

Texas ANG - 149th FW

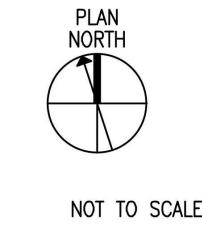
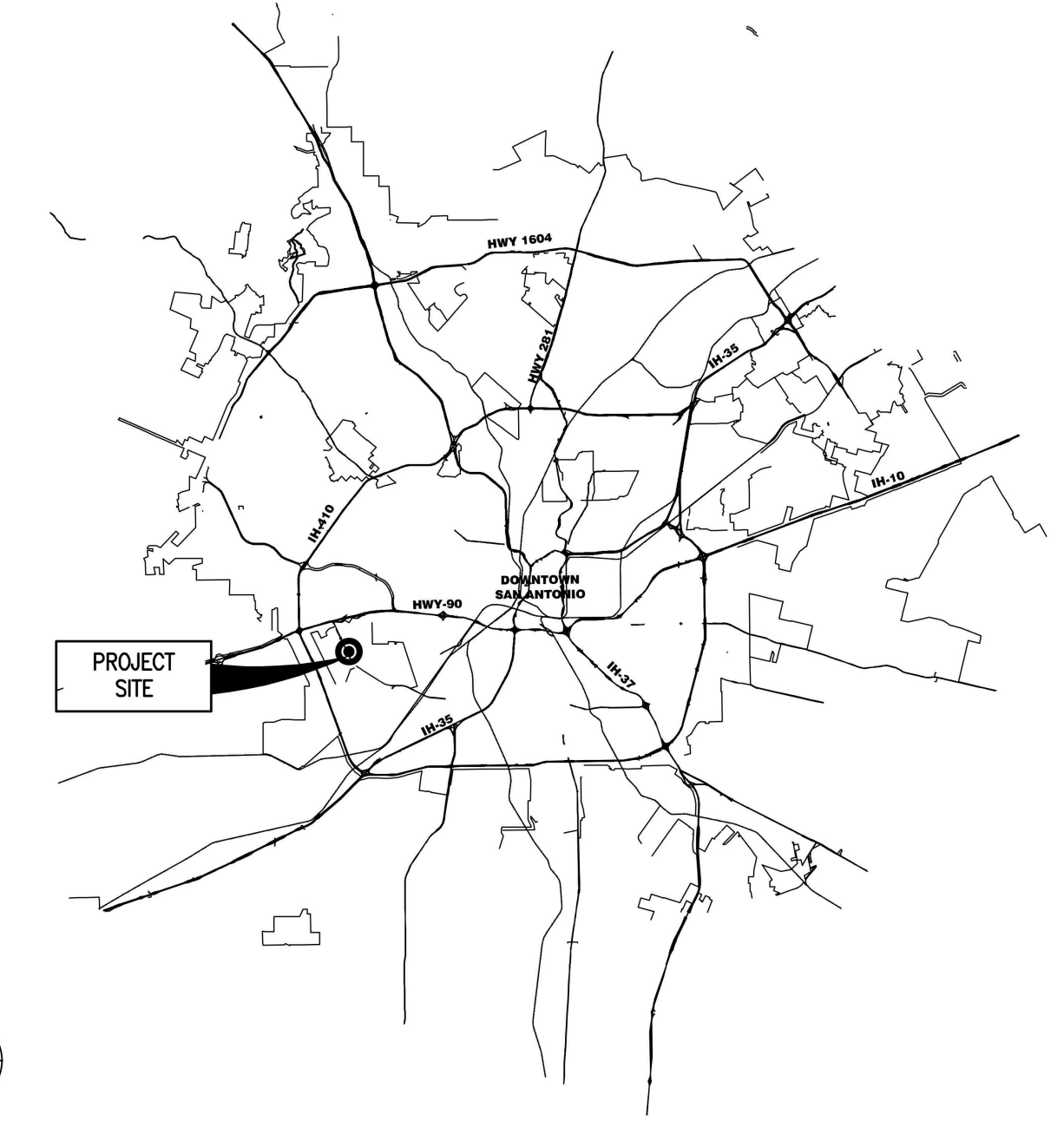
Mission Training Center (MTC)

Joint Base San Antonio - Kelly Field Annex

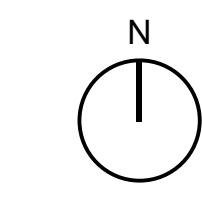
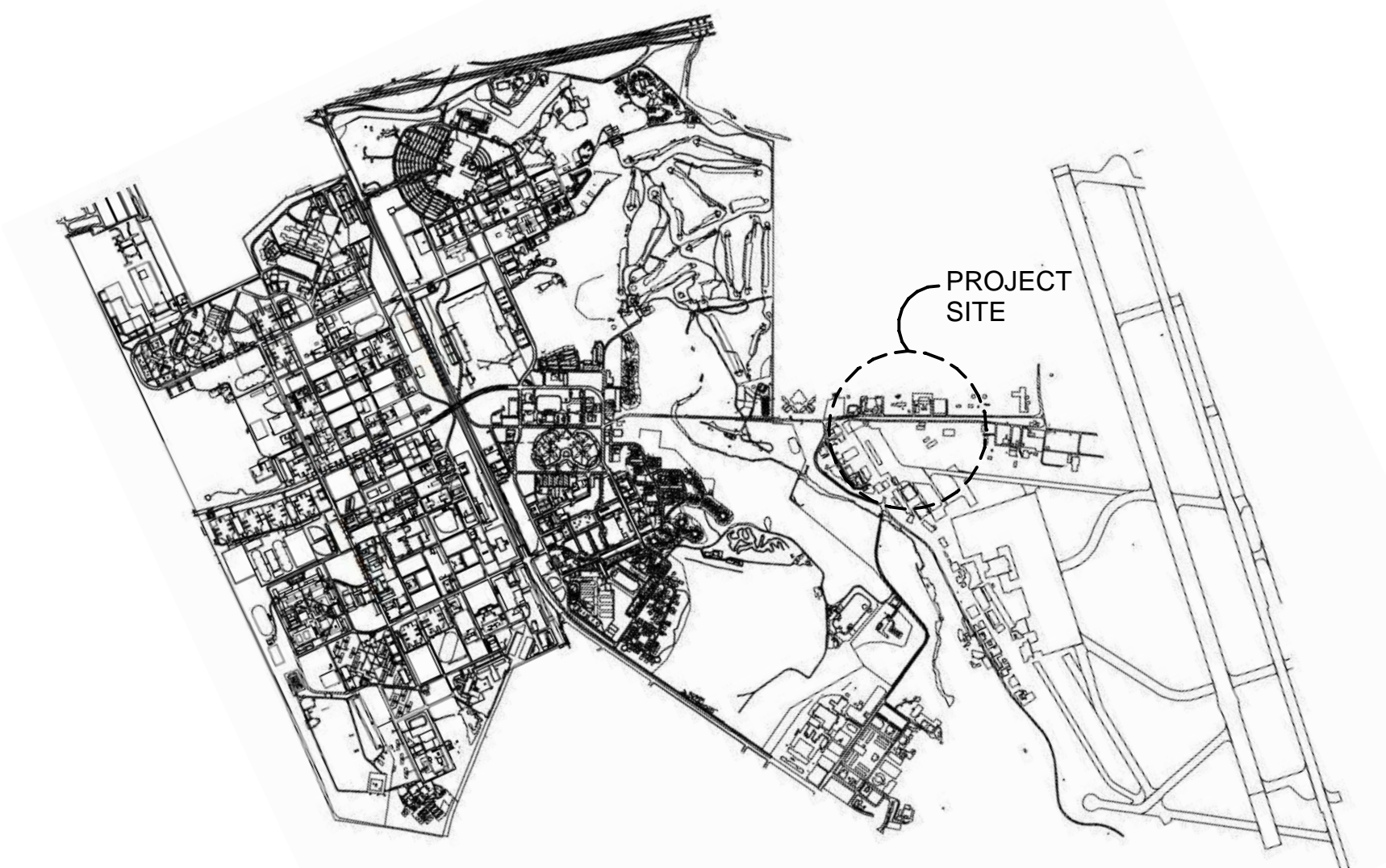
Project Number: KELL189014

OPTIONAL LINE ITEMS:

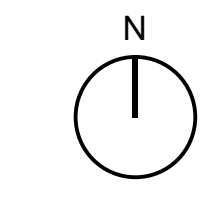
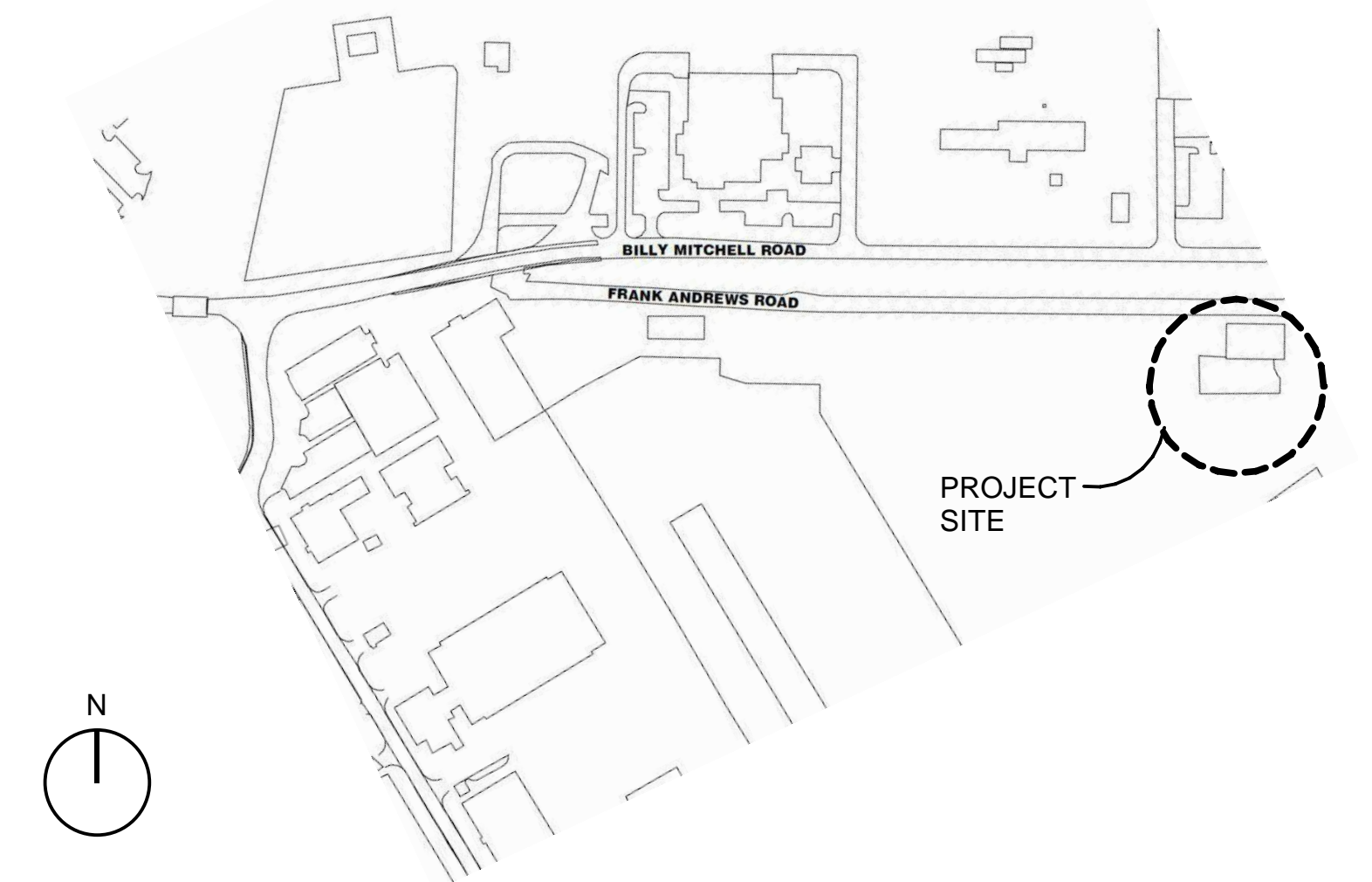
- #1. PROVIDE PERMEABLE PAVEMENTS AT PARKING LOT - I.L.O. BITUMINOUS PAVEMENTS.
- #2. PROVIDE LANDSCAPING (TREES, SHRUBS, GROUT COVER) ON DRAWINGS LP-100 AND LP-500 - I.L.O. GRASS
- #3. PROVIDE EPOXY FLOOR COATING IN SIM BAYS - I.L.O. ESD COATING
- #4. PROVIDE PORCELAIN WALL TILE IN RESTROOMS - I.L.O. PAINT WALL.
- #5. PROVIDE PORCELAIN FLOOR TILE IN RESTROOMS - I.L.O. CONCRETE W/DENSIFIER.
- #6. PROVIDE ADDITIONAL UNDER FLOOR DRAINS.
- #7. PROVIDE ILLUMINATED INSIGNIA SIGNAGE.
- #8. PROVIDE FIXED SEATING W/TABLET ARMS IN CLASSROOM 114 AND MOC-121.



C5 BEXAR CO MAP
SCALE: NTS



B5 LACKLAND AIR FORCE BASE
SCALE: NTS



A5 VICINITY MAP
SCALE: NTS

100 % Contract Documents
15 August 2024



Frankfurt-Short-Bruza Associates, P.C.
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G-002	SHEET INDEX
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ET601	TELECOMMUNICATIONS RISER DIAGRAM

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STATE OF OKLAHOMA
MICHAEL JAMES PALMER
58815
REGISTERED ARCHITECT



Texas Air National Guard - 149th FW
F-16 Mission Training Center (MTC)
Joint Base San Antonio
JBSA - Kelly Annex, Texas

REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

DESIGNED BY:	GMD
DRAWN BY:	BKG
REVIEWED BY:	MJT
PROJECT MANAGER:	NDM
PROJECT NUMBER:	20190310
SHEET TITLE:	SHEET INDEX
ISSUE DATE:	15 AUGUST 2024
SHEET NUMBER:	G-002

**NFPA 101 TABLE 7.3.3.1 EGRESS CAPACITY FACTOR
LEVEL COMPONENTS = 0.2" WIDTH PER OCCUPANT**

(36" DR) 32" CLEAR DIVIDED BY 0.2" = 160 OCCUPANTS
(44" DR) 40" CLEAR DIVIDED BY 0.2" = 200 OCCUPANTS
(72" DR) 66" CLEAR DIVIDED BY 0.2" = 330 OCCUPANTS

CODE SUMMARY

BUILDING CODES & STANDARDS:

- UFC 1-200-01 DoD BUILDING CODE; WITH CHANGE 2 (06-12-2023)
- UFC 1-200-02 HIGH PERFORMANCE AND SUSTAINABLE BUILDING REQUIREMENTS, WITH CHANGE 2 (06-01-2022)
- UFC 3-600-01 FIRE PROTECTION ENGINEERING FOR FACILITIES, WITH CHANGE 6 (05-06-2021)
- INTERNATIONAL BUILDING CODE 2021
- INTERNATIONAL MECHANICAL CODE 2021
- INTERNATIONAL PLUMBING CODE 2021
- NATIONAL ELECTRICAL CODE NFPA 70, 2023
- INTERNATIONAL ENERGY CONSERVATION CODE 2021
- FIRE CODE NFPA 1, 2024
- LIFE SAFETY CODE NFPA 101, 2024
- NATIONAL FIRE ALARM AND SIGNALING CODE NFPA 72, 2022
- STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS NFPA 13, 2022
- ARCHITECTURAL BARRIERS ACT (ABA); WITH DoD MEMORANDUM

USE AND OCCUPANCY: (IBC 2021)
INDIVIDUAL CLASSIFICATION OF OCCUPANCY
- BUSINESS GROUP B (SECTION 304.1) AND
- STORAGE GROUP S-1 (SECTION 311.2) -
MECHANICAL, ELECTRICAL, OTHER EQUIPMENT SPACES

CODE ANALYSIS BASED ON NON-SEPARATED MIXED USE OCCUPANCY USING THE MOST RESTRICTIVE OCCUPANCY CLASSIFICATION B-1 (508.3.2)

TYPE OF CONSTRUCTION (IBC 2021 TABLE 601):
TYPE II-B WITH AUTOMATIC SPRINKLER SYSTEM

ALLOWABLE HEIGHT (IBC 2021):
ALLOWABLE BUILDING HEIGHT (TABLE 504.3): 75'
ACTUAL HEIGHT: 31'-6" FT

ALLOWABLE AREA (IBC 2021):
BUILDING MAXIMUM 1 STORY ABOVE GRADE WITH AUTOMATIC SPRINKLER SYSTEM ALLOWABLE AREA FACTOR (TABLE 506.2): 92,000 GSF
ACTUAL AREA: 15,198 GSF

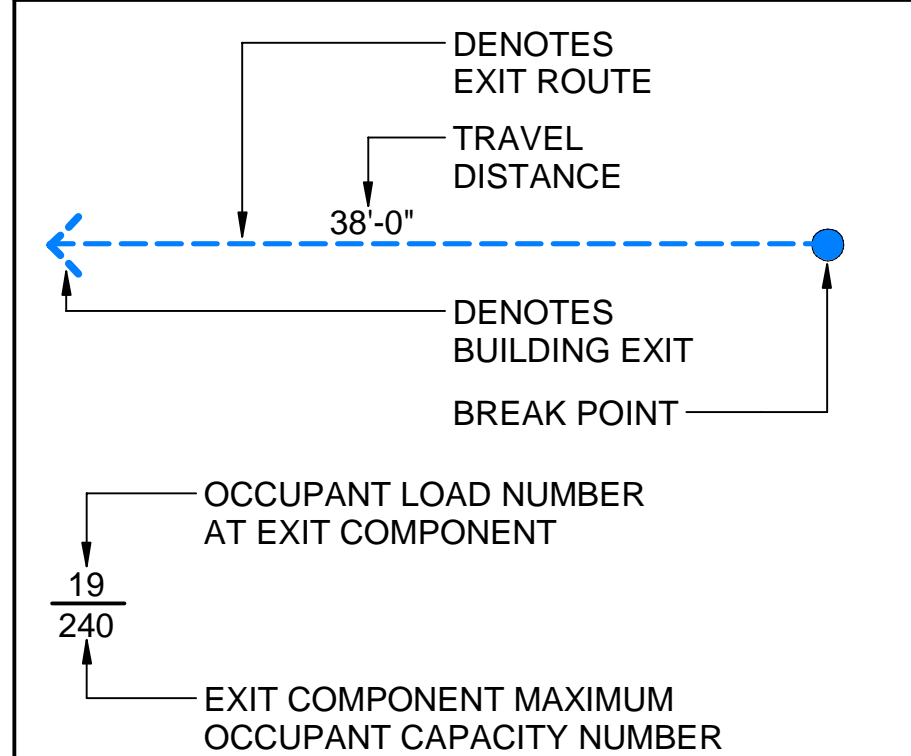
MEANS OF EGRESS REQUIREMENTS (NFPA 101, 2022)

- MAXIMUM DEAD END CORRIDOR LENGTH: 50'-0"
- MAXIMUM COMMON PATH TRAVEL: 100'-0"
- MAXIMUM TRAVEL DISTANCE: 300'-0"
- MINIMUM EXIT ACCESS CORRIDOR WIDTH: 36"
- MINIMUM NUMBER OF EXITS: 2, PROVIDED: 3

OCCUPANCY LEGEND

- NFPA BUSINESS USE
- NFPA BUSINESS USE - COLLABORATION ROOMS > 450 SF (41.8 SM)
- UFC IT EQUIPMENT ROOMS INCLUDING THOSE WITH SMALL WORK AREAS
- UFC MECHANICAL, ELECTRICAL, OTHER BUILDING EQUIPMENT SPACES
- UFC WAITING SPACES OTHER THAN THOSE IN THEATERS AND ASSEMBLY OCCUPANCIES WHERE PERSONS ARE ADMITTED TO THE BUILDING AT TIMES WHEN SEATS ARE NOT AVAILABLE

LIFE SAFETY LEGEND



— 1 HR — ONE HOUR FIRE RATED WALL, RE: AE001

(1) # OF OCCUPANTS

CLEAN AGENT FIRE EXTINGUISHER ON WALL BRACKET (UL 1A:10B-C) MOUNTED AT 48" AFF. (EXTINGUISHERS ARE GFGI)

DRY CHEMICAL FIRE EXTINGUISHER IN SEMI-RECESSED WALL CABINET (UL 20A:120B-C) MOUNTED 48" AFF. (EXTINGUISHER IS GFGI)

PLUMBING FIXTURES

UFC 3-420-01 PLUMBING SYSTEMS (04-01-2021)

RATIO: 80 MALE /20 FEMALE

FIXTURE TYPE | UTA OCCUPANCY: 229 | REQ. | ACT.

PER TABLE 403.1: 184 MALE AND 45 FEMALE RATIO

W.C. (MEN)	184	151 and over	6	3+2 UR
W.C. (WOMEN)	45	36 TO 55	3	2

PER TABLE 403.2: 51 MALE AND 13 FEMALE RATIO

LAV. (MEN)	184	151 and over	6	4
LAV. (WOMEN)	45	36 TO 55	3	2

PER TABLE 403.1.3:

DRINKING FOUNTAIN	229/75=	3	2
SERVICE SINK	1 PER FLOOR		1

PROJECT INFORMATION:

DESIGNED BY: **GMD**

DRAWN BY: **KTE**

REVIEWED BY: **MJT**

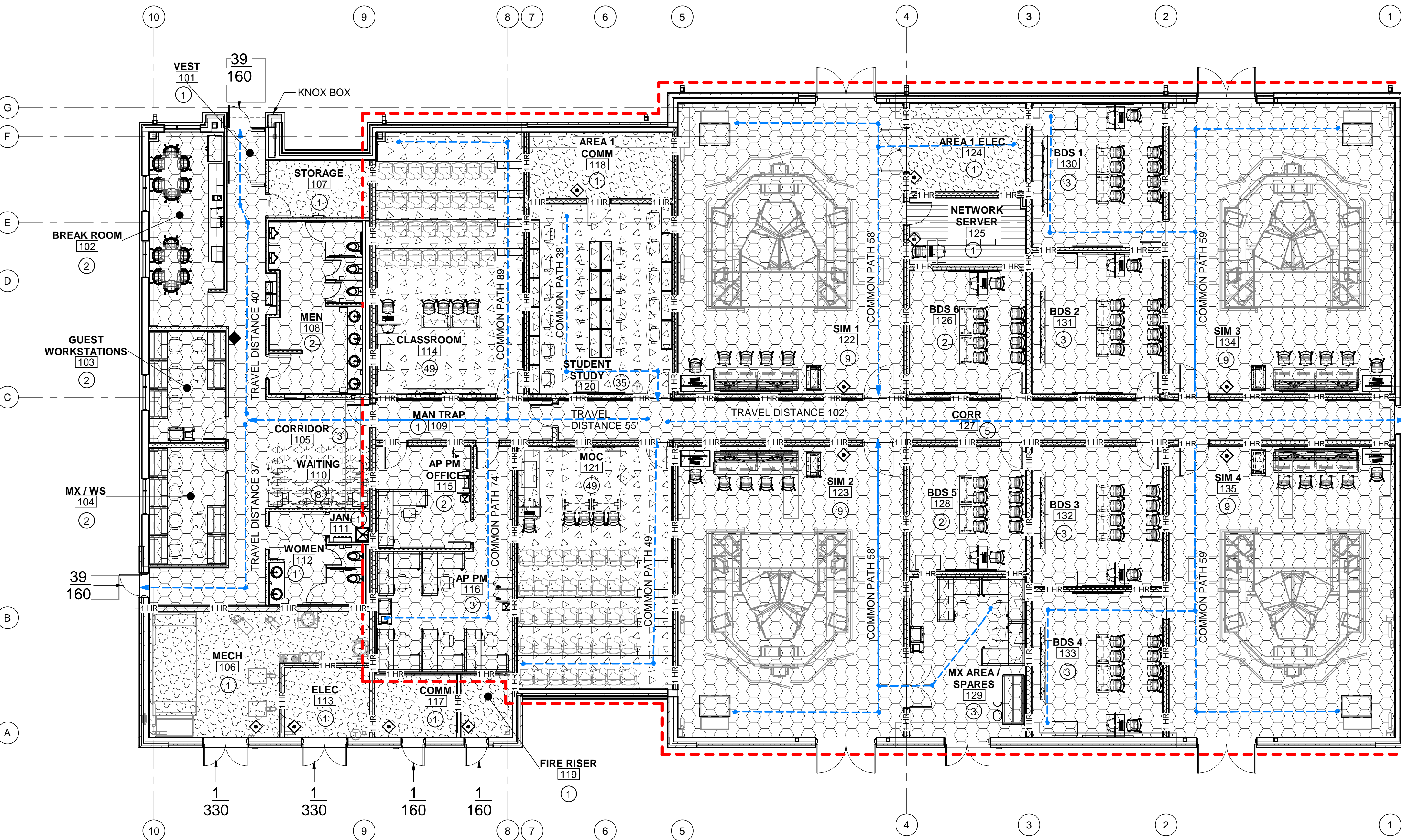
PROJECT MANAGER: **NDM**

PROJECT NUMBER: 20190310

SHEET TITLE: **CODE AND LIFE SAFETY PLAN**

ISSUE DATE: 15 AUGUST 2024

SHEET NUMBER: **G-003**

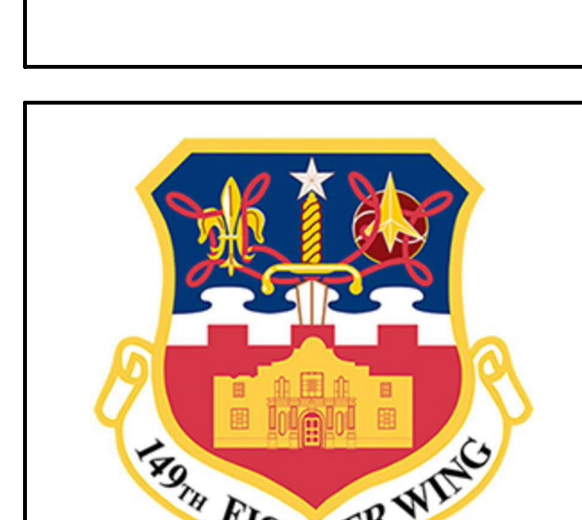


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200

B1 CODE AND LIFE SAFETY PLAN
SCALE: 1/8" = 1'-0"

OCCUPANCY AREA SCHEDULE

ROOM NUMBER	ROOM NAME	AREA	OCCUPANT LOAD FACTOR	OCCUPANT LOAD	REMARKS
BUSINESS					
101	VEST	38 SF	1:150	1	
102	BREAK ROOM	262 SF	1:150	2	
103	GUEST WORKSTATIONS	162 SF	1:150	2	
104	MX / WS	170 SF	1:150	2	
105	CORRIDOR	456 SF	1:150	3	
108	MEN	290 SF	1:150	2	
109	MAN TRAP	134 SF	1:150	1	
112	WOMEN	140 SF	1:150	1	
114	CLASSROOM	731 SF	1:15	49	
115	AP PM OFFICE	183 SF	1:150	2	
116	AP PM	389 SF	1:150	3	
120	STUDENT STUDY	516 SF	1:15	35	
121	MOC	713 SF	1:15	49	
122	SIM 1	1242 SF	1:150	9	
123	SIM 2	1243 SF	1:150	9	
126	BDS 6	271 SF	1:150	2	
127	CORR	628 SF	1:150	5	
128	BDS 5	273 SF	1:150	2	
129	MX AREA / SPARES	351 SF	1:150	3	
130	BDS 1	356 SF	1:150	3	
131	BDS 2	349 SF	1:150	3	
132	BDS 3	346 SF	1:150	3	
133	BDS 4	359 SF	1:150	3	
134	SIM 3	1240 SF	1:150	9	
135	SIM 4	1240 SF	1:150	9	
STORAGE					
106	MECH	399 SF	1:500	1	
107	STORAGE	110 SF	1:500	1	
111	JAN	23 SF	1:500	1	
113	ELEC	112 SF	1:500	1	
117	COMM	96 SF	1:500	1	
118	AREA 1 COMM	180 SF	1:500	1	
119	FIRE RISER	60 SF	1:500	1	
124	AREA 1 ELEC	194 SF	1:500	1	
125	NETWORK SERVER	144 SF	1:300	1	
WAITING SPACES					
110	WAITING	120 SF	1:15	8	
			TOTAL	229 OCC	



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F-16 Mission Training Center (MTC)
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REVISION HISTORY:

NO.	DESCRIPTION	DATE

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STATEMENT OF SPECIAL INSPECTIONS (2021 IBC)

THIS STATEMENT OF SPECIAL INSPECTIONS IS INCLUDED AS REQUIRED BY SECTION 1704.3 OF THE 2021 INTERNATIONAL BUILDING CODE (IBC). SPECIAL INSPECTIONS SHALL CONFORM TO CHAPTER 17 OF THE 2021 IBC AND OTHER APPLICABLE STANDARDS AS SUMMARIZED HEREIN. GENERAL REQUIREMENTS ARE LISTED BELOW AND IN THE ATTACHED SCHEDULE OF SPECIAL INSPECTIONS TABLES. SPECIAL INSPECTIONS DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Includes sections for Masonry Construction (Level 2 - Risk Category I, II or III) and Brick Veneer Masonry (Level 1 - Risk Category I, II or III).

Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Section: GEOTECHNICAL -- SOILS INSPECTION. Includes tasks like Verify Materials Below Shallow Foundations, Verify Excavations, Perform Classification and Testing of Compacted Fill Materials.

Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Section: STRUCTURAL -- CONCRETE CONSTRUCTION, INCLUDING COMPOSITE DECK. Includes tasks like Installation of Formwork, Installation of Reinforcement, Reinforcing Bar Welding, Cast-in-Place Anchors, Post-Installed Mechanical Anchors.

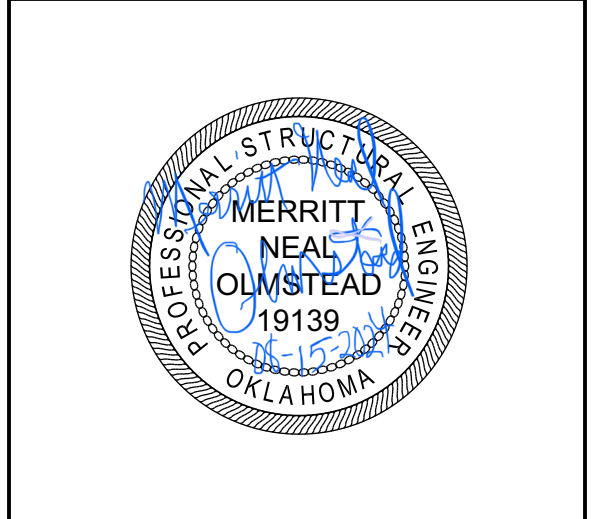
Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Section: STRUCTURAL -- BRICK VENEER MASONRY -- LEVEL 1 -- RISK CATEGORY I, II OR III. Includes task: Compliance of Submittals.

Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Section: STRUCTURAL -- OPEN-WEB STEEL JOISTS AND JOIST GIRDERS. Includes task: Verify Installation.

Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Section: STRUCTURAL -- COLD-FORMED METAL DECK -- PLACEMENT. Includes tasks like Verify Compliance of Materials, Acceptance or Rejection of Deck and Deck Accessories.

Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Section: STRUCTURAL -- COLD-FORMED METAL DECK -- MECHANICAL FASTENING. Includes tasks like Manufacturer Installation Instructions, Proper Tools for Fastener Installation, Proper Storage Provided for Fasteners.

Table with 3 columns: TASK, INSPECTION TYPE, DESCRIPTION. Section: STRUCTURAL -- STEEL -- BOLTING. Includes tasks like Manufacturer's Certifications Available, Fasteners Marked in Accordance with ASTM Requirements, Proper Fasteners Selected for Joint.



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REVISION HISTORY table with columns for Description and Date.

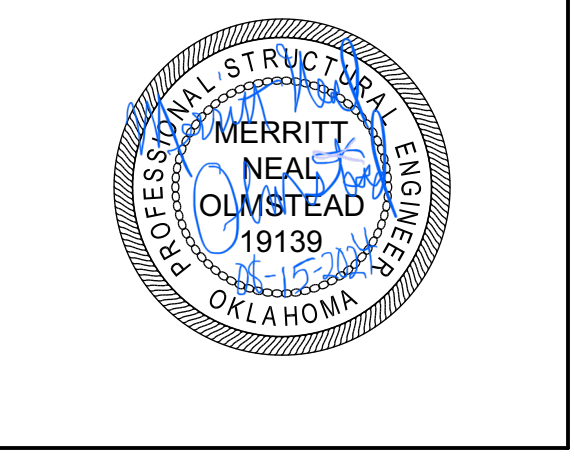
PROJECT INFORMATION table with fields for Designer (CGH), Drawer (CGH), Reviewer (BJW), and Project Manager (NDM).

PROJECT NUMBER: 20190310, SHEET TITLE: SPECIAL INSPECTIONS, ISSUE DATE: 15 AUGUST 2024, SHEET NUMBER: G-201

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STRUCTURAL -- STEEL -- WELDING		
TASK	INSPECTION TYPE	DESCRIPTION
PRIOR TO WELDING, VERIFY THE FOLLOWING ARE IN COMPLIANCE WITH 2021 IBC 1705.2.1 AND AISC 360-16 TABLE N5.4-1.		
1	OBSERVE	VERIFY THE WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS. WELDING BY WELDERS, WELDING OPERATORS, AND TACK WELDERS WHO ARE QUALIFIED IN CONFORMANCE WITH REQUIREMENTS.
2	PERFORM	VERIFY THAT THE WELDING PROCEDURE SPECIFICATIONS (WPS) ARE AVAILABLE.
3	PERFORM	VERIFY THAT THE MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES ARE AVAILABLE.
4	OBSERVE	VERIFY MATERIAL IDENTIFICATION. TYPE AND GRADE.
5	OBSERVE	WELDER IDENTIFICATION SYSTEM. THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.
6	OBSERVE	FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY). <ul style="list-style-type: none"> • JOINT PREPARATION • DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION) • BACKING TYPE AND FIT (IF APPLICABLE)
7	OBSERVE	CONFIGURATION AND FINISH OF ACCESS HOLES.
8	OBSERVE	FIT-UP OF FILLET WELDS. <ul style="list-style-type: none"> • DIMENSIONS (ALIGNMENT, GAPS AT ROOT) • CLEANLINESS (CONDITION OF STEEL SURFACES) • TACKING (TACK WELD QUALITY AND LOCATION)
DURING WELDING, VERIFY THE FOLLOWING ARE IN COMPLIANCE WITH 2021 IBC 1705.2.1 AND AISC 360-16 TABLE N5.4-2.		
9	OBSERVE	CONTROL AND HANDLING OF WELDING CONSUMABLES. <ul style="list-style-type: none"> • PACKAGING • ELECTRODE ATMOSPHERIC EXPOSURE CONTROL
10	OBSERVE	NO WELDING OVER CRACKED TACK WELDS.
11	OBSERVE	ENVIRONMENTAL CONDITIONS. <ul style="list-style-type: none"> • WIND SPEED WITHIN LIMITS • MOISTURE / PRECIPITATION • TEMPERATURE
12	OBSERVE	WELDING PROCEDURE SPECIFICATIONS (WPS) FOLLOWED. <ul style="list-style-type: none"> • SETTINGS ON WELDING EQUIPMENT • TRAVEL SPEED • SELECTED WELDING MATERIALS • SHIELDING GAS TYPE AND FLOW RATE • PREHEAT APPLIED • INTERPASS TEMPERATURE MAINTAINED (MINIMUM AND MAXIMUM) • PROPER POSITION (F, V, H, OH) • INTERMIX OF FILLER METALS AVOIDED
13	OBSERVE	WELDING TECHNIQUES. <ul style="list-style-type: none"> • INTERPASS AND FINAL CLEANING • EACH PASS WITHIN PROFILE LIMITATIONS • EACH PASS MEETS QUALITY REQUIREMENTS
AFTER WELDING, VERIFY THE FOLLOWING ARE IN COMPLIANCE WITH 2021 IBC 1705.2.1 AND AISC 360-16 TABLE N5.4-3.		
14	OBSERVE	WELDS CLEANED.
15	PERFORM	SIZE, LENGTH, AND LOCATION OF ALL WELDS. VERIFY CONFORM TO THE REQUIREMENTS OF THE DETAIL DRAWINGS.
16	PERFORM	WELDS MEET VISUAL ACCEPTANCE CRITERIA. <ul style="list-style-type: none"> • CRACK PROHIBITION • WELD AND BASE-METAL FUSION • CRATER CROSS SECTION • WELD PROFILE • WELD SIZE • UNDERCUT • POROSITY
17	PERFORM	ARC STRIKES.
18	PERFORM	K-AREA. WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES, OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 INCHES OF THE WELD.
19	PERFORM	WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES. AFTER ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES, AS DEFINED IN AISC 360-16 SECTIONS A3.1C AND A3.1D RESPECTIVELY, ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS.
20	PERFORM	BACKING REMOVED, WELD TABS REMOVED AND FINISHED, AND FILLET WELDS ADDED, WHERE REQUIRED.
21	OBSERVE	NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT APPROVAL OF THE EOR.
22	PERFORM	REPAIR ACTIVITIES.
23	DOCUMENT	ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER.



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REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

DESIGNED BY: **CGH**

DRAWN BY: **CGH**

REVIEWED BY: **BJW**

PROJECT MANAGER: **NDM**

PROJECT NUMBER:
20190310

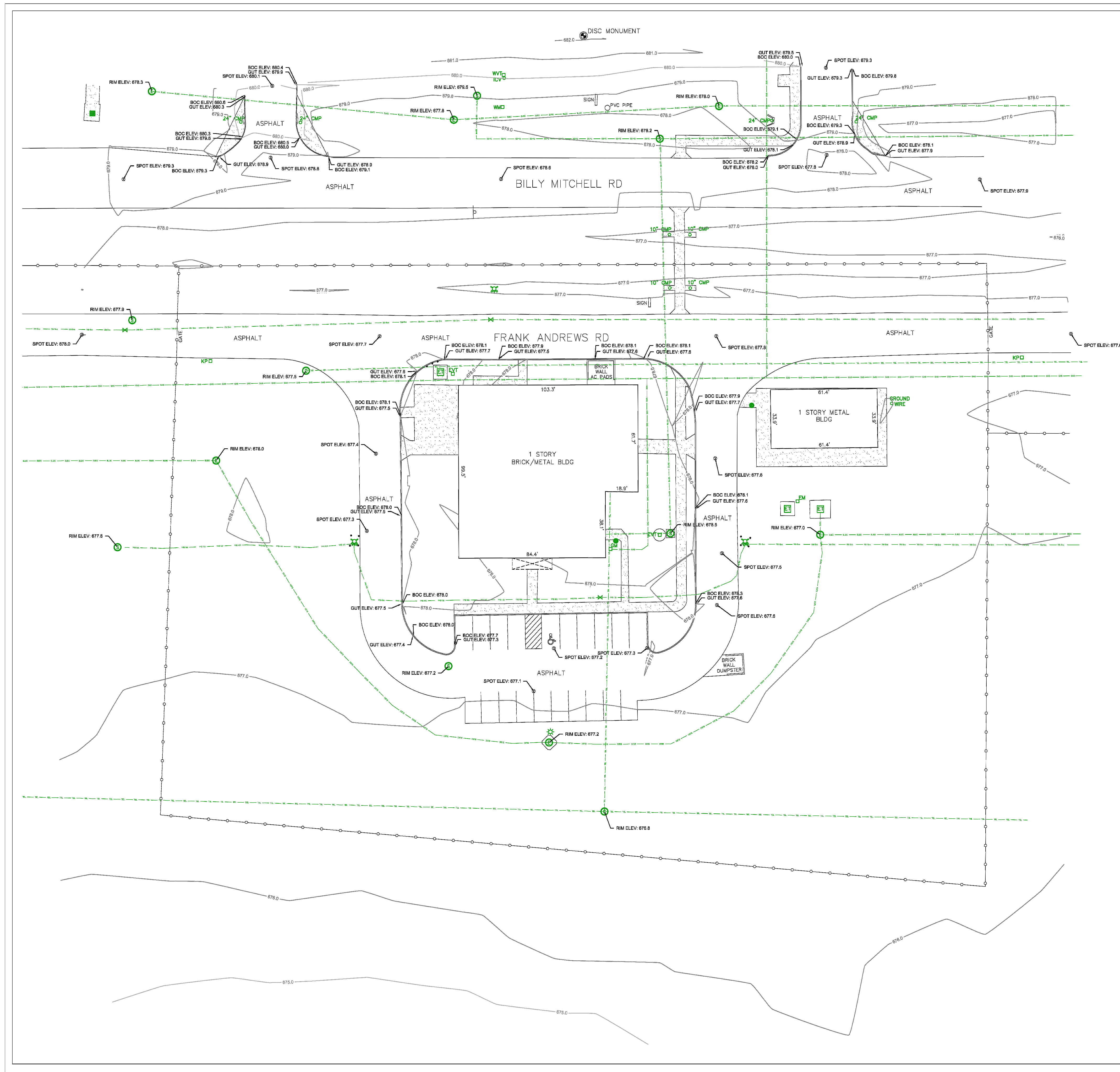
SHEET TITLE:
SPECIAL INSPECTIONS

ISSUE DATE:
15 AUGUST 2024

SHEET NUMBER:

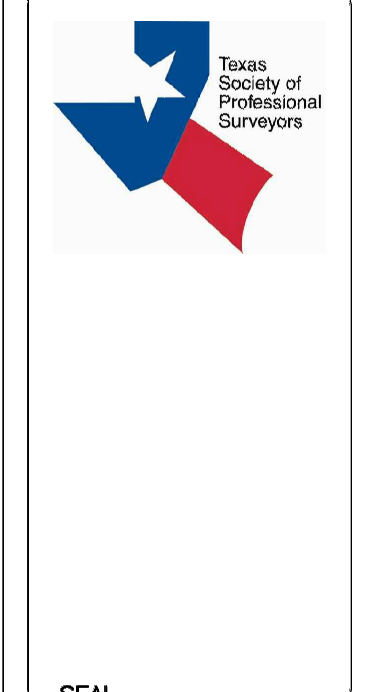
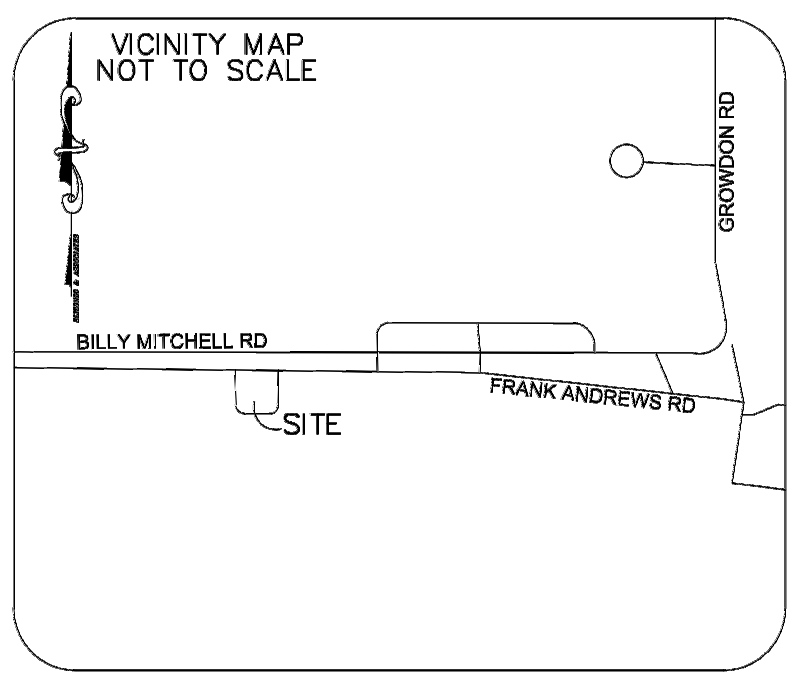
G-202

8/13/2024 4:07:44 PM C:\Users\jper\Documents\202410_Specs\Jper\G-202.dwg



SURVEYOR'S NOTES

- Underground utility installations, underground improvements, foundations and/or other underground structures were not located by this Survey.
- The Surveyor did not obstruct the subject property. This Survey is based on documentation provided by the Client and/or Title Company.
- This Survey was completed without the benefit of a Title Commitment. There may be easements or other matters of instrument not shown on this Survey.
- This is a Topographic Survey only. No boundary or easement lines were established as per scope of services.
- Underground utility locations are based on a combination of existing utility maps, visible inspection, and third party utility locators. Each location needs to be field verified prior to any construction or excavation.
- All manholes observed were filled with water. Inverts, Size, Type and Elevations were not possible at the time of this survey.
- All measurements shown are in U.S. Survey Feet.
- All coordinates are based on the Texas Coordinate System, South Central Zone, North American DATUM of 1983.
- All coordinates shown are Grid Values and may be converted to Surface by multiplying by the Surface Adjustment Factor of 1.00016 Units: U.S. Survey Feet.
- All Elevations shown are based on NAVD83, using CGVD 12A.



NO.	DESCRIPTION	DATE	APPR.

DATE: 8.08	CHECKED BY: ENRIQUE C. ELIZONDO	CURVE: TEXAS AIR NATIONAL GUARD
DRAWN BY: ECE	DATE: 2019.05.08	JOB NO.: KELL189014
PROJECT NO.: KELL189014	FILE NAME: KELL189014	DATE: 2019.05.08
PROJECT NAME: KELL189014	DATE: 2019.05.08	PROJECT NO.: KELL189014

MISSION TRAINING CENTER
 KELLY FIELD ANNEX
 LACKLAND AFB, TX
 PROJECT NO: KELL189014

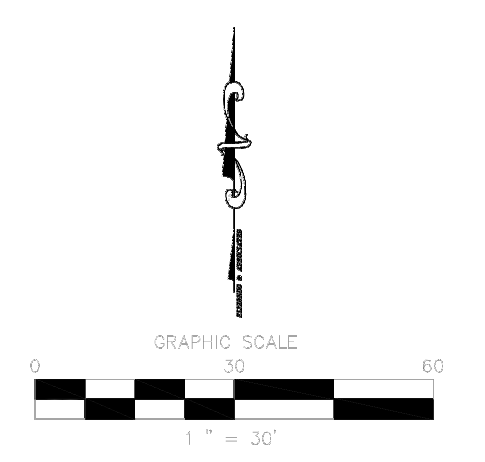
SHEET IDENTIFICATION
 1 of 1

- LEGEND**
- DISC MONUMENT
 - ICVO IRRIGATION CONTROL VALVE
 - CMP CORRUGATED METAL PIPE
 - RCPC REINFORCED CONCRETE PIPE
 - PVC POLY VINYL CHLORIDE PIPE
 - WTV WATER VAULT
 - EVT ELECTRIC VAULT
 - WMD WATER METER
 - GMD GAS METER
 - EMD ELECTRIC METER
 - SGN SIGN
 - ET ELECTRIC TRANSFORMER
 - MG METAL GRATE
 - BOLLARD
 - WATER VALVE
 - ELECTRIC MANHOLE
 - SANITARY SEWER MANHOLE
 - COMMUNICATION MANHOLE
 - STORM DRAIN MANHOLE
 - KPD KEY PAD
 - CONC CONCRETE
 - CLEAN OUT
 - RHC HYDRANT
 - LIGHT POLE
 - UNDERGROUND ELECTRIC
 - UNDERGROUND WATER
 - UNDERGROUND TELEPHONE
 - UNDERGROUND GAS
 - UNDERGROUND STORM DRAIN

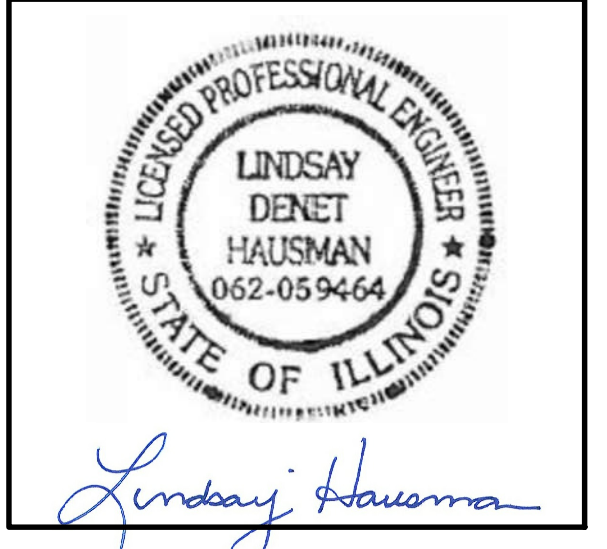
I, Enrique C. Elizondo, a Registered Professional Land Surveyor do hereby certify that this plat represents an actual survey made on the ground under my supervision and substantially complies with the minimum standards for land surveying in Texas as set forth by the Texas Board of Professional Land Surveying and that there are no encroachments or visible easements, to the best of my knowledge and belief, except as shown herein. This 8th day of May, 2019.

The fieldwork was completed on May 5, 2019.

Enrique C. Elizondo
 Registered Professional Land Surveyor
 Texas Registration No. 63365
 henry@elizondoassociates.com
 www.elizondoassociates.com



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**Texas Air National Guard - 149th FW
 F-16 Mission Training Center (MTC)
 Joint Base San Antonio
 JBSA - Kelly Annex, Texas**

REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:
 DESIGNED BY: LDH
 DRAWN BY: HLE
 REVIEWED BY: LDH
 PROJECT MANAGER: NDM

PROJECT NUMBER:
 20190310

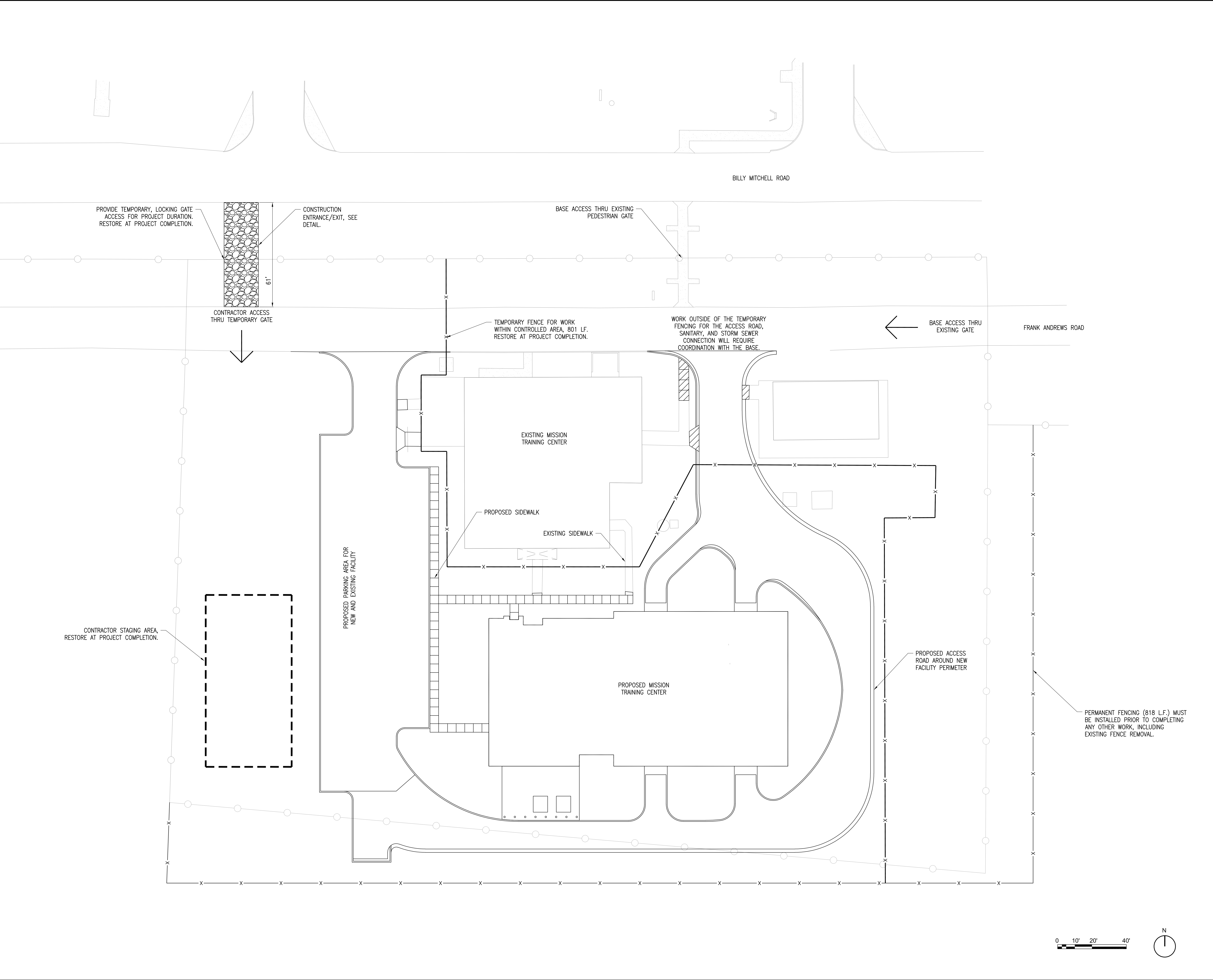
SHEET TITLE:
 EXISTING TOPOGRAPHIC SURVEY

ISSUE DATE:
 15 AUGUST 2024

SHEET NUMBER:
 C-100

1 2 3 4 5

D
C
B
A



PROVIDE TEMPORARY, LOCKING GATE ACCESS FOR PROJECT DURATION, RESTORE AT PROJECT COMPLETION.

CONSTRUCTION ENTRANCE/EXIT, SEE DETAIL.

BASE ACCESS THRU EXISTING PEDESTRIAN GATE

CONTRACTOR ACCESS THRU TEMPORARY GATE

TEMPORARY FENCE FOR WORK WITHIN CONTROLLED AREA, 801 LF. RESTORE AT PROJECT COMPLETION.

WORK OUTSIDE OF THE TEMPORARY FENCING FOR THE ACCESS ROAD, SANITARY, AND STORM SEWER CONNECTION WILL REQUIRE COORDINATION WITH THE BASE.

BASE ACCESS THRU EXISTING GATE

FRANK ANDREWS ROAD

EXISTING MISSION TRAINING CENTER

PROPOSED MISSION TRAINING CENTER

PROPOSED SIDEWALK

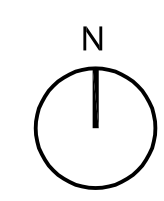
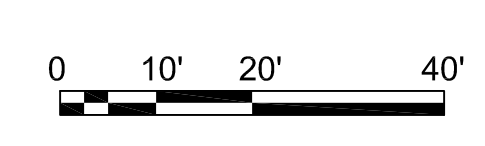
EXISTING SIDEWALK

PROPOSED PARKING AREA FOR NEW AND EXISTING FACILITY

CONTRACTOR STAGING AREA, RESTORE AT PROJECT COMPLETION.

PROPOSED ACCESS ROAD AROUND NEW FACILITY PERIMETER

PERMANENT FENCING (818 L.F.) MUST BE INSTALLED PRIOR TO COMPLETING ANY OTHER WORK, INCLUDING EXISTING FENCE REMOVAL.



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Lindsay Hausman



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REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

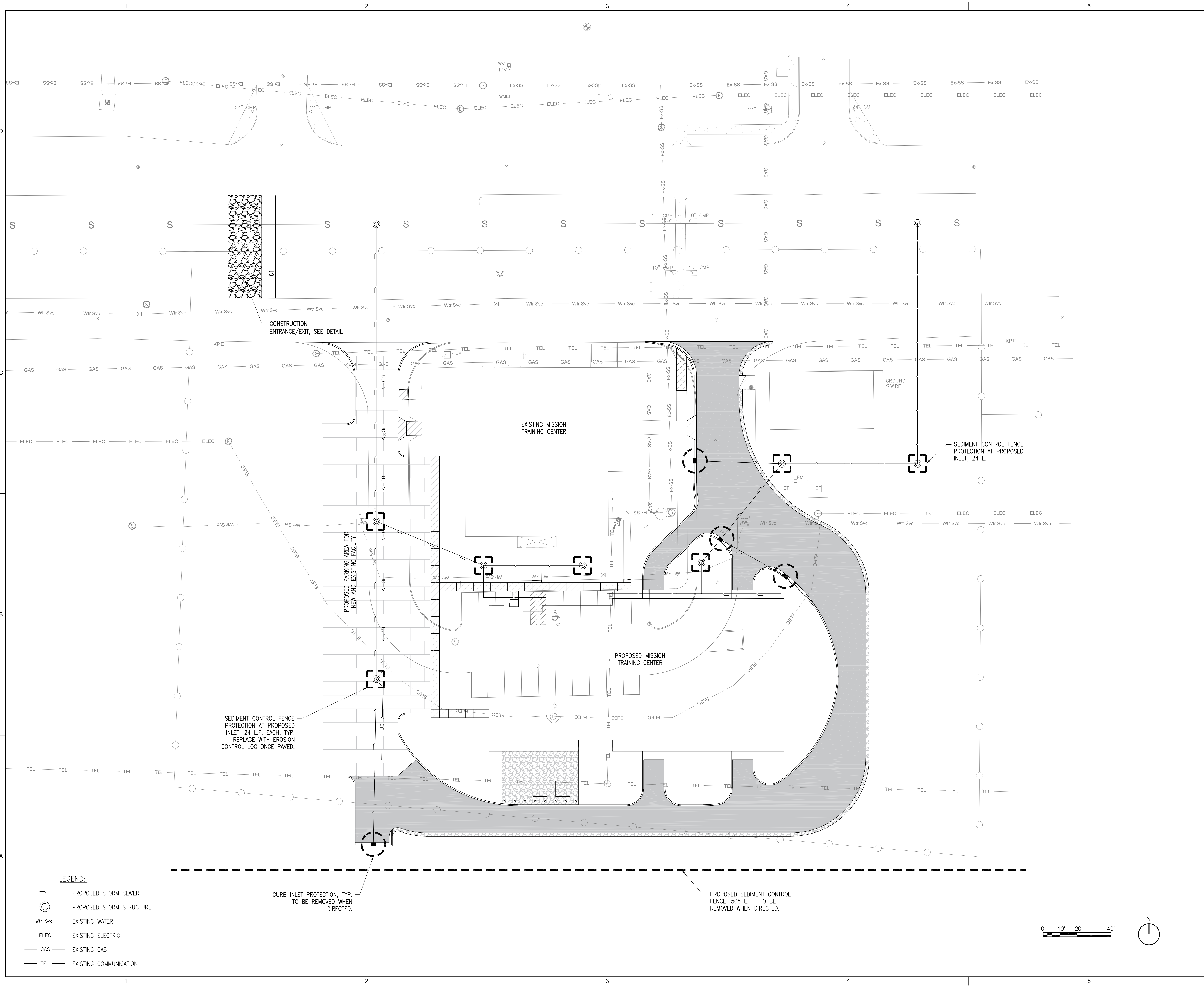
PROJECT NUMBER: 20190310
SHEET TITLE:

ACCESS AND STAGING PLAN

ISSUE DATE:

15 AUGUST 2024
SHEET NUMBER:

C-101



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LICENCED PROFESSIONAL ENGINEER
LINDSAY DENET HAUSMAN
062-059464
STATE OF ILLINOIS
Lindsay Hausman



**Texas Air National Guard - 149th FW
F-16 Mission Training Center (MTC)
Joint Base San Antonio
JBSA - Kelly Annex, Texas**

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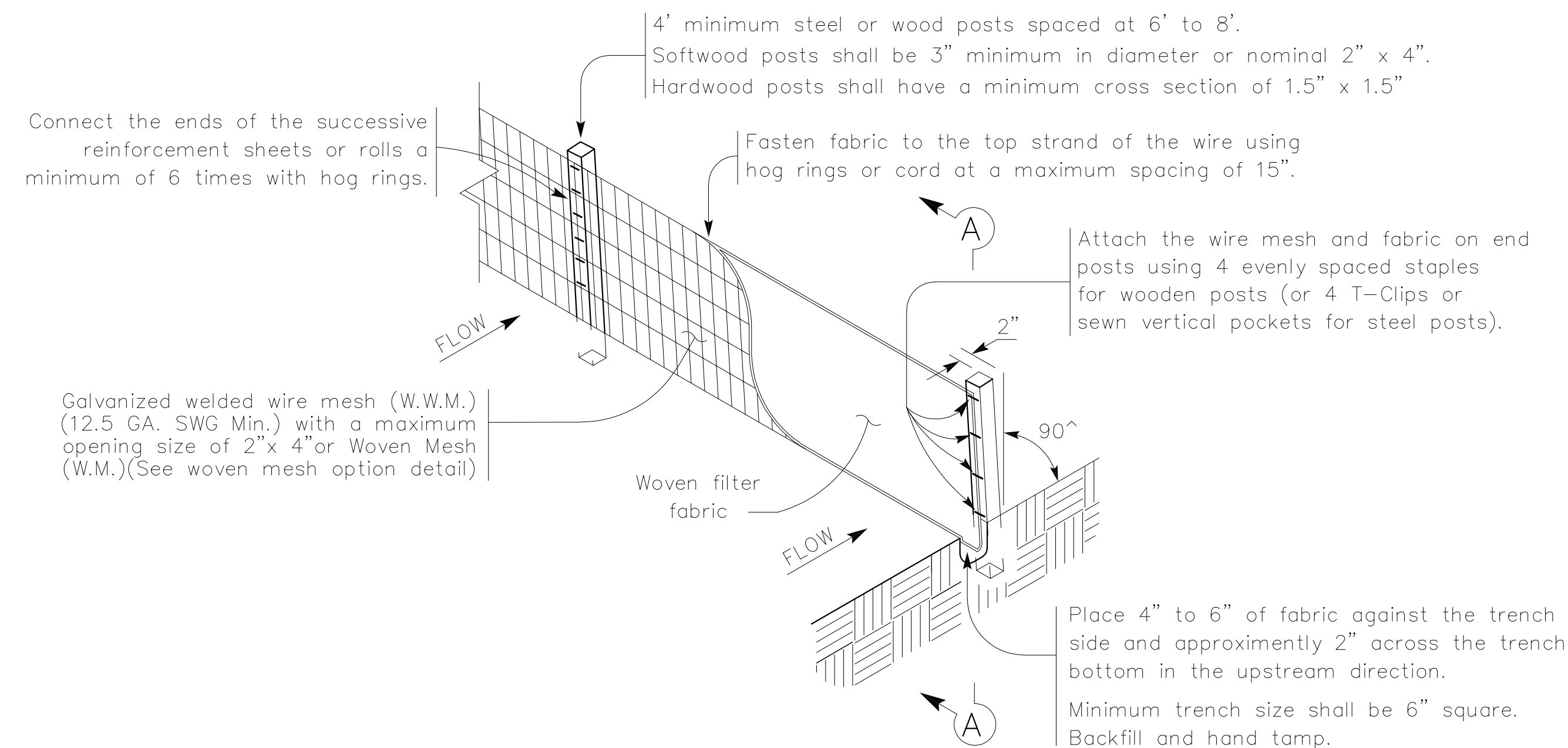
PROJECT INFORMATION:

DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

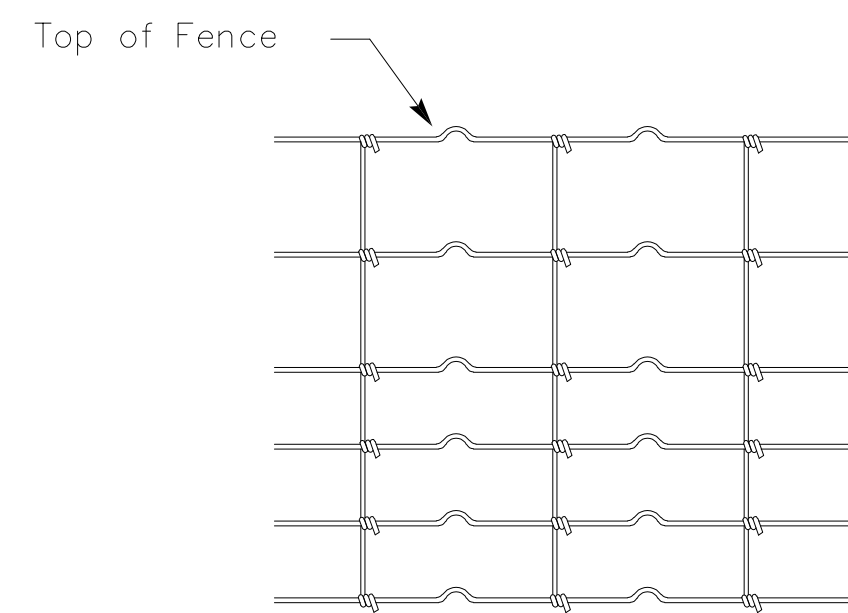
PROJECT NUMBER:
20190310
SHEET TITLE:
**STORMWATER POLLUTION
PREVENTION PLAN**

ISSUE DATE:
15 AUGUST 2024
SHEET NUMBER:

C-201

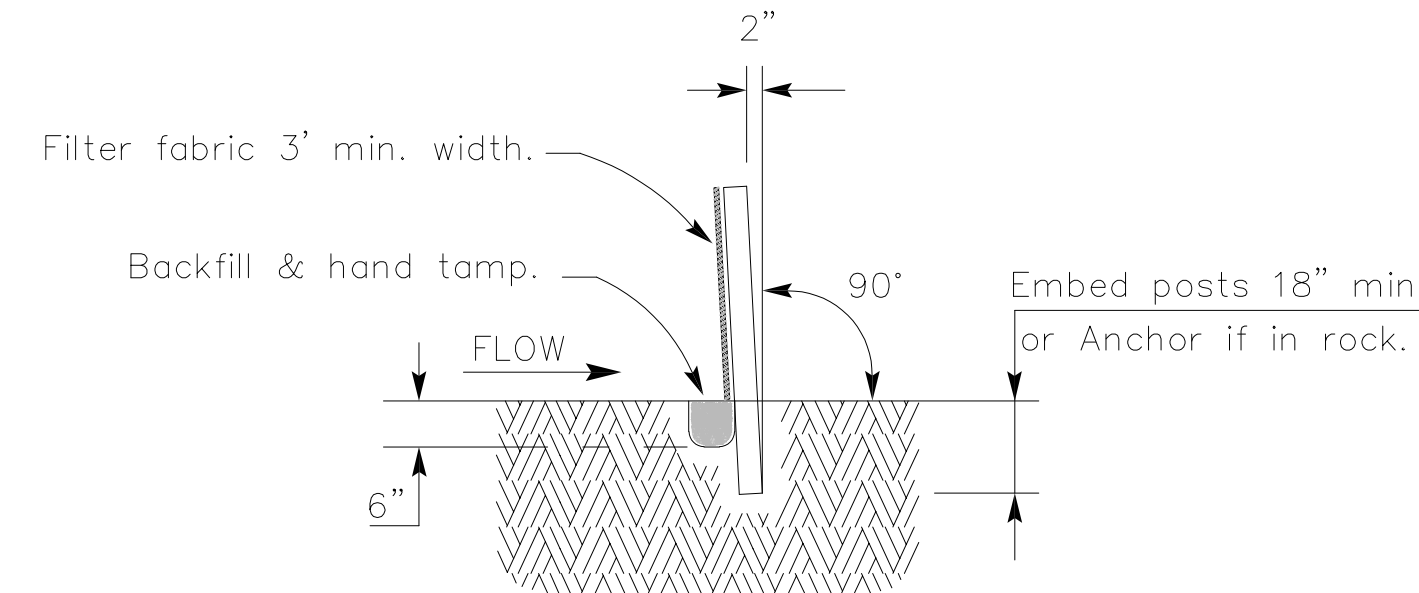


TEMPORARY SEDIMENT CONTROL FENCE



HINGE JOINT KNOT WOVEN MESH (OPTION) DETAIL

Galvanized hinge joint knot woven mesh (12.5 GA, SWG Min.) requires a minimum of five horizontal wires spaced at a maximum of 12 inches apart and all vertical wires spaced at a maximum of 12 inches apart.

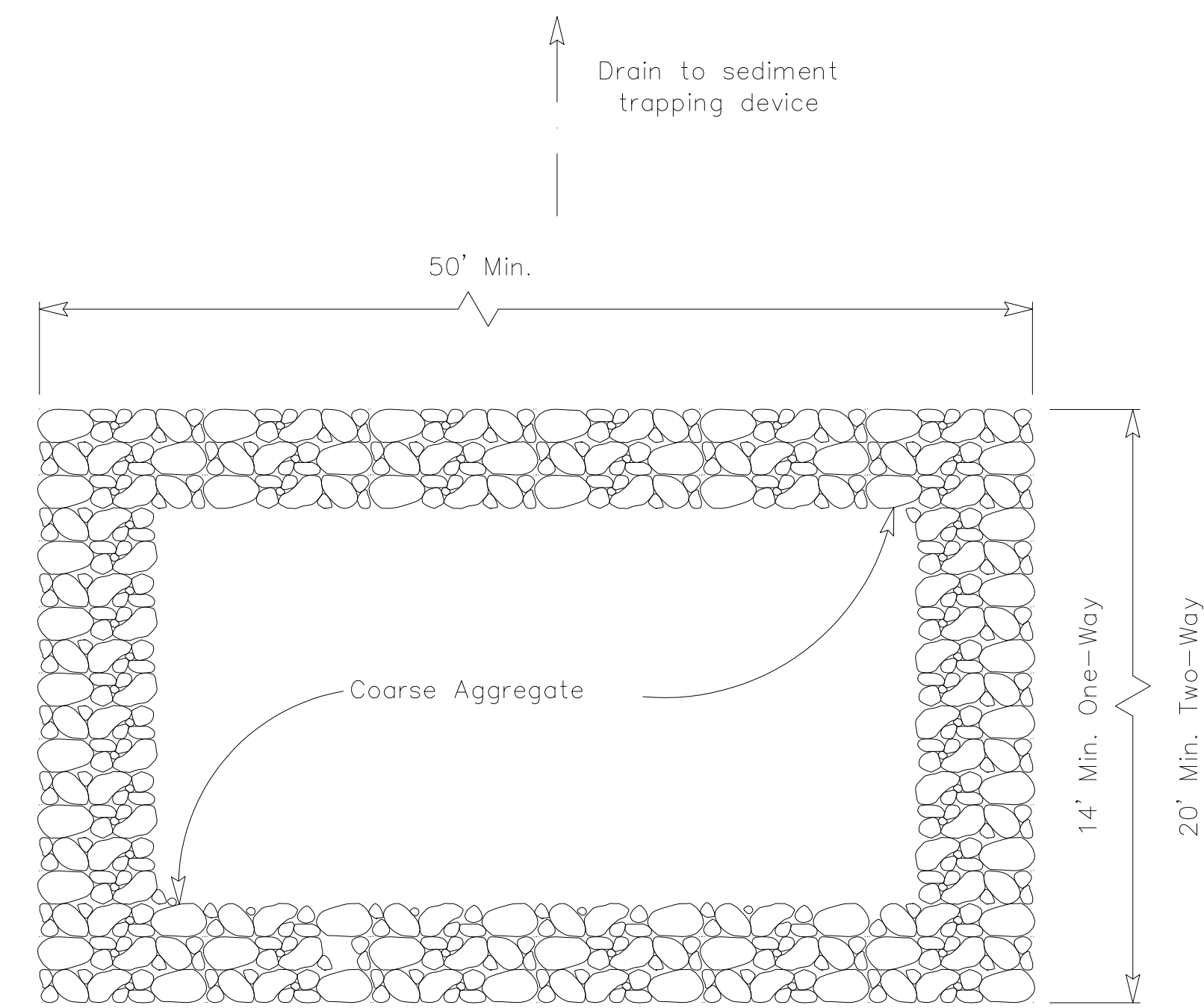


SECTION A-A

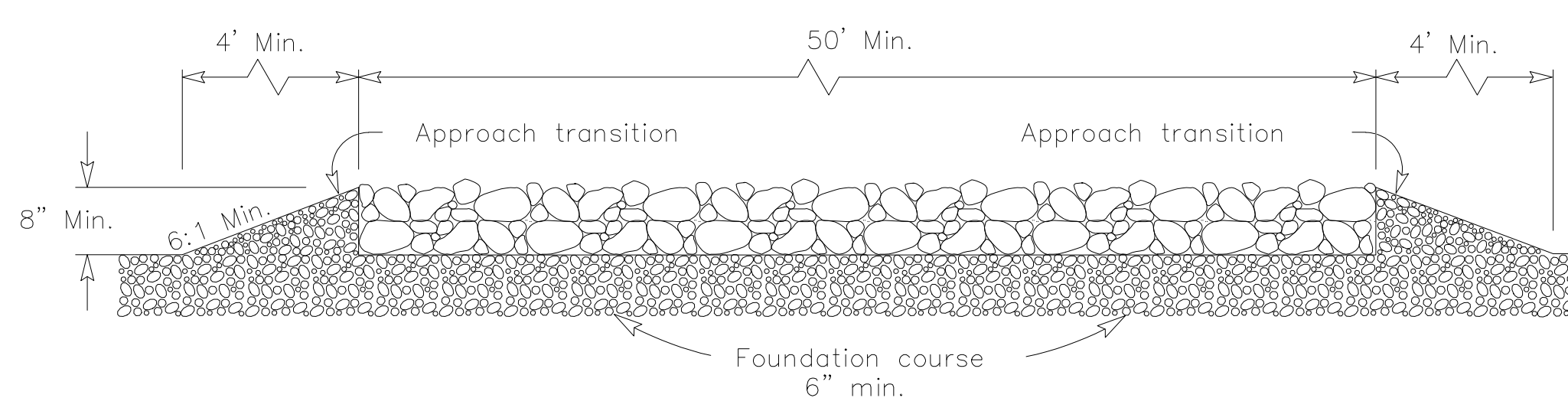
SEDIMENT CONTROL FENCE USAGE GUIDELINES

A sediment control fence may be constructed near the downstream perimeter of a disturbed area along a contour to intercept sediment from overland runoff. A 2 year storm frequency may be used to calculate the flow rate to be filtered.

Sediment control fence should be sized to filter a maximum flow through rate of 100 GPM/FT. ²Sediment control fence is not recommended to control erosion from a drainage area larger than 2 acres.



PLAN VIEW



ELEVATION VIEW

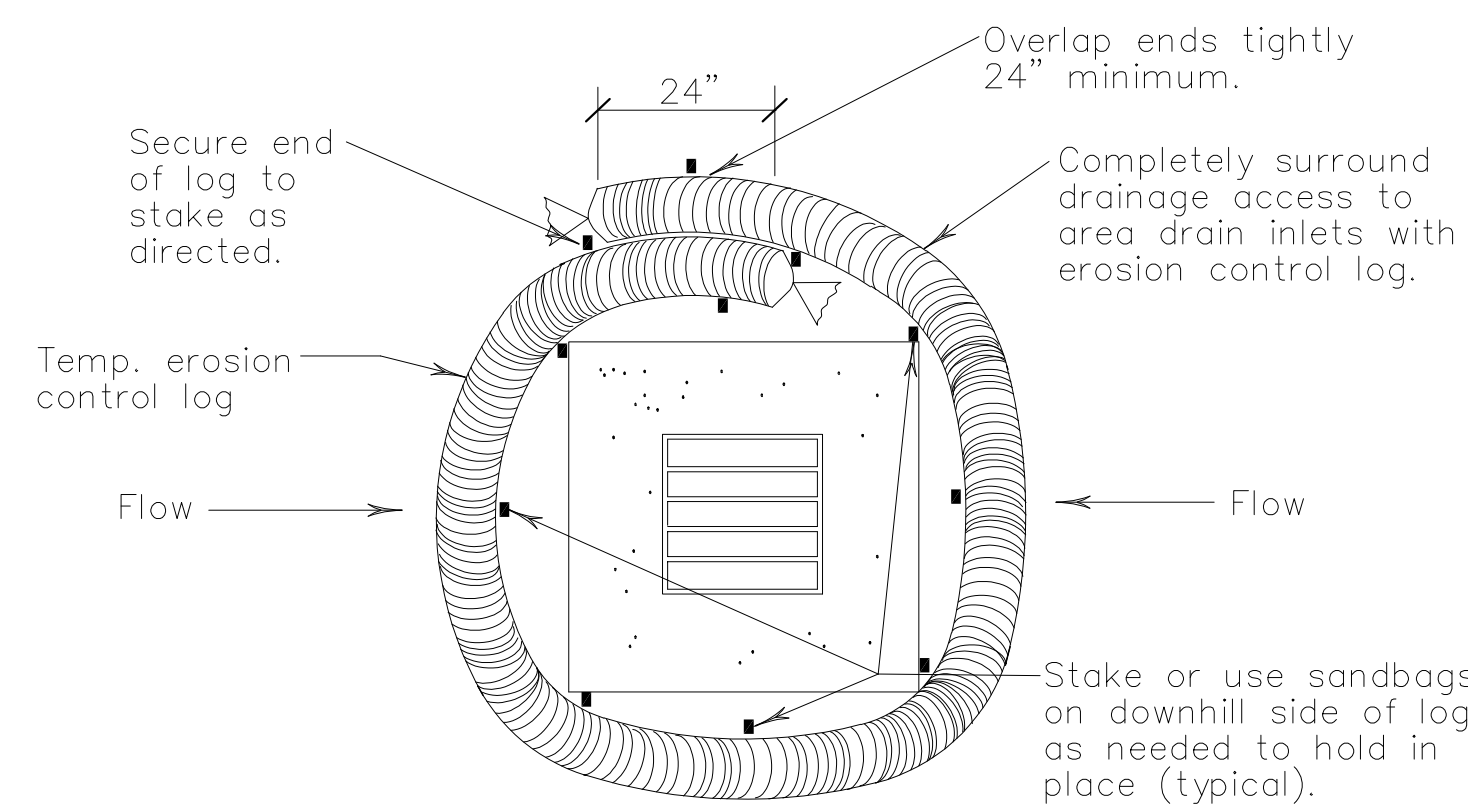
**CONSTRUCTION EXIT (TYPE 1)
ROCK CONSTRUCTION (LONG TERM)**

GENERAL NOTES (TYPE 1)

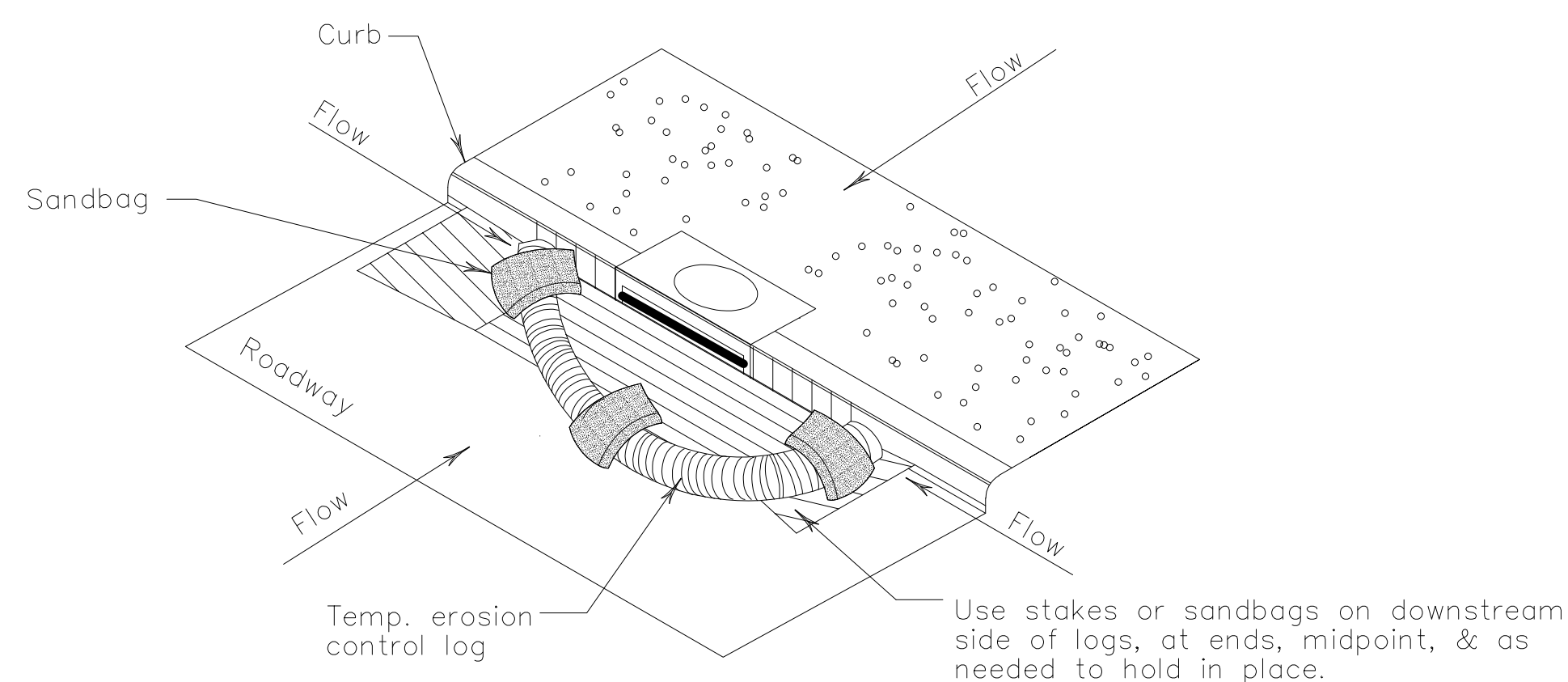
- The length of the type 1 construction exit shall be as indicated on the plans, but not less than 50'.
- The coarse aggregate should be open graded with a size of 4" to 8".
- The approach transitions should be no steeper than 6:1 and constructed as directed by the Engineer.
- The construction exit foundation course shall be flexible base bituminous concrete, portland cement concrete or other materials approved by the Engineer.
- The construction exit shall be graded to allow drainage to a sediment trapping device.
- The guidelines shown hereon are suggestions only and may be modified by the Engineer.
- Construct exits with a width of at least 14 ft. for one-way and 20 ft. for two-way traffic for the full width of the exit, or as directed by the engineer.

GENERAL NOTES:

- Erosion control logs shall be installed in accordance with manufacturer's recommendations, or as directed by the engineer.
- Lengths of erosion control logs shall be in accordance with manufacturer's recommendations and as required for the purpose intended.
- Unless otherwise directed, use biodegradable or photodegradable containment mesh only where log will remain in place as part of the vegetative system. For temporary systems, use recyclable containment mesh.
- Fill logs with sufficient filter material to achieve the minimum compacted diameter specified in the plans without excessive deformation.
- Stakes shall be 2" X 2" wood or #3 rebar, 2'-4' long, embedded such that 2" protrudes above log, or as directed by the engineer.
- Do not place stakes through containment mesh
- Compost cradle material is incidental & will not be paid for separately.
- Sandbags used as anchors shall be placed on top of logs & shall be sufficient size to hold logs in place.
- Turn the ends of each row of logs upslope to prevent runoff from flowing around the log.
- For heavy runoff events, additional upstream stakes may be necessary to keep log from folding in on itself.



EROSION CONTROL LOG AT DROP INLET



EROSION CONTROL LOG AT CURB INLET

REVISION HISTORY:

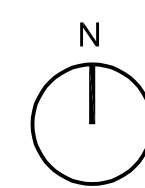
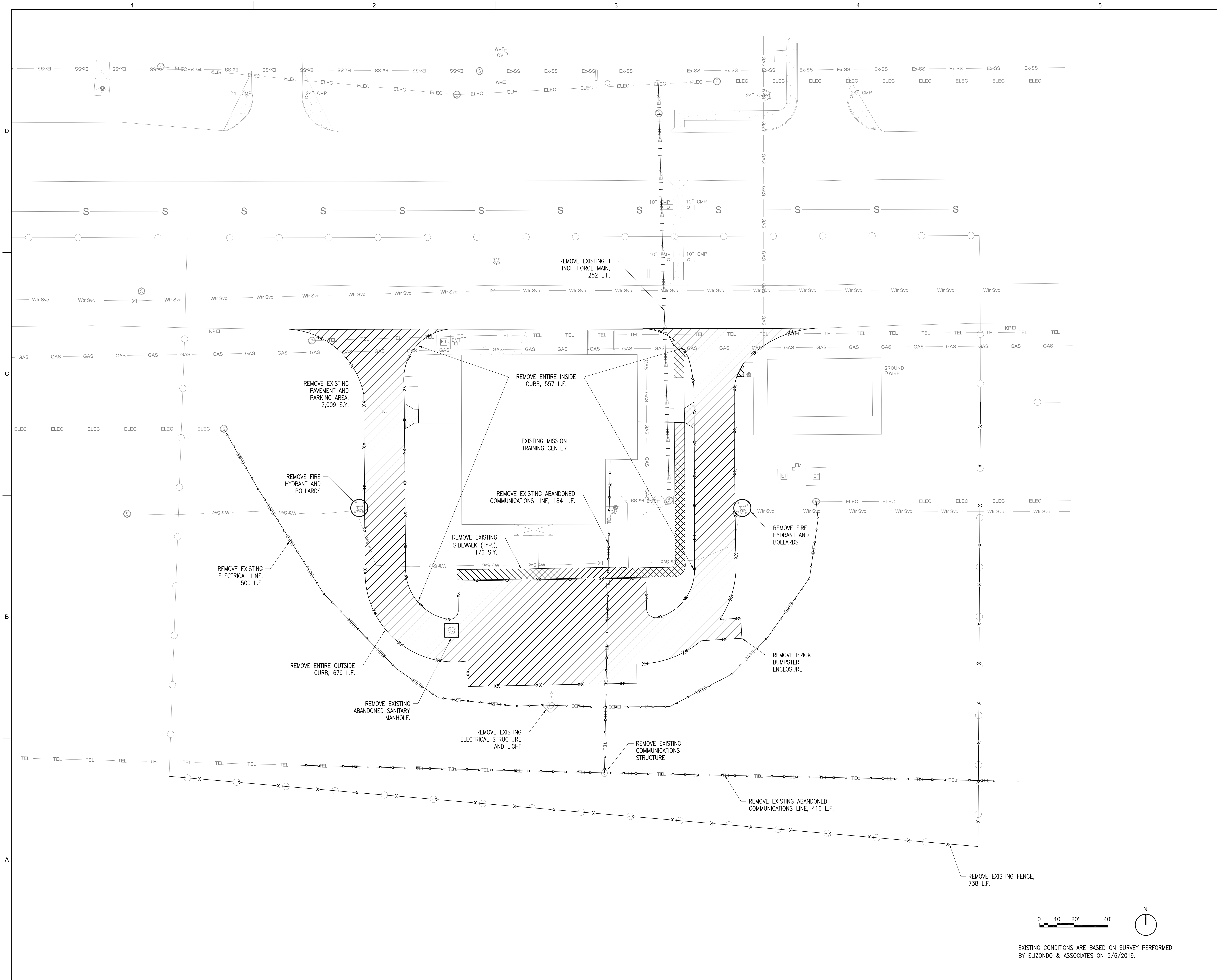
NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER:
20190310
SHEET TITLE:
STORMWATER POLLUTION PREVENTION DETAILS

ISSUE DATE:
15 AUGUST 2024
SHEET NUMBER:



EXISTING CONDITIONS ARE BASED ON SURVEY PERFORMED BY ELIZONDO & ASSOCIATES ON 5/6/2019.



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REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

DESIGNED BY: LDH
 DRAWN BY: HLE
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 PROJECT MANAGER: NDM

PROJECT NUMBER: 20190310
 SHEET TITLE: REMOVAL PLAN

ISSUE DATE: 15 AUGUST 2024
 SHEET NUMBER: C-301

Lindsay Hausman



Texas Air National Guard - 149th FW
F-16 Mission Training Center (MTC)
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JBSA - Kelly Annex, Texas

REVISION HISTORY:

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PROJECT INFORMATION:

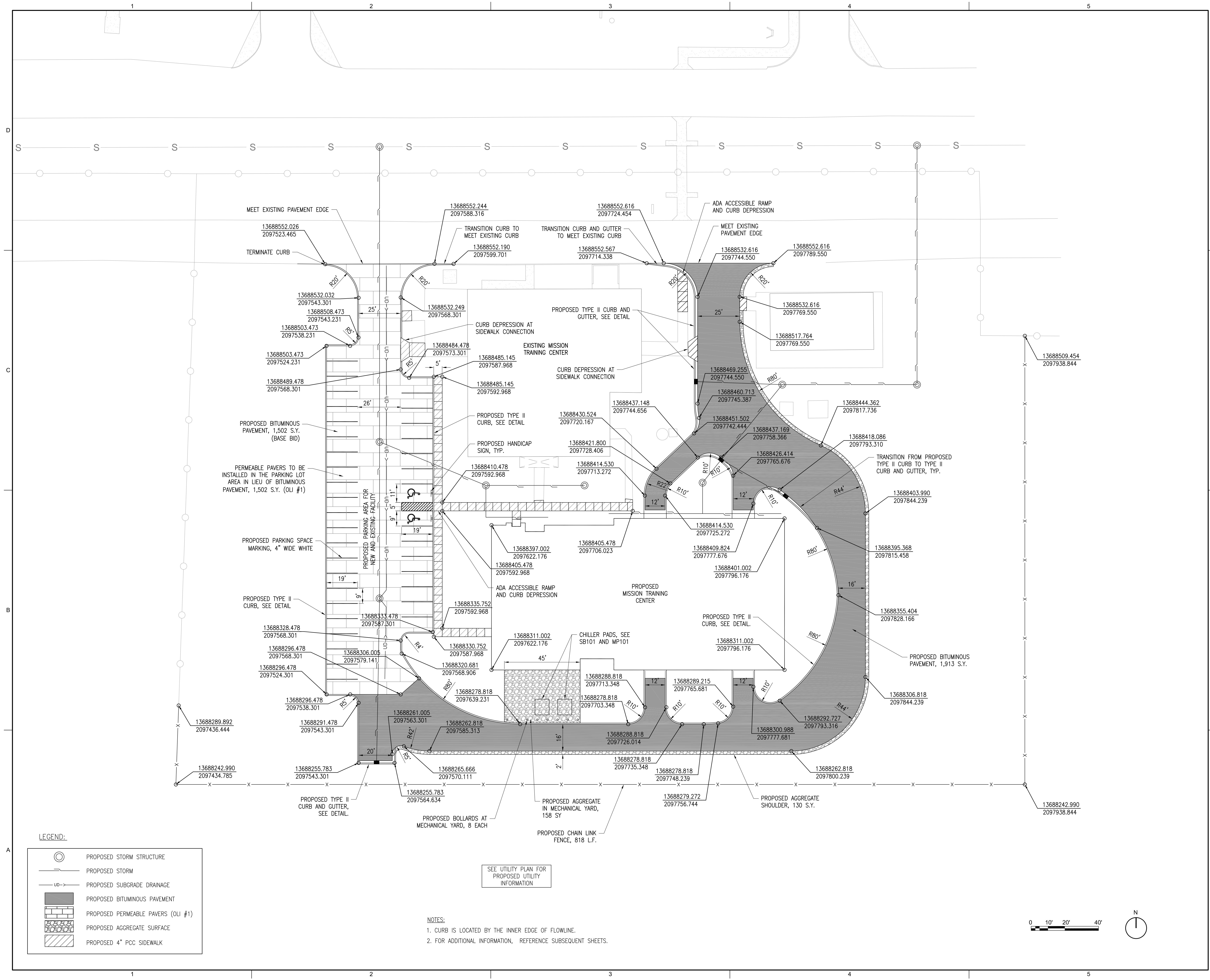
DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER:
20190310

SHEET TITLE:
PROPOSED PLAN

ISSUE DATE:
15 AUGUST 2024

SHEET NUMBER:
C-401

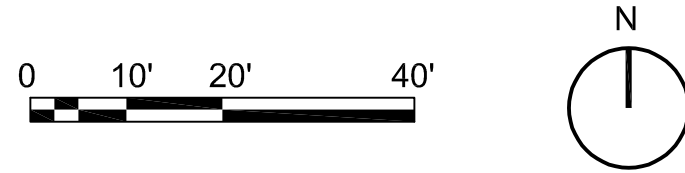


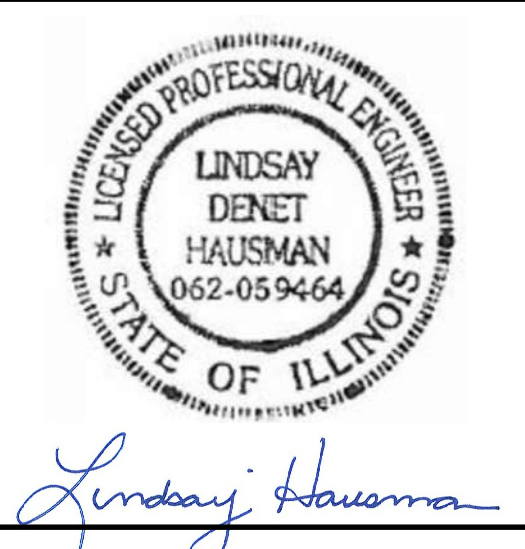
LEGEND:

	PROPOSED STORM STRUCTURE
	PROPOSED STORM
	PROPOSED SUBGRADE DRAINAGE
	PROPOSED BITUMINOUS PAVEMENT
	PROPOSED PERMEABLE PAVERS (OLI #1)
	PROPOSED AGGREGATE SURFACE

SEE UTILITY PLAN FOR PROPOSED UTILITY INFORMATION

- NOTES:**
1. CURB IS LOCATED BY THE INNER EDGE OF FLOWLINE.
 2. FOR ADDITIONAL INFORMATION, REFERENCE SUBSEQUENT SHEETS.





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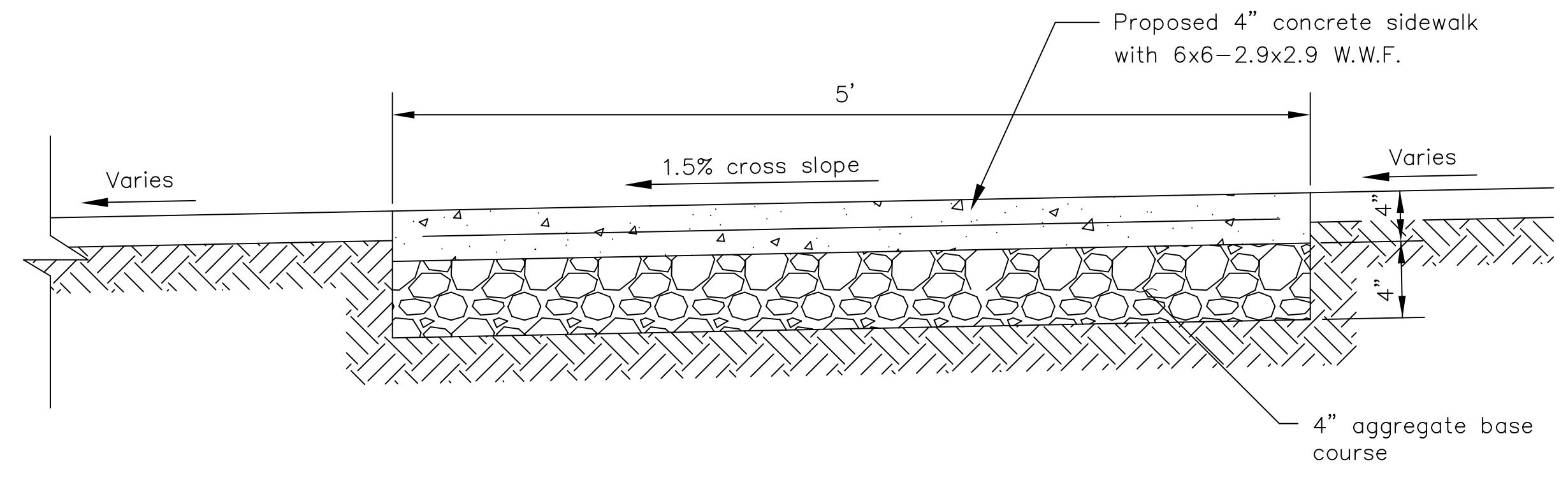
REVISION HISTORY:		
NO.	DESCRIPTION	DATE

PROJECT INFORMATION:	
DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER:
20190310
SHEET TITLE:
TYPICAL SECTION AND PAVEMENT DETAILS

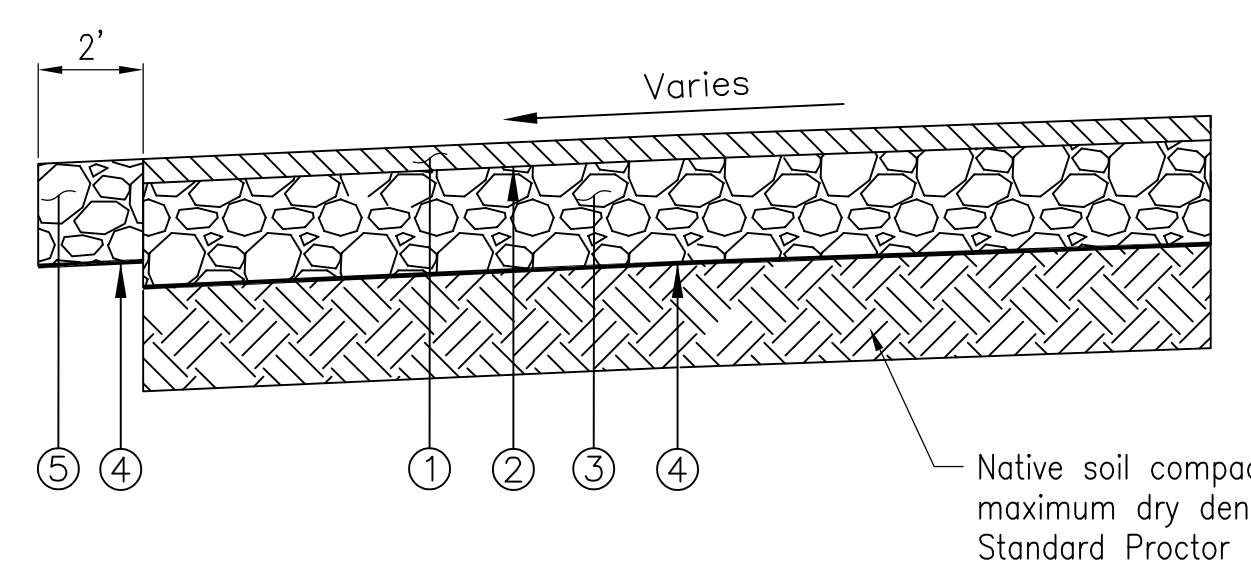
ISSUE DATE:
15 AUGUST 2024
SHEET NUMBER:

C-402



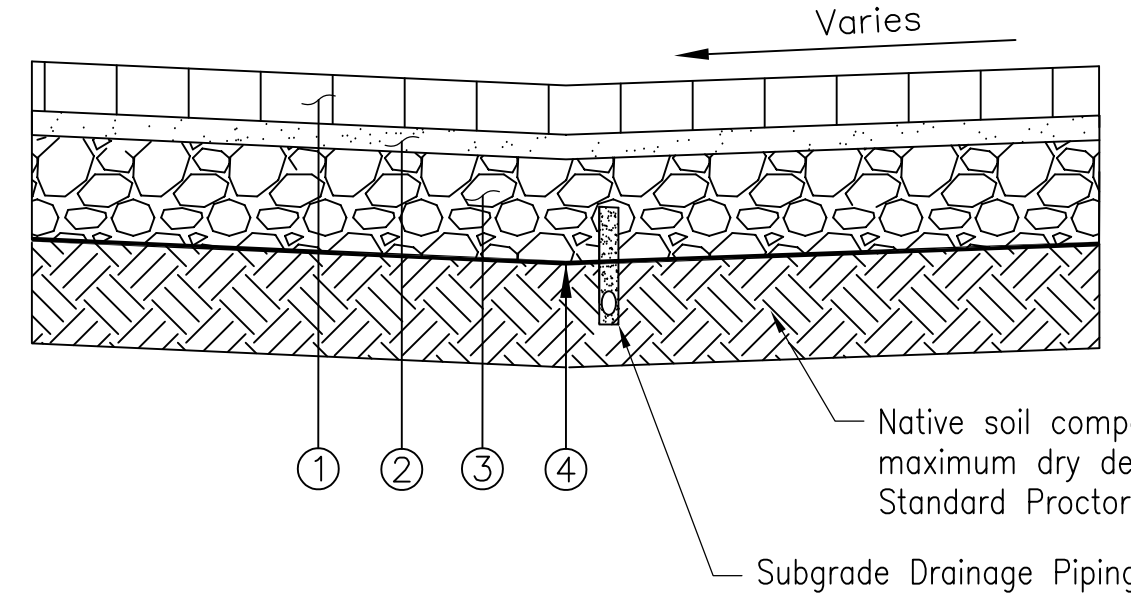
- Notes:**
- 1/2" preformed joint filler to be used in all locations where sidewalk is adjacent to existing pavement.
 - Sidewalk grades and cross slopes are subject to PROWAG requirements including, but not limited to:
 - 2.1. Maximum running slope = 5.0%
 - 2.2. Maximum cross slope = 2.0%
 - 2.3. Level landing areas and turning areas: 2% maximum in any direction.
 - Joints are to be spaced evenly, maximum is 5' grid, with transverse 1/2" preformed expansion joints at 25' maximum intervals.

SIDEWALK CROSS SECTION DETAIL



BITUMINOUS PAVEMENT SECTION

- 2" bituminous surface course
- Proposed bituminous prime coat
- 8" aggregate base course
- Soil Stabilization Geogrid
- 8" aggregate shoulder/surface

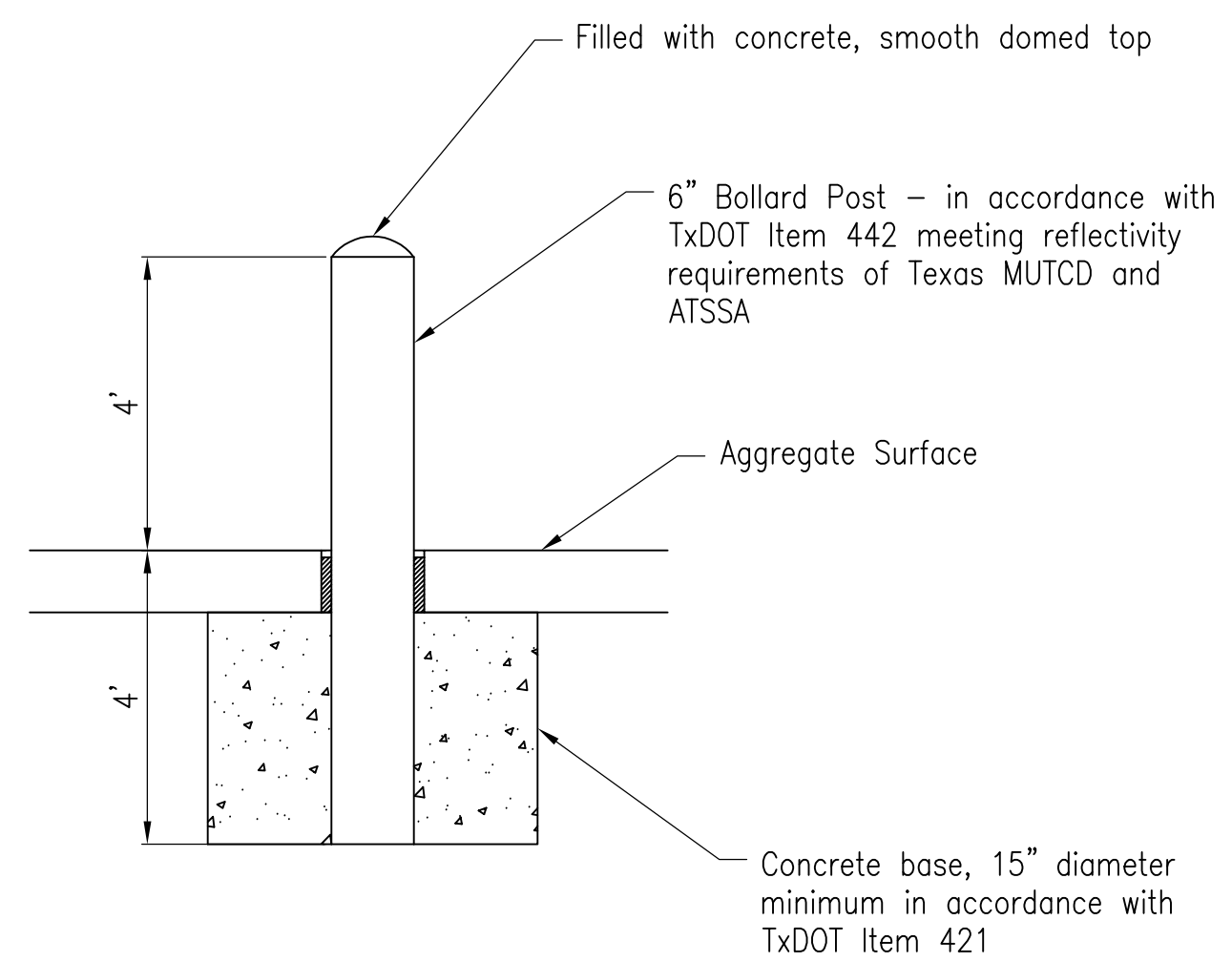


PERMEABLE PAVER PAVEMENT SECTION

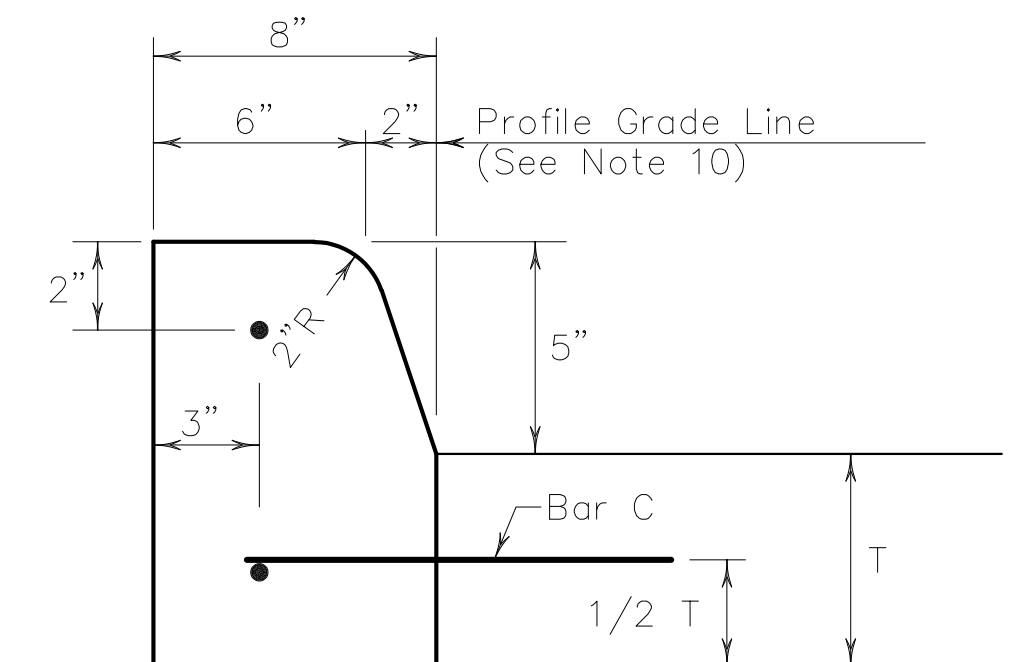
- Interlocking Concrete Pavers
- Bedding and Joint Sand
- 6" Unbound Dense-graded Base
- Soil Stabilization Geogrid

General Notes

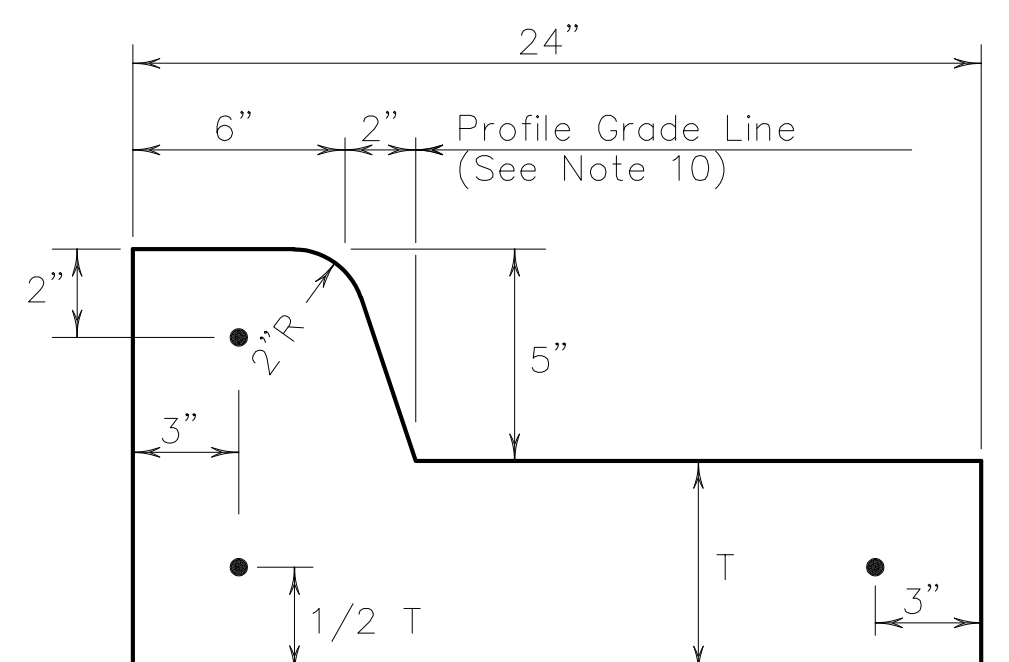
- All materials and construction shall be in accordance with Item 529, "Concrete Curb, Gutter, and Combined Curb and Gutter."
- Concrete shall be Class A.
- When reinforcing bars are used, they shall be No.4 unless otherwise shown. The use of synthetic fiber in lieu of steel reinforcing is acceptable, provided the fiber producer is on the Department Producer List (MPL), maintained by TxDOT, Construction Division.
- Round exposed sharp edges with a rounding tool, to a minimum radius of 1/8 inch.
- All existing curbs and driveways to be removed shall be sawed or removed at existing joints.
- Where concrete curb is placed on existing concrete pavement, the pavement shall be drilled and the reinforcing bars grouted in place.
- Expansion and contraction joints shall be constructed to match pavement joints in all curbs and curb and gutter adjacent to jointed concrete pavement. Where placement of curb or curb and gutter is not adjacent to concrete pavement, expansion joints shall be provided at structures, curb returns at streets, and at locations directed by The Engineer.
- Vertical and horizontal dowel bars and transverse reinforcing bars shall be placed at four feet C-C.
- Dimension 'T' shown is the thickness of concrete pavement. When curb is installed adjacent to flexible pavement dimension 'T' is 8" maximum.
- Usual profile grade line. Refer to typical sections and plan-profile sheets for exact locations.
- One-half inch expansion joint material shall be provided where curb or curb and gutter is adjacent to sidewalk or riprap.
- When vertical permissible construction joints are used, resulting in a longitudinal construction joint in the pavement, the longitudinal pavement steel shall be placed in accordance with pavement details shown elsewhere in the plans for longitudinal construction joints. Reinforcing steel for curb section shall then conform to that required for concrete curb.



BOLLARD



**TYPE II CURB
5" HEIGHT**

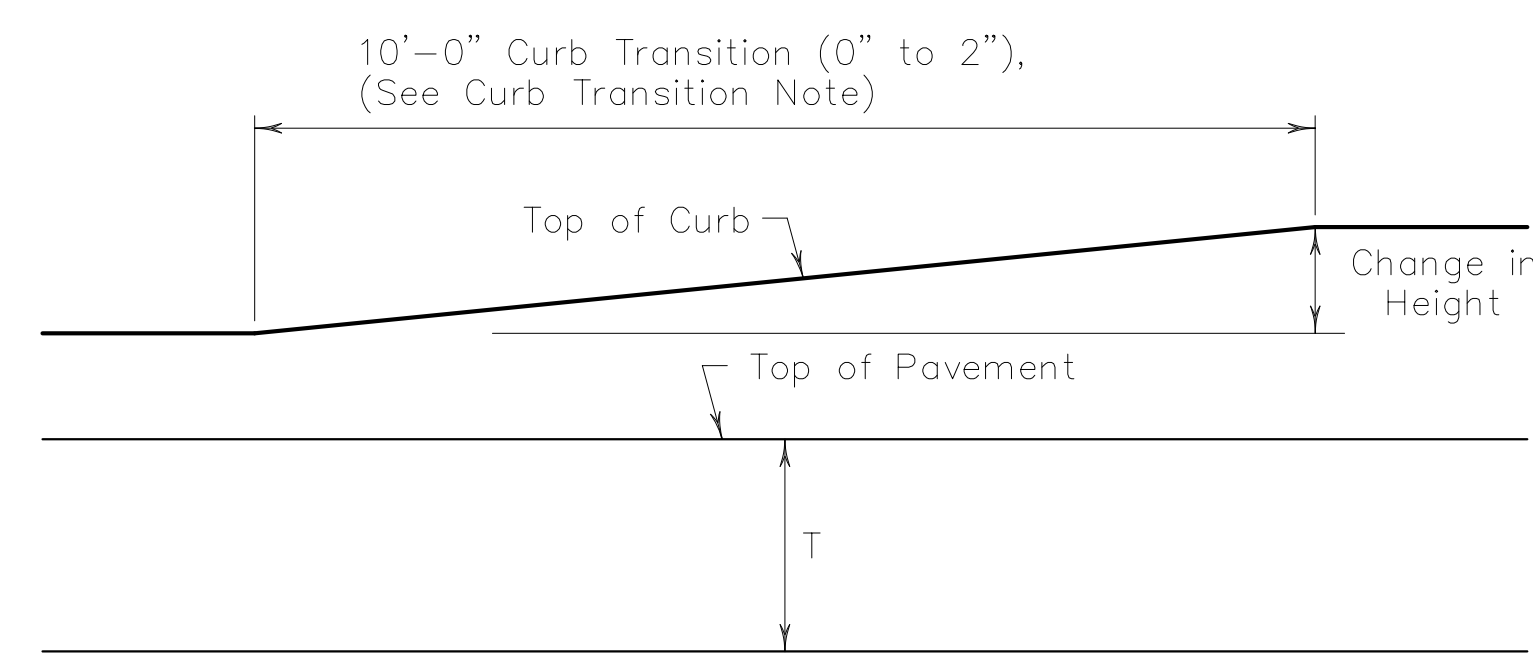


**TYPE II CURB AND GUTTER
5" HEIGHT**



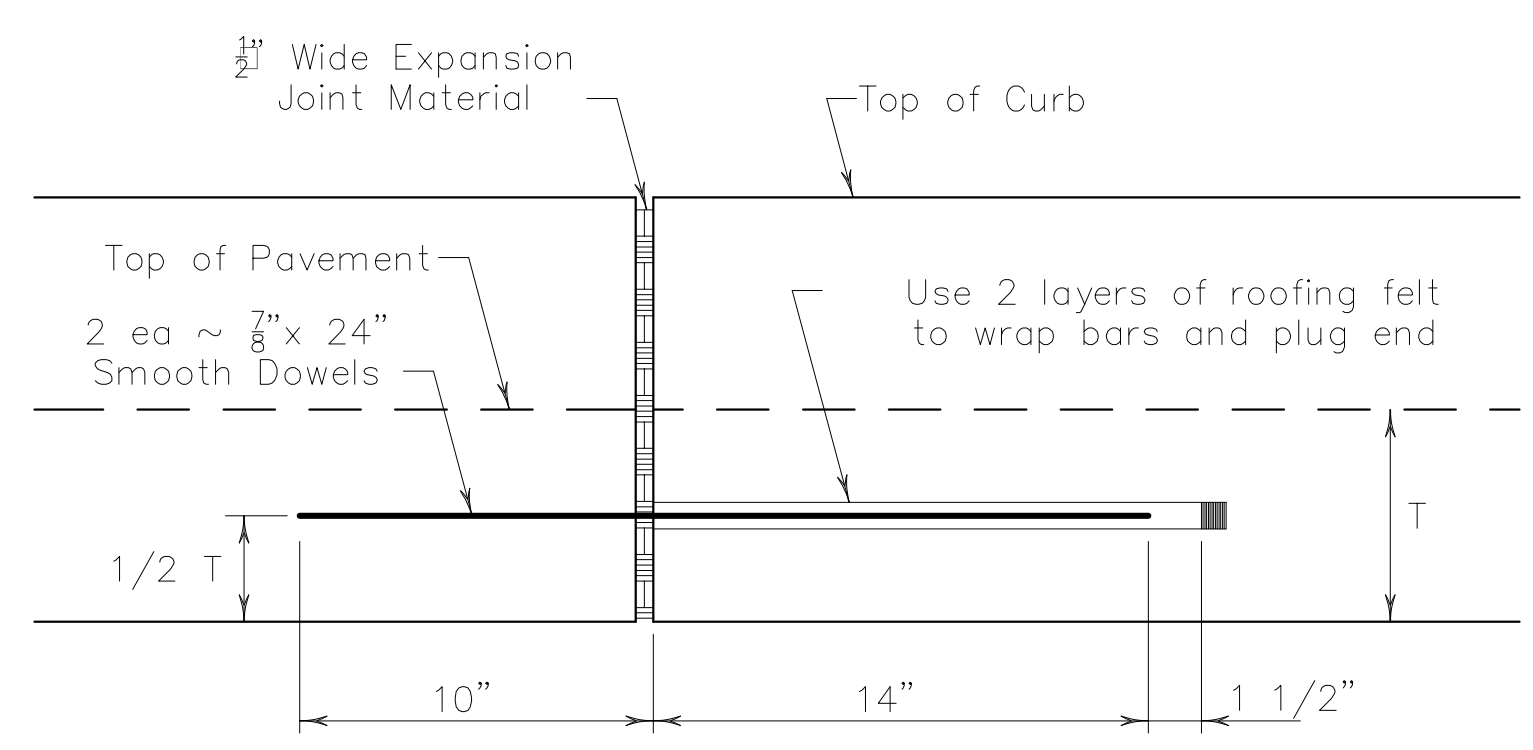
BAR C

Curb Transition Note:
Field conditions may require a longer or shorter transition, and shall be shown elsewhere in the plans, or as directed by the Engineer.



CURB TRANSITION

Note: To be paid for as Highest Curb



EXPANSION JOINT DETAIL



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PROJECT INFORMATION:

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REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER: 20190310
SHEET TITLE: TYPICAL SECTIONS AND PAVEMENT DETAILS

ISSUE DATE: 15 AUGUST 2024
SHEET NUMBER:

C-403

GENERAL NOTES

CURB RAMPS

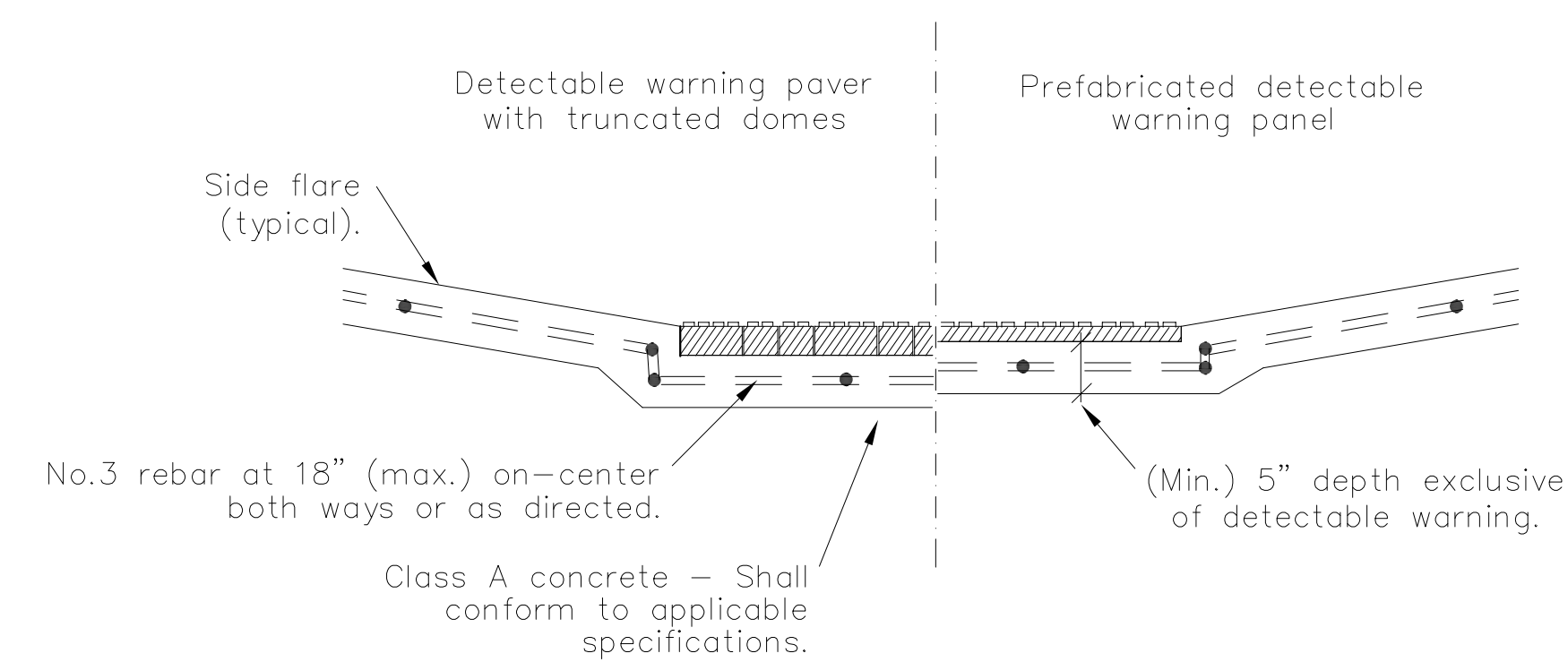
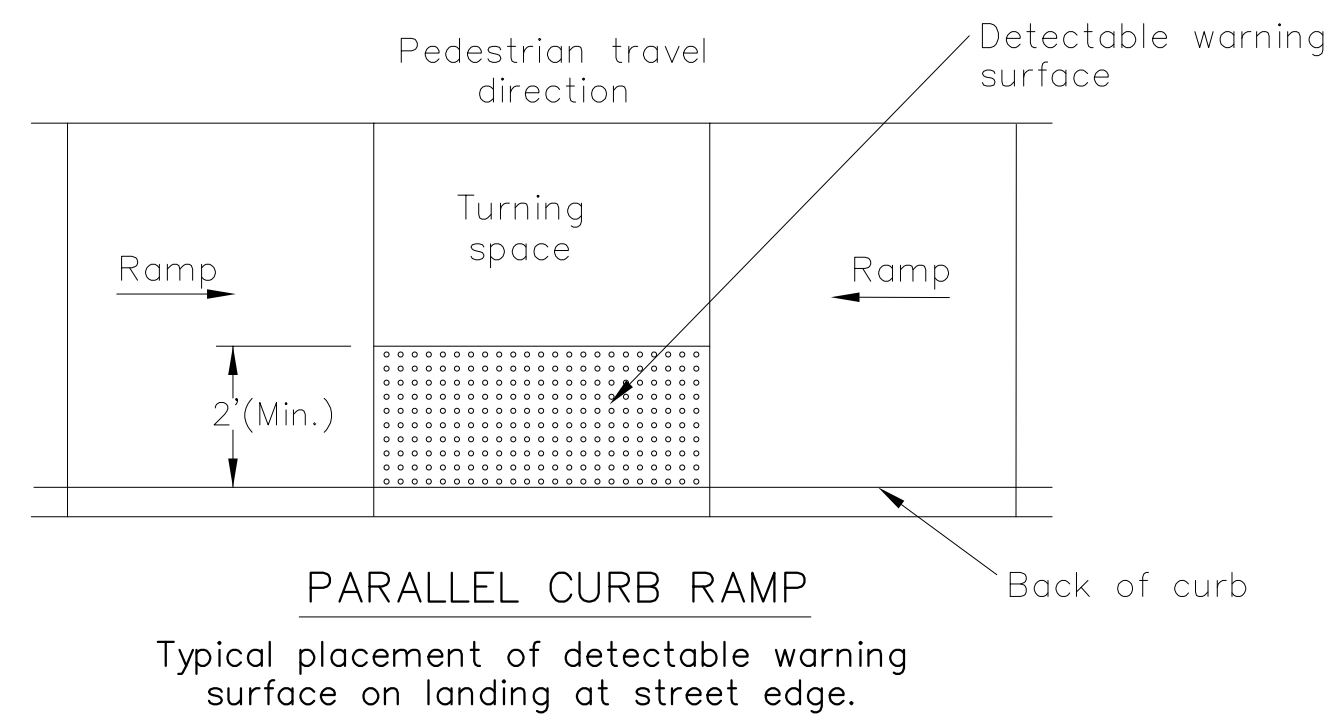
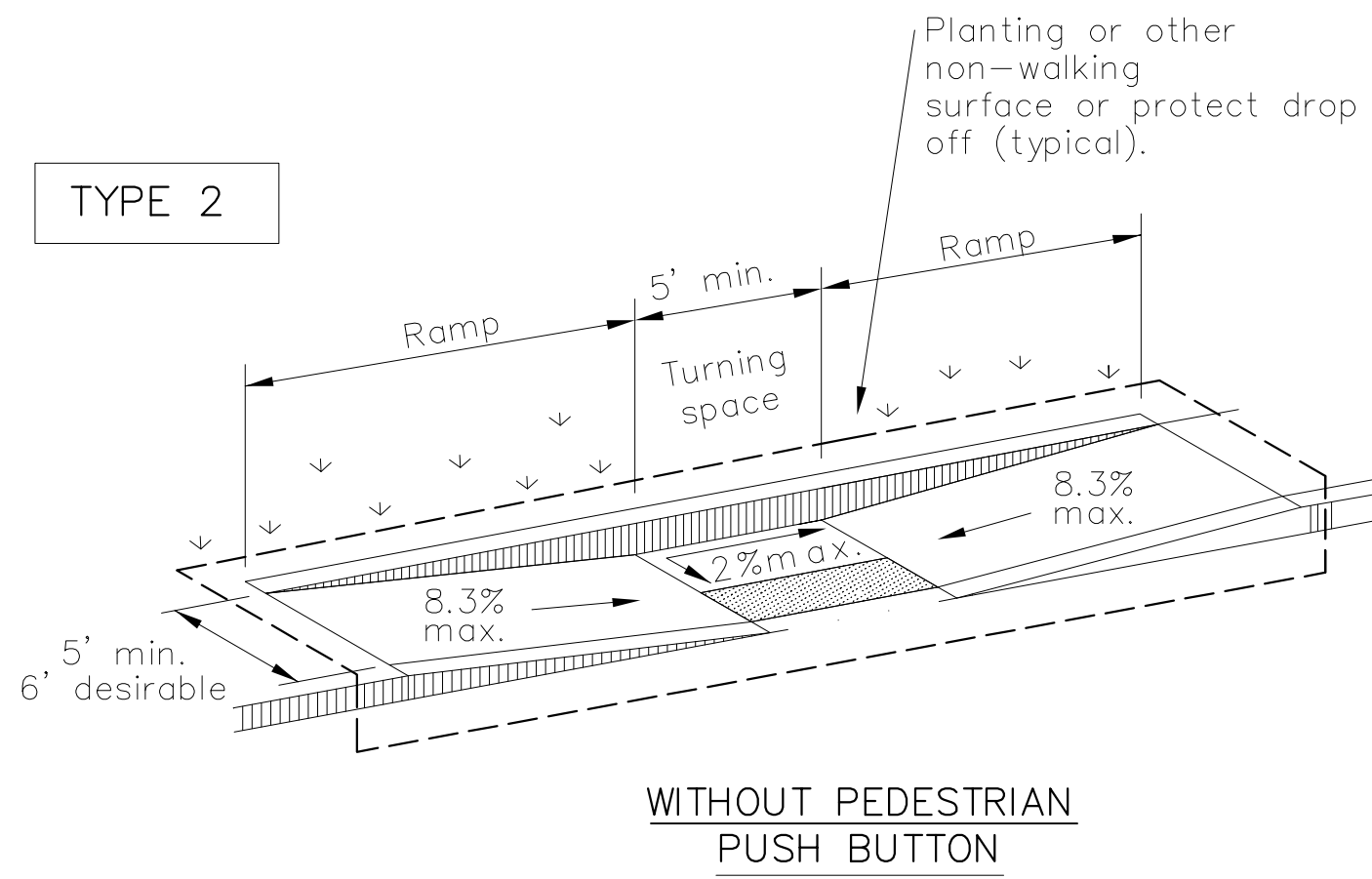
1. Install a curb ramp or blended transition at each pedestrian street crossing.
2. All slopes shown are maximum allowable. Cross slopes of 1.5% and lesser running should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
3. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
4. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is desirable. Where a 5' sidewalk cannot be provided due to site constraints, sidewalk width may be reduced to 4' for short distances. 5' x 5' passing areas at intervals not to exceed 200' are required.
5. Turning Spaces shall be 5' x 5' minimum. Cross slope shall be maximum 2%.
6. Clear space at the bottom of curb ramps shall be a minimum of 4' x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
7. Provide flared sides where the pedestrian circulation path crosses the curb ramp. Flared sides shall be sloped at 10% maximum, measured parallel to the curb. Returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planted, substantially obstructed, or otherwise protected.
8. Additional information on curb ramp location, design, light reflective value and texture may be found in the latest draft of the Proposed Guidelines for Pedestrian Facilities in the Public Right of Way (PROWAG) as published by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board).
9. To serve as a pedestrian refuge area, the median should be a minimum of 6' wide, measured from back of curbs. Medians should be designed to provide accessible passage over or through them.
10. Small channelization islands, which do not provide a minimum 5' x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
11. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall align with theoretical crosswalks unless otherwise directed.
12. Provide curb ramps to connect the pedestrian access route at each pedestrian street crossing. Handrails are not required on curb ramps.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Place concrete at a minimum depth of 5" for ramps, flares and landings, unless otherwise directed.
15. Furnish and install No. 3 reinforcing steel bars at 18" o.c. both ways, unless otherwise directed.
16. Provide a smooth transition where the curb ramps connect to the street.
17. Curbs shown within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
18. Existing features that comply with applicable standards may remain in place unless otherwise shown on the plans.

DETECTABLE WARNING PAVERS (IF USED)

25. Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.
26. Lay full-size units first followed by closure units consisting of at least 25 percent (25%) of a full unit. Cut detectable warning paver units using a power saw.

SIDEWALKS

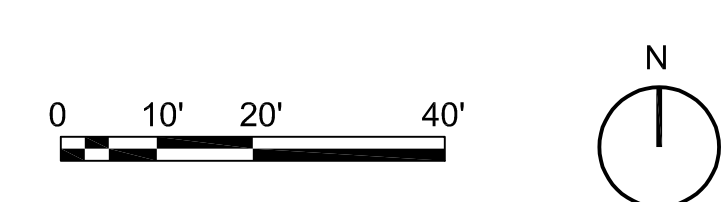
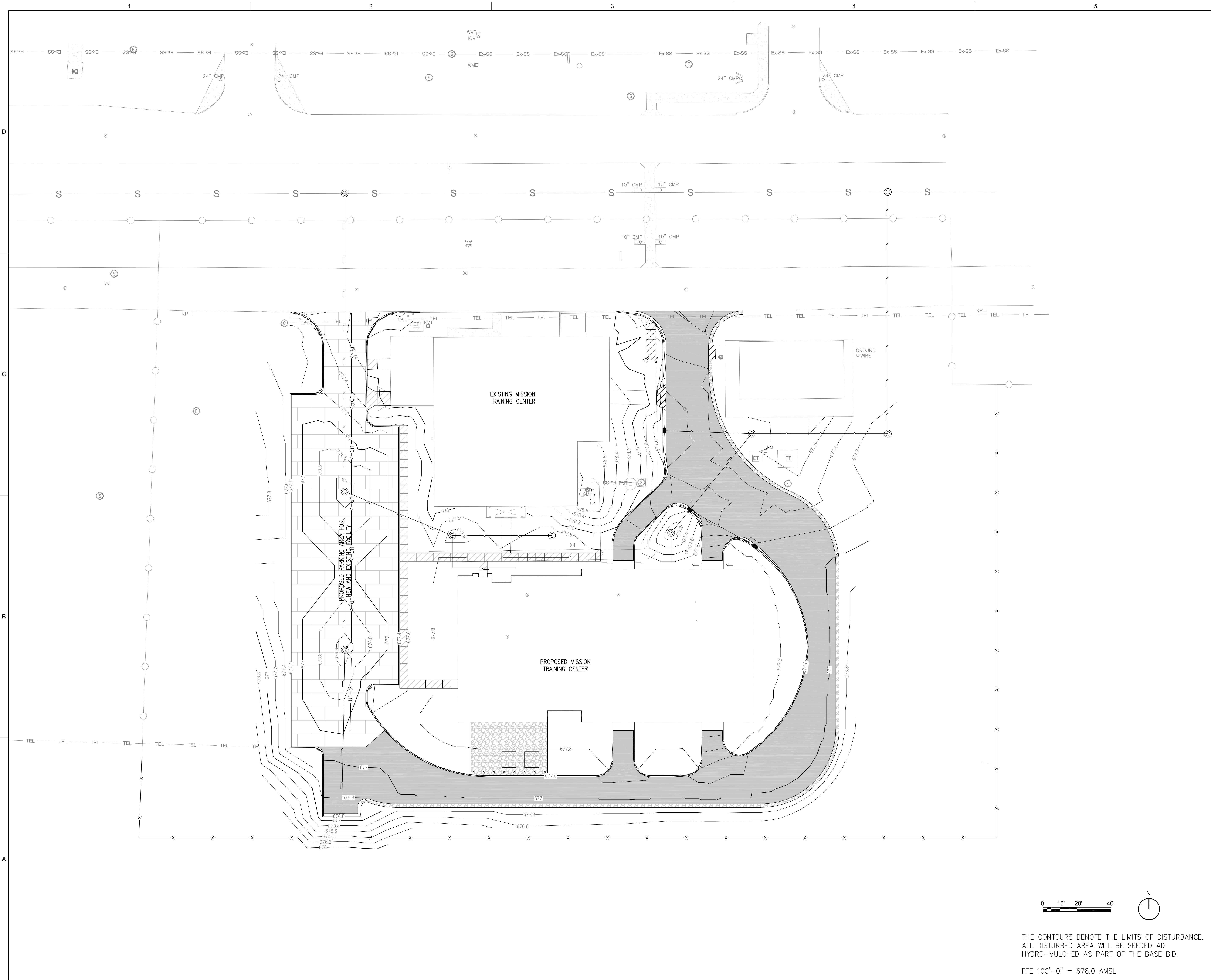
27. Provide clear ground space at operable parts, including pedestrian push buttons. Operable parts shall be placed within unobstructed reach range specified in PROWAG section R406.
28. Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
29. Street grades and cross slopes shall be as shown elsewhere in the plans.
30. Changes in level greater than 1/4 inch are not permitted.
31. The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than five percent (5%) must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with PROWAG R409.
32. Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.
33. Driveways and turnouts shall be constructed and paid for in accordance with Item "Intersections, Driveways and Turnouts". Sidewalks shall be constructed and paid for in accordance with Item, "Sidewalks".
34. Sidewalk details are shown elsewhere in the plans.



DETECTABLE WARNING MATERIAL

19. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with PROWAG. The surface must contrast visually with adjoining surfaces, including side flares. Furnish and install an approved cast-in-place dark brown or dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
20. Detectable Warning Materials must meet TxDOT Departmental Materials Specification DMS 4350 and be listed on the Material Producer List. Install products in accordance with manufacturer's specifications.
21. Detectable warning surfaces must be firm, stable and slip resistant.
22. Detectable warning surfaces shall be a minimum of 24 inches in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
23. Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb and neither end of that edge is greater than 5 feet from the back of curb. Detectable warning surfaces may be curved along the corner radius.
24. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.

D
C
B
A



THE CONTOURS DENOTE THE LIMITS OF DISTURBANCE. ALL DISTURBED AREA WILL BE SEEDED AND HYDRO-MULCHED AS PART OF THE BASE BID.

FFE 100'-0" = 678.0 AMSL

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STATE OF ILLINOIS
Lindsay Hausman



**Texas Air National Guard - 149th FW
F-16 Mission Training Center (MTC)
Joint Base San Antonio
JBSA - Kelly Annex, Texas**

REVISION HISTORY:

NO.	DESCRIPTION	DATE

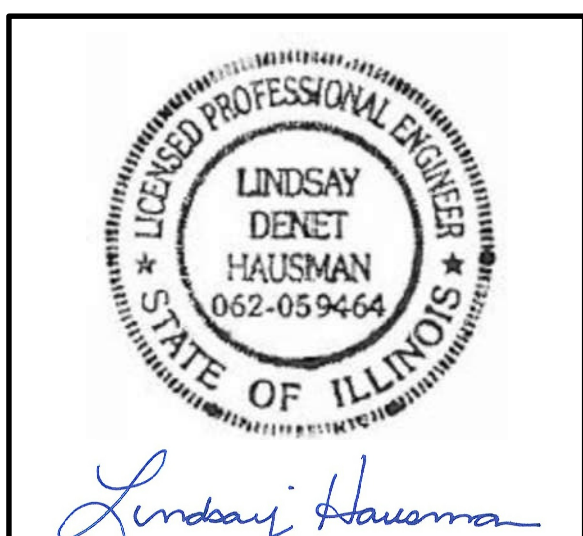
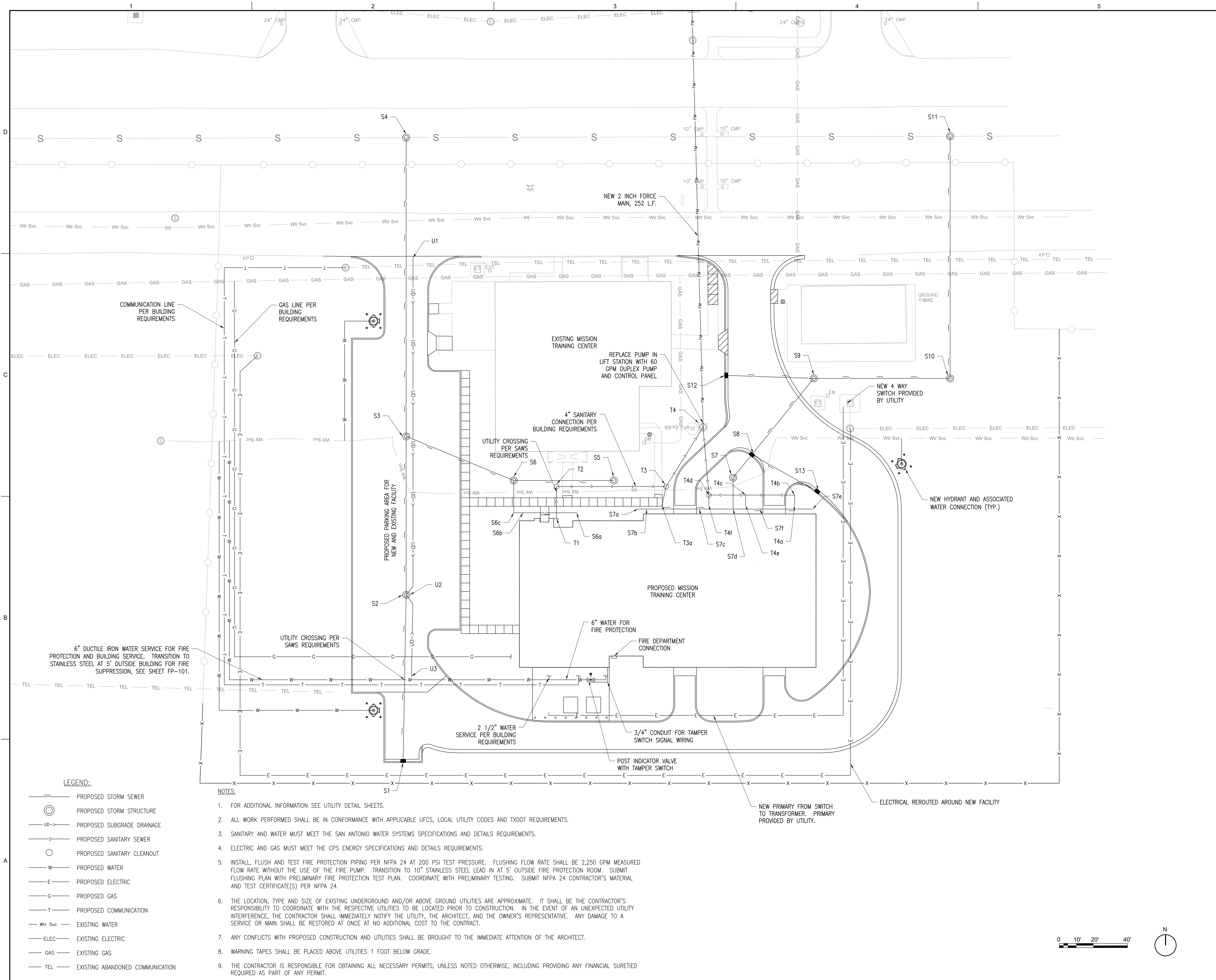
PROJECT INFORMATION:

DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER:
20190310
SHEET TITLE:
GRADING PLAN

ISSUE DATE:
15 AUGUST 2024
SHEET NUMBER:

C-501



Texas Air National Guard - 149th FW
F-16 Mission Training Center (MTC)
Joint Base San Antonio
JBSA - Kelly Annex, Texas

REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

DESIGNED BY: **LDH**

DRAWN BY: **HLE**

REVIEWED BY: **LDH**

PROJECT MANAGER: **NDM**

PROJECT NUMBER:
20190310

SHEET TITLE:
UTILITY PLAN

ISSUE DATE:
15 AUGUST 2024

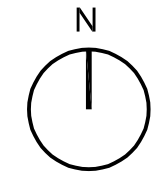
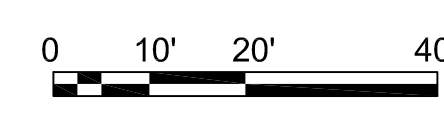
SHEET NUMBER:
C-601

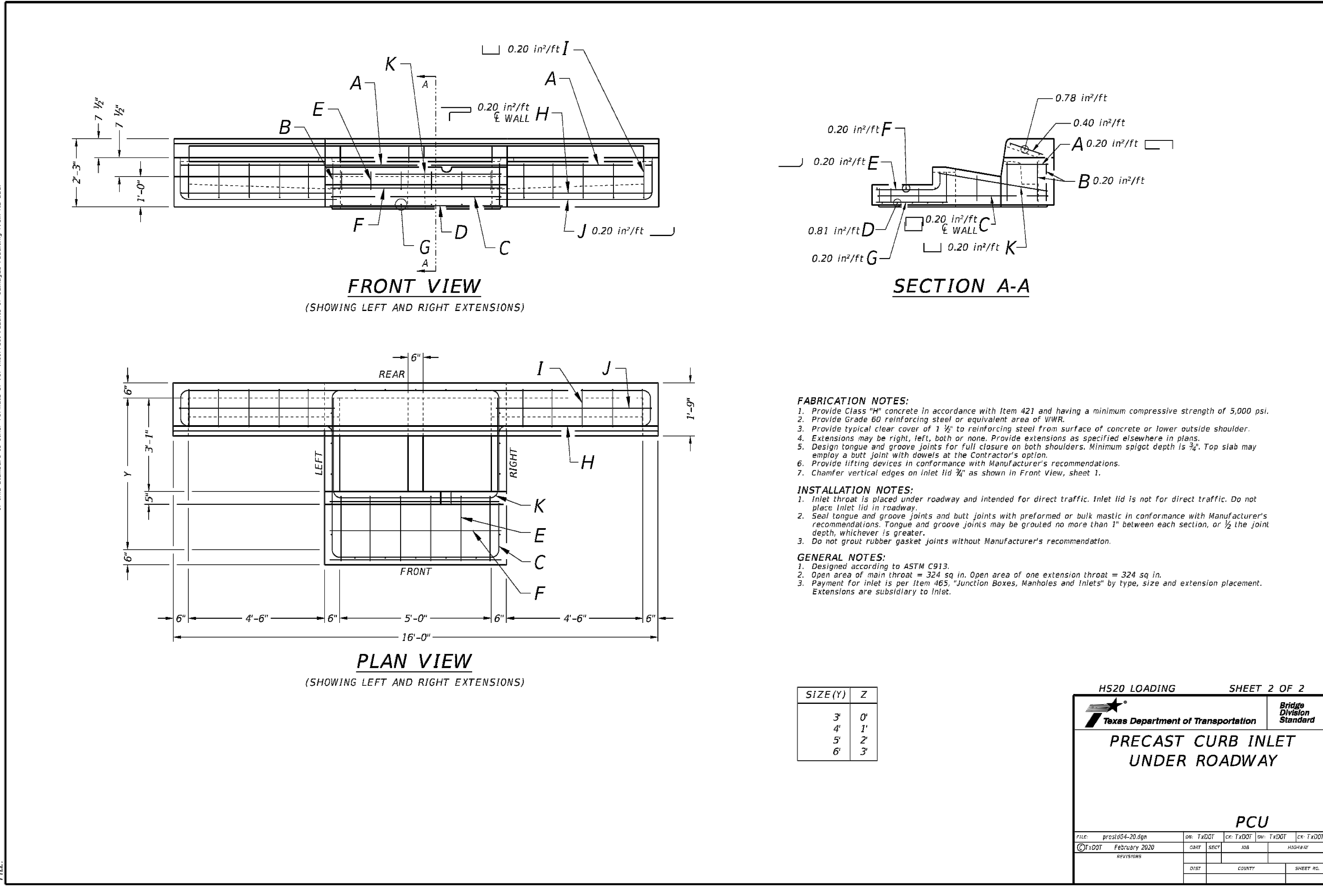
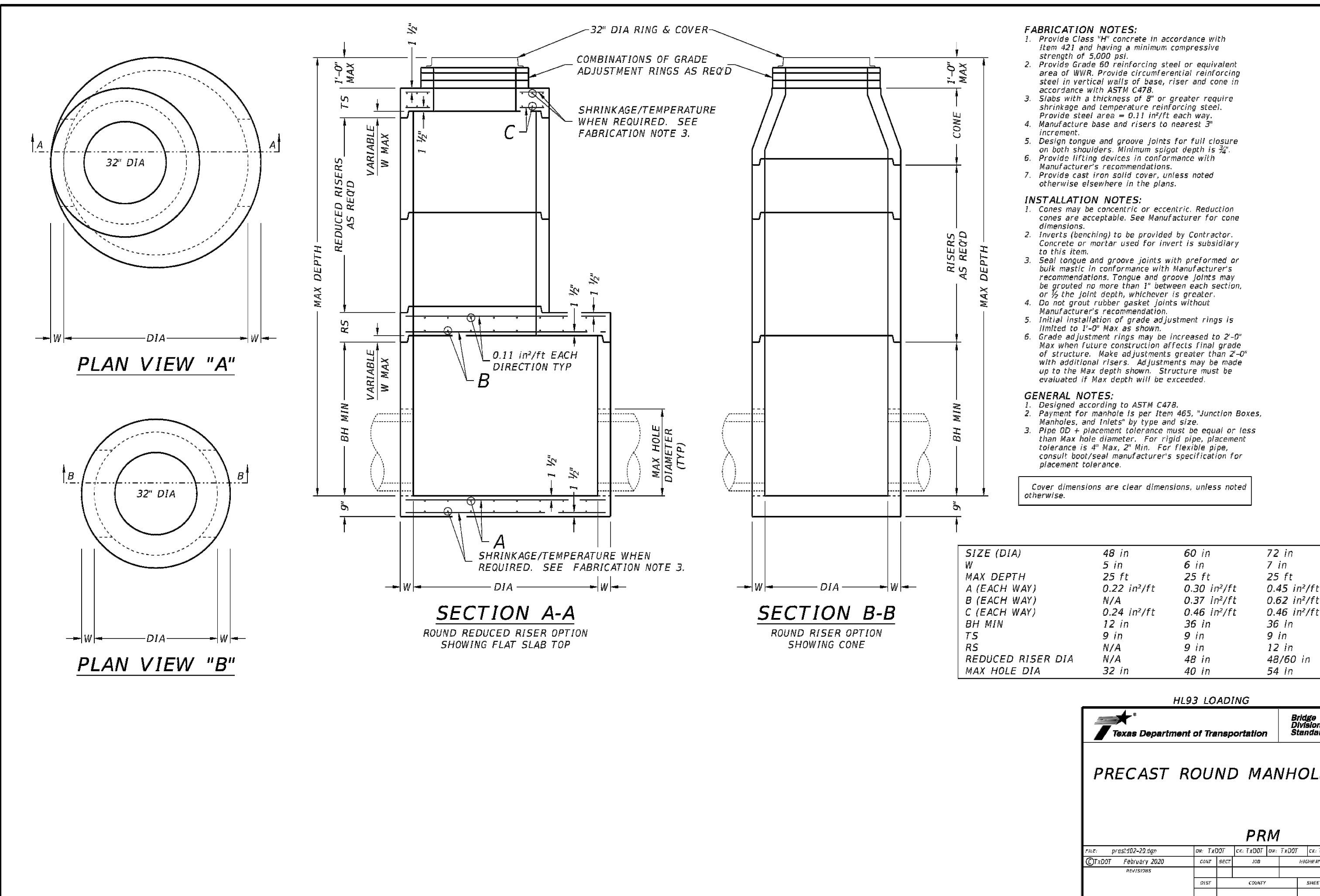
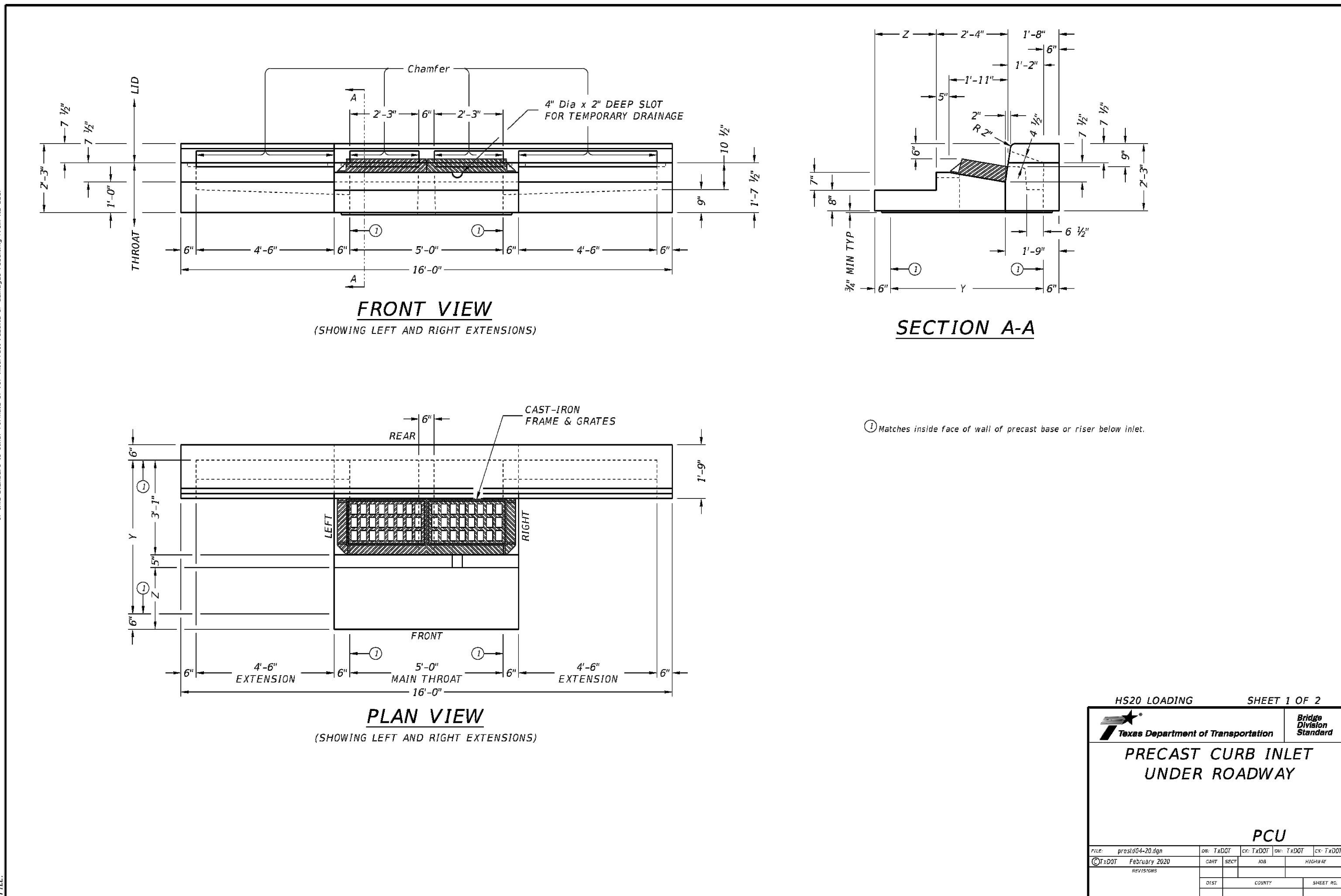
LEGEND:

- PROPOSED STORM SEWER
- PROPOSED STORM STRUCTURE
- PROPOSED SUBGRADE DRAINAGE
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY CLEANOUT
- PROPOSED WATER
- PROPOSED ELECTRIC
- PROPOSED GAS
- PROPOSED COMMUNICATION
- EXISTING WATER
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING ABANDONED COMMUNICATION

NOTES:

- FOR ADDITIONAL INFORMATION SEE UTILITY DETAIL SHEETS.
- ALL WORK PERFORMED SHALL BE IN CONFORMANCE WITH APPLICABLE UFCS, LOCAL UTILITY CODES AND TXDOT REQUIREMENTS.
- SANITARY AND WATER MUST MEET THE SAN ANTONIO WATER SYSTEMS SPECIFICATIONS AND DETAILS REQUIREMENTS.
- ELECTRIC AND GAS MUST MEET THE CPS ENERGY SPECIFICATIONS AND DETAILS REQUIREMENTS.
- INSTALL, FLUSH AND TEST FIRE PROTECTION PIPING PER NFPA 24 AT 200 PSI TEST PRESSURE. FLUSHING FLOW RATE SHALL BE 2,250 GPM MEASURED FLOW RATE WITHOUT THE USE OF THE FIRE PUMP. TRANSITION TO 10" STAINLESS STEEL LEAD IN AT 5' OUTSIDE FIRE PROTECTION ROOM. SUBMIT FLUSHING PLAN WITH PRELIMINARY FIRE PROTECTION TEST PLAN. COORDINATE WITH PRELIMINARY TESTING. SUBMIT NFPA 24 CONTRACTOR'S MATERIAL AND TEST CERTIFICATE(S) PER NFPA 24.
- THE LOCATION, TYPE AND SIZE OF EXISTING UNDERGROUND AND/OR ABOVE GROUND UTILITIES ARE APPROXIMATE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE RESPECTIVE UTILITIES TO BE LOCATED PRIOR TO CONSTRUCTION. IN THE EVENT OF AN UNEXPECTED UTILITY INTERFERENCE, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY, THE ARCHITECT, AND THE OWNER'S REPRESENTATIVE. ANY DAMAGE TO A SERVICE OR MAIN SHALL BE RESTORED AT ONCE AT NO ADDITIONAL COST TO THE CONTRACT.
- ANY CONFLICTS WITH PROPOSED CONSTRUCTION AND UTILITIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ARCHITECT.
- WARNING TAPES SHALL BE PLACED ABOVE UTILITIES 1 FOOT BELOW GRADE.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, UNLESS NOTED OTHERWISE, INCLUDING PROVIDING ANY FINANCIAL SURETIED REQUIRED AS PART OF ANY PERMIT.





Structure	Northing	Easting	Type	Rim EL.	Invert EL.	Pipe Pay Length	Size	Type	Slope %
S1	13688255.78	2097553.97	Curb Inlet	676.70	671.70				
S2	13688353.47	2097555.73	4' Manhole	676.50	671.23	94.4	12.0	RCP	0.50
S3	13688446.47	2097555.73	5' Manhole	676.50	670.79	88.5	18.0	RCP	0.50
S4	13688621.75	2097555.73	10' Doghouse Manhole*	677.29	669.95	167.8	24.0	RCP	0.50
S5	13688420.62	2097677.46	4' Manhole	677.65	671.38				
S6	13688420.62	2097618.85	4' Manhole	677.50	671.11	54.6	12.0	RCP	0.50
S3	13688446.47	2097555.73	5' Manhole	676.50	670.79	63.7	12.0	RCP	0.50
S6a	13688401.68	2097655.76	Downspout Connection	--	671.65	31.4	8.0	PVC	1.00
S6b	13688401.68	2097624.34	Downspout Connection	--	671.34	5.5	8.0	PVC	1.00
S6c	13688401.68	2097618.85	90 Deg Pipe Bend	--	671.28	17.0	8.0	PVC	1.00
S6	13688420.62	2097618.85	4' Manhole	677.50	671.11				
S7	13688422.24	2097747.53	4' Manhole	677.00	672.00				
S8	13688435.53	2097758.32	Curb Inlet	677.00	671.93	13.4	12.0	RCP	0.50
S9	13688480.49	2097794.84	5' Manhole	677.40	671.67	53.1	12.0	RCP	0.50
S10	13688480.49	2097874.84	5' Manhole	677.00	671.30	75.0	18.0	RCP	0.50
S11	13688622.53	2097874.84	10' Doghouse Manhole *	676.27	670.63	134.5	24.0	RCP	0.50
S12	13688482.28	2097743.22	Curb Inlet	677.00	671.90				
S9	13688480.49	2097794.84	5' Manhole	677.40	671.67	46.8	12.0	RCP	0.50
S13	13688414.01	2097796.61	Curb Inlet	677.18	672.13				
S8	13688435.53	2097758.32	Curb Inlet	677.00	671.93	40.0	12.0	RCP	0.50
S7a	13688403.87	2097691.85	Downspout Connection	--	672.72	5.0	8.0	PVC	1.00
S7b	13688403.87	2097696.84	Downspout Connection	--	672.67	30.8	8.0	PVC	1.00
S7c	13688403.87	2097727.68	Downspout Connection	--	672.36	19.9	8.0	PVC	1.00
S7d	13688403.87	2097747.53	Tee Connection	--	672.16	16.4	8.0	PVC	1.00
S7	13688422.24	2097747.53	4' Manhole	677.00	672.00				
S7e	13688403.87	2097794.18	Downspout Connection	--	672.63	30.8	8.0	PVC	1.00
S7f	13688403.87	2097763.34	Downspout Connection	--	672.32	15.8	8.0	PVC	1.00
S7d	13688403.87	2097747.53	Tee Connection	--	672.16				

* EXISTING PIPE AT DOGHOUSE MANHOLE LOCATIONS IS 84" AND AT AN ELEVATION OF APPROXIMATELY 659, FIELD VERIFY ELEVATION.

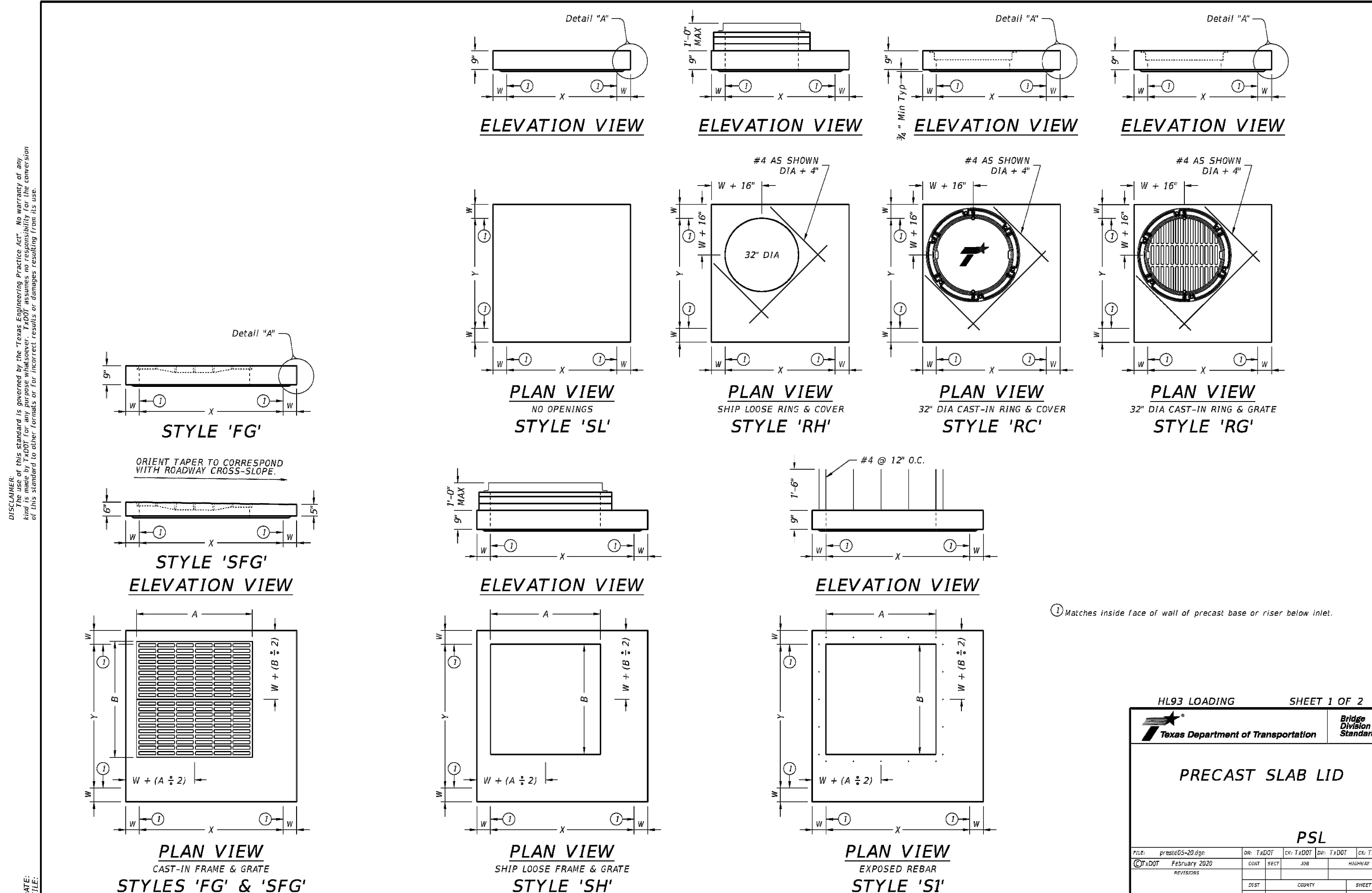
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Texas Air National Guard - 149th FW
F-16 Mission Training Center (MTC)
Joint Base San Antonio
JBSA - Kelly Annex, Texas

DESIGNED BY: **LDH**
DRAWN BY: **HLE**
REVIEWED BY: **LDH**
PROJECT MANAGER: **NDM**
PROJECT NUMBER: 20190310
SHEET TITLE: DRAINAGE SCHEDULE AND DETAILS
ISSUE DATE: 15 AUGUST 2024
SHEET NUMBER: **C-602**

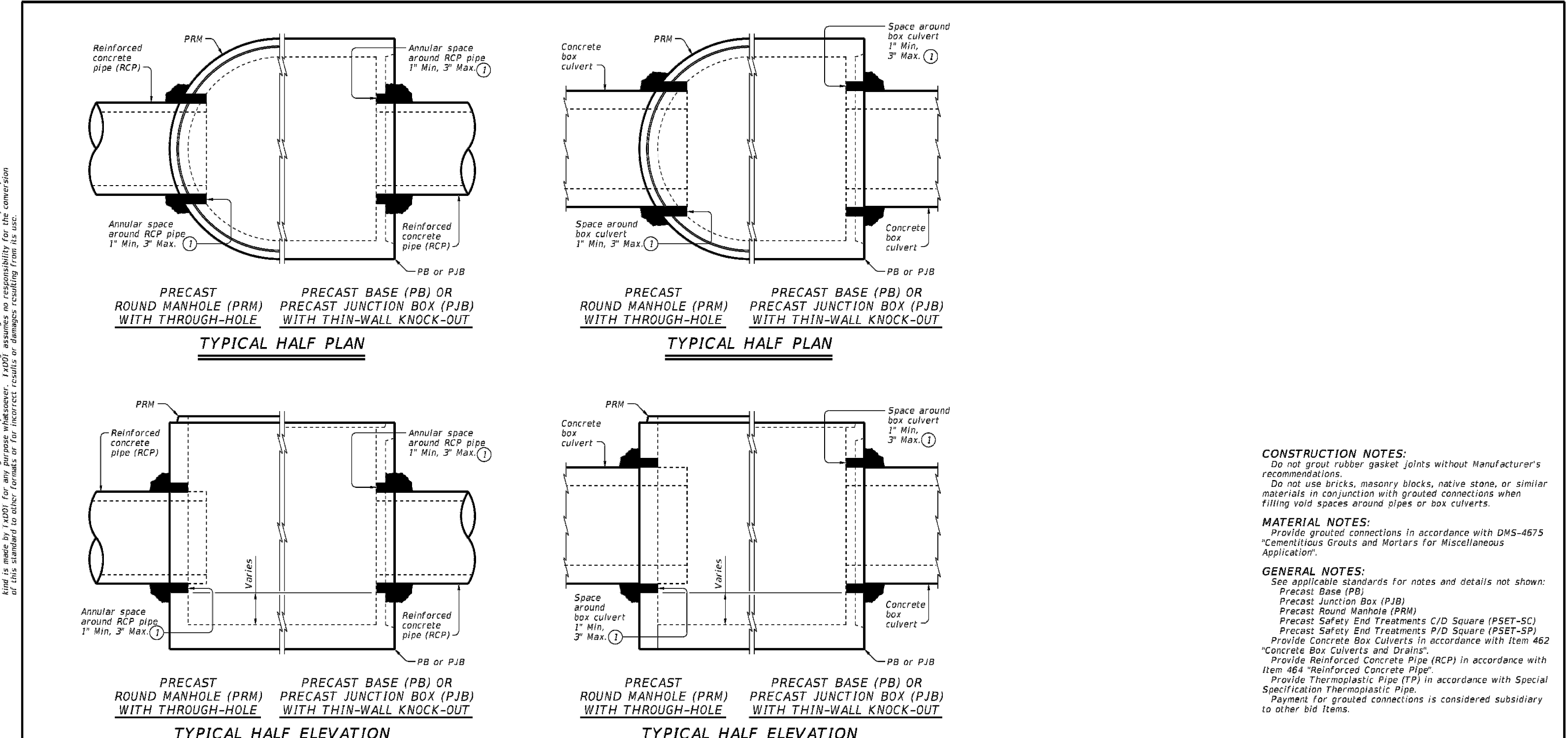


HL93 LOADING SHEET 1 OF 2
 Texas Department of Transportation
 Bridge Division Standard

PRECAST SLAB LID

PSL

REV	DESCRIPTION	DATE	BY	CHK	APP
01	ISSUED FOR CONSTRUCTION	02/20/2024	JLD	JLD	JLD
02	REVISED TO ADD STYLE 'SI'	02/20/2024	JLD	JLD	JLD



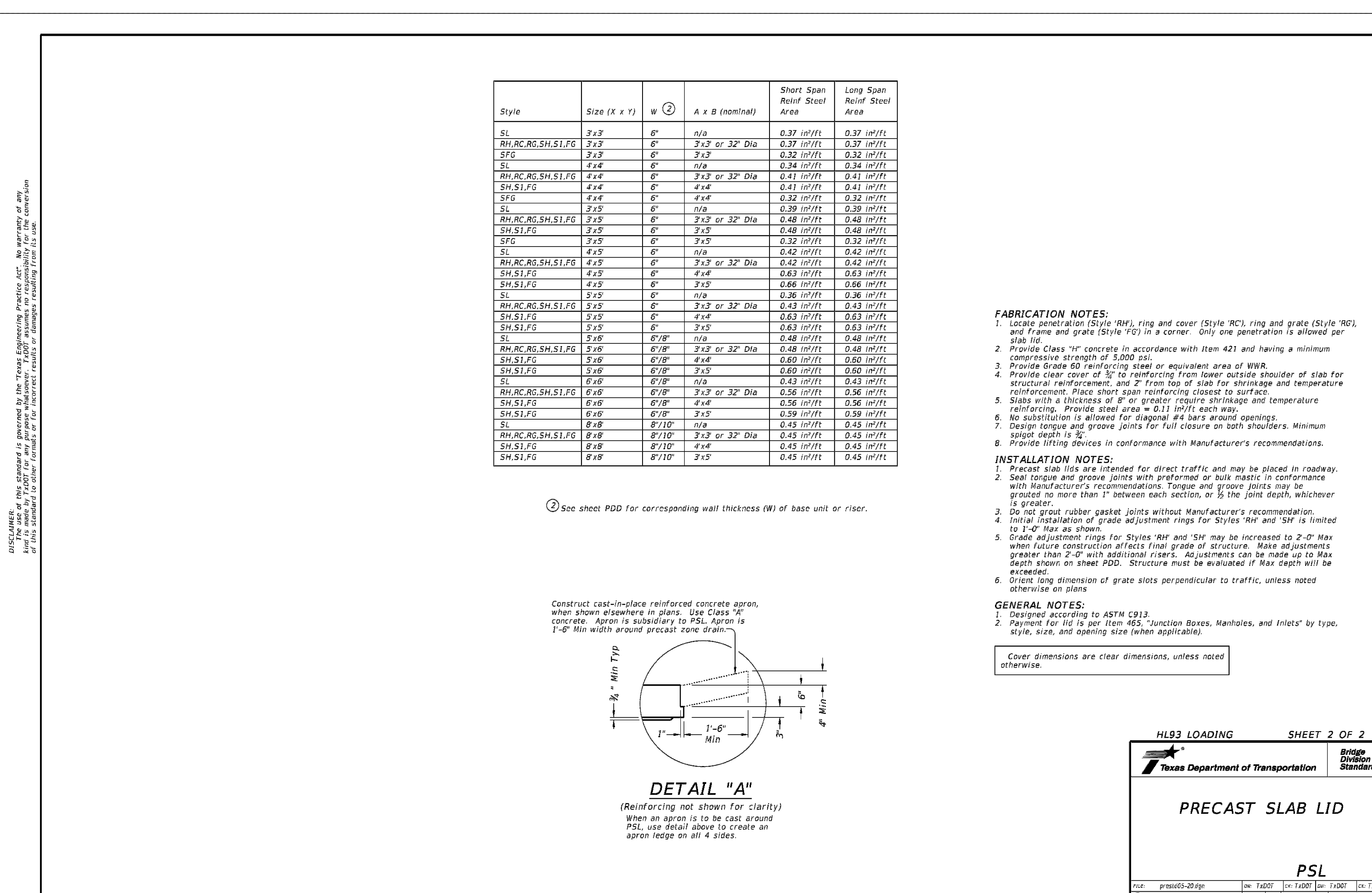
CONSTRUCTION NOTES:
 Do not install rubber gasket joints without Manufacturer's recommendations.
 Do not use bricks, masonry blocks, native stone, or similar materials in conjunction with grouted connections when filling void spaces around pipes or box culverts.
 MATERIAL NOTES:
 Provide grouted connections in accordance with DMS-4675 'Concrete Grouts and Mortars for Miscellaneous Applications'.
 GENERAL NOTES:
 See applicable standards for notes and details not shown:
 Precast Base (PB)
 Precast Junction Box (PJB)
 Precast Round Manhole (PRM)
 Precast Safety End Treatments (P/E Square (PSET-SC), P/E Round (PSET-R), P/E Square (PSET-SP), P/E Round (PSET-RP))
 Concrete Box Culverts in accordance with Item 462 'Concrete Box Culverts and Drains'
 Cast-in-place concrete pipe in accordance with Item 464 'Reinforced Concrete Pipe'
 Provide Thermoplastic Pipe (TP) in accordance with Special Specification Thermoplastic Pipe.
 Payment for grouted connections is considered subsidiary to other bid items.

Texas Department of Transportation
 Bridge Division Standard

PIPE AND BOX GROUDED CONNECTIONS FOR PRECAST STRUCTURES

PBGC

REV	DESCRIPTION	DATE	BY	CHK	APP
01	ISSUED FOR CONSTRUCTION	02/20/2024	JLD	JLD	JLD
02	REVISED TO ADD STYLE 'SI'	02/20/2024	JLD	JLD	JLD

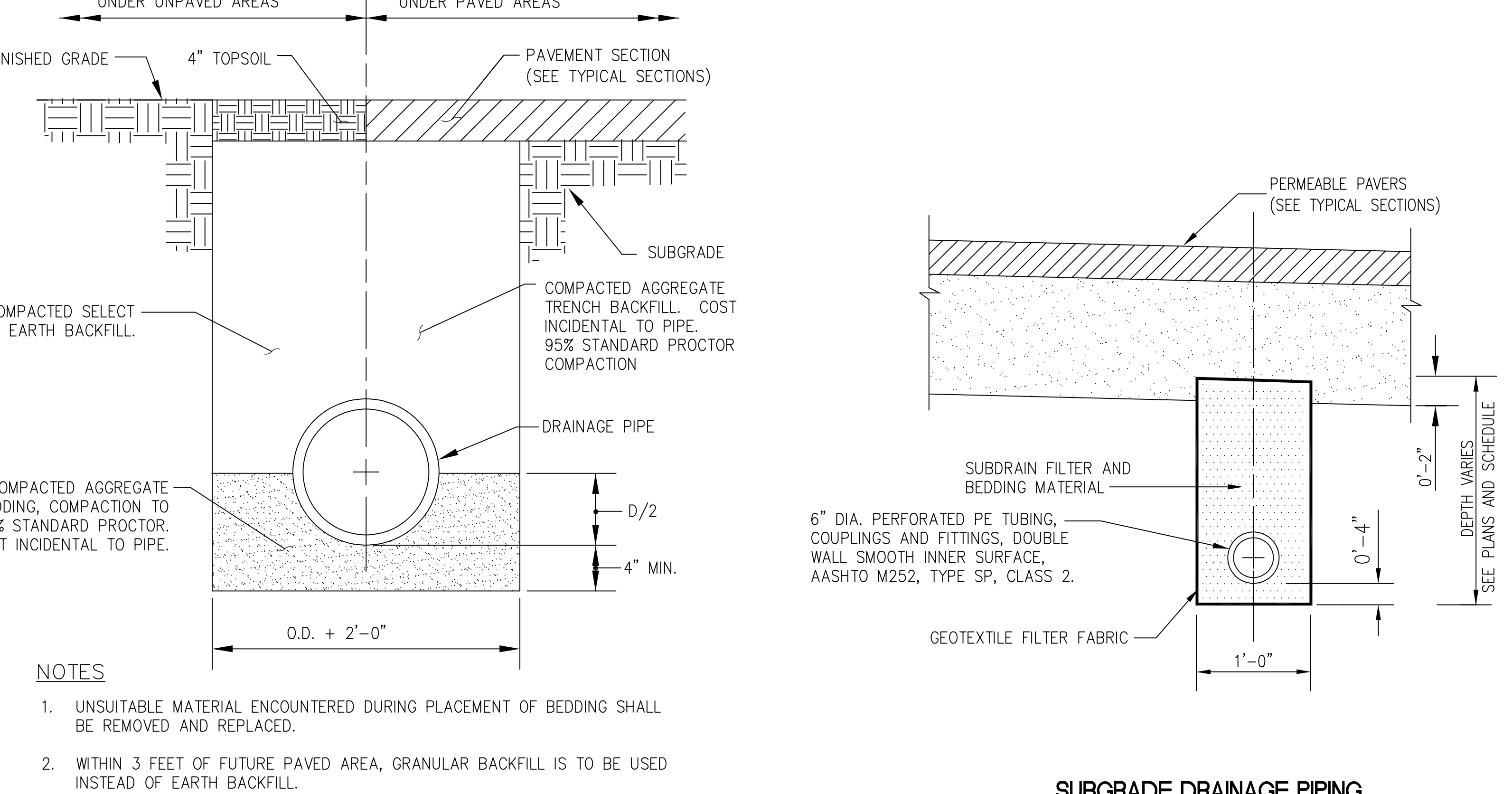


HL93 LOADING SHEET 2 OF 2
 Texas Department of Transportation
 Bridge Division Standard

PRECAST SLAB LID

PSL

REV	DESCRIPTION	DATE	BY	CHK	APP
01	ISSUED FOR CONSTRUCTION	02/20/2024	JLD	JLD	JLD
02	REVISED TO ADD STYLE 'SI'	02/20/2024	JLD	JLD	JLD



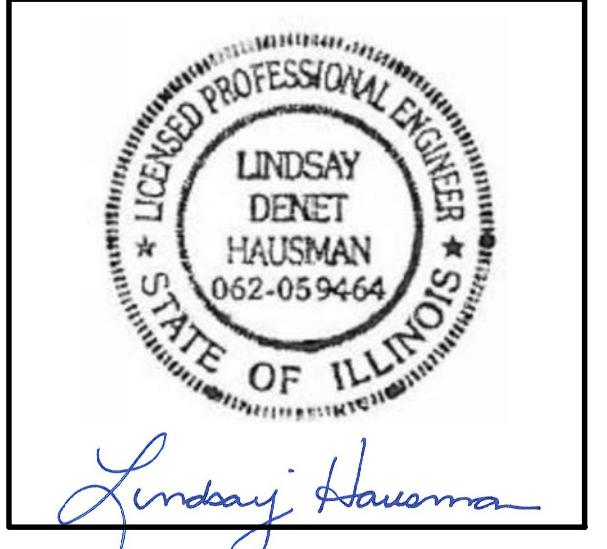
- NOTES
- UNDESIRABLE MATERIAL ENCOUNTERED DURING PLACEMENT OF BEDDING SHALL BE REMOVED AND REPLACED.
 - WITHIN 3 FEET OF FUTURE PAVED AREA, GRANULAR BACKFILL IS TO BE USED INSTEAD OF EARTH BACKFILL.

PIPE TRENCH

SUBGRADE DRAINAGE PIPING SCHEDULE

Structure	Northing	Easting	Type	Rim El.	Invert El.	Pay Length	Slope %
U1	13688551.15	2097559.73	Begin Pipe	---	675.61		
U2	13688353.47	2097555.73	Manhole Connection	---	674.61	199.1	0.50
U3	13688305.69	2097558.87	Begin Pipe	---	675.10		
U2	13688353.47	2097555.73	Manhole Connection	---	674.85	49.1	0.50

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Joint Base San Antonio
JBSA - Kelly Annex, Texas

REVISION HISTORY:

NO.	DESCRIPTION	DATE

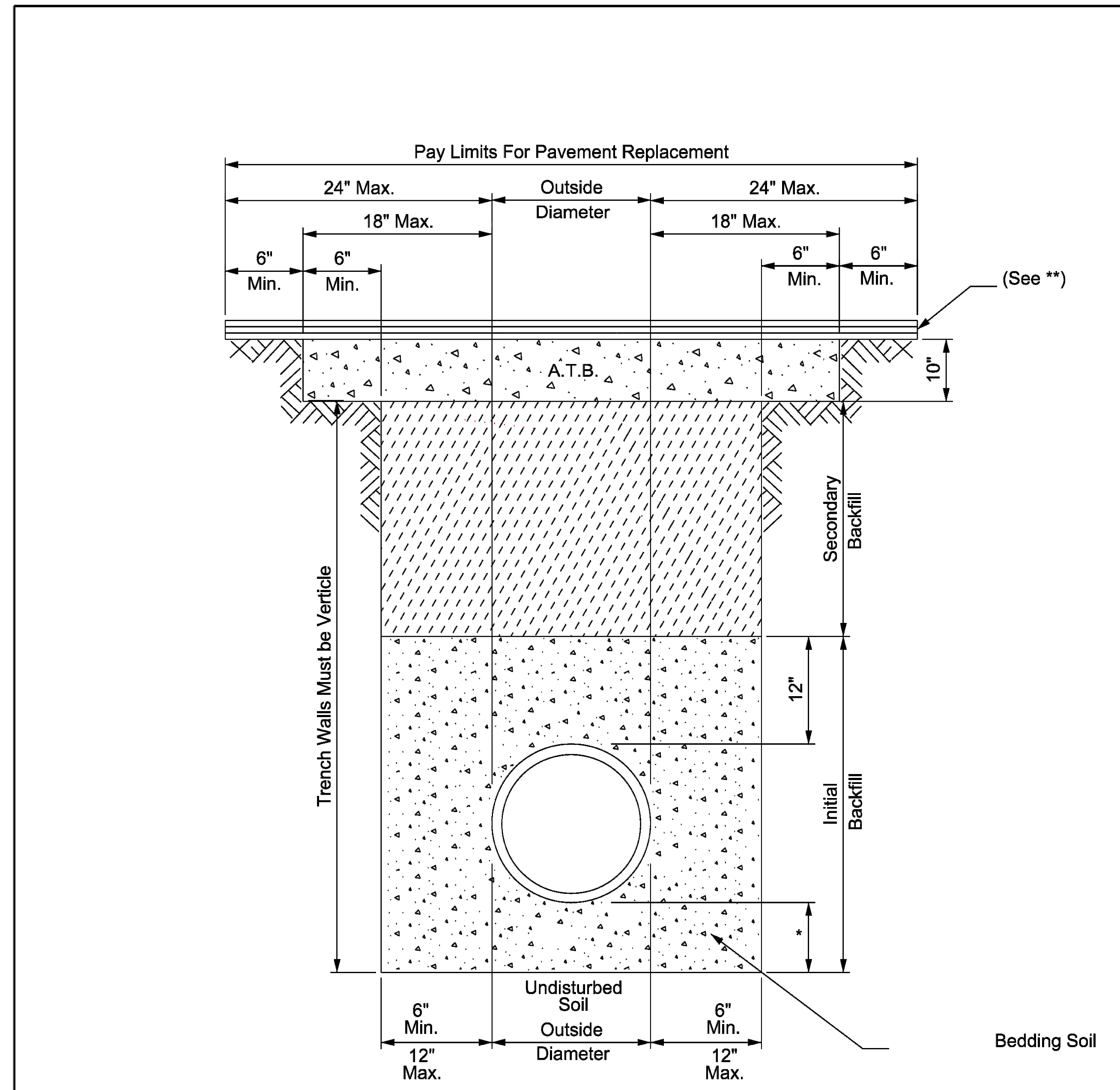
PROJECT INFORMATION:

DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER:
 20190310
 SHEET TITLE:
DRAINAGE DETAILS

ISSUE DATE:
 15 AUGUST 2024
 SHEET NUMBER:

C-603



The Existing Material at the Bearing Level shall be Removed and Replaced to a Minimum Depth of 6-Inches or 1/4 of the Outside Diameter of the Pipe, whichever is Greater, with Bedding Material.

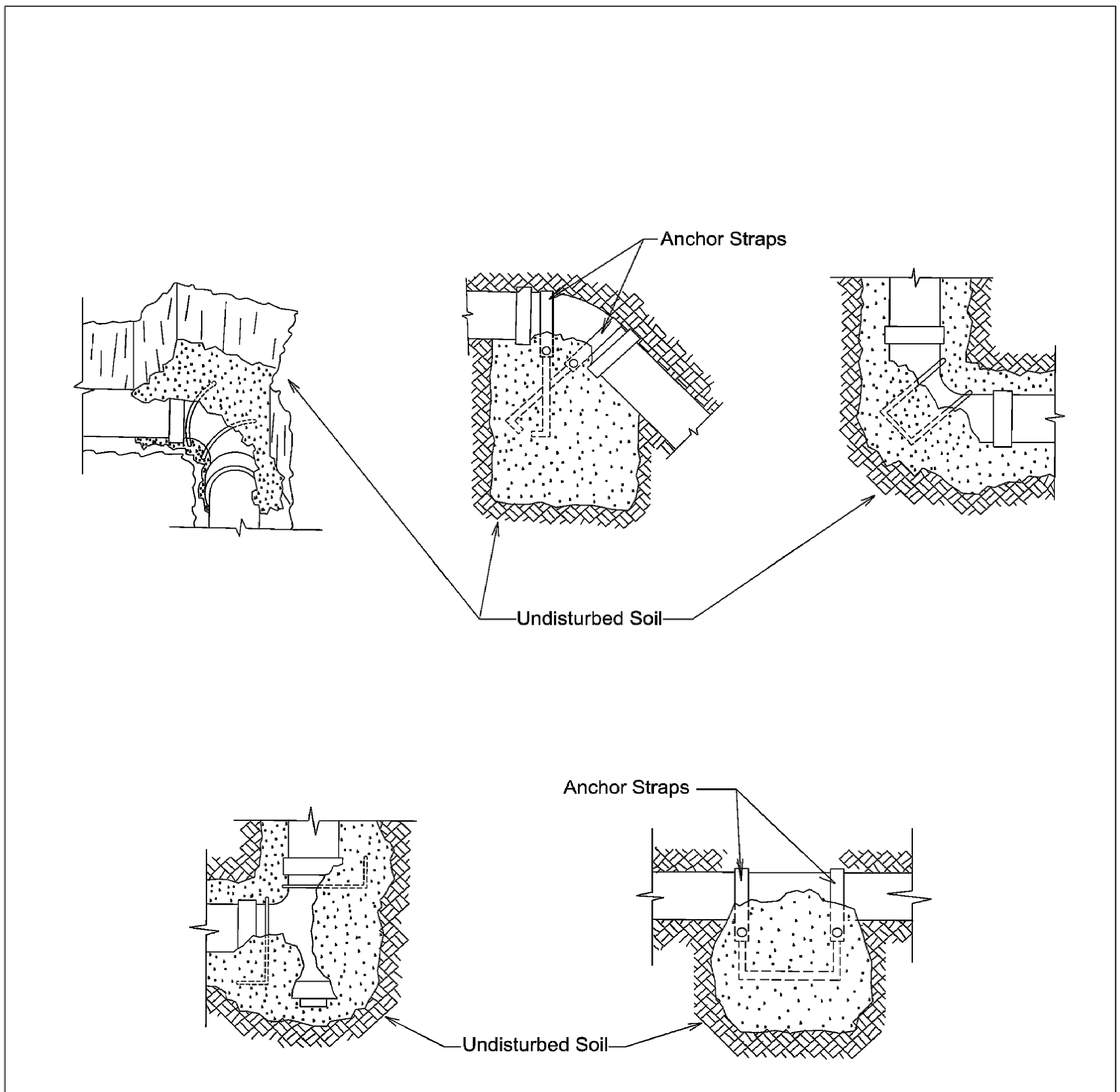
In Areas of over Excavation, Encasement shall extend from Trench Wall. Pay Limits shall not Exceed 12" Max. as shown on Detail. Additional Encasement shall be Incidental.

* Sewer Gravel 6" Min. or 1/4 O.D. of the Pipe, whichever is Greater.

** Minimum 2" HMA Type "D" for Trench Repair in Local / Residential Streets.

** Minimum 3" HMA Type "C" for Trench Repair in Collector / Arterial Streets.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	SANITARY SEWER PIPE LAID IN TRENCH	APPROVED	REVISED
		MARCH 2008	DEC 2018
		DD-804-01	SHEET 1 OF 1

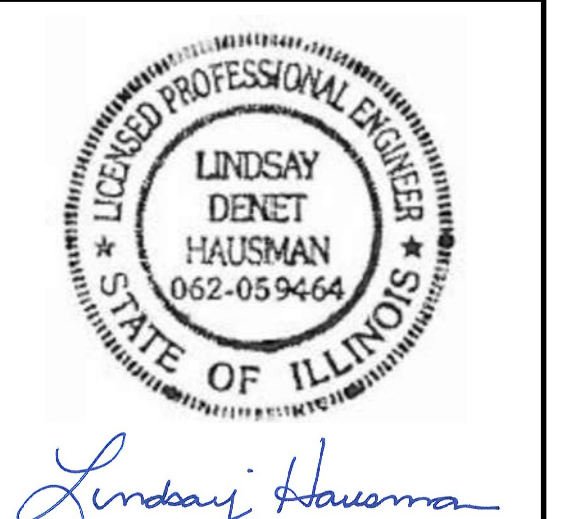


Note:
All concrete used for thrust blocking shall have a minimum concrete strength of 3,000 psi

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL THRUST BLOCKS (SEWER ONLY)	APPROVED	REVISED
		March 2008	AUG 2019
		DD-839-03	SHEET 1 OF 1

Structure	Northing	Easting	Type	Rim El.	Invert El.	Pay Length	Size	Type	Slope %
T1	--	--	Meet Building Outlet	--	674.67				
T2	13688417.03	2097643.96	Cleanout	677.81	674.58	18.8	4.0	PVC	0.50
T3	13688417.03	2097708.25	Cleanout	677.93	674.25	64.3	4.0	PVC	0.50
T4	13688451.89	2097729.91	Connect to Existing Lift Station	678.09	674.06	38.0	4.0	PVC	0.50
T3a	--	--	Meet Building Outlet	--	674.33				
T3	13688417.03	2097708.25	Cleanout	677.93	674.25	11.3	3.0	PVC	0.71
T4a	--	--	Meet Building Outlet	--	674.33				
T4b	13688412.08	2097783.60	Bend	--	674.31	6.0	3.0	PVC	0.29
T4c	13688412.08	2097754.89	Tee	--	674.23	28.7	3.0	PVC	0.29
T4d	13688412.08	2097733.31	Cleanout	677.67	674.17	21.6	3.0	PVC	0.29
T4	13688451.89	2097729.91	Connect to Existing Lift Station	678.09	674.06	37.0	4.0	PVC	0.29
T4e	--	--	Meet Building Outlet	--	674.33				
T4c	13688412.08	2097754.89	Tee	--	674.23	6.0	3.0	PVC	1.67
T4f	--	--	Meet Building Outlet	--	674.33				
T4d	13688412.08	2097733.31	Cleanout	677.67	674.17	6.0	3.0	PVC	2.67

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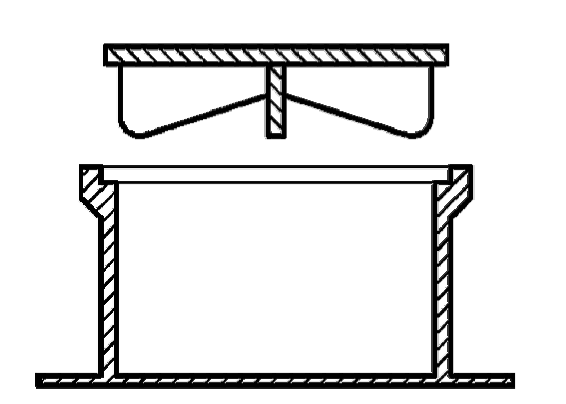
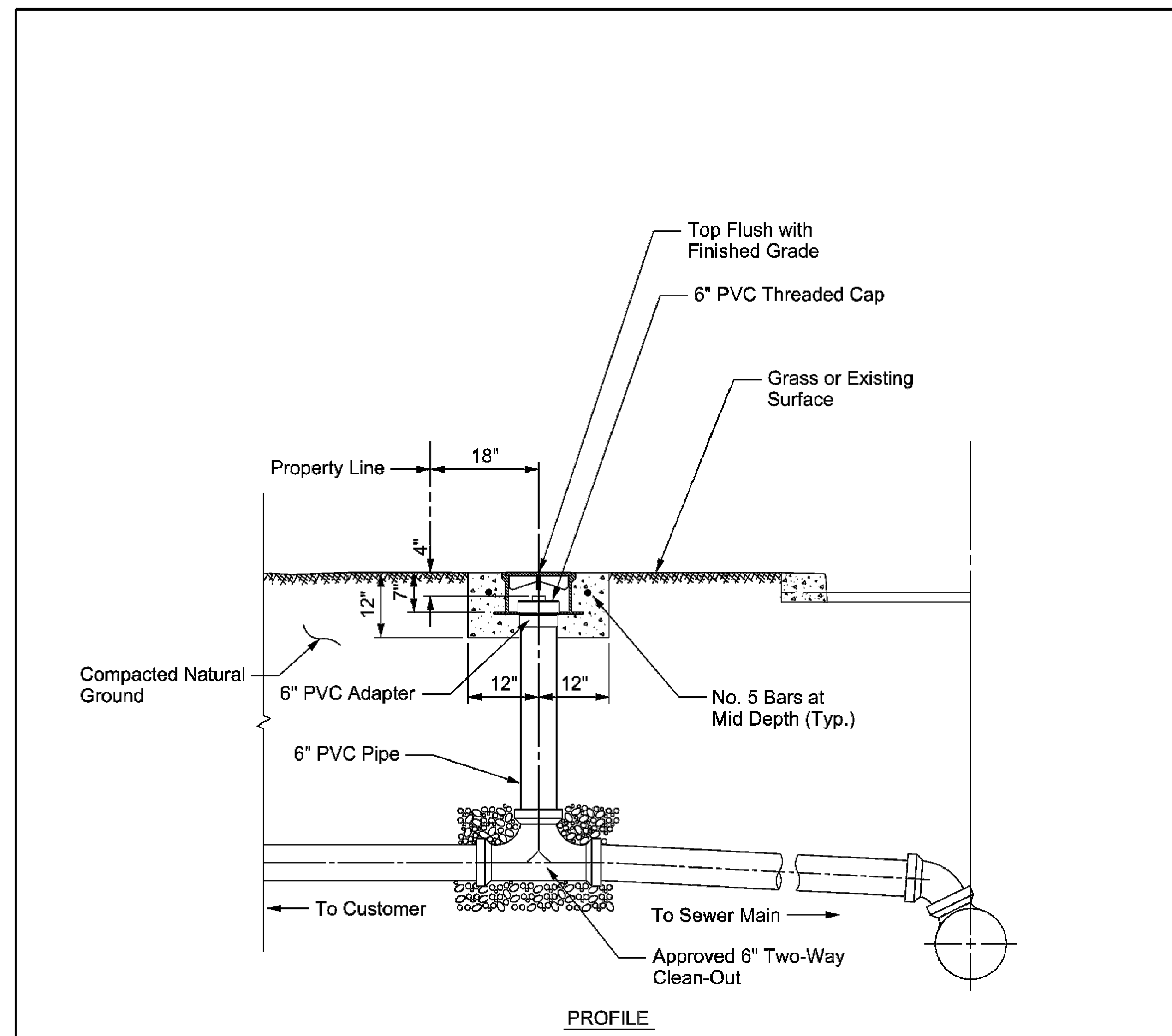
REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:
DESIGNED BY: **LDH**
DRAWN BY: **HLE**
REVIEWED BY: **LDH**
PROJECT MANAGER: **NDM**

PROJECT NUMBER:
20190310
SHEET TITLE:
SANITARY DETAILS
ISSUE DATE:
15 AUGUST 2024
SHEET NUMBER:

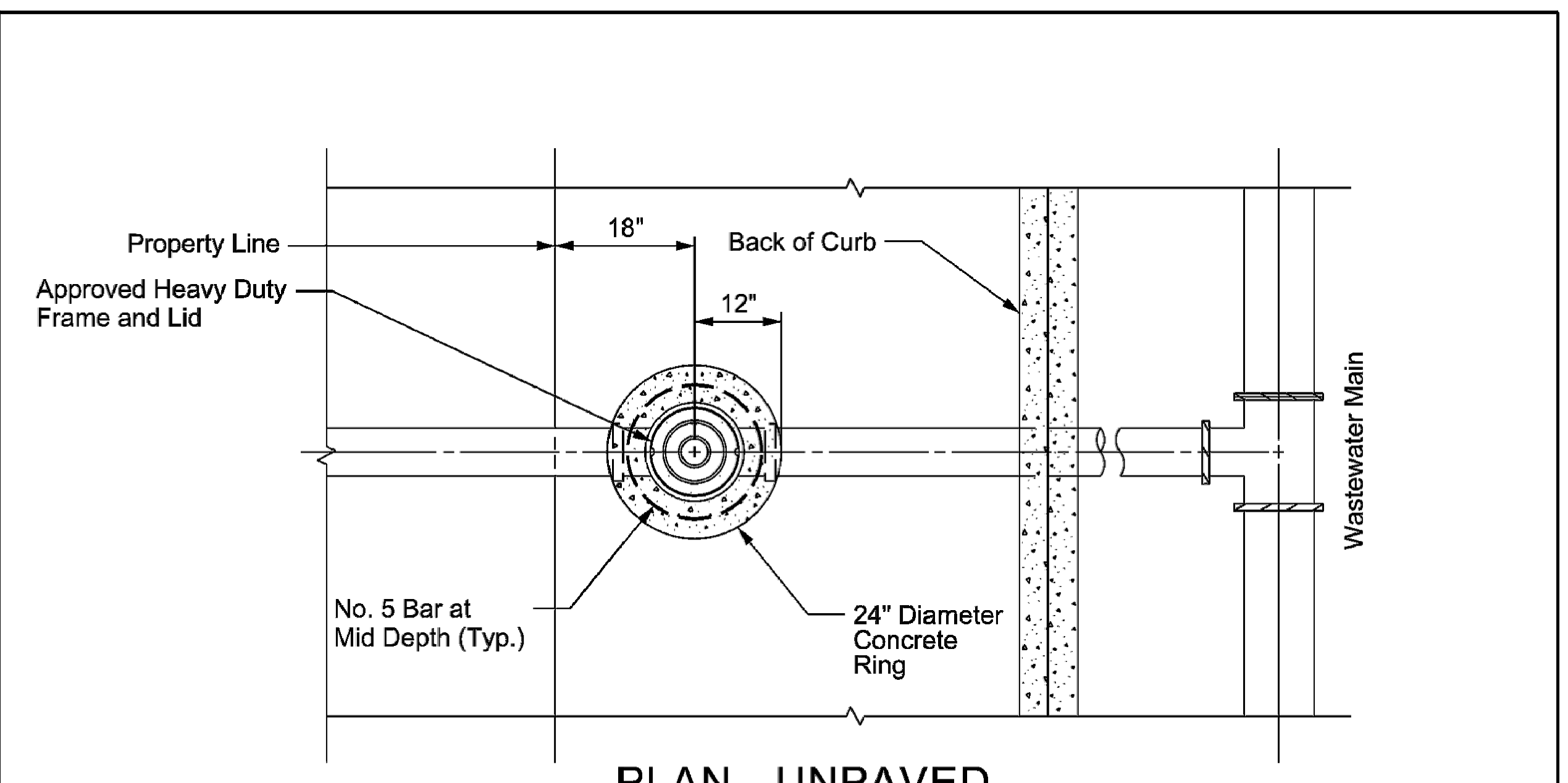
C-604



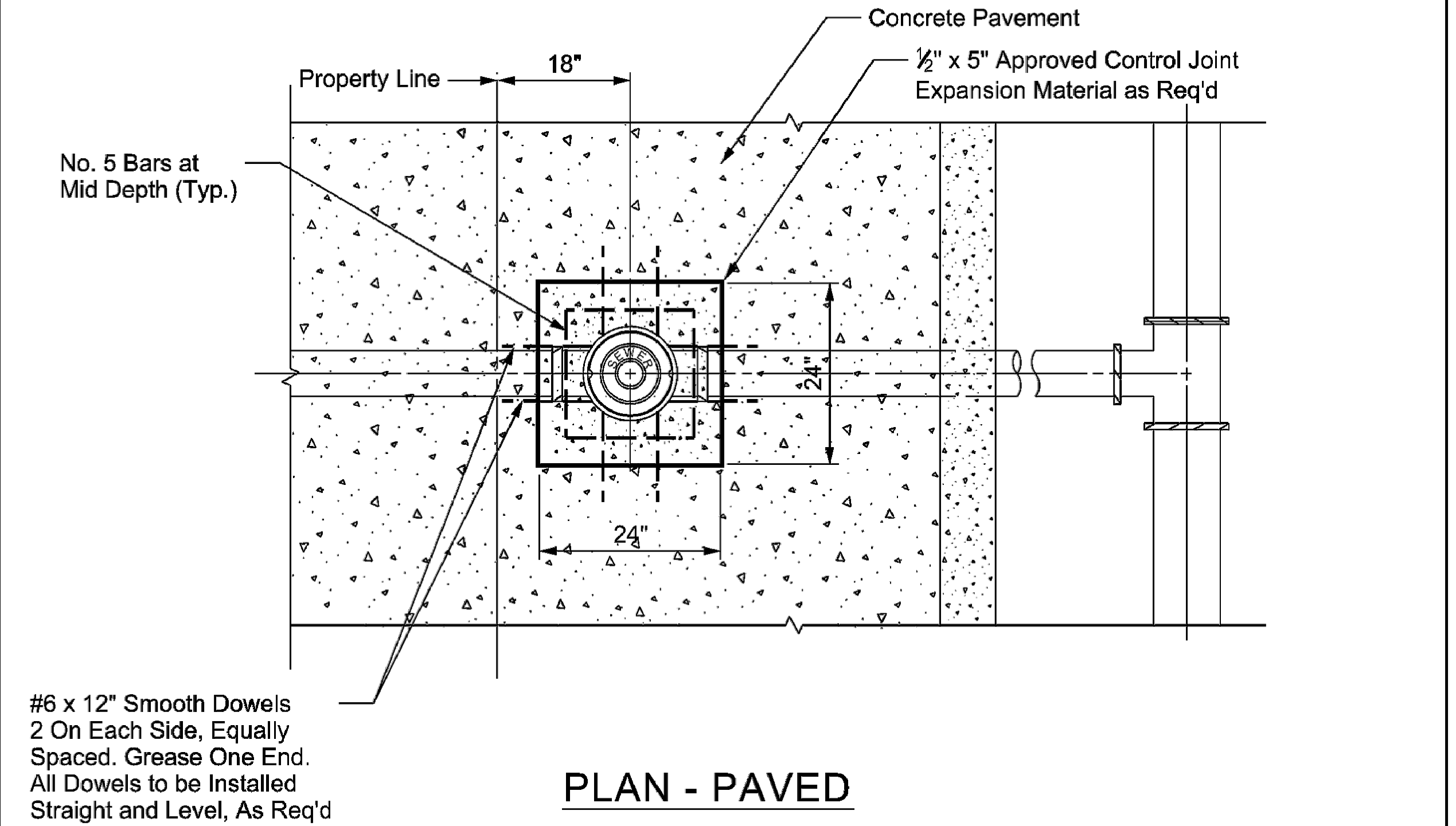
*Approved Frame & Lid (Heavy Duty)

FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CLEANOUT DETAIL	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD-854-02	SHEET 1 OF 3



PLAN - UNPAVED



PLAN - PAVED

#6 x 12" Smooth Dowels
2 On Each Side, Equally
Spaced. Grease One End.
All Dowels to be Installed
Straight and Level, As Req'd

FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	TYPICAL CLEANOUT DETAIL	APPROVED	REVISED
		MARCH 2008	AUG 2019
		DD-854-02	SHEET 2 OF 3

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Joint Base San Antonio
JBSA - Kelly Annex, Texas

REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

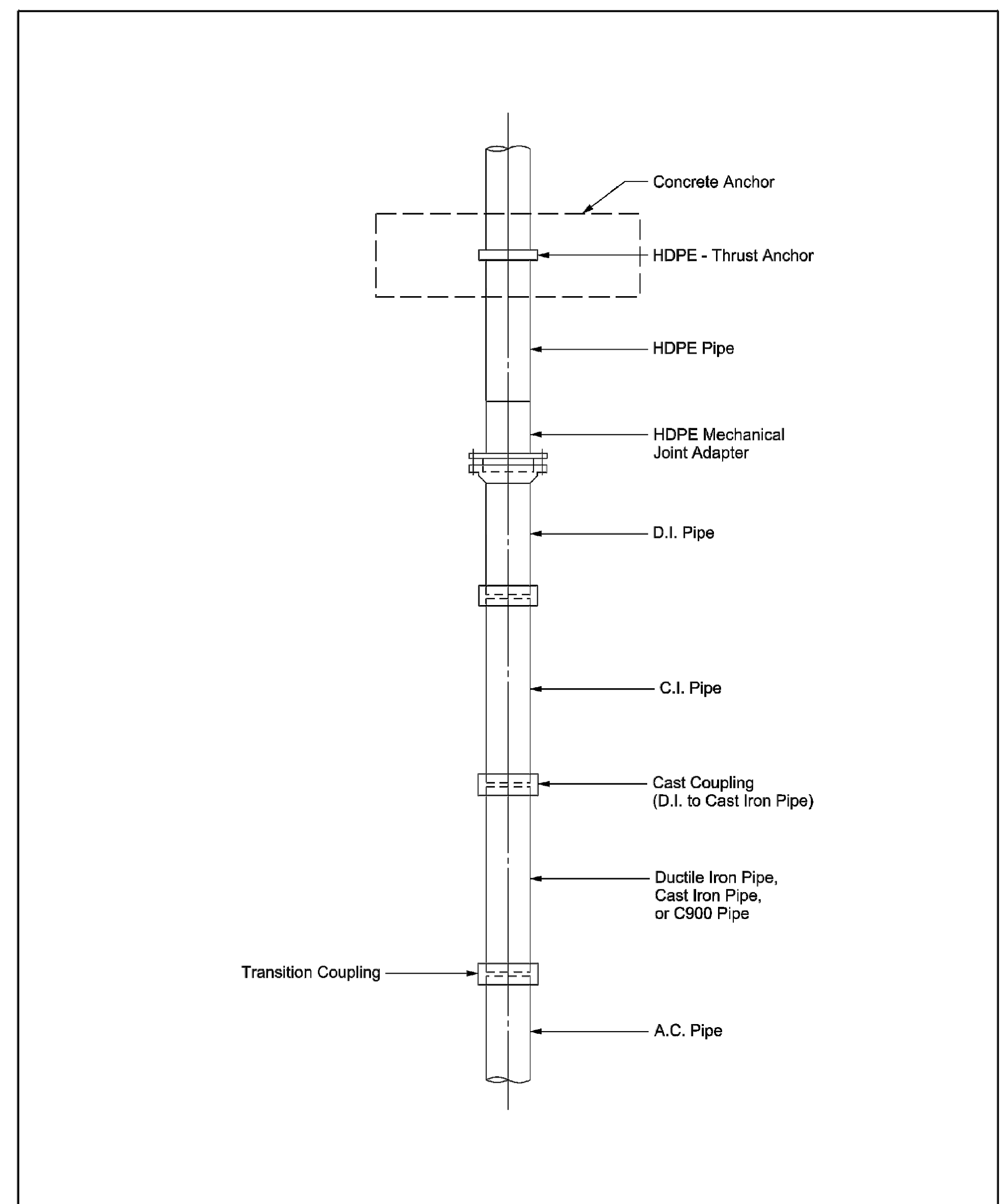
DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER:
20190310
SHEET TITLE:
SANITARY DETAILS
ISSUE DATE:
15 AUGUST 2024
SHEET NUMBER:

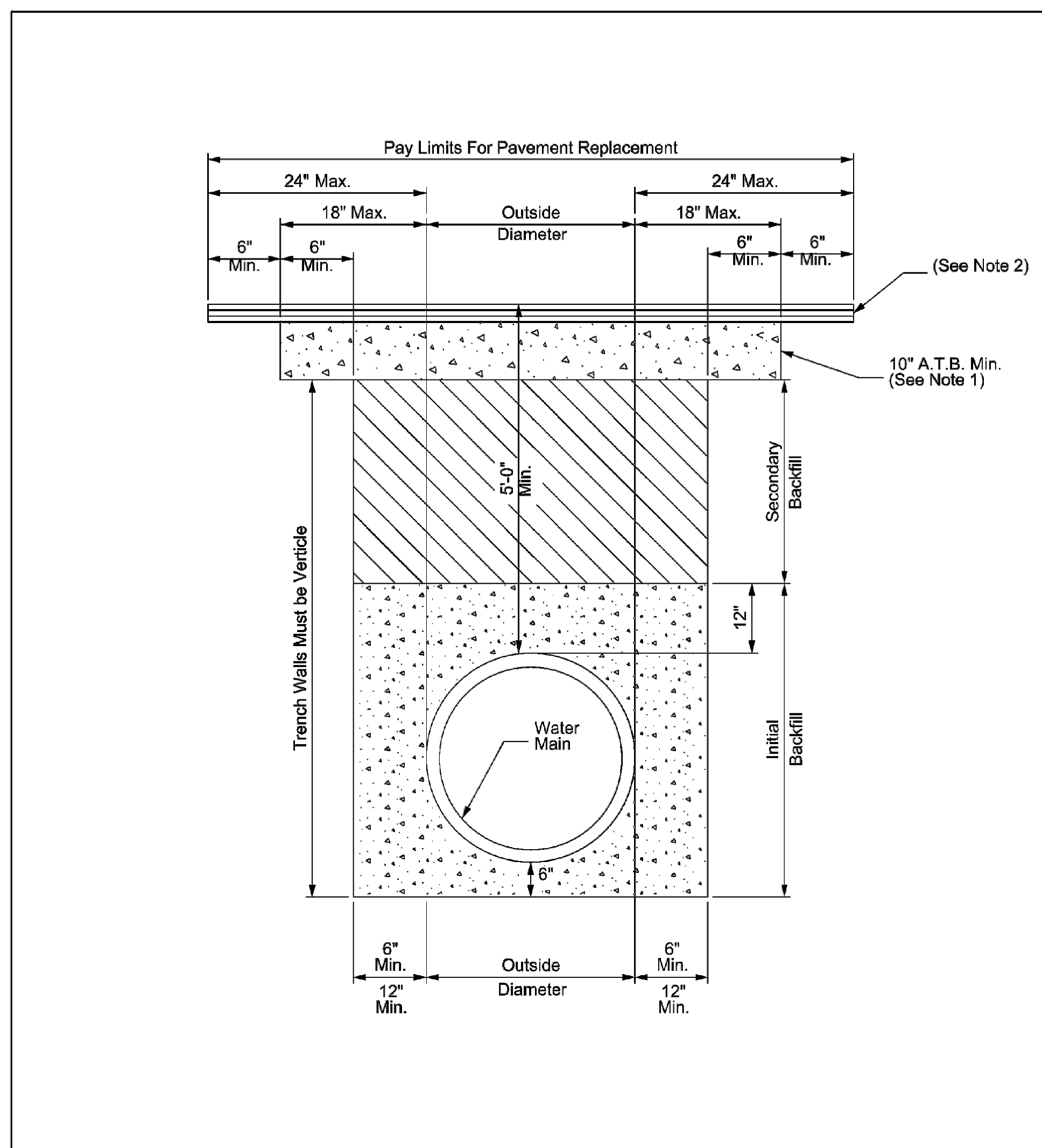
C-605



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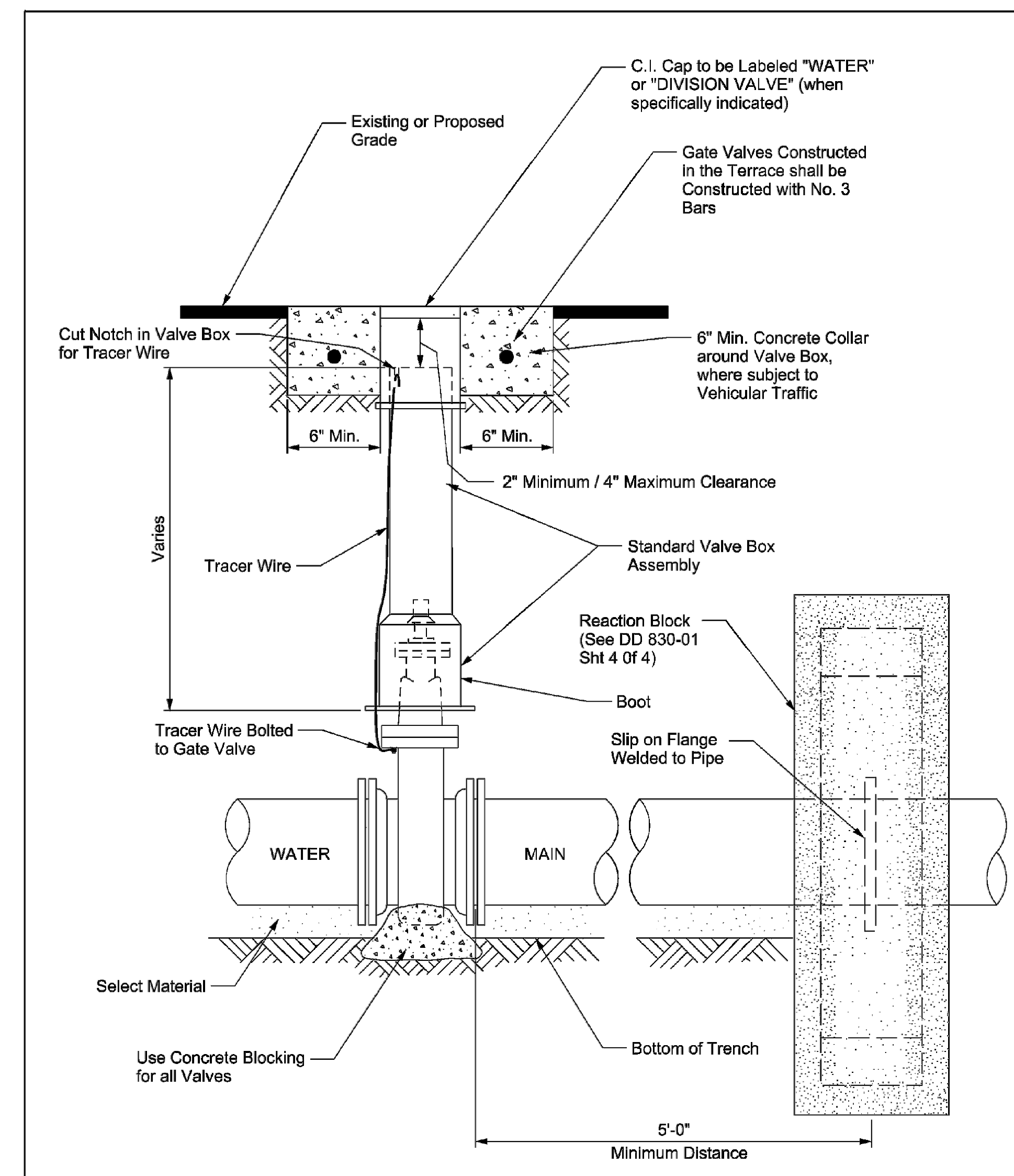


PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	PIPE COUPLINGS	APPROVED	REVISED	SHEET 1 OF 9
		MARCH 2008	AUG 2019	
		DD-812-01		



- Asphalt Treated Base - As Specified COSA ROW - 10" Min. or Greater.
 - Replacement of Surface Layer Shall be of the Type and Thickness Base On Functional Classification.
 - Min 2" HMAC Type "D" for Trench Repair in Local / Residential Streets.
 - Min. 3" HMAC Type "C" for Trench Repair in Collector / Arterial Streets.
- Asphalt Treated Base (ATB)
 - Hot Mix Asphalt Concrete (HMAC)

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	POTABLE AND RECYCLED WATER MAIN DETAIL	APPROVED	REVISED	SHEET 2 OF 9
		MARCH 2008	AUG 2019	
		DD-812-01		



NOTE: Tracer Wire for PVC (Typ. for PVC & HDPE)
NOTE: All Concrete to be 3,000 psi
Note: For all work associated with Recycled Water Valves, refer to DD 110-10, Sht. 1 of 1

PROPERTY OF SAN ANTONIO WATER SYSTEM SAN ANTONIO, TEXAS	INSTALLATION OF NON-GEARED GATE VALVE WITH VALVE BOX AND EXTENSION	APPROVED	REVISED	SHEET 1 OF 1
		MARCH 2008	AUG 2019	
		DD 828-01		

REVISION HISTORY:

NO.	DESCRIPTION	DATE

PROJECT INFORMATION:

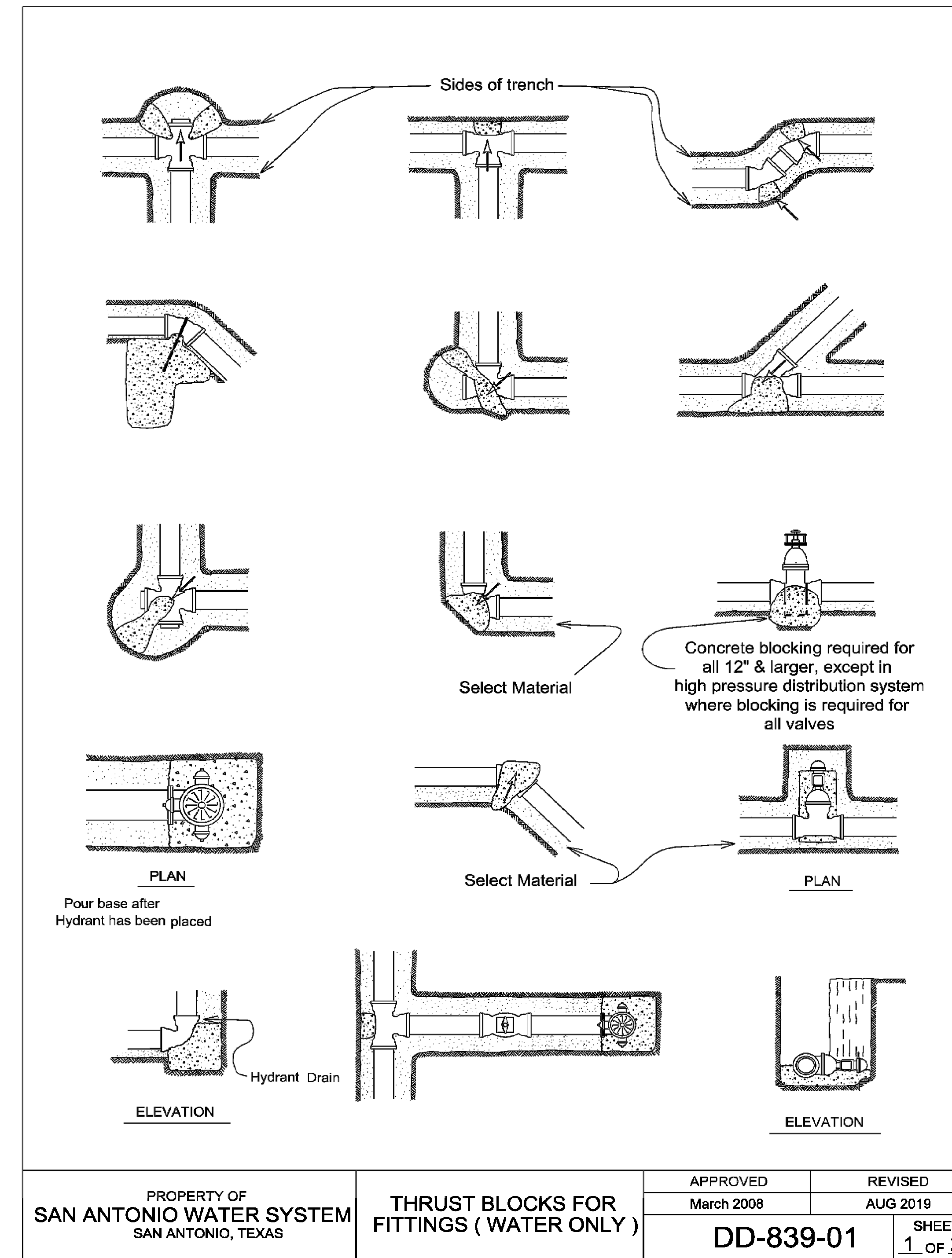
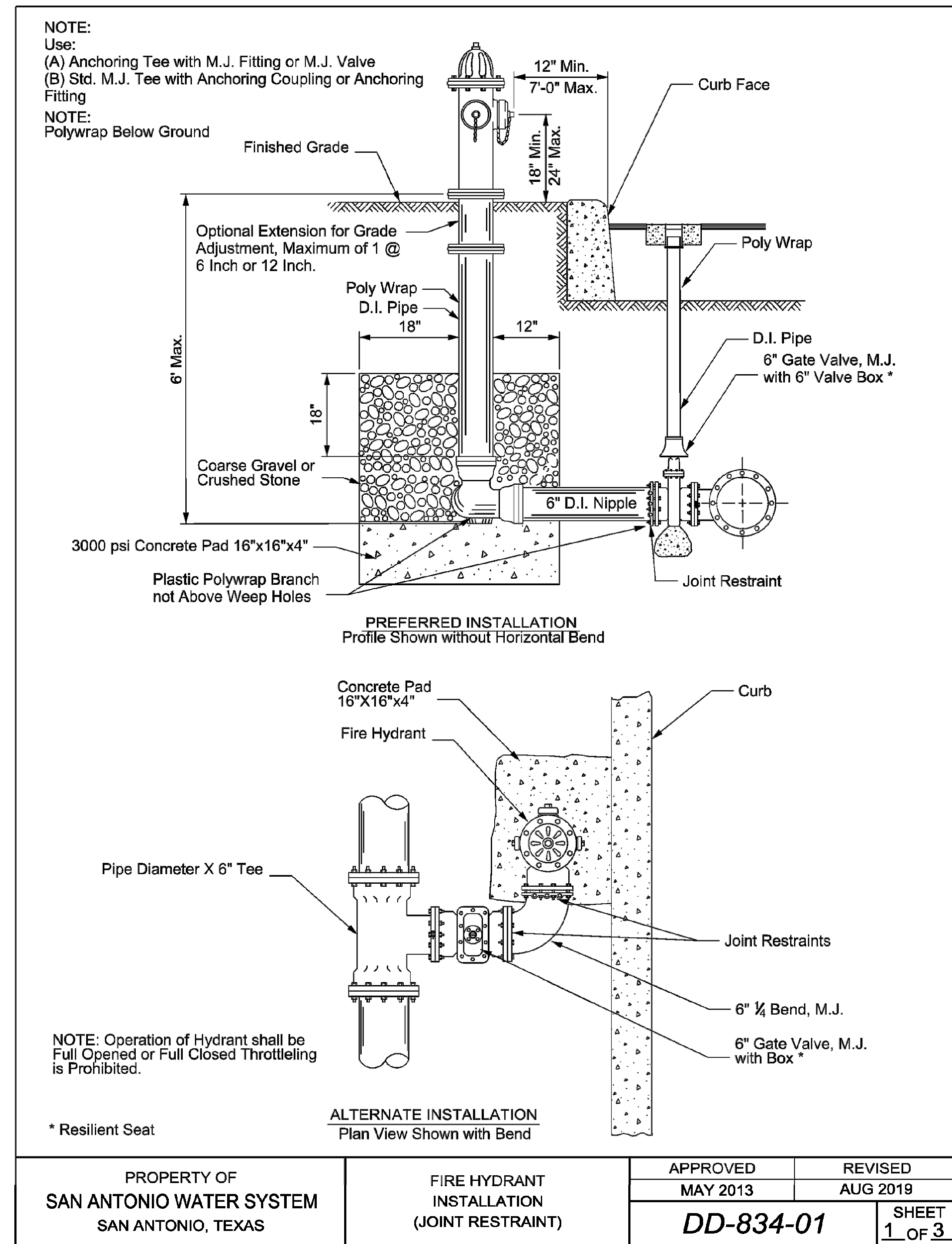
DESIGNED BY:	LDH
DRAWN BY:	HLE
REVIEWED BY:	LDH
PROJECT MANAGER:	NDM

PROJECT NUMBER:
20190310

SHEET TITLE:
WATER DETAILS

ISSUE DATE:
15 AUGUST 2024

SHEET NUMBER:
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Texas Air National Guard - 149th FW
F-16 Mission Training Center (MTC)
Joint Base San Antonio
JBSA - Kelly Annex, Texas

REVISION HISTORY:

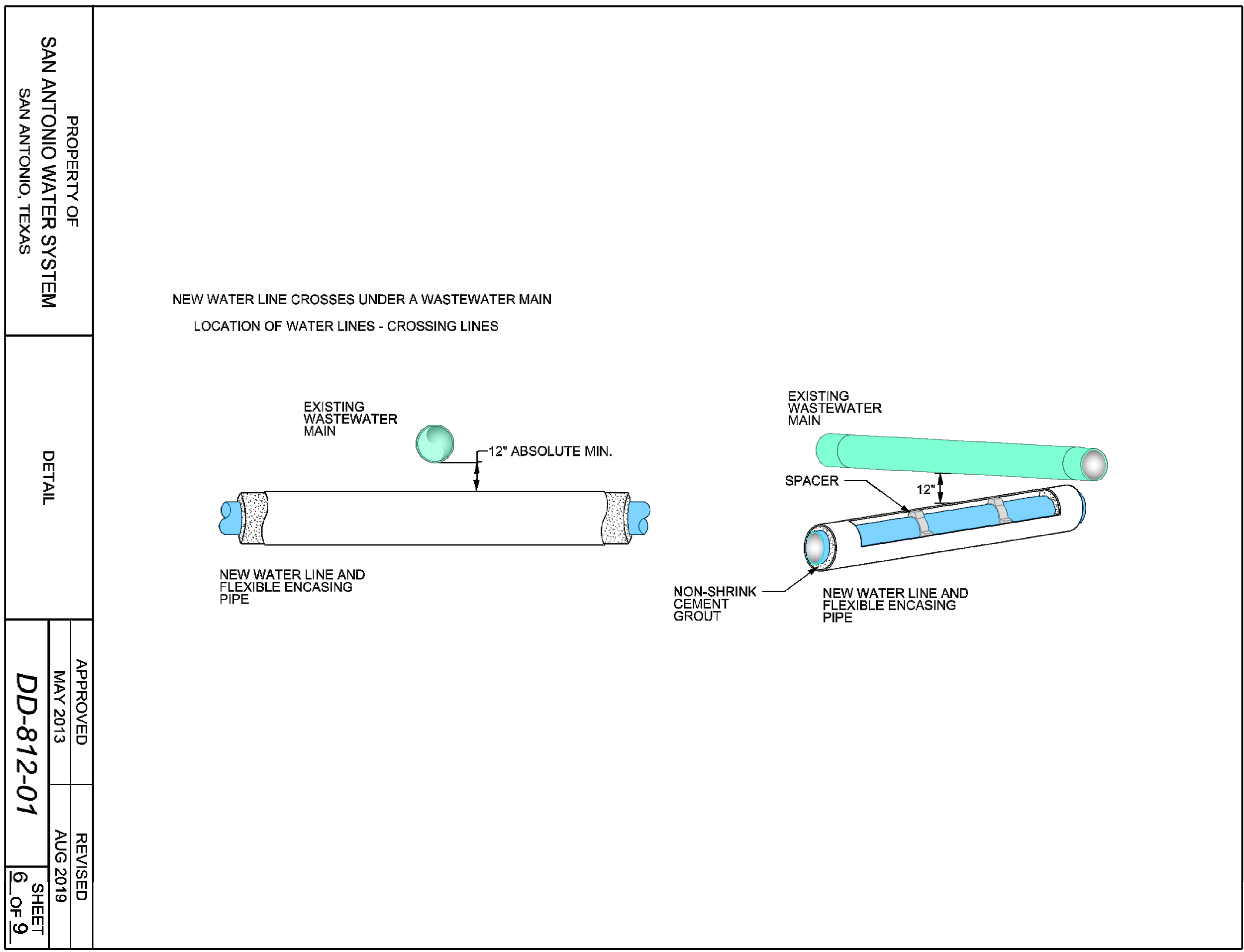
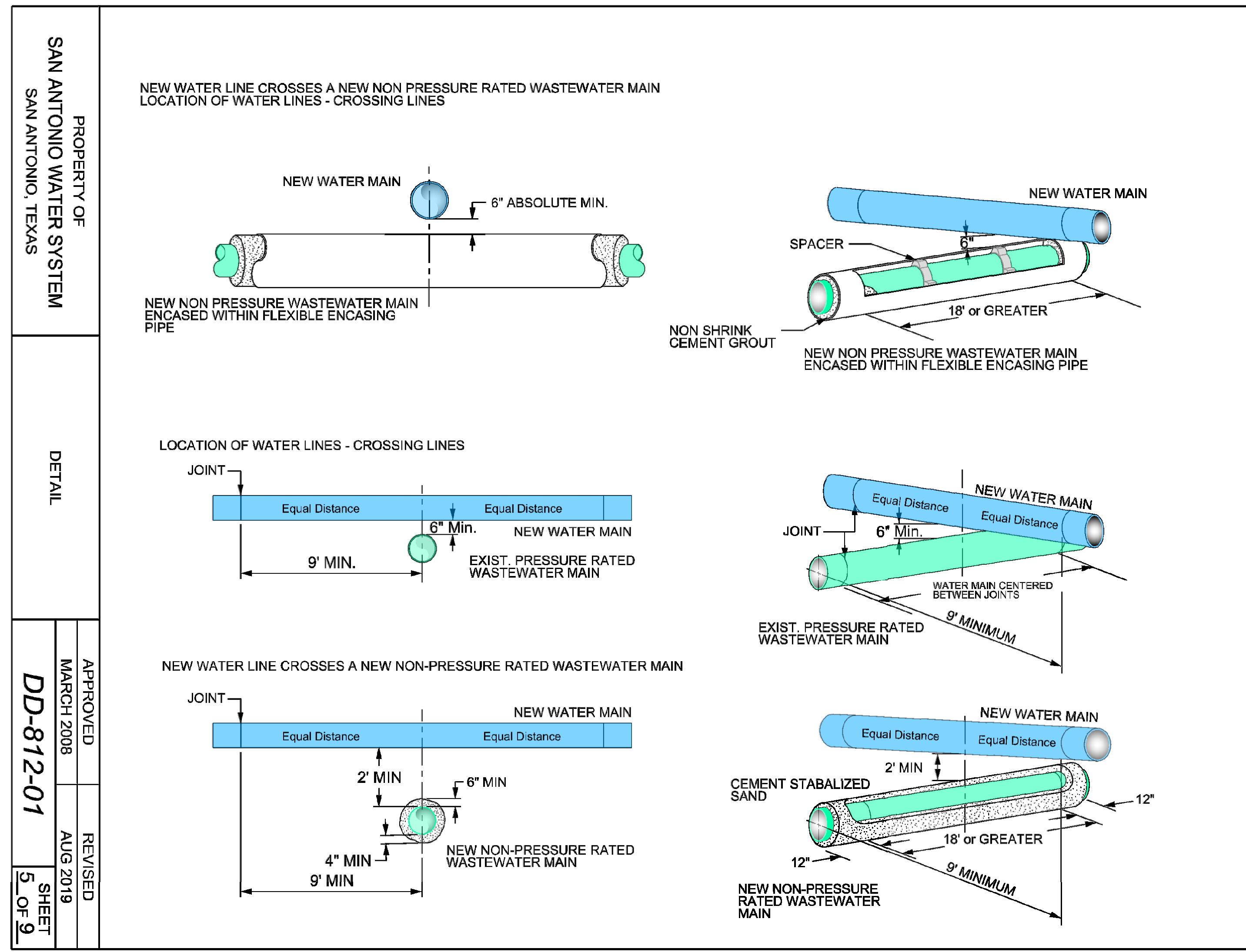
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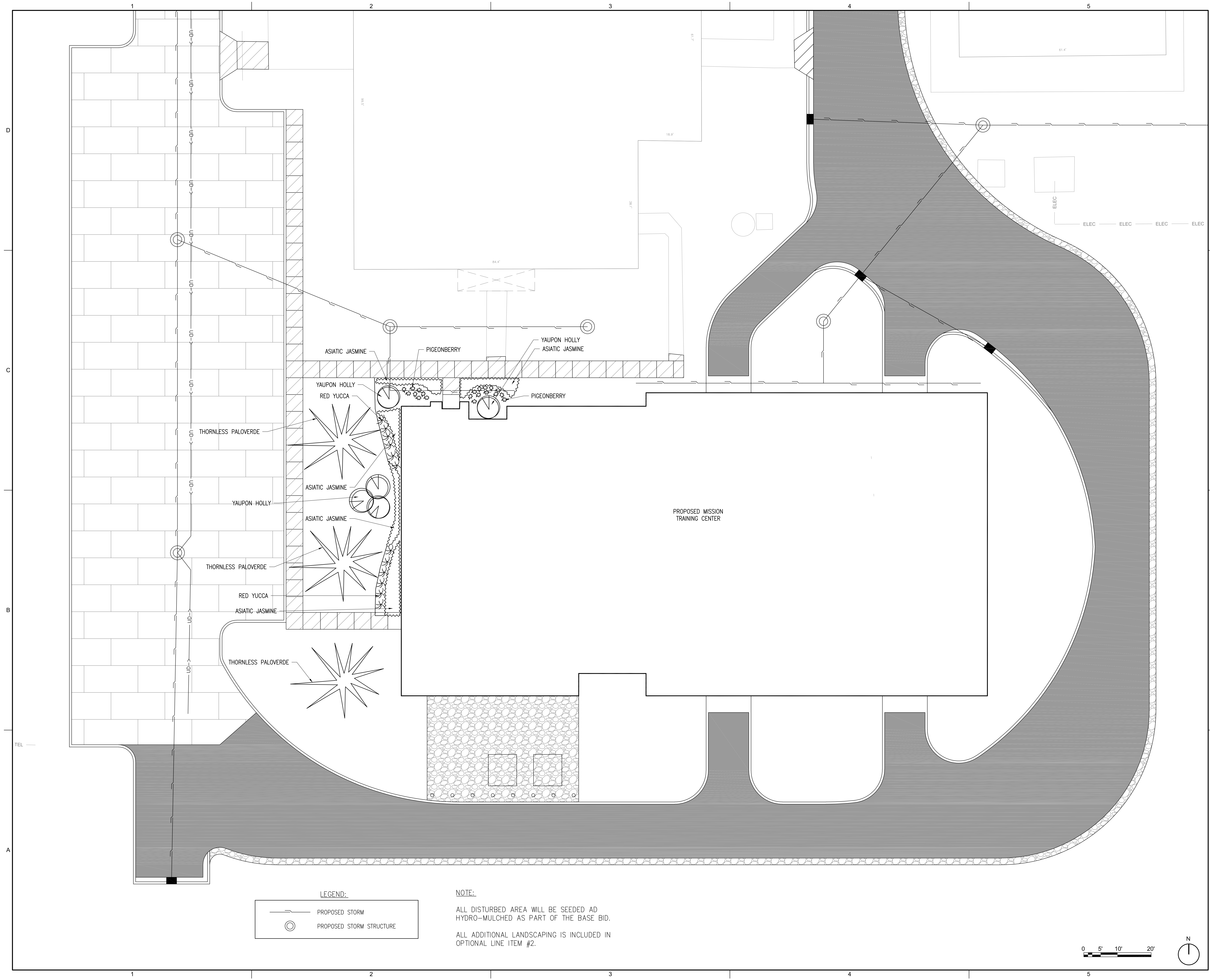
PROJECT INFORMATION:

DESIGNED BY: LDH
DRAWN BY: HLE
REVIEWED BY: LDH
PROJECT MANAGER: NDM

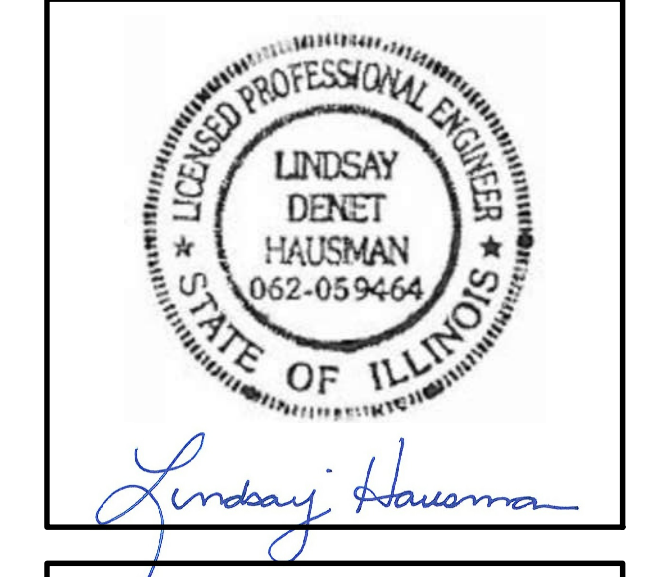
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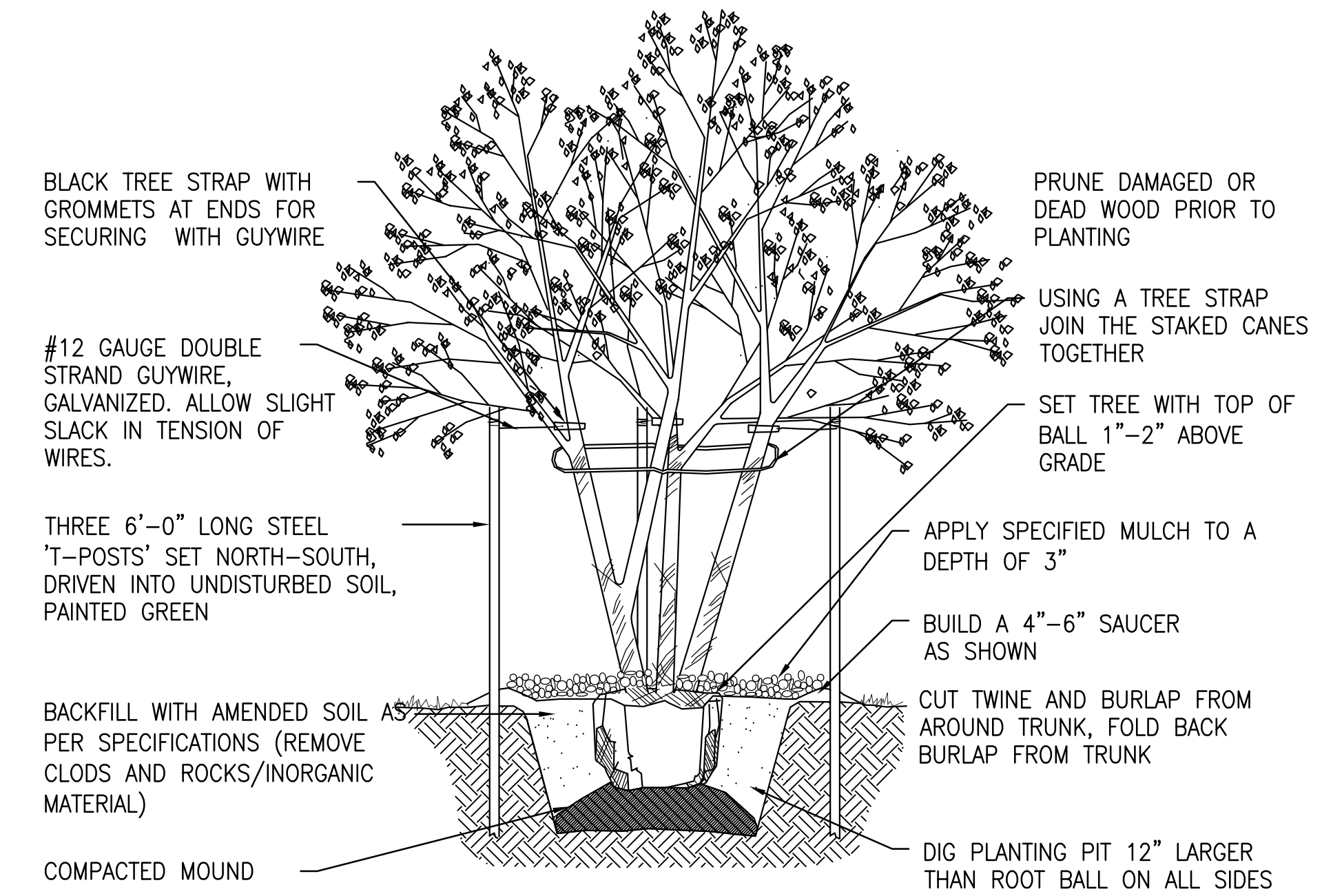
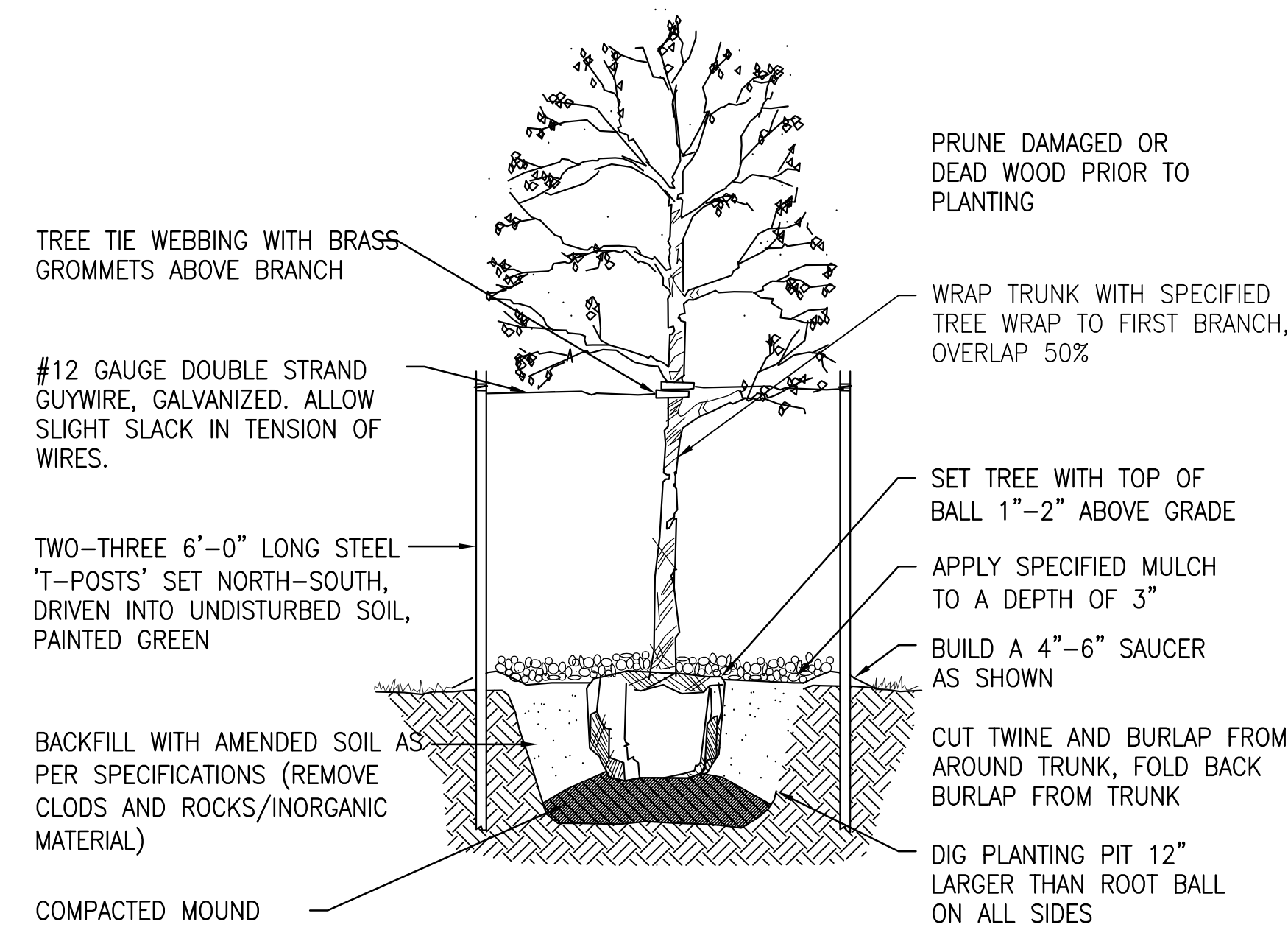
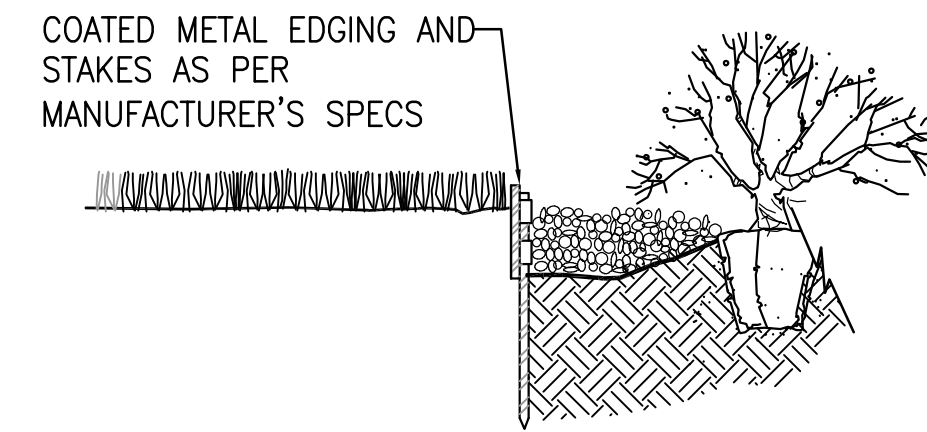
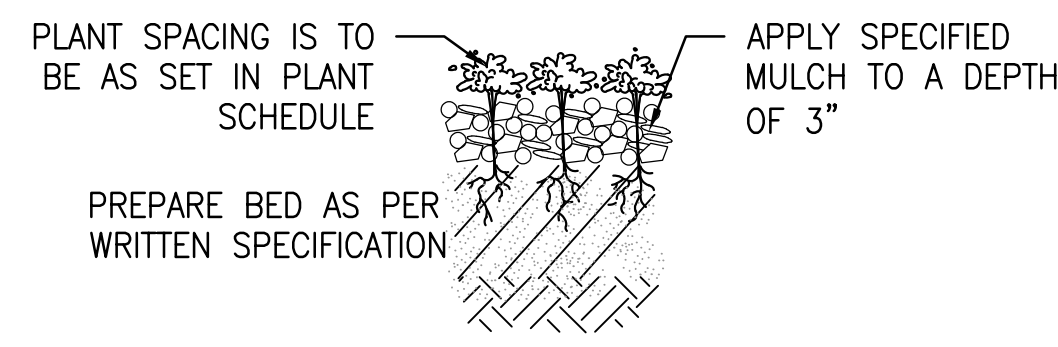
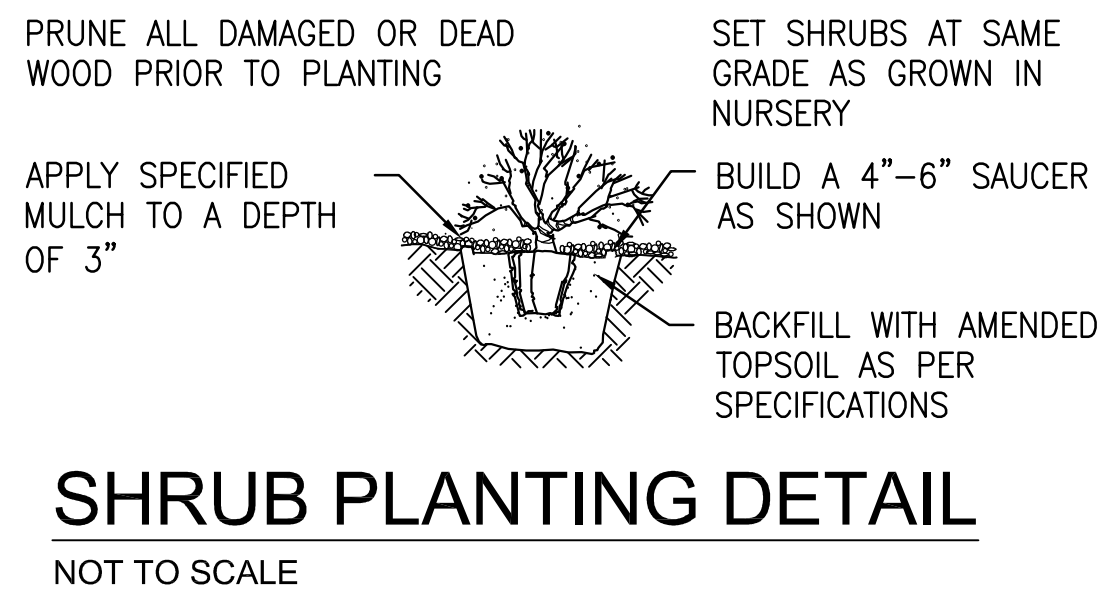
PROJECT INFORMATION:

DESIGNED BY:	LLP
DRAWN BY:	HLE
REVIEWED BY:	LLP
PROJECT MANAGER:	NDM

PROJECT NUMBER:
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 SHEET TITLE:
LANDSCAPE PLANTING PLAN

ISSUE DATE:
15 AUGUST 2024
 SHEET NUMBER:

LP-100



PLANT NOTES:

- CONTRACTOR TO BE RESPONSIBLE FOR COORDINATING WORK WITH OTHER DISCIPLINES AND TRADES.
- CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO EXCAVATION AND BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM PLANTING OPERATIONS. IF PLAN CONFLICTS WITH EXISTING UTILITIES, CONTRACTOR IS TO IMMEDIATELY CONTACT THE OWNER'S REPRESENTATIVE BEFORE CONTINUING WORK.
- NO SUBSTITUTIONS SHALL BE MADE WITHOUT PRIOR APPROVAL FROM THE OWNER'S REPRESENTATIVE.
- LOCATIONS OF PLANTS ARE APPROXIMATE. FIELD ADJUST PLANT LOCATIONS AS NECESSARY.
- ALL PLANT MATERIAL TO BE IN GOOD HEALTH, VIABLE AND IN GOOD SHAPE AND FORM FOR ITS SPECIES. PLANTS TO BE MOIST, FREE OF DEAD, BRUISED AND OR BROKEN BRANCHES AND LEAVES. PLANT MATERIAL TO BE INSPECTED BY OWNER'S REPRESENTATIVE AND ANY PLANT THAT DOES NOT MEET THE STANDARDS AS SET FORTH BY THE AMERICAN STANDARDS INSTITUTE (ANSI) PUBLICATIONS Z60.1-LATEST EDITION WILL BE REJECTED.
- FINISH GRADE FOR PLANTING BEDS SHALL BE 3" BELOW THE TOP OF ADJACENT PAVEMENT, TURF OR CURBS TO ACCOMMODATE MULCH UNLESS OTHERWISE NOTED.
- ADD 2" MINIMUM DECOMPOSED, STABLE, WEED FREE ORGANIC COMPOST TO ALL PLANTING BEDS AND TILL IN TO A DEPTH OF 6"-8". THEN RAKE SOIL SMOOTH PRIOR TO PLANTING.
- APPLY PRE-EMERGENT HERBICIDE TO BED AREAS AFTER PLANTING AND THEN APPLY MULCH.
- ALL AREAS DISTURBED BY CONSTRUCTION AND NOT SHOWN TO BE SURFACED OTHERWISE, I.E. CURBS, PAVING, OR PLANTING BEDS SHALL BE SODDED. REFER TO CIVIL GRADING PLANS FOR LIMITS OF DISTURBANCE.
- ALL LAWN AND LANDSCAPE BEDS SHALL HAVE POSITIVE DRAINAGE AWAY FROM BUILDING AND WALKWAYS.
- PLANT MATERIAL TO BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR BEGINNING ON THE DATE OF SUBSTANTIAL COMPLETION.
- PLANTS WILL BE REPLACED ONE (1) TIME ONLY AFTER PROJECT HAS BEEN ACCEPTED.
- MAINTAIN ALL PLANT MATERIAL AND TURF UNTIL SUBSTANTIAL COMPLETION.
- ALL ITEMS SHOWN ON THE PLANTING PLANS AND DETAILS SHALL BE INCLUDED IN THE COST OF THE PLANTING. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO TREE STAKING, FERTILIZING, EXCAVATION AND WATERING AS REQUIRED BY THE SPECIFICATIONS. ANY ITEM NOT LISTED SHALL BE CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF OTHER ITEMS.
- QUALITY PLANT MATERIALS ARE EXPECTED. NO CONTAINER GROWN TREES OVER 2" CALIPER WILL BE ACCEPTED.

PLANT SCHEDULE					
QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS
ORNAMENTAL TREES					
5	Ilex Vomitoria	Yaupon Holly	4'-5' HEIGHT	AS SHOWN	LEATHERY DARK GREEN LEAVES. GRAY BARK, MULTI-TRUNKED, WITH ROUNDED FORM. FEMALES HAVE BRIGHT RED BERRIES.
3	Parkinsonia X Cercidium	Thornless Paloverde	7'-8' HEIGHT	AS SHOWN	DECIDUOUS, SMALL LEAVES, ATTRACTIVE GREEN BARK, INTERMITTENT YELLOW BLOOMS.
PERENNIALS					
16	Hesperaloe parviflora	Red Yucca	3 GALLON	AS SHOWN	EVERGREEN WITH SOFT, NARROW LEAVES. SPIKES OF RED FLOWERS IN SUMMER. DROUGHT TOLERANT. FULL SUN.
20	Rivina humilis	Pigeonberry			SEMI-EVERGREEN, LOW PERENNIAL WITH PALE FLOWERS AND RED BERRIES. SHADE TOLERANT.
GROUND COVER					
168	Trachelospermum asiaticum	Asiatic Jasmine	3" IN FLATS	12"	EVERGREEN GROUND COVER. SHADE OR SUN TOLERANT.

NOTE:
ALL DISTURBED AREA WILL BE SEEDED AND HYDRO-MULCHED AS PART OF THE BASE BID.
ALL ADDITIONAL LANDSCAPING IS INCLUDED IN OPTIONAL LINE ITEM #2.

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REVIEWED BY:	LLP
PROJECT MANAGER:	NDM

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SHEET TITLE:
**PLANTING DETAILS/
PLANT SCHEDULE**

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