of sufficient length to accommodate connecting bands. The fittings shall be welded in place to the metal structures. The top of the metal structure shall be designed so that either a concrete slab or metal collar may be attached to allow the fastening of a standard metal frame and grate or cover. Steps or ladders shall be furnished as shown on the plans. Corrugated metal structures shall be constructed on prepared foundations, conforming to the dimensions and locations as shown on the plans. When indicated, the structures shall be placed on a reinforced concrete base.

751-3.6 Inlet and outlet pipes. Inlet and outlet pipes shall extend through the walls of the structures a sufficient distance beyond the outside surface to allow for connections. They shall be cut off flush with the

wall on the inside surface of the structure, unless otherwise directed. For concrete or brick structures, mortar shall be placed around these pipes to form a tight, neat connection.

751-3.7 Placement and treatment of castings, frames, and fittings. All castings, frames, and fittings shall be placed in the positions indicated on the plans or as directed by the RPR, and shall be set true to line and elevation. If frames or fittings are to be set in concrete or cement mortar, all anchors or bolts shall be in place before the concrete or mortar is placed. The unit shall not be disturbed until the mortar or concrete has set.

When frames or fittings are placed on previously constructed masonry, the bearing surface of the masonry shall be brought true to line and grade and shall present an even bearing surface so the entire face or back of the unit will come in contact with the masonry. The unit shall be set in mortar beds and anchored to the masonry as indicated on the plans or as directed by the RPR. All units shall set firm and secure.

After the frames or fittings have been set in final position, the concrete or mortar shall be allowed to harden for seven (7) days before the grates or covers are placed and fastened down.

751-3.8 Installation of steps. The steps shall be installed as indicated on the plans or as directed by the RPR. When the steps are to be set in concrete, they shall be placed and secured in position before the concrete is placed. When the steps are installed in brick masonry, they shall be placed as the masonry is being built. The steps shall not be disturbed or used until the concrete or mortar has hardened for at least seven (7) days. After seven (7) days, the steps shall be cleaned and painted, unless they have been galvanized.

When steps are required with precast concrete structures they shall meet the requirements of ASTM C478. The steps shall be cast into the side of the sections at the time the sections are manufactured or set in place after the structure is erected by drilling holes in the concrete and cementing the steps in place.

When steps are required with corrugated metal structures, they shall be welded into aligned position at a vertical spacing of 12 inches (300 mm).

Instead of steps, prefabricated ladders may be installed. For brick or concrete structures, the ladder shall be held in place by grouting the supports in drilled holes. For metal structures, the ladder shall be secured by welding the top support to the structure and grouting the bottom support into drilled holes in the foundation or as directed by the RPR.

751-3.9 Backfilling.

a. After a structure has been completed, the area around it shall be backfilled with approved material, in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted to the density required in Item P-152. Each layer shall be deposited evenly around the structure to approximately the same elevation. The top of the fill shall meet the elevation shown on the plans or as directed by the RPR.

b. Backfill shall not be placed against any structure until approved by the RPR. For concrete structures, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill and placing methods.

c. Backfill shall not be measured for direct payment. Performance of this work shall be considered an obligation of the Contractor covered under the contract unit price for the structure involved.

751-3.10 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankments, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

751-4.1 Manholes, catch basins, inlets, and inspection holes shall be measured by the unit.

BASIS OF PAYMENT

751-5.1 The accepted quantities of manholes, catch basins, inlets, and inspection holes will be paid for at the contract unit price per each in place when completed. This price shall be full compensation for furnishing all materials and for all preparation, excavation, backfilling and placing of the materials; furnishing and installation of such specials and connections to pipes and other structures as may be required to complete the item as shown on the plans; and for all labor equipment, tools and incidentals necessary to complete the structure.

Payment will be made under:

Item D-751-5.1	3’ x 3’ Grate Inlet – per each
Item D-751-5.2	6’ x 6’ Grate Inlet – Per each
Item D-751-5.3	6’ x 6’ Junction Box

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM A27	Standard Specification for Steel Castings, Carbon, for General Application
ASTM A47	Standard Specification for Ferritic Malleable Iron Castings
ASTM A48	Standard Specification for Gray Iron Castings
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A283	Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates
ASTM A536	Standard Specification for Ductile Iron Castings
ASTM A897	Standard Specification for Austempered Ductile Iron Castings
ASTM C32	Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale)
ASTM C144	Standard Specification for Aggregate for Masonry Mortar
ASTM C150	Standard Specification for Portland Cement
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets.
ASTM C478	Standard Specification for Precast Reinforced Concrete Manhole Sections
ASTM C913	Standard Specification for Precast Concrete Water and Wastewater Structures.

American Association of State Highway and Transportation Officials (AASHTO)

AASHTO M36	Standard Specification for Corrugated Steel Pipe, Metallic-Coated, for Sewers and Drains

END OF ITEM D-751

Item D-752 Concrete Culverts, Headwalls, and Miscellaneous Drainage Structures

DESCRIPTION

752-1.1 This item shall consist of **[** `reinforced` **]** concrete culverts, headwalls, and miscellaneous drainage structures constructed in accordance with these specifications, at the specified locations and conforming to the lines, grades, and dimensions shown on the plans or required by the RPR.

MATERIALS

752-2.1 Concrete. [`Reinforced` **]** concrete shall meet the requirements of Item P-610.

CONSTRUCTION METHODS

752-3.1 Unclassified excavation.

a. Trenches and foundation pits for structures or structure footings shall be excavated to the lines and grades and elevations shown on the plans. The excavation shall be of sufficient size to permit the placing of the full width and length of the structure or structure footings shown. The elevations of the bottoms of footings, as shown on the plans, shall be considered as approximate only; and the RPR may approve, in writing, changes in dimensions or elevations of footings necessary to secure a satisfactory foundation.

b. Boulders, logs, or any other objectionable material encountered in excavation shall be removed. All rock or other hard foundation material shall be cleaned of all loose material and cut to a firm surface either level, stepped, or serrated, as directed by the RPR. All seams or crevices shall be cleaned out and grouted. All loose and disintegrated rock and thin strata shall be removed. When concrete will rest on a surface other than rock, the bottom of the excavation shall not be disturbed and excavation to final grade shall not be made until immediately before the concrete or reinforcing steel is placed.

c. The Contractor shall do all bracing, sheathing, or shoring necessary to perform and protect the excavation and the structure as required for safety or conformance to governing laws. The cost of bracing, sheathing, or shoring shall be included in the unit price bid for excavation.

d. All bracing, sheathing, or shoring shall be removed by the Contractor after the completion of the structure. Removal shall not disturb or damage the finished concrete. The cost of removal shall be included in the unit price bid for excavation.

e. After each excavation is completed, the Contractor shall notify the RPR. No concrete or reinforcing steel shall be placed until the RPR has approved the depth of the excavation and the character of the foundation material.

752-3.2 Backfilling.

a. After a structure has been completed, backfilling with approved material shall be accomplished by applying the fill in horizontal layers not to exceed 8 inches (200 mm) in loose depth, and compacted. The field density of the compacted material shall be at least 90% of the maximum density for cohesive soils and 95% of the maximum density for noncohesive soils. The maximum density shall be determined in accordance with ASTM D698. The field density shall be determined in accordance with ASTM D1556.

b. No backfilling shall be placed against any structure until approved by the RPR. For concrete, approval shall not be given until the concrete has been in place seven (7) days, or until tests establish that the concrete has attained sufficient strength to withstand any pressure created by the backfill or the placement methods.

c. Fill placed around concrete culverts shall be deposited on each side at the same time and to approximately the same elevation. All slopes bounding or within the areas to be backfilled shall be stepped or serrated to prevent wedge action against the structure.

d. Backfill will not be measured for direct payment. Performance of this work shall be considered as a subsidiary obligation of the Contractor, covered under the contract unit price for "unclassified excavation for structures."

752-3.3 Weep holes. Weep holes shall be constructed as shown on the plans.

752-3.4 Cleaning and restoration of site. After the backfill is completed, the Contractor shall dispose of all surplus material, dirt, and rubbish from the site. Surplus dirt may be deposited in embankment, shoulders, or as approved by the RPR. The Contractor shall restore all disturbed areas to their original condition. The Contractor shall remove all tools and equipment, leaving the entire site free, clear, and in good condition.

METHOD OF MEASUREMENT

752-4.1 Structures shall be measured per each, complete in place and accepted. No measurements or other allowances shall be made for **reinforcing streel, embedded items**, forms, false work, cofferdams, pumping, bracing, expansion joints, or finishing of the concrete.

BASIS OF PAYMENT

752-5.1 Payment will be made at the contract unit price per **each, lump sum** or cubic yard for the **item as shown below**.

These prices shall be full compensation for furnishing all materials and for all preparation, excavation, and placing the materials, and for all labor, equipment, tools, and incidentals necessary to complete the structure.

Payment will be made under:

Item D-752-5.1	2' x 4' Box Culvert Headwall (4:1 Slope, With Pipe Runners) per each
Item D-752-5.2	Headwall for 2 – 13.5" x 22" Arch Pipes (6:1 Slope, With Pipe Runners) per each
Item D-752-5.3a	Safety End Treatment 18" RCP (6:1 Slope, With Pipe Runners) per each
Item D-752-5.3b	Safety End Treatment 24" RCP (4:1 Slope, With Pipe Runners) per each
Item D-752-5.4	Safety End Treatment 2' x 4' Box Culvert (4:1 Slope, With Pipe Runners) per each
Item D-752-5.5	Headwall for 2 – 36" CMP (6:1 Slope, With Pipe Runners) per each

REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM International (ASTM)

ASTM D698	Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft^3 (600 kN-m/m^3))
ASTM D1556	Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method

END OF ITEM D-752

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SECTION 011000 – SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased construction.
4. Work under separate contracts.
5. Access to site.
6. Coordination with occupants.
7. Work restrictions.
8. Specification and Drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: South Texas International Airport
Department of Public Safety Hangar
TxDOT CSJ No. 22HGEDINB
KSA Project No. 100157

1. Project Location: South Texas International Airport at Edinburg

B. Owner: City of Edinburg, Texas

1. Owner's Representative: Cassandra Luevano, Acting/Interim Airport Manager

C. Architect: Boultinghouse Simpson Gates Architects, Inc.

D. Contractor: TBD

E. Construction Manager: TBD

F. Design-Builder: NA

G. Project Coordinator for Multiple Contracts: KSA Engineering has been engaged by Owner to serve as Project coordinator.

H. Web-Based Project Software: Project software administered by General Contractor may be used for purposes of managing communication and documents during the construction stage.

1. See Section 013100 "Project Management and Coordination." for requirements for using web-based Project software.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. The new hangar facility will be a one story, engineered metal building of 15,000 square feet (sf), consisting of a storage hangar of 10,500 sf and ancillary offices space of 4,500 sf., other Work indicated in the Contract Documents.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 WORK UNDER SEPARATE CONTRACTS

A. General: Cooperate fully with separate contractors so work on those contracts may be carried out smoothly, without interfering with or delaying Work under this Contract or other contracts. Coordinate the Work of this Contract with work performed under separate contracts.

1.5 ACCESS TO SITE

A. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.6 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and adjacent building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

B. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

C. Owner Limited Occupancy of Completed Areas of Construction: Owner reserves the right to occupy and to place and install equipment in completed portions of the Work, prior to Substantial Completion of the Work, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and limited occupancy shall not constitute acceptance of the total Work.

1.7 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of **8:00** a.m. to **5:00** p.m., Monday through Friday, unless otherwise indicated.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify **Architect** not less than **two** (2) days in advance of proposed utility interruptions.
2. Obtain **Architect's** written permission before proceeding with utility interruptions.

D. Restricted Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012300 – ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the bidding requirements that may be added to or deducted from the base bid amount if the Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.

1. Alternates described in this Section are part of the Work only if enumerated in the Agreement.
2. The cost or credit for each alternate is the net addition to or deduction from the Contract Sum to incorporate alternates into the Work. No other adjustments are made to the Contract Sum.

1.3 PROCEDURES

A. Coordination: Revise or adjust affected adjacent work as necessary to completely integrate work of the alternate into Project.

1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

B. Execute accepted alternates under the same conditions as other work of the Contract.

C. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in schedule contain requirements for materials necessary to achieve the work described under each alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. **Alternate No. One** – Painting of Structural Steel in Hangar portion of building.

1. Base Bid: Structural Steel in Hangar portion of building is to be shop-primed per Section 133419 – Metal Building Systems.
2. Alternate No. One: Structural Steel in Hangar portion of building to be painted per the following painting specification.
3. Ferrous Metal - Normal Exposure: Provide the following finish systems over ferrous metal: Semigloss, Alkyd-Enamel Finish: One finish coat over an enamel undercoater and a primer.

   a. Primer: Quick-drying, rust-inhibitive, alkyd-based or epoxy-metal primer, as recommended by the manufacturer for this substrate, applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.5 mils (0.038 mm).

1.	Glidden:	5207 Glid-Guard Tank & Structural Primer, White.
2	Moore:	IronClad Retardo Rust-Inhibitive Paint #163.
3.	PPG:	6-208 Speedhide Interior/Exterior Rust Inhibitive Steel Primer.
4.		P & L: S 4551 Tech-Gard High Performance Rust Inhibitor Primer.
5.	S-W:	Kem Kromik Metal Primer B50N2/B50W1.

   b. Finish Coats: Apply two (2) coats, odorless, semigloss, alkyd, interior enamel applied at spreading rate recommended by the manufacturer to achieve a total dry film thickness of not less than 1.4 mils (0.036 mm).

1.	Glidden:	UH 8400 Ultra Traditional Alkyd Semi-Gloss Enamel.
2.	Moore:	Satin Impervo #235.
3.	PPG:	27 Line Wallhide Low Odor Interior Enamel Wall and Trim Semi-Gloss Oil.
4.	P & L:	S/D 5700 Cellu-Tone Alkyd Satin Enamel.
5.	S-W:	Classic 99 Interior/Exterior Semi-Gloss Alkyd Enamel A-40 Series.

B. Alternate No. Two: - Furnish all labor, materials and equipment necessary to install one Emergency Backup Generator

END OF SECTION 012300

Boultinghouse Simpson Gates ARCHITECTS

>>>>>>>>>>>>>>>>>>ADDENDUM #3<<<<<<<<<<<<<<<<<<

September 22, 2022

DPS Hangar #3 at South Texas International Airport
Edinburg, Texas 78539

This Addendum #1 to the Bidding Documents, dated July 15, 2022, shall become part of the bidding and contract documents, and shall amend, modify and supersede those original documents. Acknowledge receipt of this Addendum as appropriate on the Bid Proposal Form.

Project Manual:

1-1	Section 072119	SPRAY FOAM INSULATION – CARLISLE
1-2	Section 102113.17	PLASTIC TOILET COMPARTMENTS
1-3	Section 102600	WALL AND DOOR PROTECTION
1-4	Section 102800	TOILET, BATH, AND JANITORIAL ACCESSORIES
1-5	Section 104413	FIRE EXINGUISHERS & CABINETS

Architectural Drawings:

1-6 Sheet ADD1.1 Partial Floor Plan: Showing addition of partial wall behind emergency eye wash & shower, and handsink at exterior wall of new hangar space.

1-6 Sheet ADD1.2 Interior Elevation & Section: Showing details of new partial wall behind emergency eye wash & shower at exterior wall of new hangar.

REGISTERED ARCHITECT ROBERT S. SIMPSON 8355-0 STATE OF TEXAS

08-01-2022

END OF ADDENDUM #1

3301 N McColl Rd | McAllen, TX 78501 **www.bsgarchitects.com** P 956.630.9494 | F 956.630.2058

SECTION 072119 – SPRAY FOAM INSULATION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Spray polyurethane foam insulation.

B. Thermal barrier (fire resistive) coating.

1.2 RELATED SECTIONS

A. Section 03 30 00 – Cast-In-Place Concrete

B. Section 04 20 00 – Masonry Units

C. Section 06 10 00 – Rough Carpentry

D. Section 07 26 00 – Vapor Retarders

E. Section 07 84 00 – Fire-stopping

F. Section 07 92 00 – Joint Sealants

G. Section 09 96 00 – High Performance Coatings

H. Section 05 31 00 – Metal Decking

I. Section 07 14 00 – Fluid-Applied Waterproofing

J. Section 07 27 36 – Sprayed Foam Air Barrier

K. Section 07 81 00 – Fireproofing

L. Section 09 29 00 – Gypsum Board

M. Division 15 - Mechanical: Plumbing and HVAC components penetrating insulation.

N. Division 16 - Electrical: Electrical components penetrating insulation.

1.3 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.

2. ASTM C 1338 - Standard Test Method for Determining Fungi Resistance of Materials and Facings.

3. ASTM C 1848 – Standard Practice for Installation of High-Pressure Spray Polyurethane Foam Insulation for the Building Enclosure

4. ASTM D 1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics.

5. ASTM D 1622 - Standard Test Method for Apparent Density of Rigid Cellular Plastics.

6. ASTM D 1623 – Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics.

7. ASTM D 2126 – Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging.

8. ASTM D 2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics.

9. ASTM D 6226 - Standard Test Method for Open Cell Content of Rigid Cellular Plastics.

10. ASTM E 119 – Standard Test Methods for Fire Test of Building Construction Materials.

11. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.

12. ASTM E 96 - Standard Test Method for Water Vapor Transmission of Materials.

13. ASTM E 2178 – Standard Test Method for Air Permeance of Building Materials.

14. ASTM E 283 – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.

15. ASTM E 970 - Standard Test Method for Critical Radiant Flux of Exposed Attic Floor Insulation Using a Radiant Heat Energy Source.

B. International Code Council Evaluation Services:

1. AC-377 Acceptance Criteria for Spray-Applied Foam Plastic Insulation

2. International Building Code®, 2015, 2012, 2009

3. International Residential Code®, 2015, 2012, 2009

4. International Energy Conservation Code®, 2015, 2012, 2009

C. Underwriters Laboratories (UL):

1. UL 263, UL 723 - Standard for Test for Surface Burning Characteristics of Building Materials.

2. UL 1715 - Fire Test of Interior Finish Material.

D. Additional Testing, Approvals & Certifications:

1. California Green Building Codes Standards, 2006 Title 24, Part 11.

2. National Green Building Standard, ICC -700, 2015, 2012, 2008.

3. LEED v4, Point potential for; Environmental Product Recommendation, Raw Material Source and Extraction Reporting and Recycled Content.

4. GREENGUARD and GREENGUARD Gold Certification for VOC emissions and formaldehyde.

E. Center for the Polyurethanes Industry – Health and Safety Product Stewardship Workbook for High Pressure application of Spray Polyurethane Foam, June 2016. See http://www.spraypolyurethane.org for industry guidelines.

1.4 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Product Data: Manufacturer's data on products to be installed including:

1. Application or installation instructions.

2. Listing, classification, and approval certifications.

3. Safety and handling instructions for storage, handling and use of the materials.

C. Code Research Reports including:

1. ICC-ES (International Code Council Evaluation Service) http://www.spf.basf.com/evaluation_reports.php.

2. Intertek CCRR (Code Compliance Research Report) www.spf.basf.com/evaluation_reports.php#.

D. Certifications: If manufacturer's published data sheets do not indicate compliance with all specification requirements, provide letter of certification that all products comply with the specification requirements; include primers (if required), foam, vapor retarder and thermal barriers.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A firm with experience installing insulation systems of the type specified.

1. Approved by the foam manufacturer as qualified to install the specified system or be certified by the Spray Polyurethane Foam Alliance (SPFA) Professional Certification Program (PCP).

2. Provide information concerning projects similar in nature to the one proposed, including location and person to be contacted.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Provide materials packaged in the manufacturer's original, tightly sealed containers or unopened packages, clearly labeled with the manufacturer's name, product identification, safety information, and batch or lot numbers where appropriate. Where materials are

covered by a referenced specification, the labels shall bear the specification number, type and class, as applicable.

B. Comply with the manufacturer's written instructions for the storage, handling, and protection of products, both prior to and during installation.

C. Store materials out of the weather and out of direct sunlight in locations where the temperatures are within the limits specified by the manufacturer.

1.7 PROJECT CONDITIONS

A. Comply with the manufacturer's instructions and industry recommendations as to handling and safety procedures.

1.8 WARRANTY

A. Provide manufactures standard 3-year Limited Warranty

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Provide products by BASF Corporation, 1703 Crosspoint Avenue, Houston, TX 77054. Tel: (888) 900-FOAM. Fax: (713) 383-4592. www.spf.basf.com/, spfinfo@basf.com.

B. Substitutions are not acceptable.

C. Submit requests for substitutions in accordance with provisions of Section 01600.

2.2 MATERIALS

A. Foam: BASF Corporation ENERTITE® G Insulation; sprayed-in-place two-component open-cell polyurethane foam system. ENERTITE G foam products are designed for use in in residential and common commercial insulation applications, made by combining an isocyanate (A) component with a polyol (B) component, with the following physical characteristics:

1. Density in Place: 0.5-0.6 lb/cu ft, when tested in accordance with ASTM D 1622.

2. Open Cell Content: >90%, when tested in accordance with ASTM D 6226.

3. R-Value: 3.9 per inch, when tested in accordance with ASTM C 518.

4. Vapor Permeance (perms): 16.9 @ 5.5" thickness, when tested in accordance with ASTM E-96.

5. Flame Spread Index: Less than or equal to 25, when tested in accordance with ASTM E 84.

6. Smoke Developed Index: Less than or equal to 450, when tested in accordance with ASTM E 84.

7. Air Leakage: <0.02 L/s*m² @ 75 Pa, when tested in accordance with ASTM E283

8. See product specific technical data sheet for additional physical data http:/www.spf.basf.com/technical_data.php

B. Thermal Barrier: Gypsum Board or Intumescent Coating or Sprayed-in-place cementitious materials or Sprayed-in-place cellulose fiber, applied to achieve fire resistance rating of 15 minutes over spray polyurethane foam in accordance with NFPA 275 or NFPA 286 or UL 1715.

C. Primers: (if required): The primer to be applied must be specifically selected for the given substrate to be primed and must be compatible with the spray polyurethane foam.

1. Wood: chlorinated rubber, modified alkyds, others.

2. Steel: modified alkyds, epoxy, acrylics, others (typically including rust inhibitors).

3. Galvanized: vinyl copolymer acrylic, "vinyl wash primer", modified alkyds, others.

4. Concrete/masonry: chlorinated rubber, vinyl copolymer acrylic asphaltic, other.

D. Fire Resistant assemblies available, tested in accordance with UL 263.

3.1 GENERAL

A. Comply with the instructions and recommendations of the foam and other material manufacturers.

B. Familiarize all installers with correct and safe application and handling procedures:

1. Workbook for High Pressure application of Spray Polyurethane Foam, June 2016. See www.spraypolyurethane.org for industry guidelines.

2. Refer to appropriate Safety Data Sheets (SDS) and Technical Product Data Sheets for additional safety information http:/www.spf.basf.com/technical_data.php.

3. Installer(s) must be able to provide documentation that they have completed the Spray Polyurethane Foam Chemical Health & Safety Training from the Center for Polyurethanes Industry, which can be found on the following website: www.spraypolyurethane.org.

3.2 PREPARATION

A. Primed Steel: If the surface is free of loose scale, rust, weathered or chalking paint, it can be cleaned using vacuum equipment and hand or power tools to remove loose dirt. Remove oil, grease, form release agents, laitance, and other contaminants using proper cleaning solutions.

B. Previously Painted Steel: Clean using hand or power tools to remove loose scale and dirt. Remove oil, grease, form release agents, laitance, and other contaminants using proper cleaning solutions.

C. Galvanized Steel and Unpainted Steel: Clean as recommended by primer manufacturer.

D. Ferrous Metal: Sandblast iron and steel surfaces, which are not primed, shop painted, or otherwise protected in accordance with SSPC SP-6. Remove loose rust and unsound primer from shop-primed iron and steel surfaces by scraping or wire brushing.

E. Non-Ferrous Metal: Clean galvanized metal, aluminum, and stainless-steel surfaces as recommended by the manufacturer of materials to be applied.

F. If metal surface is free of loose scale, rust, weathered or chalking paint, clean using compressed air jet, vacuum equipment, and hand or power broom to remove loose dirt. Remove grease, oil and other contaminants using proper cleaning solutions.

G. New Concrete: Allow to cure for twenty-eight (28) days prior to the application of primer or foam, and loose dirt and any other contaminants removed.

H. Previously Painted Surfaces: Remove all loose paint.

I. Remove loose dirt, dust and debris by using compressed air, vacuum equipment or brooming. Remove oil, grease, form release agents, laitance, and other contaminants using proper cleaning solutions. Do not wash wood or porous materials with water.

J. Grout, tape, or calk all joint openings that exceed 1/4 inch (6 mm) in width.

3.3 FOAM APPLICATION

A. Do not begin application of foam until all preparation requirements have been completed.

B. Do not apply foam when the temperature is below that specified by the manufacturer for ambient air and substrate. Do not apply foam when temperature is within 5 degrees F (3 degrees C) of dew point.

C. Apply foam in accordance with the BASF specifications and processing guidelines.

D. Apply foam to a 5-1/2" inch (140 mm) thickness, with pass thickness of 1/2 inch (13 mm) to 6 inches (150 mm). Allow cooling time of 5 minutes between passes.

3.4 THERMAL BARRIER APPLICATION

A. The interior surface of the spray polyurethane foam must be covered with a 15-minute rated thermal barrier (fire protection) as required by building codes, insurance and industry standards. Certain areas such as sill plate/rim joists and attics/crawlspaces have specific exceptions per the building code. See Foam Plastics in your local building code for guidance. When required, apply thermal barrier in accordance with building code requirements and the manufacturer's specifications and instructions. As a standard, gypsum board meets this thermal barrier requirement for residential and commercial construction. See above for alternative materials.

B. Apply thermal barrier over entire surface of foam in accordance with manufacturer guidelines.

C. Allow thermal barrier to cure. Inspect for defects and repair defects prior to subsequent coats.

3.5 FIELD QUALITY CONTROL

A. The installer shall complete the installation certificate documenting the foam type, manufacturer, product name, lot/batch number, as well as any fire protective products that

have been used. The installation card shall be signed by the Insulation Contractor representative and delivered to the general contractor or building owner.

END OF SECTION 072119

SECTION 102113.17 - PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes solid-plastic toilet compartments configured as **toilet enclosures and urinal screens.**

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachment details.

C. Samples for each type of toilet compartment material indicated.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: **25** or less.
2. Smoke-Developed Index: 450 or less.

B. Regulatory Requirements: Comply with applicable provisions in **the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities and ICC A117.1** for toilet compartments designated as accessible.

2.2 SOLID-PLASTIC TOILET COMPARTMENTS

A. Manufacturers:

1. Accurate Partitions Corporation
2. Ampco Products, LLC
3. Bradley Corporation
4. General Partitions Mfg. Company
5. Global Partitions; ASI Group
6. Knickerbocker Partition Company
7. Marlite

8. Scranton Products

B. Toilet-Enclosure Style: **Overhead braced Floor anchored**.

C. Urinal-Screen Style: **Wall hung**.

D. Door, Panel**,** and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, **no-sightline system,** and with homogenous color and pattern throughout thickness of material.

1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
2. Heat-Sink Strip: Manufacturer's standard continuous, **stainless-steel** strip fastened to exposed bottom edges of solid-plastic components to hinder malicious combustion.
3. Color and Pattern: **One color and pattern** in each room **as selected by Architect from manufacturer's full range**.

E. Pilaster **Shoes and Sleeves (Caps)**: Manufacturer's standard design; **stainless steel**.

1. Polymer Color and Pattern: **Matching pilaster**.

F. Urinal-Screen Post: Manufacturer's standard post design of **material matching the thickness and construction of pilasters,** with shoe **and sleeve (cap)** matching that on the pilaster.

G. Brackets (Fittings):

1. Stirrup Type: Ear or U-brackets, **stainless steel**.
2. Full-Height (Continuous) Type: Manufacturer's standard design; **stainless steel**.

a. Polymer Color and Pattern: **Matching panel**.

2.3 HARDWARE AND ACCESSORIES

A. Hardware and Accessories: Manufacturer's standard operating hardware and accessories.

1. Material: **Chrome-plated zamac or Stainless steel**.
2. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.

B. Hardware and Accessories: Manufacturer's heavy-duty stainless-steel operating hardware and accessories.

1. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible.

C. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with antigrip profile and in manufacturer's standard finish.

D. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 FABRICATION

A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

C. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at pilasters for structural connection to floor. Provide shoes at pilasters to conceal anchorage.

D. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at **tops and** bottoms of posts. Provide shoes **and sleeves (caps)** at posts to conceal anchorage.

E. Door Size and Swings: Unless otherwise indicated, provide 24-inch- (610-mm-) wide, in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide, out-swinging doors with a minimum 32-inch- (813-mm-) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

   a. Pilasters and Panels: 1/2 inch (13 mm).
   b. Panels and Walls: 1 inch (25 mm).

2. Stirrup Brackets: Secure panels to walls and to pilasters with no fewer than **three brackets attached at midpoint and** near top and bottom of panel.

   a. Locate wall brackets so holes for wall anchors occur in masonry or tile joints.
   b. Align brackets at pilasters with brackets at walls.

3. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.

   a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.
   b. Align brackets at pilasters with brackets at walls.

3.2 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors **and doors in entrance screens** to return doors to fully closed position.

END OF SECTION 102113.19

SECTION 102600 - WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
1. Corner guards.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for **steel angle corner guards**.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Sustainable Design Submittals:

C. Shop Drawings: For each type of wall and door protection showing locations and extent.

1. Include plans, elevations, sections, and attachment details.

D. Samples: For each exposed product and for each color and texture specified, 12 inches (300 mm) long.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Material certificates.

C. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of wall- and door-protection units that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **Five** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface Burning Characteristics: Comply with ASTM E 84 or UL 723; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 25 or less.
2. Smoke-Developed Index: 450 or less.

B. Regulatory Requirements: Comply with applicable provisions in **the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities**.

2.2 CORNER GUARDS

A. Surface-Mounted, Plastic-Cover Corner Guards : Manufacturer's standard assembly consisting of snap-on, resilient plastic cover installed over retainer; including mounting hardware; fabricated with 90- or 135-degree turn to match wall condition.

1. Manufacturers:
a. Construction Specialties, Inc.
b. JL Industries, Inc.
c. Korogard Wall Protection
d. WallGuard.com

2. Continuous Stainless Steel angle 1 ½" x 1 ½" x 1/8" x 5'-0" tall

2.3 MATERIALS

A. Fasteners: Aluminum, nonmagnetic stainless-steel, or other noncorrosive metal screws, bolts, and other fasteners compatible with items being fastened. Use security-type fasteners where exposed to view.

B. Adhesive: As recommended by protection product manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Installation Quality: Install **corner guards** according to manufacturer's written instructions, level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.

B. Mounting Heights: **Install corner guards at all corridor corner locations and mounted with bottom of corner guard sitting on top of wall base**.

C. **All corner guards shall be screwed to wall**.

D. Accessories: Provide, mounting hardware, anchors, and other accessories required for a complete installation.

1. Provide anchoring devices and suitable locations to withstand imposed loads.

END OF SECTION 102600

SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.
2. Custodial accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: Full size, for each exposed product and for each finish specified.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 WARRANTY

A. Manufacturer's Special Warranty for Mirrors: Manufacturer agrees to repair or replace mirrors that fail in materials or workmanship within specified warranty period.

1. Warranty Period: **15** years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Grab Bars (Toilet Stalls & Shower Enclosures)

1. Manufacturers:
a. American Specialties, Inc.
b. Bobrick Washroom Equipment
#B-6806 (24”, 36” & 42”)
c. **Bradley Corporation**
2. Mounting: Flanges with **concealed** fasteners.
3. Material: Stainless steel, **0.05 inch (1.3 mm)** thick.
   a. Finish: Smooth, No. 4 finish (satin) **on ends and slip-resistant texture in grip area**.
4. Outside Diameter: **1-1/2 inches (38 mm)**.
5. Configurations and Lengths: **As indicated on Drawings**.

B. Sanitary-Napkin Disposal Unit :

1. **Manufacturers:**
   a. **American Specialties, Inc.**
   b. **Bobrick Washroom Equipment**
      #B-254
   c. **Bradley Corporation**
2. Mounting: **Surface mounted**.
3. Door or Cover: Self-closing, disposal-opening cover **and hinged face panel with tumbler lockset**.
4. Receptacle: Removable.
5. Material and Finish: **Stainless steel, No. 4 finish (satin)**.

C. Mirror Unit :

1. **Manufacturers:**
   a. **American Specialties, Inc.**
   b. **Bobrick Washroom Equipment**
      #B-293
   c. **Bradley Corporation**

2. Frame: **0.05 inch (1.3 mm) thick Stainless-steel channel**.

   a. Corners: **Manufacturer's standard**.

3. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.

   a. One-piece, galvanized-steel, wall-hanger device with spring-action locking mechanism to hold mirror unit in position with no exposed screws or bolts.
   b. Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.

4. Size: **As indicated on Drawings**.

D. Coat Hook :

1. **Manufacturers:**
   a. **American Specialties, Inc.**
   b. **Bobrick Washroom Equipment**
   c. **Bradley Corporation**
2. Description: **Single**-prong unit.
3. Material and Finish: **Polished chrome-plated zinc alloy (zamac) Stainless steel, No. 4 finish (satin)**.

E. Folding Shower Seat:

Manufacturers
   a. **American Specialties, Inc.**
   b. **Bobrick Washroom Equipment**
      #B-5181
   c. **Bradley Corporation**
2. Description: 33” x 20-15/16” –‘L’ shaped, Recommended mounting height: 17” – 19” AFF.
3. Material and Finish: **Seat: ½” Solid Phenolic, Frame: 18-8, type 304 stainless steel**

2.3 CUSTODIAL ACCESSORIES

A. Utility Shelf :

1. Manufacturers:
- **a. American Specialties, Inc.**
- **b. Bobrick Washroom Equipment**
- c. **Bradley Corporation**

2. Description: With exposed edges turned down not less than **1/2 inch (13 mm)** and supported by two triangular brackets welded to shelf underside.
3. Size: **16 inches (406 mm) long by 6 inches (152 mm) deep**.
4. Material and Finish: Not less than nominal **0.05-inch- (1.3-mm-)** thick stainless steel, No. 4 finish (satin).

B. Mop and Broom Holder :

1. Manufacturers:
- **a. American Specialties, Inc.**
- **b. Bobrick Washroom Equipment**
- c. **Bradley Corporation**

2. Description: **Unit with shelf, hooks, holders, and rod suspended beneath shelf** .
3. Length: **36 inches (914 mm)**.
4. Hooks: **Four**.
5. Mop/Broom Holders: **Three**, spring-loaded, rubber hat, cam type.
6. Material and Finish: Stainless steel, No. 4 finish (satin).
   - a. Shelf: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel.
   - b. Rod: Approximately 1/4-inch- (6-mm-) diameter stainless steel.

2.4 FABRICATION

A. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of **six** keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least **250 lbf (1112 N),** when tested according to ASTM F 446.

END OF SECTION 102800

SECTION 104413 - FIRE EXTINGUISHERS, CABINETS, AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:
1. Fire extinguishers.
2. Fire extinguishers cabinets.

1.3 SUBMITTALS

A. General: Submit the following according to the Conditions of the Contract and Division 1 Specification Sections.
B. Product Data for cabinets include rough-in dimensions, details showing mounting methods, relationships of box and trim to surrounding construction, door hardware, cabinet type and materials, trim style, door construction, panel style, and materials.

1.4 QUALITY ASSURANCE

A. Single-Source Responsibility: Obtain extinguishers and cabinets from one source from a single manufacturer.
B. UL-Listed Products: Fire extinguishers shall be UL listed with UL listing mark for type, rating, and classification of extinguisher.

PART 2- PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. J.L. Industries
2. Larsen's Manufacturing Company

2.2 FIRE EXTINGUISHERS

A. General: Provide fire extinguishers for each cabinet and other locations indicated, in colors and finishes selected by Architect from manufacturer's standard, that comply with authorities having jurisdiction.

B. Dry Chemical Type: UL-rated Type BC, in enameled steel containers. See Drawings for locations of extinguishers and cabinets.
1. Type 1: 10# Capacity with Cabinet.
2. Type 2: 20# Capacity with mounting bracket.

2.3 CABINETS

A. Construction: Manufacturer's standard box, trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated. Weld joints and grind smooth. Miter and weld perimeter door frames.

B. Fire-Rated Cabinets: UL listed with UL listed mark with fire-resistance rating of wall where it is installed.

C. Cabinet Type: Suitable for containing the following:

1. Fire extinguisher.

D. Cabinet Mounting: Suitable for the following mounting conditions"

1. Semi-recessed: Cabinet box (tub) partially recessed in walls of shallow depth.

E. Trim Style: Fabricate trim in one piece with corners mitered, welded, and ground smooth.

1. Exposed Trim: One-piece combination trim and perimeter door frame overlapping surrounding wall surface with exposed trim face and wall return at outer edge (backbend).

a. Rolled-edge trim with 2-1/2-inch backbend depth.
b. Trim Metal: Aluminum.

F. Door Material and Construction: Manufacturer's standard door construction, of material indicated, coordinated with cabinet types and trim selected.

1. Aluminum: Manufacturer's standard flush, hollow aluminum door construction.

2. Door Glazing: Clear float glass complying with ASTM C 1036, Type I, Class 1, Quality q3.

G. Door Style: Manufacturer's standard design.

1. Break Glass Panel: Float Glass Panel: Float glass, 1/8 inch thick, with inside latch and lock.

H. Door Hardware: Provide manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated. Provide either lever handle with cam-action latch, or concealed door pull and friction latch. Provide concealed or continuous-type hinge permitting door to open 180 deg.

2.4 FINISHES FOR CABINETS, GENERAL

A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying temporary stirppable protective covering prior to shipping.

2.5 ALUMINUM CABINET FINISHES

A. Finish designations prefixed by AA conform to the system established by the Aluminum Association for designation aluminum finishes.

B. Class II Clear Anodized Finish: AA-M12C22A31 (Mechanical Finish: as fabricated, nonspecular, Chemical Finish: etched, medium matte; Anodic Coating: Class II Architectural, clear film thicker than 0.4 mil).

PART 3 -EXECUTION

3.1 EXAMINATION

A. Examine rough-in for hose vales, hose racks, and cabinets to verify locations of piping connections prior to cabinet installation.

B. Examine walls and partitions for thickness and framing for cabinets to verify cabinet depth and mounting prior to cabinet installation.

C. Do not proceed until unsatisfactory conditions have been corrected.

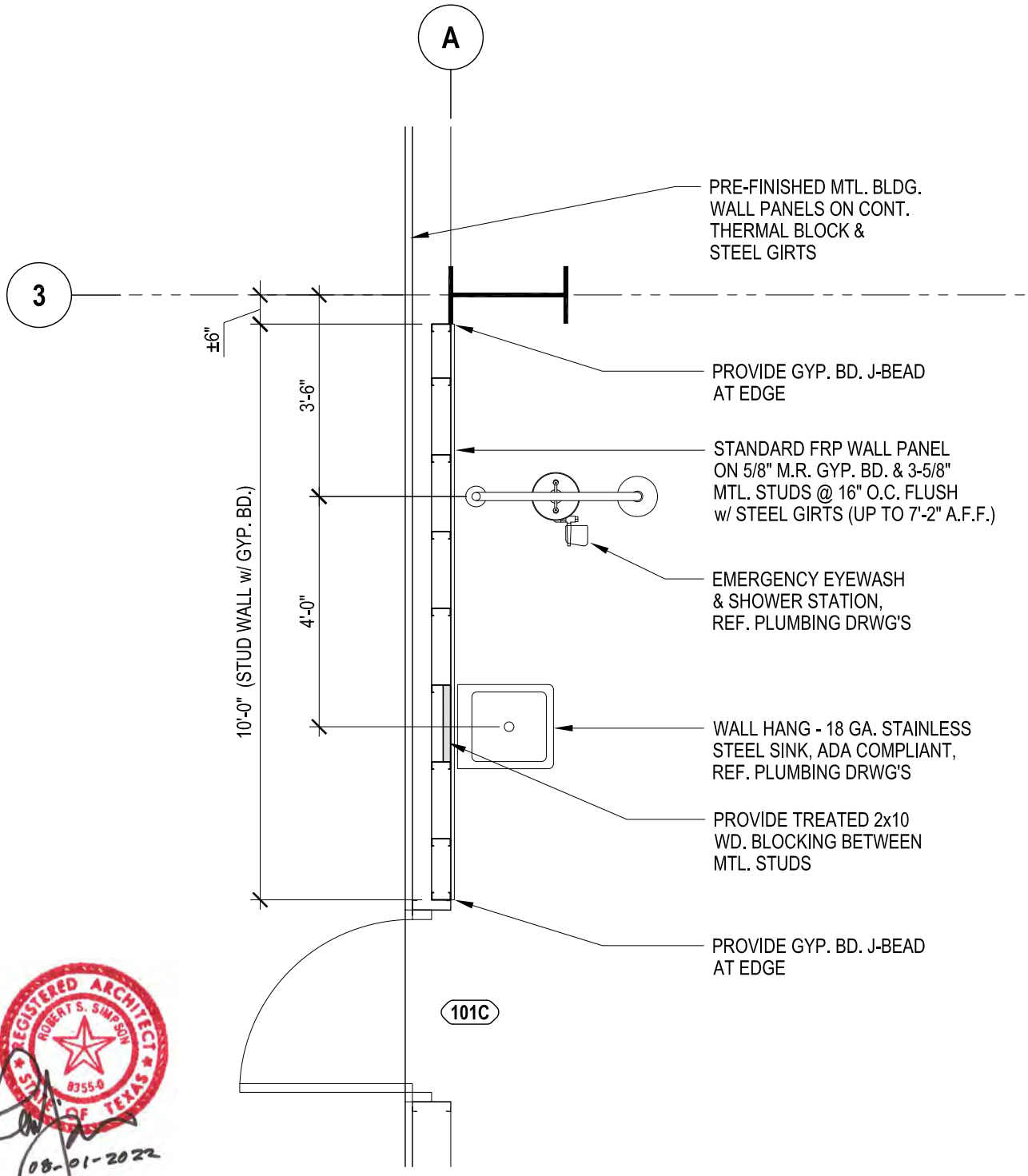
3.3 INSTALLATION

A. Follow manufacturer's printed instructions for installation.

B. Install in locations and at mounting heights indicated or, if not indicated, at heights to comply with applicable regulations of governing authorities.

1. Prepare recesses in walls for cabinets as required by type and size of cabinet and style of trim and to comply with manufacturer's instructions.
2. Fasten cabinets to structure, square and plumb.

END OF SECTION 104413



HANGAR 100
PARTIAL FLOOR PLAN @ HAND SINK & EYEWASH

1

SCALE: 3/8" = 1'-0"

THESE DRAWINGS AND SPECIFICATIONS ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT. THEY MAY NOT BE REUSED, REPRODUCED OR ALTERED IN ANY WAY WITHOUT PRIOR WRITTEN APPROVAL FROM AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT.

Boultinghouse Simpson Gates ARCHITECTS
3301 N McCOLL RD | McALLEN, TX 78501 | P 956.630.9494

SHEET TITLE
PARTIAL FLOOR PLAN AT HAND WASH SINK & EMERGENCY EYEWASH

PROJECT NAME
DPS HANGAR - EDINBURG

OWNER

PROJECT ADDRESS
EDINBURG INTERNATIONAL AIRPORT | EDINBURG, TX. 78539

PROJECT NO
2210

ISSUE DATE
August 1, 2022

SHEET NUMBER
ADD 1.1

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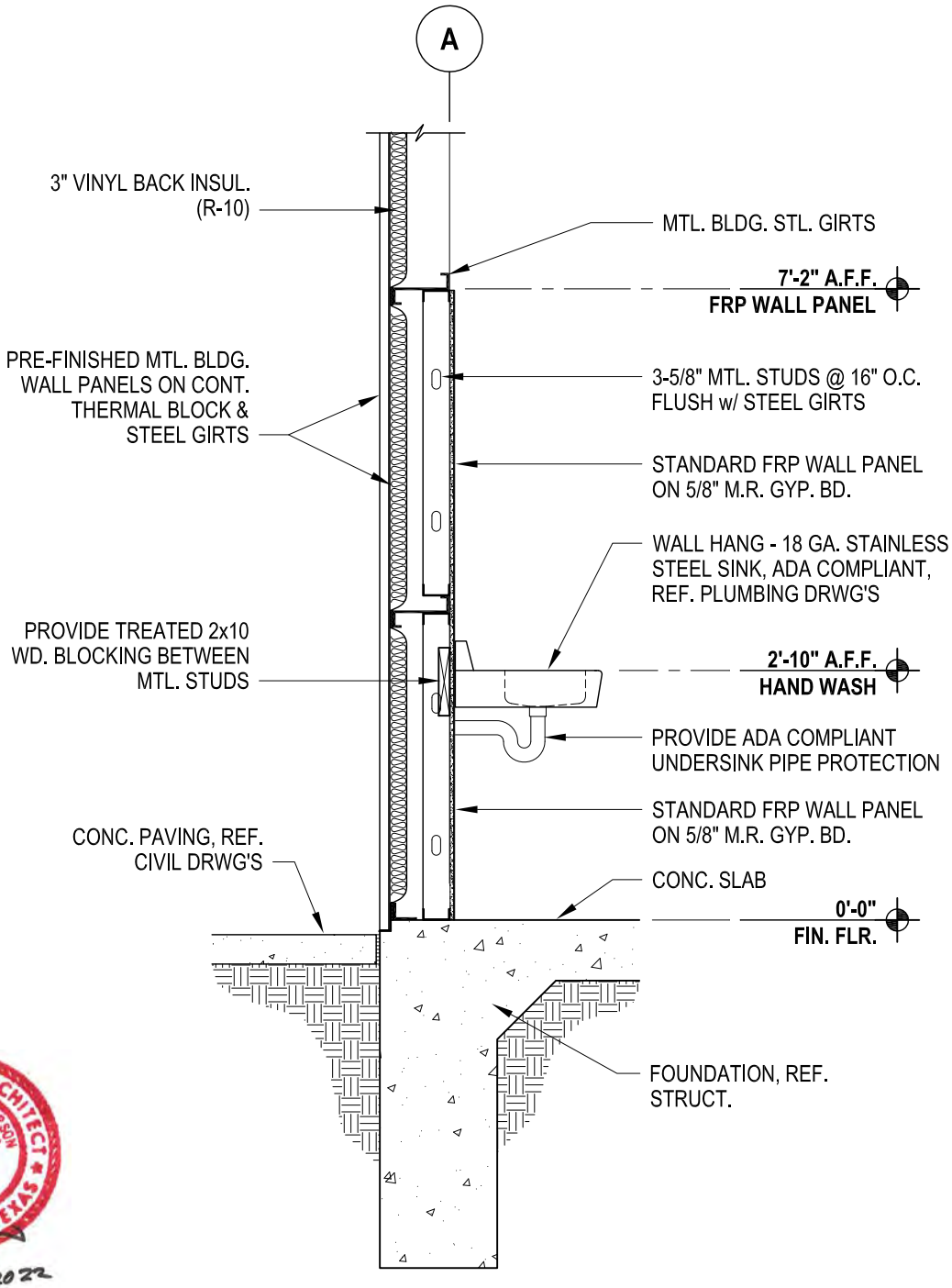

HANGAR 100
PARTIAL WALL SECTION @ HAND WASH SINK

1

SCALE: 1/2" = 1'-0"

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Boultinghouse Simpson Gates ARCHITECTS
3301 N McCOLL RD | McALLEN, TX 78501 | P 956.630.9494

SHEET TITLE
PARTIAL WALL SECTION AT HAND WASH SINK

PROJECT NAME
DPS HANGAR - EDINBURG

OWNER

PROJECT ADDRESS
ADD 1-1

PROJECT NO
2210

ISSUE DATE
August 1, 2022

SHEET NUMBER
ADD 1.2

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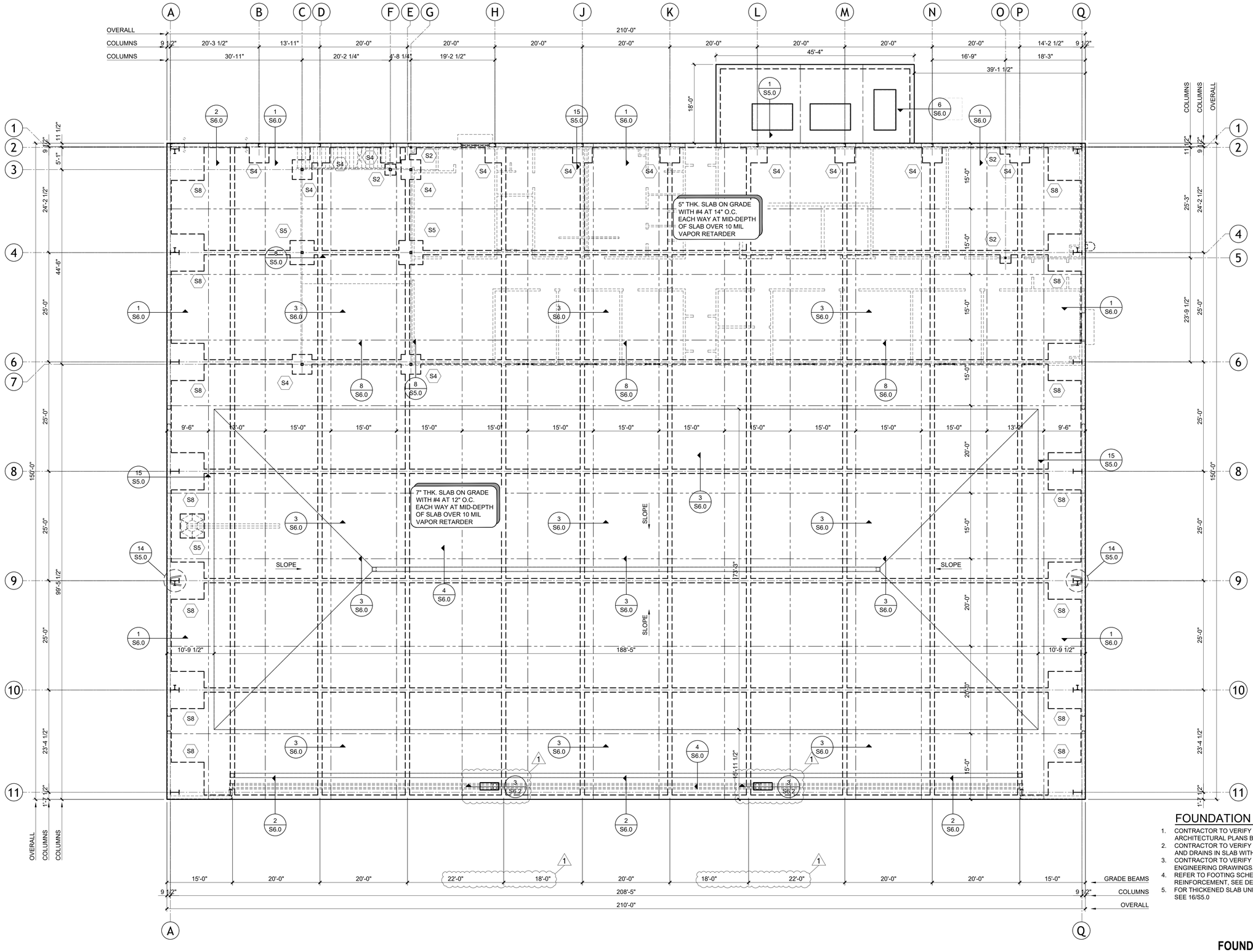

FOUNDATION NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING WORK
2. CONTRACTOR TO VERIFY LOCATION OF ANY/ALL DROPS AND DRAINS IN SLAB WITH ARCHITECTURAL DRAWINGS.
3. CONTRACTOR TO VERIFY REQUIRED F.F.E. WITH CIVIL ENGINEERING DRAWINGS.
4. REFER TO FOOTING SCHEDULE FOR FOOTING SIZE AND REINFORCEMENT, SEE DETAIL 7/S5.0
5. FOR THICKENED SLAB UNDERNEATH ALL CMU WALLS SEE 16/S5.0

FOUNDATION PLAN (1)
SCALE: 3/32" = 1'-0"

MARK	REVISION	DATE
1	ADDENDUM #3	9/19/22

S:\CHANIN MAIN SERVER\CHANIN ENGINEERING
PROJECTS\PROJECTS\2022\22127 SOUTH TEXAS INT'L AIRPORT
DPS HANGAR\STRUCTURAL\22127-S2.0.DWG [LAYOUT1]
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100157: DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

Boultinghouse Simpson Gates ARCHITECTS
3301 N MCCOLL RD | McALLEN, TX. 78501
P: (956) 682-1831

SHEET NAME: FOUNDATION PLAN

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG*
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

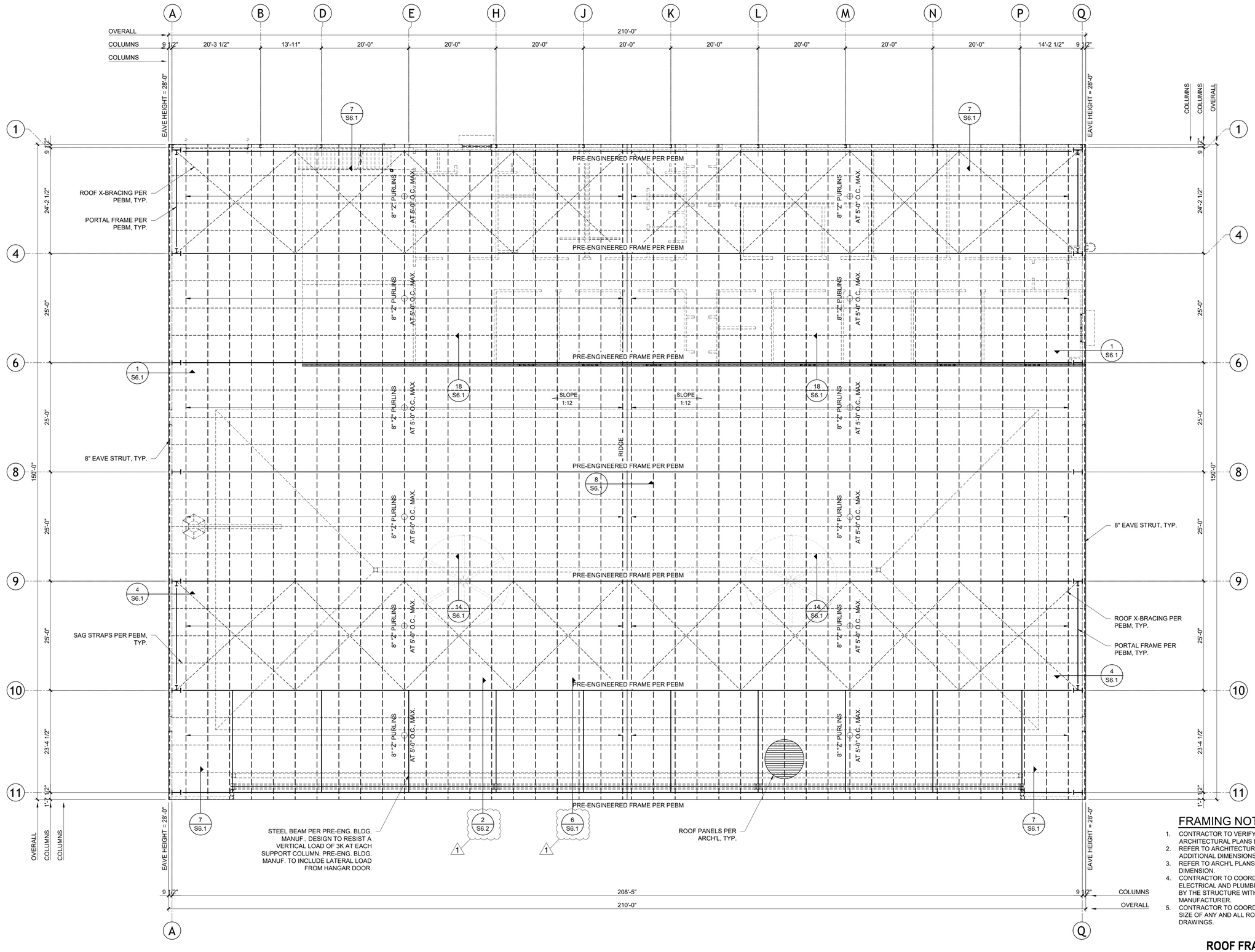
DRAWN BY:	EC
DESIGNED BY:	MC
LATEST REVISION:	07/15/2022
JOB NO.:	22127

CHANIN ENGINEERING, LLC
TBPE FIRM REG. NUMBER F-9369
PH: (956) 687-9421
FAX: (956) 687-3211
400 Nolana, Suite H2
McAllen, Texas 78504
www.chaninengineering.com

STATE OF TEXAS
MIGUEL CHANIN
93127
LICENSED
PROFESSIONAL ENGINEER
09-19-22

SEAL:
TBPE Firm Registration No. F-9369

SHEET NO.
S2.0



FRAMING NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS BEFORE COMMENCING WORK.
2. REFER TO ARCHITECTURAL DRAWINGS FOR ANY ADDITIONAL DIMENSIONS.
3. REFER TO ARCH'L PLANS FOR ROOF OVERHANG DIMENSION.
4. CONTRACTOR TO COORDINATE ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SUPPORTED BY THE STRUCTURE WITH THE STRUCTURE MANUFACTURER.
5. CONTRACTOR TO COORDINATE EXACT LOCATION AND SIZE OF ANY AND ALL ROOF HATCHES WITH ARCH'L DRAWINGS.

ROOF FRAMING PLAN (1)

SCALE: 3/32" = 1'-0"

MARK	REVISION	DATE
1	ADDENDUM #3	9/19/22

S:\CHANIN MAIN SERVER\CHANIN ENGINEERING
PROJECTS\DPS HANGAR\22127 - DPS HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT
DPS HANGAR\STRUCTURAL\22127-S4.0.DWG [LAYOUT1]
DRAWING PATHNAME: LAYOUT | PLOT DATE - TIME
100157 - DEPARTMENT OF PUBLIC SAFETY (DPS) HANGAR - SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG - EDINBURG, TEXAS

Boultinghouse Simpson Gates ARCHITECTS
3301 N MCCOLL RD | McALLEN, TX. 78501
PH: (956) 687-4567 | FAX: (956) 687-4568

SHEET NAME: ROOF FRAMING PLAN

PROJECT NAME: *SOUTH TEXAS INTERNATIONAL AIRPORT AT EDINBURG*
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

DRAWN BY:	EC
DESIGNED BY:	MC
LATEST REVISION:	07/15/2022
JOB NO.:	22127

CHANIN ENGINEERING, LLC
TBPE FIRM REG. NUMBER F-9369
PH: (956) 687-9421
FAX: (956) 687-3211
400 Nolana, Suite H2
McAllen, Texas 78504
www.chaninengineering.com

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93127
LICENSED PROFESSIONAL ENGINEER
09-19-22

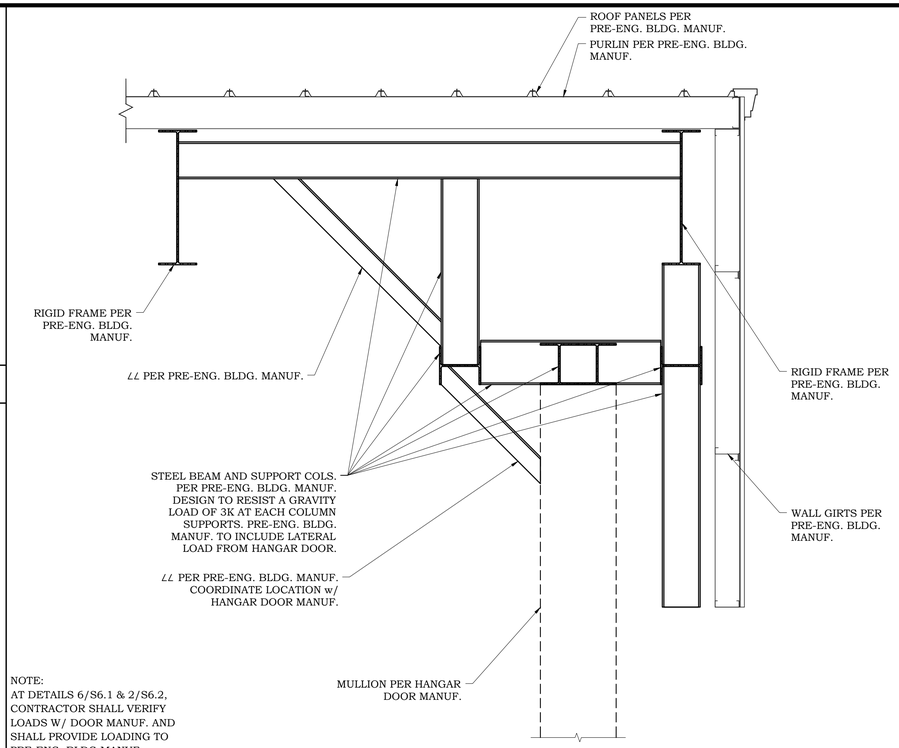
SEAL:
TBPE Firm Registration No. F-9369

SHEET NO.
S4.0

NOT USED 17

NOT USED 13

NOT USED 9



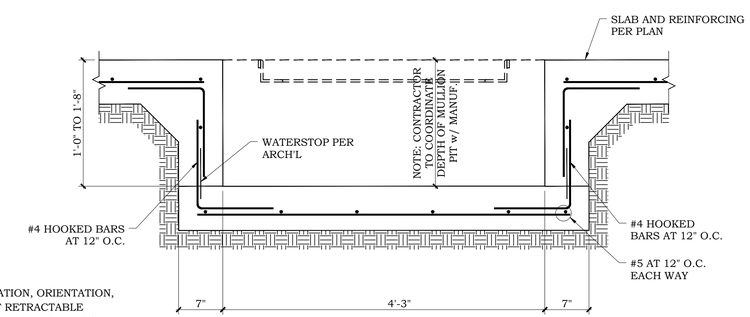
NOTE:
AT DETAILS 6/S6.1 & 2/S6.2, CONTRACTOR SHALL VERIFY LOADS W/ DOOR MANUF. AND SHALL PROVIDE LOADING TO PRE-ENG. BLDG MANUF.

NOT USED 18

NOT USED 14

NOT USED 10

RIGID FRAME DETAIL 2



NOTE:
VERIFY LOCATION, ORIENTATION, AND SIZE OF RETRACTABLE MULLION PIT w/ HANGAR DOOR MANUF.

NOT USED 19

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NOT USED 11

MULLION PIT DETAIL 3

NOT USED 20

NOT USED 16

NOT USED 12

NOT USED 8

NOT USED 4

MARK	REVISION	DATE
1	ADDENDUM #3	09/19/22

S:\CHANIN MAIN SERVER\CHANIN ENGINEERING
PROJECTS\DPS HANGAR\SECTOR\22127S6.0 OUTPUT TO PDF - AIRPORT
DPS HANGAR\STRUCTURAL\22127-S6.2.DWG [LAYOUT1]
DRAWING PATH/NAME: LAYOUT | PLOT DATE - TIME

Boultinghouse Simpson Gates ARCHITECTS
3201 W McCOLL RD | McALLEN, TX 78501
PH: (956) 687-4567

SHEET NAME: FRAMING DETAILS

SOUTH TEXAS INTERNATIONAL AIRPORT
AT EDINBURG
DPS HANGAR PROJECT
(TXDOT CSJ NO. 22HGEDINB)
EDINBURG, TEXAS

PROJECT NAME:

DRAWN BY:	EC
DESIGNED BY:	MC
LATEST REVISION:	07/15/2022
JOB NO.:	22127

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PH: (956) 687-9421
FAX: (956) 687-3211
400 Nolana, Suite H2
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MIGUEL CHANIN
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09-19-22

SEAL:
TBPE Firm Registration No. F-9369

SHEET NO.
S6.2