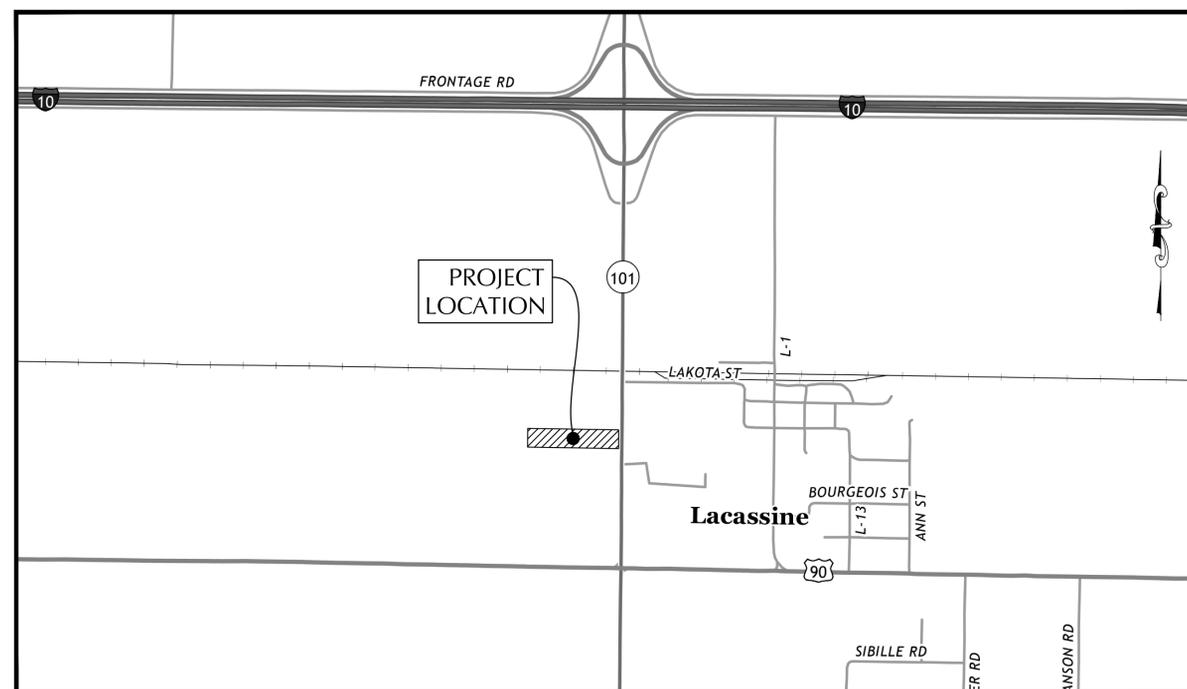


# JEFFERSON DAVIS PARISH WATER & SEWER COMMISSION #1 WATER SYSTEM IMPROVEMENTS

## LACASSINE WATER TREATMENT PLANT PHASE I - BOOSTER STATION



VICINITY MAP  
SCALE: 1" = 1,000'

**BOARD OF COMMISSIONERS**  
 GREG BORDELON, PRESIDENT  
 RAYMOND BROWN, VICE PRESIDENT  
 BILL NAVARRE, SECRETARY/ TREASURER  
 RIC BERKEN  
 COREY DAIGLE  
 INEZ GOODLEY  
 DON JOHNSON

**GENERAL MANAGER**  
 DAVID TRAHAN

**OFFICE MANAGER**  
 KATHY CORMIER



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DATE

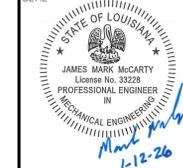
REVISIONS/COMMENTS

NO.

BID SET

CLIENT/PROJECT  
 JEFFERSON DAVIS PARISH  
 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE I - BOOSTER STATION

SEAL



DESIGNED: JMM DRAWN: CNC

PROJECT NO.: A8-23035-DA

DATE: JANUARY, 2026

SCALE: AS SHOWN

SHEET TITLE: COVER

SHEET NO.: G1.0



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**GENERAL SHEETS**

SHEET NO.	DESCRIPTION
G1.0	COVER
G2.0	SHEET INDEX
G3.0	PROJECT NOTES

**CIVIL SHEETS**

SHEET NO.	DESCRIPTION
C1.0	SITE SURVEY
C2.0	OVERALL SITE PLAN
C3.0	ENLARGED PIPING SITE PLAN
C4.0 - C4.1	DRAINAGE AND GRADING PLAN
C5.0	STANDARD WATER LINE DETAILS
C6.0	DRAINAGE DETAILS
C7.0	PAVING DETAILS
C8.0	CHAIN LINK FENCE DETAIL

**ARCHITECTURAL SHEETS**

SHEET NO.	DESCRIPTION
A1.0	BUILDING FLOOR PLAN
A1.1	BUILDING SECTION
A1.2	BUILDING ELEVATIONS
A2.0	BUILDING MECHANICAL PLAN

**MECHANICAL SHEETS**

SHEET NO.	DESCRIPTION
M1.0	BUILDING PIPING PLAN
M1.1	BUILDING PIPING SECTIONS
M2.0	GROUND STORAGE TANK PLAN
M2.1 - M2.2	GROUND STORAGE TANK DETAILS
M3.0	GROUND STORAGE TANK PLAN
M3.1 - M3.3	GROUND STORAGE TANK DETAILS
M4.0	PIPING DETAILS
M5.0	PIPE SUPPORT DETAILS

**STRUCTURAL SHEETS**

SHEET NO.	DESCRIPTION
S0.1	STRUCTURAL GENERAL NOTES
S0.2	WIND LOADS & ABBREVIATIONS
S1.0	BUILDING FOUNDATION PLAN
S2.0	TYPICAL FOUNDATION SECTIONS
S3.0	TYPICAL FOUNDATION DETAILS
S4.0	TANK FOUNDATION PLAN & SECTIONS
S5.0	MISCELLANEOUS FOUNDATION DETAILS

**ELECTRICAL SHEETS**

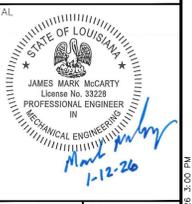
SHEET NO.	DESCRIPTION
E1.0	RISER DIAGRAM
E2.0 - E2.1	INTERCONNECTION DIAGRAMS
E3.0	RUN SCHEDULE
E3.1	PANEL SCHEDULES
E4.0	ELECTRICAL FLOOR PLAN
E5.0	ELECTRICAL SITE PLAN
E6.0	STANDARD ELECTRICAL DETAILS

**DOTD STANDARD & SPECIAL PLANS**

SHEET NO.	DESCRIPTION	REV. DATE
R1.0 - R1.1	BM-01	10/26/2023
R2.0	CB-01	11/02/2000
R3.0 - R3.2	DW-01	08/04/2022
R4.0 - R4.1	EC-01	10/01/2008
R5.0	PC-01	10/02/2023

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 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE I - BOOSTER STATION



DESIGNED	DRAWN
JMM	CNC
PROJECT NO. A8-23035-DA	
DATE JANUARY, 2026	
SCALE NONE	
SHEET TITLE SHEET INDEX	
SHEET NO. G2.0	













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**JEFFERSON DAVIS PARISH**  
**WATER & SEWER COMMISSION #1**  
**WATER SYSTEM IMPROVEMENTS**  
**LACASSINE WATER TREATMENT PLANT**  
**PHASE I - BOOSTER STATION**

DESIGNED  
**JMM**  
 DRAWN  
**CNC**

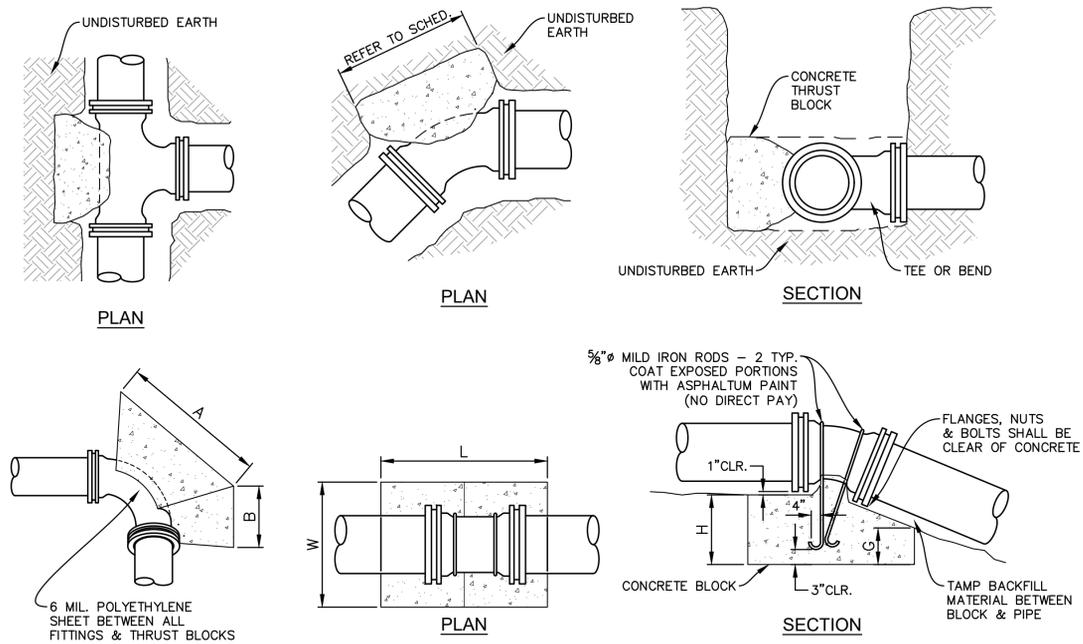
PROJECT NO.  
**A8-23035-DA**

DATE  
**JANUARY, 2026**

SCALE  
**NONE**

SHEET TITLE  
**STANDARD WATER LINE DETAILS**

SHEET NO.  
**C5.0**



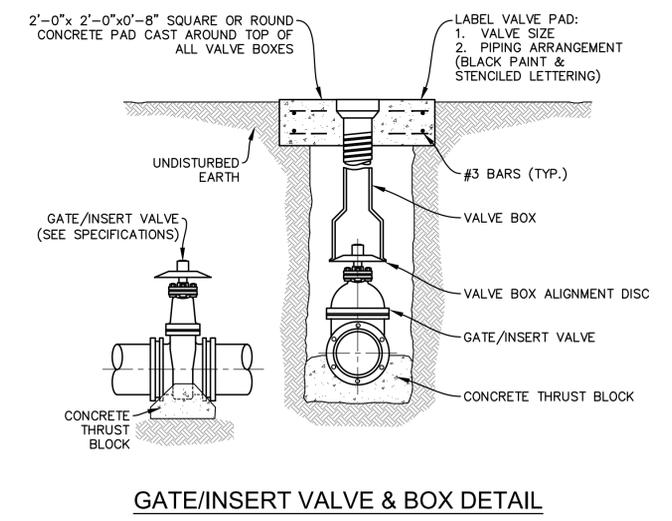
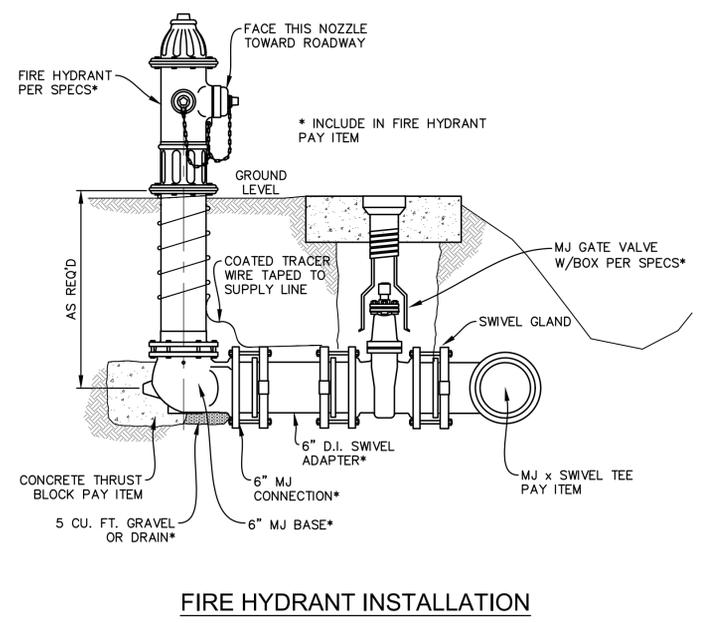
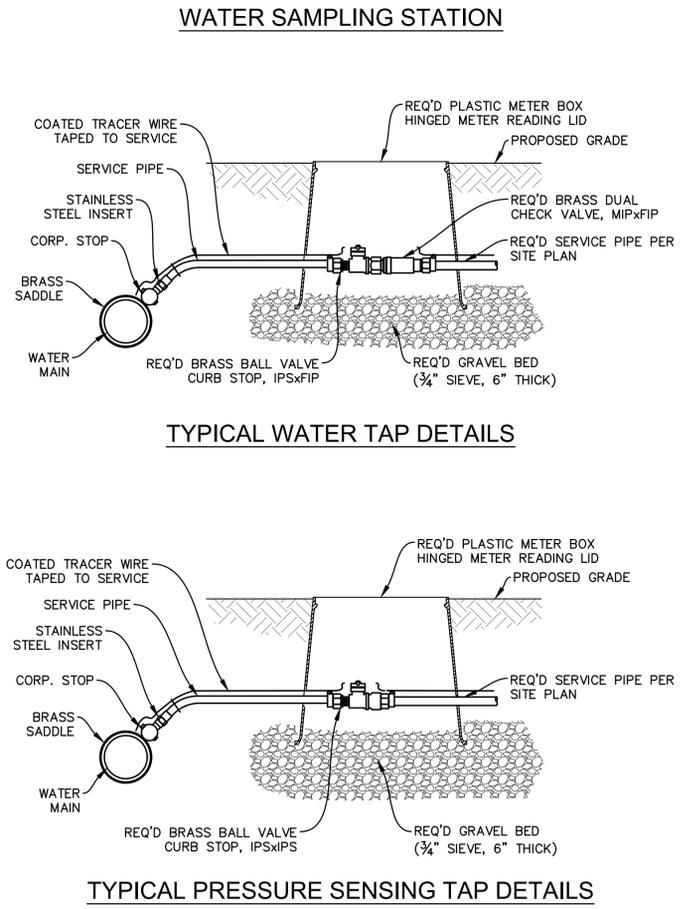
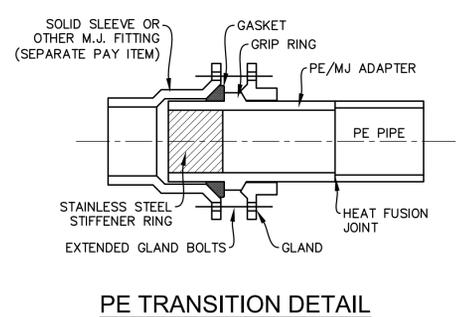
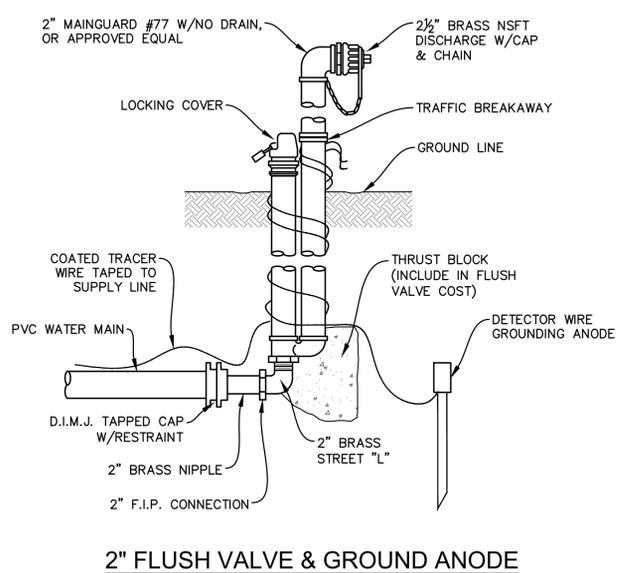
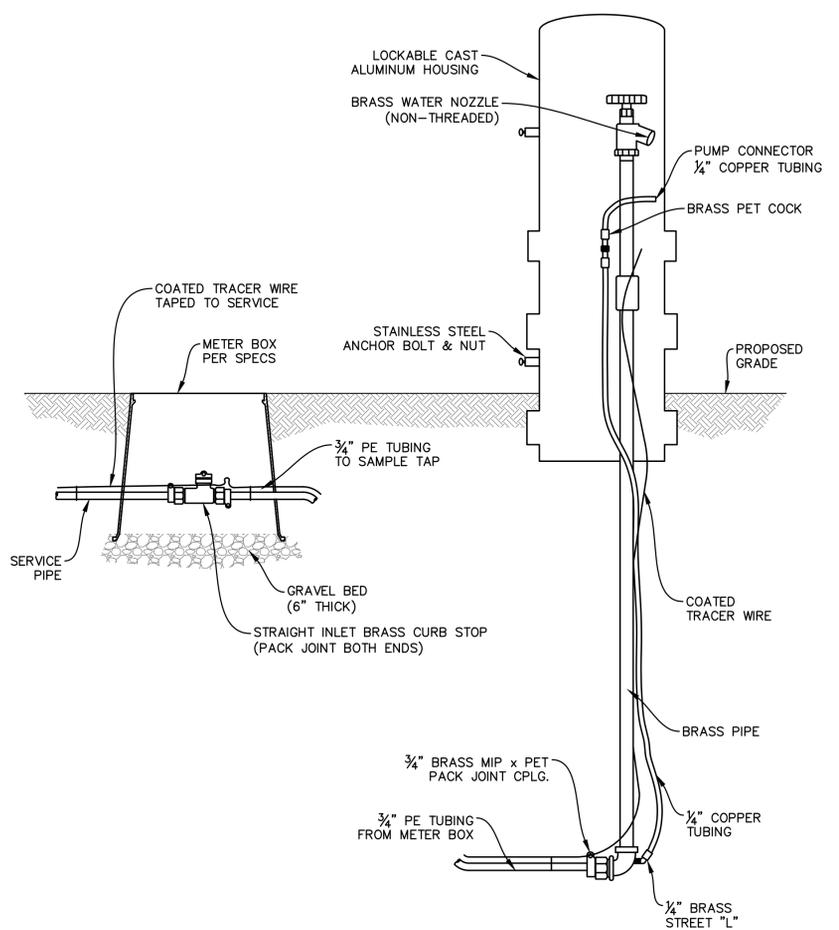
**THRUST BLOCK - DIMENSION SCHEDULE**

PIPE SIZE	90° BEND		TEE		45° BEND		22.5° BEND	
	A	B	A	B	A	B	A	B
<6"	3'-0"	2'-0"	3'-0"	1'-8"	2'-0"	2'-0"	2'-0"	1'-0"
8"	4'-0"	2'-6"	3'-0"	2'-0"	3'-0"	2'-0"	2'-6"	1'-3"
10"	4'-0"	3'-0"	3'-0"	2'-6"	3'-0"	2'-0"	2'-6"	1'-6"
12"	4'-8"	3'-6"	3'-8"	3'-0"	3'-4"	2'-6"	2'-8"	1'-9"
14"	5'-4"	4'-0"	4'-4"	3'-6"	3'-8"	3'-0"	2'-10"	2'-1"
16"	6'-0"	4'-6"	5'-0"	4'-0"	4'-0"	3'-6"	3'-0"	2'-6"
18"	7'-0"	7'-0"	6'-0"	6'-0"	5'-0"	4'-0"	3'-6"	3'-0"

**THRUST BLOCK - DIMENSION SCHEDULE - UPWARD THRUST**

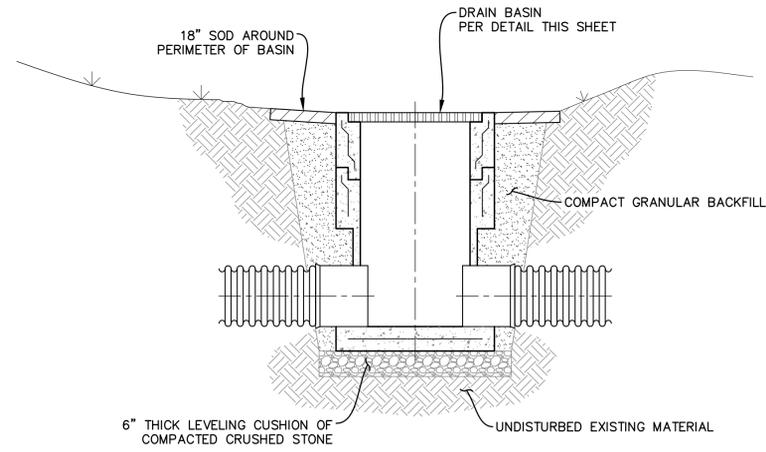
PIPE SIZE	11.25° BEND			22.5° BEND			45° BEND			
	L	W	H	L	W	H	L	W	H	
6"	2'-0"	2'-0"	1'-0"	9"	2'-0"	2'-0"	1'-0"	3'-0"	2'-0"	2'-0"
8"	2'-0"	2'-0"	1'-0"	9"	3'-0"	2'-0"	1'-0"	4'-6"	2'-0"	3'-0"
10"	3'-0"	2'-0"	2'-0"	1'-8"	4'-0"	2'-0"	1'-0"	6'-0"	2'-0"	3'-8"
12"	3'-0"	2'-0"	2'-0"	1'-8"	6'-0"	2'-0"	1'-0"	7'-0"	2'-6"	4'-0"

- NOTES**
- JOINTS NOT TO BE ENCASED IN CONCRETE.
  - ALL THRUST BLOCKS TO BE CONSTRUCTED AGAINST UNDISTURBED EARTH. WHERE EXISTING EARTH HAS AN ALLOWABLE LATERAL BEARING PRESSURE LESS THAN 500 POUNDS PER SQUARE FOOT OR A STANDARD PENETRATION RESISTANCE (A.S.T.M. S-1586) OF LESS THAN 2, CONTRACTOR SHALL PROVIDE ALTERNATE THRUST BLOCK DESIGN AND SUBMIT IT TO THE ENGINEER FOR APPROVAL. FOR PRESSURES IN EXCESS OF 100 PSI, BLOCKING SHALL BE INCREASED PROPORTIONALLY.
  - ALL D.I.M.J. FITTINGS SHALL BE INSTALLED WITH MEGA-LUG, OR APPROVED EQUAL, RESTRAINING GLANDS. RESTRAINING GLANDS WILL NOT BE MEASURED FOR PAYMENT AND WILL NOT BE INCLUDED IN THE WEIGHT OF THE FITTINGS FOR PAYMENT PURPOSES.

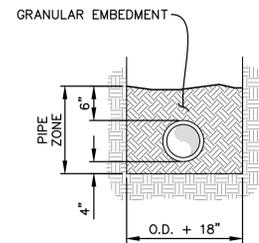


**NOTES:**

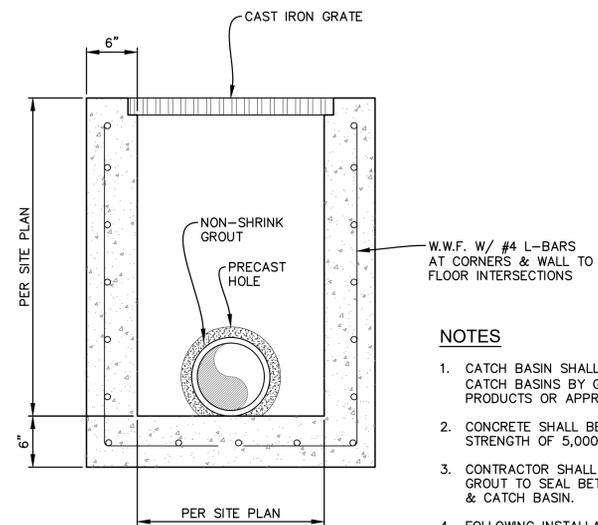
1. CONTRACTOR SHALL UTILIZE A CATCH BASIN MEETING THE REQUIREMENTS OF LADOTD STANDARD PLAN CONCRETE OPEN TOP CATCH BASIN (CB-01) AS SHOWN ON SHEET R2.0 INSIDE THE LADOTD RIGHT-OF-WAY.
2. CATCH BASINS WITHIN THE SITE SHALL BE PRECAST AS SHOWN ON THIS SHEET.
3. DRAINAGE PIPING WITHIN THE SITE SHALL BE INSTALLED & BEDDED AS SHOWN ON THIS SHEET.
4. DRAINAGE PIPE INSIDE THE LADOTD RIGHT-OF-WAY SHALL BE INSTALLED IN ACCORDANCE WITH LADOTD STANDARD PLAN SHEETS & THE 2016 LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.



**TYPICAL PRECAST BASIN INSTALLATION**



**GRAVITY PIPE BEDDING (NON-DOTD)**



**PRECAST CATCH BASIN**

**NOTES**

1. CATCH BASIN SHALL BE PRECAST CATCH BASINS BY GAINEY'S CONCRETE PRODUCTS OR APPROVED EQUAL.
2. CONCRETE SHALL BE A COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
3. CONTRACTOR SHALL USE NON-SHRINK GROUT TO SEAL BETWEEN THE PIPING & CATCH BASIN.
4. FOLLOWING INSTALLATION OF THE PIPING, THE CONTRACTOR SHALL ALSO GROUT THE BOTTOM OF THE BASIN TO FORM AN INVERT.
5. CAST IRON FRAME & GRATE SHALL BE V-5700 SERIES BY VULCAN FOUNDRY, OR APPROVED EQUAL.



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REVISIONS/COMMENTS

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CLIENT/PROJECT  
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 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE I - BOOSTER STATION

SEAL



DESIGNED: JMM DRAWN: CNC

PROJECT NO.: A8-23035-DA

DATE: JANUARY, 2026

SCALE: NONE

SHEET TITLE: DRAINAGE DETAILS

SHEET NO.: C6.0



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DESIGNED: JMM DRAWN: CNC

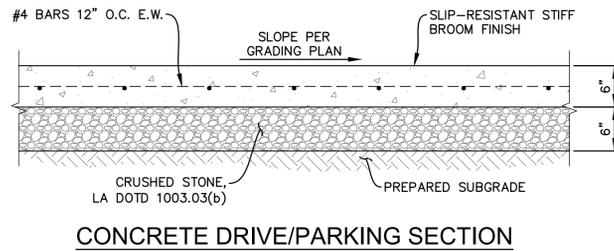
PROJECT NO.: A8-23035-DA

DATE: JANUARY, 2026

SCALE: NONE

SHEET TITLE: PAVING DETAILS

SHEET NO.: C7.0

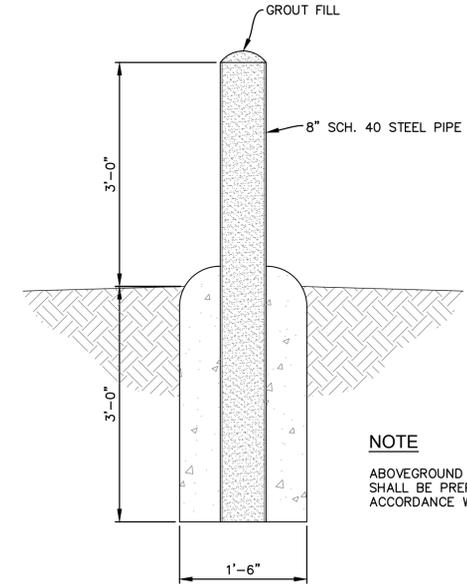
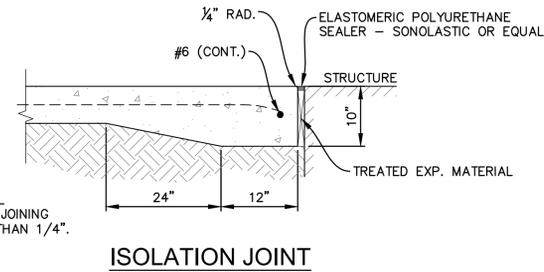


**GENERAL NOTES**

1. CRUSHED STONE SHALL BE COMPACTED TO 95% OF THE MAX. DENSITY PER ASTM D698 AT -1% TO 3% OPTIMUM MOISTURE CONTENT.
2. PAVING CONCRETE MIX: LADOTD CLASS M, 5% AIR, MAX. 20% FLY ASH.
3. FINISH: BROOMED, NON-SLIP.
4. EXPOSED EDGES OF ALL CONCRETE SHALL RECEIVE A 1/4" RADIUS.
5. SAW-CUT JOINTS SHALL BE CUT WITHIN 4-24 HOURS OF CONCRETE PLACEMENT.

**NOTE**

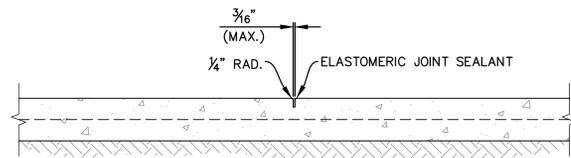
DIFFERENCE IN VERTICAL ELEVATION BETWEEN ADJOINING SLABS MUST BE LESS THAN 1/4".



**NOTE**

ABOVEGROUND PORTION OF BOLLARD SHALL BE PREPARED & PAINTED IN ACCORDANCE WITH THE SPECIFICATIONS.

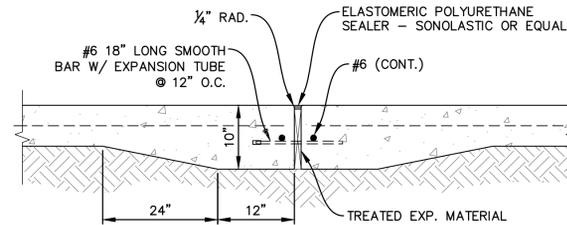
**TYPICAL BOLLARD**



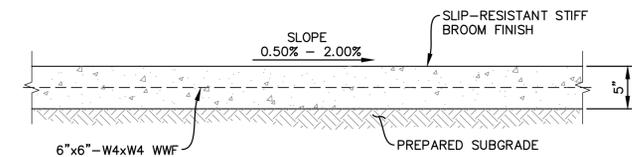
**DUMMY JOINT**

**DUMMY JOINT NOTES**

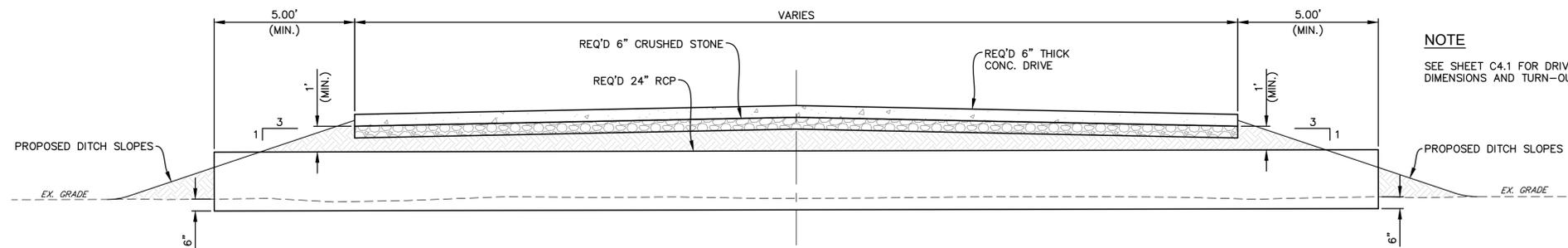
1. DUMMY JOINTS IN SIDEWALKS SHALL BE TOOLED. DUMMY JOINTS IN PARKING AREAS SHALL BE SAW CUT.
2. DUMMY JOINTS FOR 6" PAVING SHALL BE 1 1/2" DEEP. DUMMY JOINTS FOR 5" PAVING SHALL BE 1 1/4" DEEP. JOINTS SHALL BE APPROXIMATELY 1/8" WIDE.



**EXPANSION JOINT**



**CONCRETE WALKWAY SECTION**



**CONCRETE DRIVE TYPICAL SECTION AT CULVERT CROSSING**

SCALE: NONE

**NOTE**

SEE SHEET C4.1 FOR DRIVE DIMENSIONS AND TURN-OUT RADII.

P:\We commission\132035\DA\Drawings\Plans\23035-DA\_PAVING DETAILS.dwg - Export1 1/13/2026 3:01 PM



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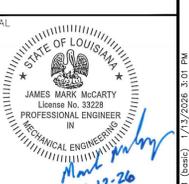
CONSULTANT

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 PHASE I - BOOSTER STATION



DESIGNED JMM DRAWN CNC

PROJECT NO. A8-23035-DA

DATE JANUARY, 2026

SCALE NONE

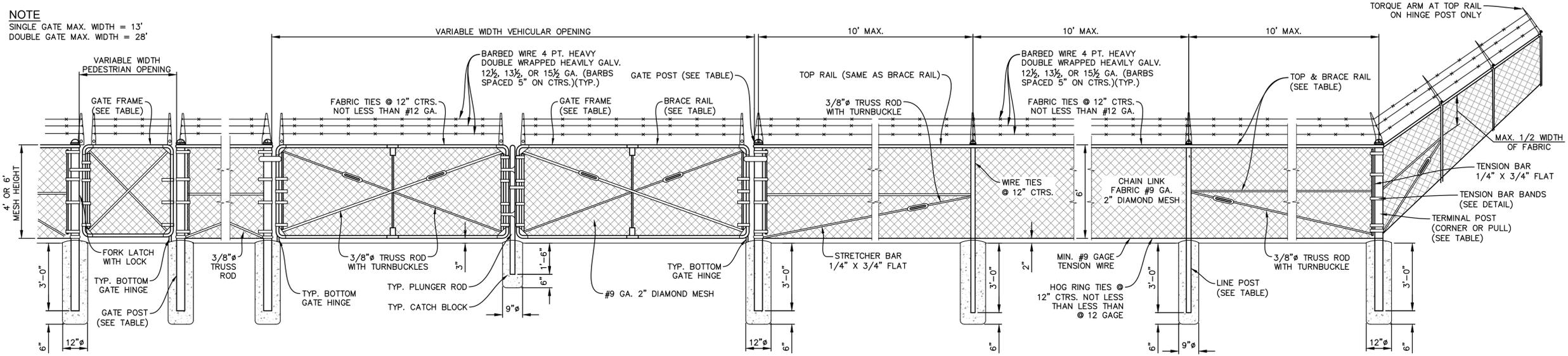
SHEET TITLE

CHAIN LINK FENCE  
 DETAIL

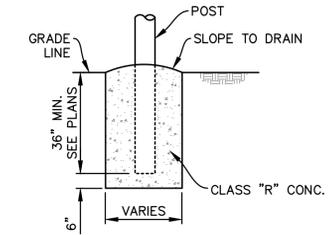
SHEET NO.

C8.0

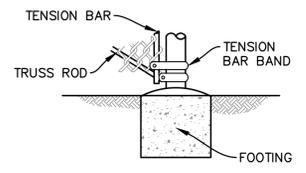
**NOTE**  
 SINGLE GATE MAX. WIDTH = 13'  
 DOUBLE GATE MAX. WIDTH = 28'



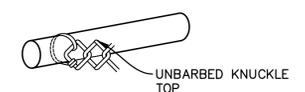
**CHAIN LINK FENCE DETAIL**  
 (4' OR 6' HEIGHT)



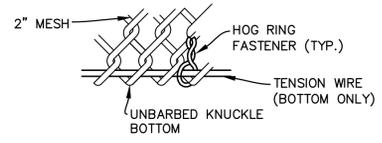
**DETAIL OF POST FOOTING**



**TERMINAL POST DETAIL**



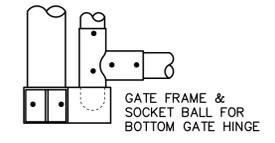
**TIE WIRES FOR  
 TOP OR BOTTOM RAILS**



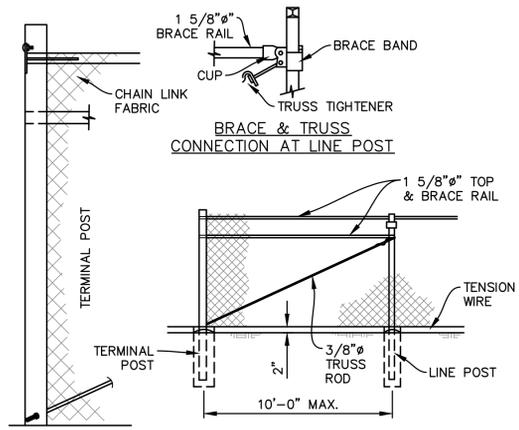
**FABRIC & TENSION WIRE DETAIL**  
 NOTE: TENSION WIRE REQUIRED ON BOTTOM ONLY.



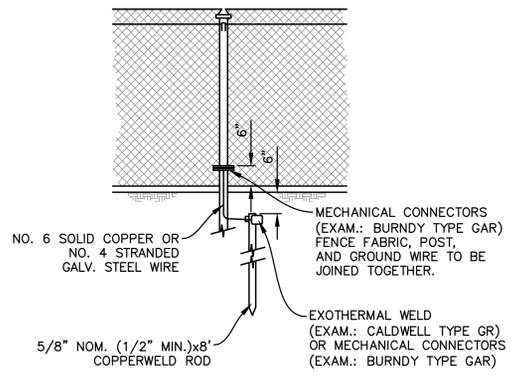
**TYPICAL STRETCHER  
 BAR BAND**



**TYPICAL BOTTOM  
 GATE HINGE**



**ALTERNATE TERMINAL POST & DETAILS**



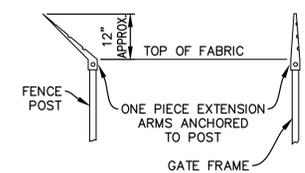
**DETAIL OF GROUND WIRES  
 FOR FENCES**

**CHAIN LINK FENCE NOTES**

MINIMUM YIELD STRENGTH FOR ALL POSTS AND BRACES = 45 KSI. SEE ASTM A120 FOR ADDITIONAL DETAILS.  
 THE FENCE INSTALLATION AND DETAILS AS SHOWN ARE TYPICAL AND MAY VARY IN ACCORDANCE WITH DIFFERENT MANUFACTURERS, PROVIDED THEY MEET THE STANDARD SPECIFICATIONS.  
 TYPICAL INSTALLATION PLAN MAY VARY AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. LOCATION OF GATES TO BE SHOWN ON PLANS.  
 LATERAL FENCE TO BE SAME CONSTRUCTION AS FRONTAL FENCE.  
 ALL BOLTS TO BE UPSET TO DISCOURAGE VANDALISM.  
 GROUNDING DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS.  
 CONNECTIONS TO ALUMINUM ALLOY OR ALUMINUM COATED FENCE TO BE MADE WITH STEEL MECHANICAL CONNECTORS. ALL OTHER MECHANICAL CONNECTORS TO BE BRONZE.  
 ALL CONNECTION METHODS TO BE APPROVED BY PROJECT ENGINEER.

	OUTSIDE DIA. (INCHES)	LBS. (PER LF)
LINE POST	2 3/8	3.65
BRACE RAIL	1 5/8	2.27
TERMINAL POST (CORNER OR PULL)	4	9.10
GATE POST	4	9.10
GATE FRAME	2	2.72

SEE ASTM A120 FOR ADDITIONAL DETAILS



**TYPICAL STRETCHER**

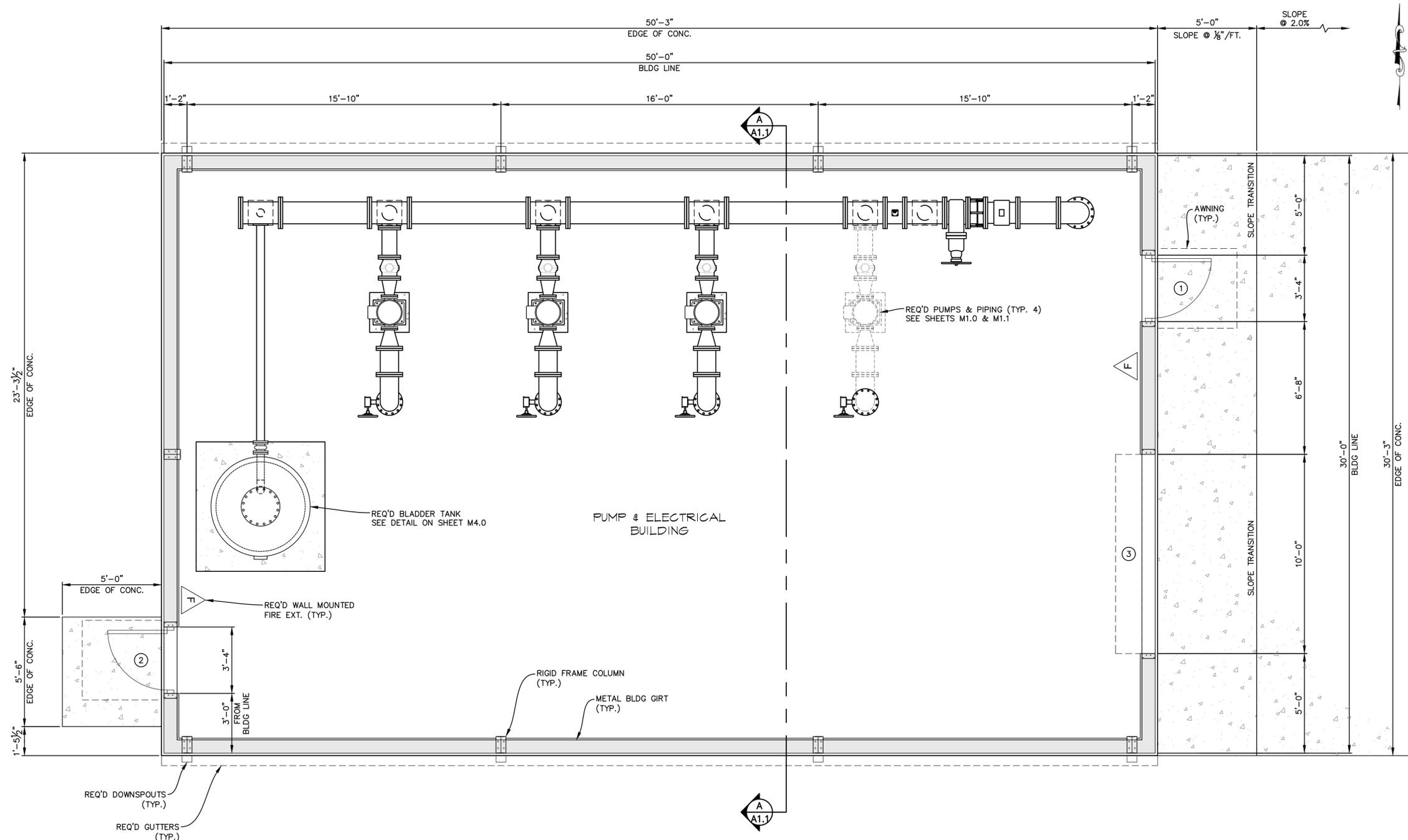
**SCHEDULE OF OPENINGS**

○ HOLLOW METAL DOORS & FRAMES															
TYPE	DOOR					FRAME		ACCESSORIES						REMARKS	
	SIZE	THICK	GAUGE	INSULATION	DOOR SWING	GAUGE	WELD	LOCK	DEADBOLT	CLOSER	THRESHOLD	WEATHER STRIPPING	STOP		
①	3' x 7'	1 3/4"	16	YES	RHR	16	FACE	MORTISE	NO	YES	YES	YES	NO	GALVANIZED DOOR & FRAME	
②	3' x 7'	1 3/4"	16	YES	LHR	16	FACE	MORTISE	NO	YES	YES	YES	NO	GALVANIZED DOOR & FRAME	

○ OVERHEAD ROLLING DOORS							
TYPE	OPENING WIDTH	OPENING HEIGHT	EAVE HEIGHT	MOUNTING	OPERATOR	DRIVE END	REMARKS
③	10'-0"	10'-0"	12'-0"	INTERIOR FACE-OF-WALL	CHAIN HOIST	RIGHT SIDE	

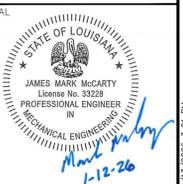
**NOTES**

- METAL BUILDING SHALL BE DESIGNED AND SEALED BY A LOUISIANA LICENSED P.E.
- BLDG. TO BE DESIGNED IN ACCORDANCE WITH 2021 IBC (INCLUDING SEISMIC LOADING) & MBMA MANUAL.
- REFER TO SHEET S0.1 FOR LOADING INFORMATION.
- GIRTS TO BE MOUNTED "FLUSH" WITH EXTERIOR FLANGES OF COLUMNS.
- PRIMARY & SECONDARY STEEL FINISH: H.D. GALVANIZED.
- WHERE PROPOSED PIPING PENETRATES THE BUILDING WALL PANELS, THE CONTRACTOR AND BUILDING MANUFACTURER SHALL PROVIDE NEAT AND ATTRACTIVE WATER-PROOF FLASHING. FLASHING DETAILS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. FLASHING MUST MATCH WALL PANEL COLORS.
- EXTERIOR DOOR LANDING SHALL BE WITHIN 1/2" OF FINISHED FLOOR AND SHALL SLOPE AWAY FROM THE BUILDING AT 1/8"/FT.
- FIRE EXTINGUISHER SHALL BE MULTI-PURPOSE ABC DRY CHEMICAL EXTINGUISHER, LARSENS MODEL MP10, OR APPROVED EQUAL. MOUNTING BRACKET SHALL BE ENAMELED STEEL WITH 3 WALL ANCHORS. TOP OF EXTINGUISHER SHALL BE 3 1/2" ABOVE FINISHED FLOOR.
- INTERIOR WALLS & CEILINGS SHALL HAVE A FLAME SPREAD OF 0-200 & A SMOKE DEVELOPMENT RATING OF 0-450.
- INSULATION WHETHER CONCEALED OR EXPOSED SHALL HAVE A FLAME SPREAD OF 0-25 & A SMOKE DEVELOPMENT RATING OF 0-450.
- LINER PANELS SHALL BE 8' IN HEIGHT.
- THRESHOLDS SHALL NOT EXCEED 1/2" IN HEIGHT & SHALL BE BEVELED IF OVER 1/4".



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DATE
REVISIONS/COMMENTS
NO.

CLIENT/PROJECT  
**JEFFERSON DAVIS PARISH  
 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE I - BOOSTER STATION**



DESIGNED <b>JMM</b>	DRAWN <b>CNC</b>
PROJECT NO. <b>A8-23035-DA</b>	
DATE <b>JANUARY, 2026</b>	
SCALE <b>3/8" = 1'-0"</b>	
SHEET TITLE <b>BUILDING FLOOR PLAN</b>	
SHEET NO. <b>A1.0</b>	



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 PHASE I - BOOSTER STATION

SEAL



DESIGNED: JMM DRAWN: CNC

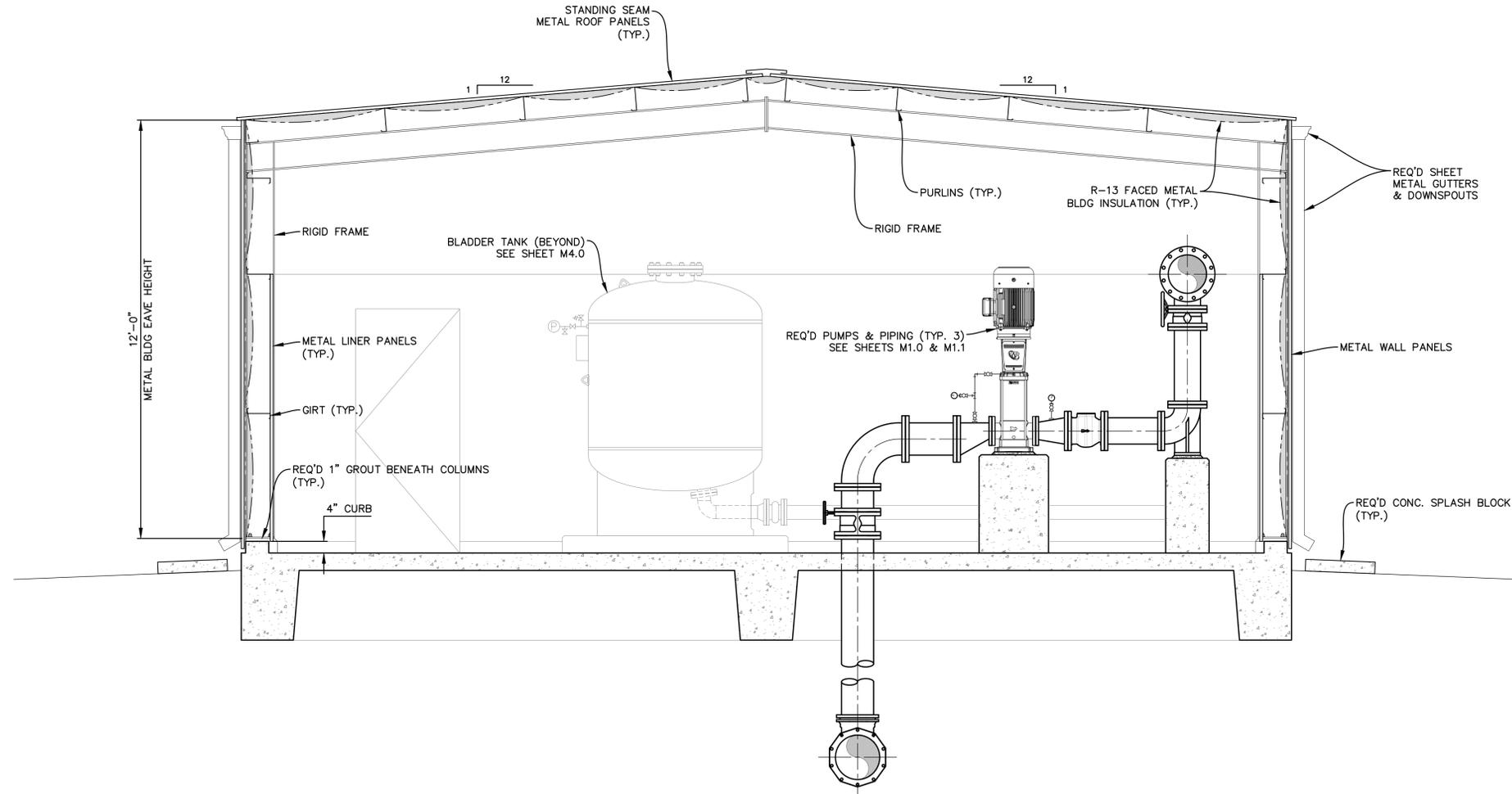
PROJECT NO.: A8-23035-DA

DATE: JANUARY, 2026

SCALE: 1/2" = 1'-0"

SHEET TITLE:  
 BUILDING SECTION

SHEET NO.: A1.1



**PUMP & ELECTRICAL BUILDING SECTION A-A**  
 SCALE: 1/2" = 1'-0"



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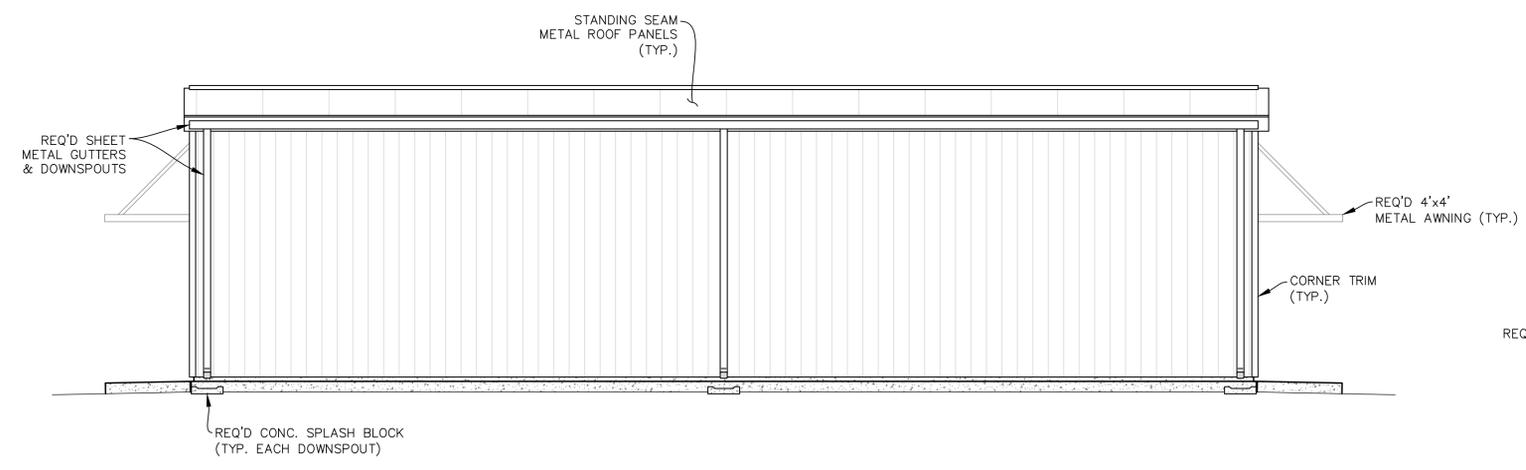
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DATE: JANUARY, 2026

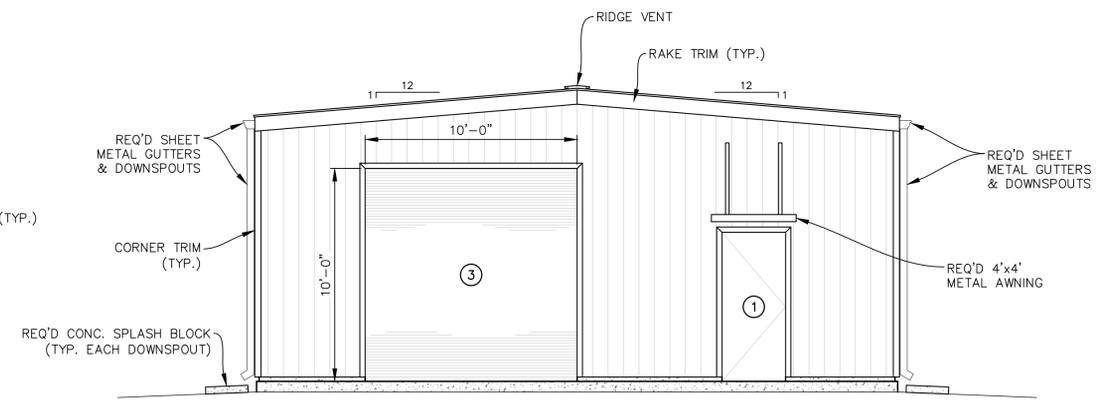
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SHEET TITLE:  
 BUILDING ELEVATIONS

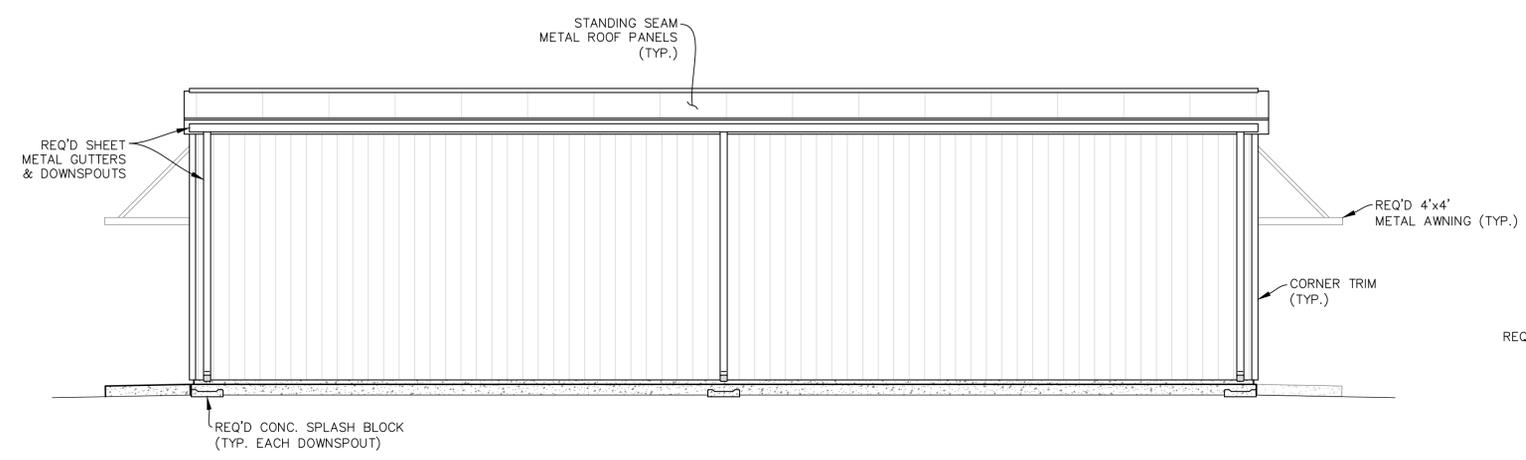
SHEET NO.: A1.2



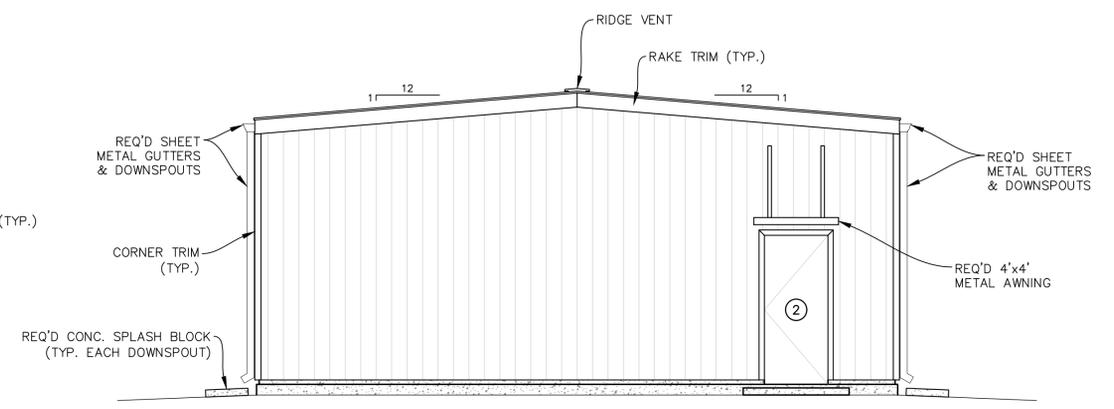
NORTH ELEVATION



EAST ELEVATION



SOUTH ELEVATION



WEST ELEVATION





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 PHASE I - BOOSTER STATION

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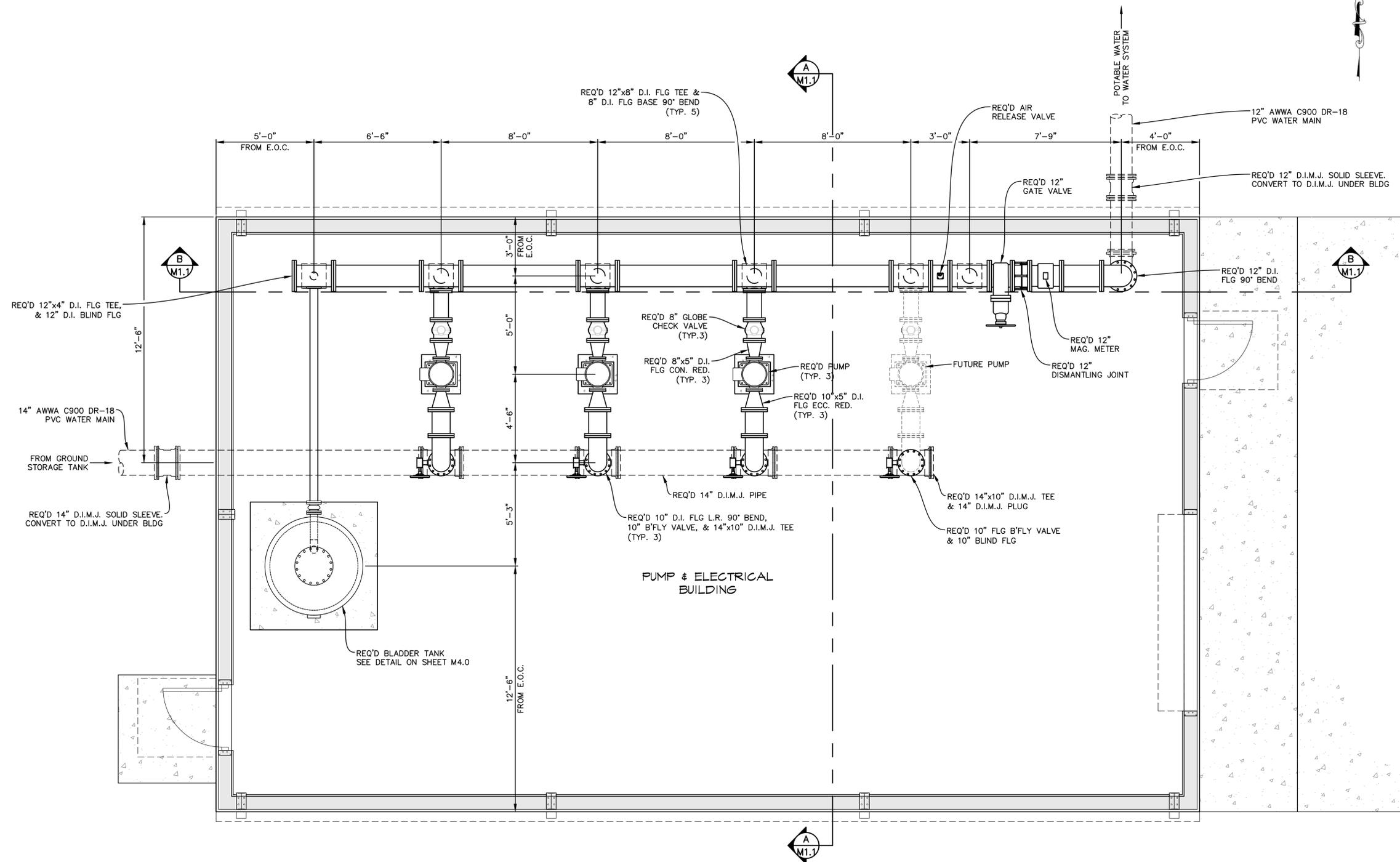
PROJECT NO. A8-23035-DA

DATE JANUARY, 2026

SCALE 3/8" = 1'-0"

SHEET TITLE  
 BUILDING  
 PIPING PLAN

SHEET NO. M1.0



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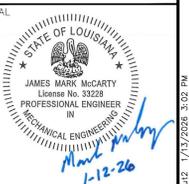
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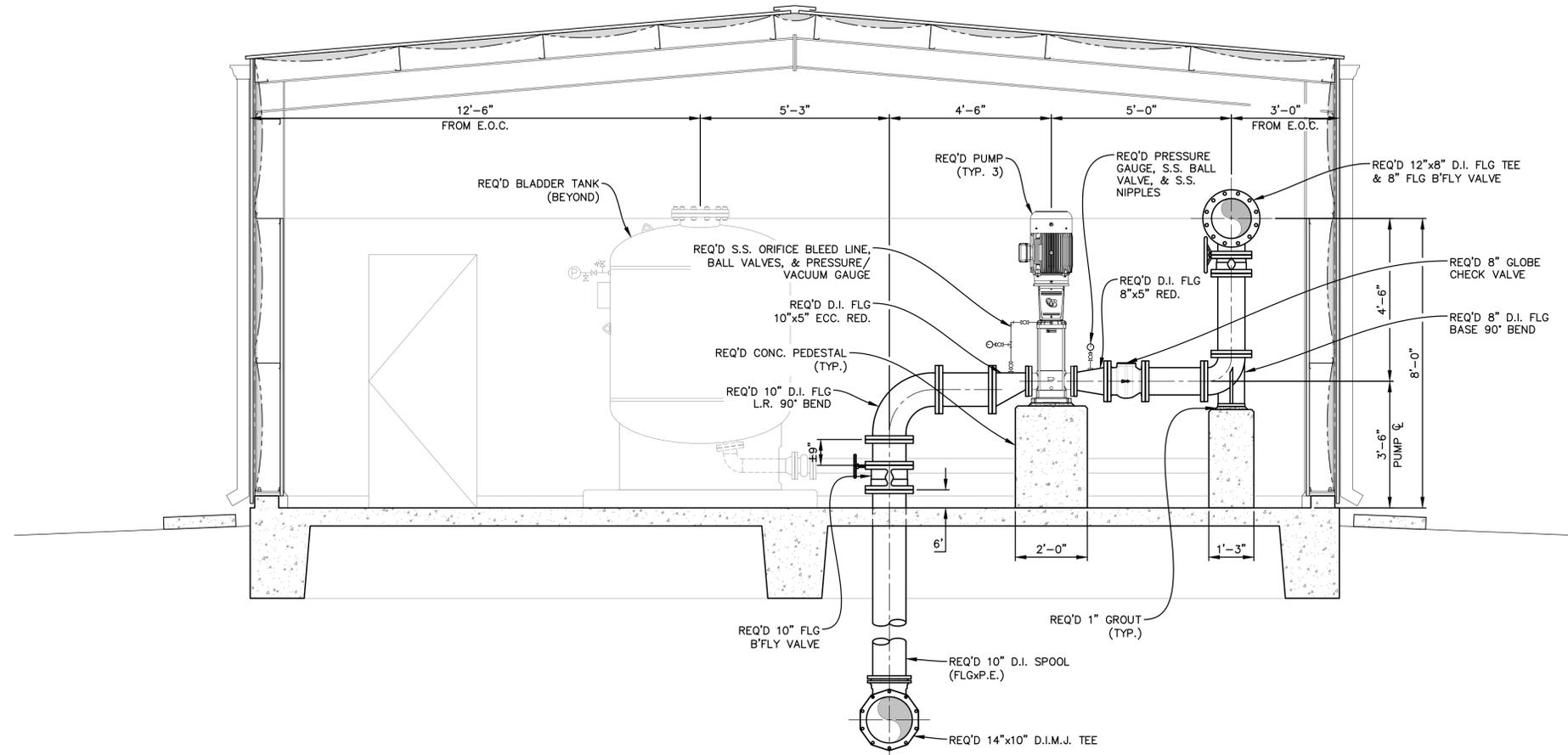
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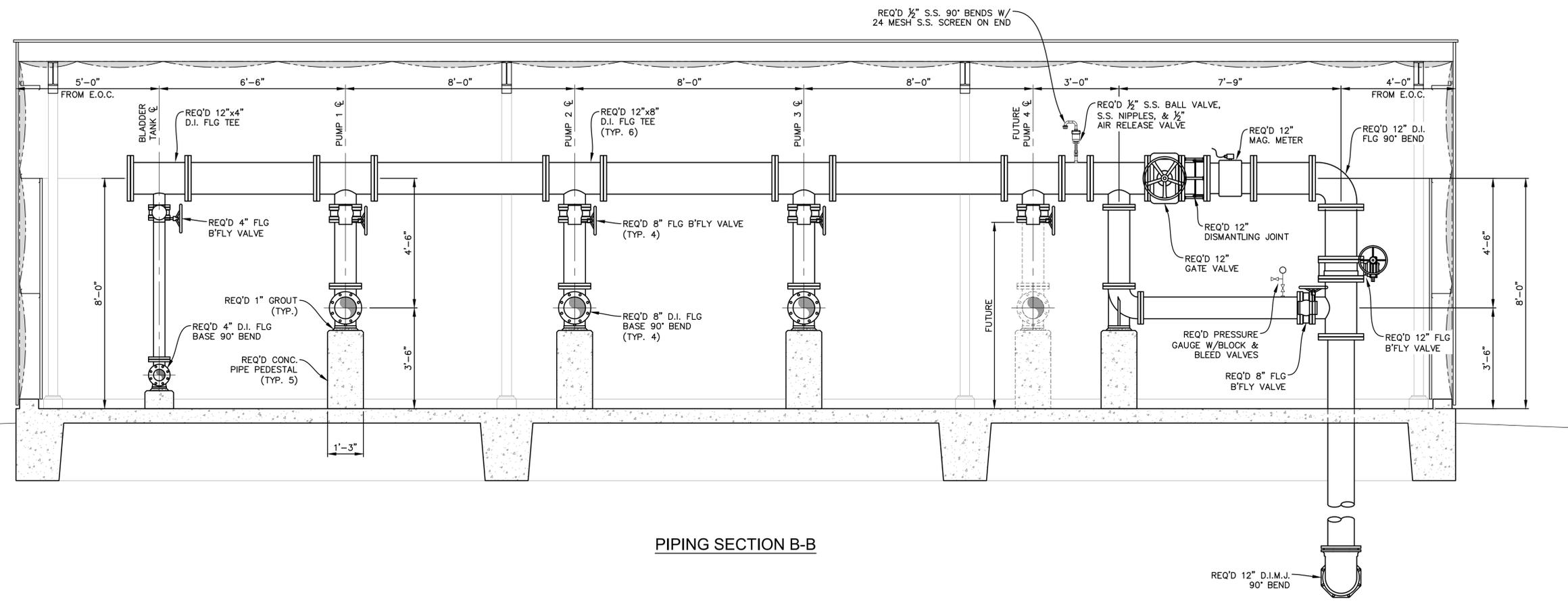
SHEET TITLE

BUILDING PIPING SECTIONS

SHEET NO. M1.1



PIPING SECTION A-A



PIPING SECTION B-B



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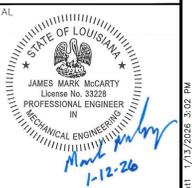
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CLIENT/PROJECT  
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 PHASE I - BOOSTER STATION



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PROJECT NO.  
 A8-23035-DA

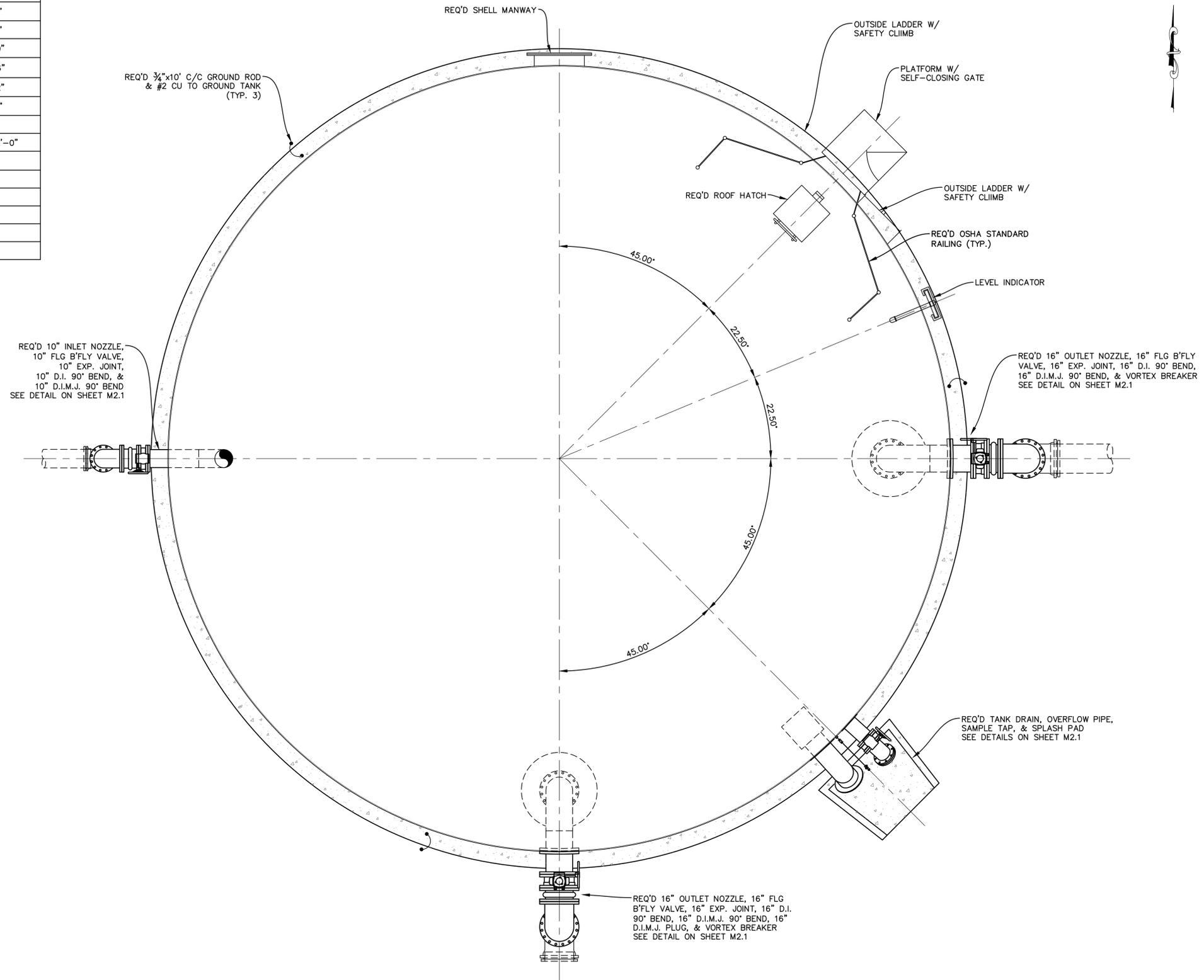
DATE  
 JANUARY, 2026

SCALE  
 3/8" = 1'-0"

SHEET TITLE  
 GROUND STORAGE  
 TANK PLAN  
 (BASE BID)

SHEET NO.  
 M2.0

GLASS-FUSED-TO-STEEL BOLTED GROUND STORAGE TANK SCHEDULE	
NOMINAL CAPACITY	297,000 GAL
DIAMETER	39'-0"
HEIGHT	33'-0"
INLETS	1 @ 10"
OUTLETS	2 @ 16"
OVERFLOW W/ SCREEN	1 @ 12"
DRAIN W/ VALVE	1 @ 8"
MANWAY	30"Ø
ROOF HATCH	2'-0" x 2'-0"
ROOF VENT (SCREENED)	YES
OUTSIDE LADDER	YES
INSIDE LADDER	YES
WATER LEVEL INDICATOR	YES
SAMPLE TAP	YES
PROBE FLANGE REQUIRED	NO



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 PHASE I - BOOSTER STATION

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DESIGNED: JMM DRAWN: CNC

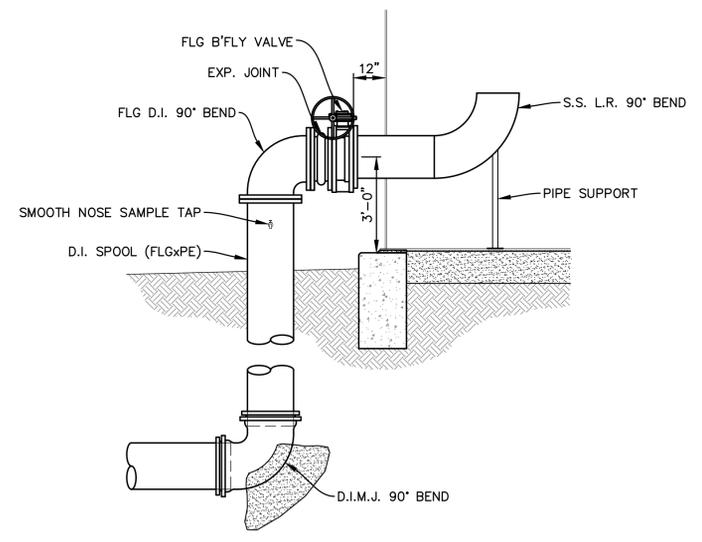
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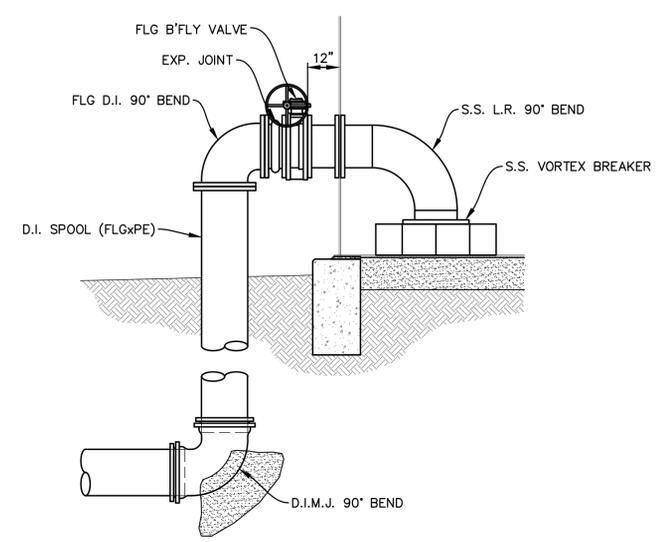
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SHEET TITLE: GROUND STORAGE TANK DETAILS (BASE BID)

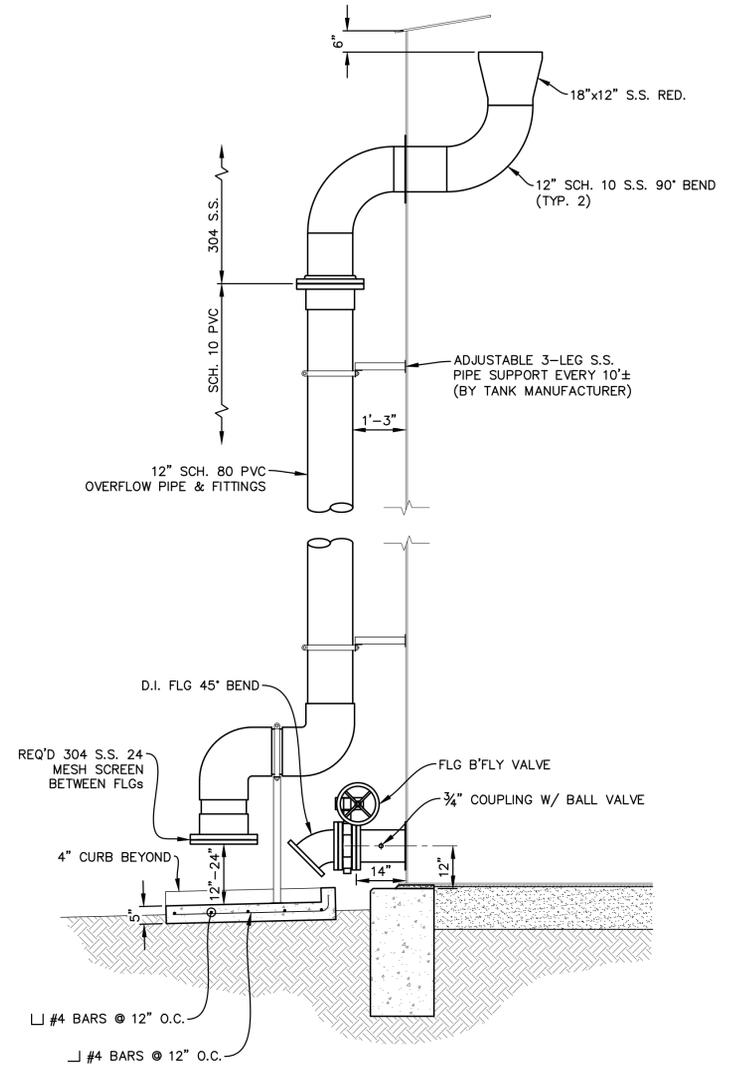
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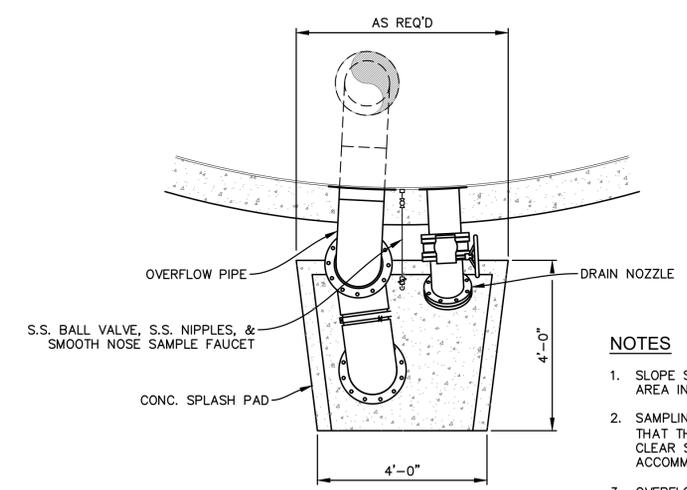
**INLET NOZZLE**  
 SCALE: 3/8" = 1'-0"



**OUTLET NOZZLE**  
 SCALE: 3/8" = 1'-0"



**TANK OVERFLOW DRAIN ELEVATION**  
 SCALE: 1/2" = 1'-0"



**TANK OVERFLOW DRAIN**  
 SCALE: 3/4" = 1'-0"

**NOTES**

1. SLOPE SLASH PAD TO DRAIN, AND GRADE AREA IN FRONT OF SPLASH PAD TO DRAIN.
2. SAMPLING TAP SHALL BE INSTALL SUCH THAT THERE IS A MINIMUM OF 12" OF CLEAR SPACE UNDER THE NOZZLE TO ACCOMMODATE SAMPLING CONTAINERS
3. OVERFLOW SHALL TERMINATE 12"-24" ABOVE THE SPLASH PAD.



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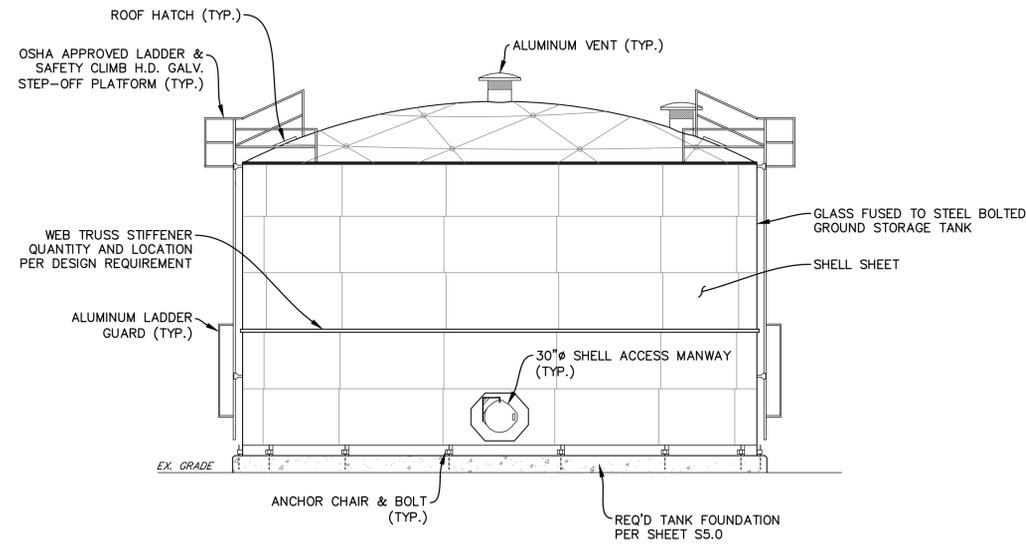
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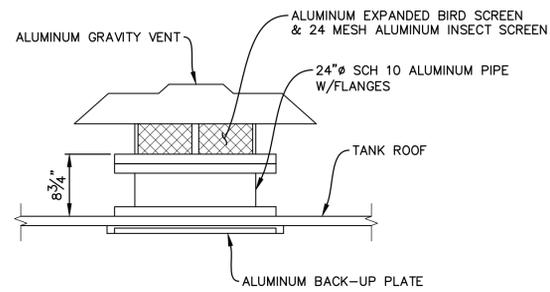
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 TANK DETAILS  
 (BASE BID)

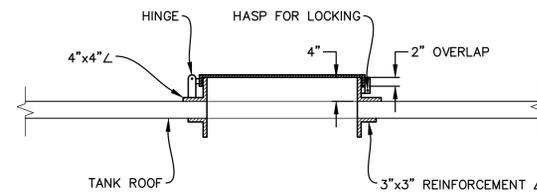
SHEET NO. M2.2



TANK ELEVATION



TYPICAL VENT



TANK ROOF HATCH SECTION

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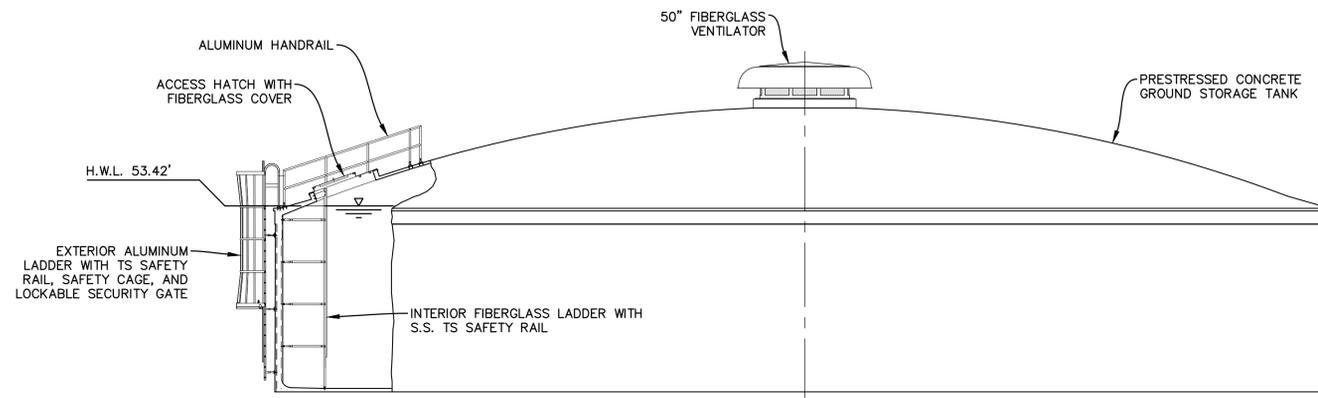
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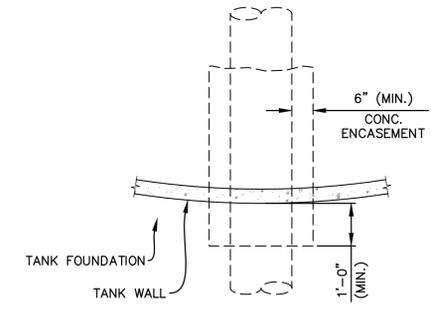
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 TANK DETAILS  
 (ALTERNATE NO. 2)

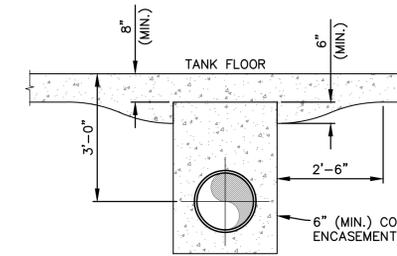
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**TANK ELEVATION**  
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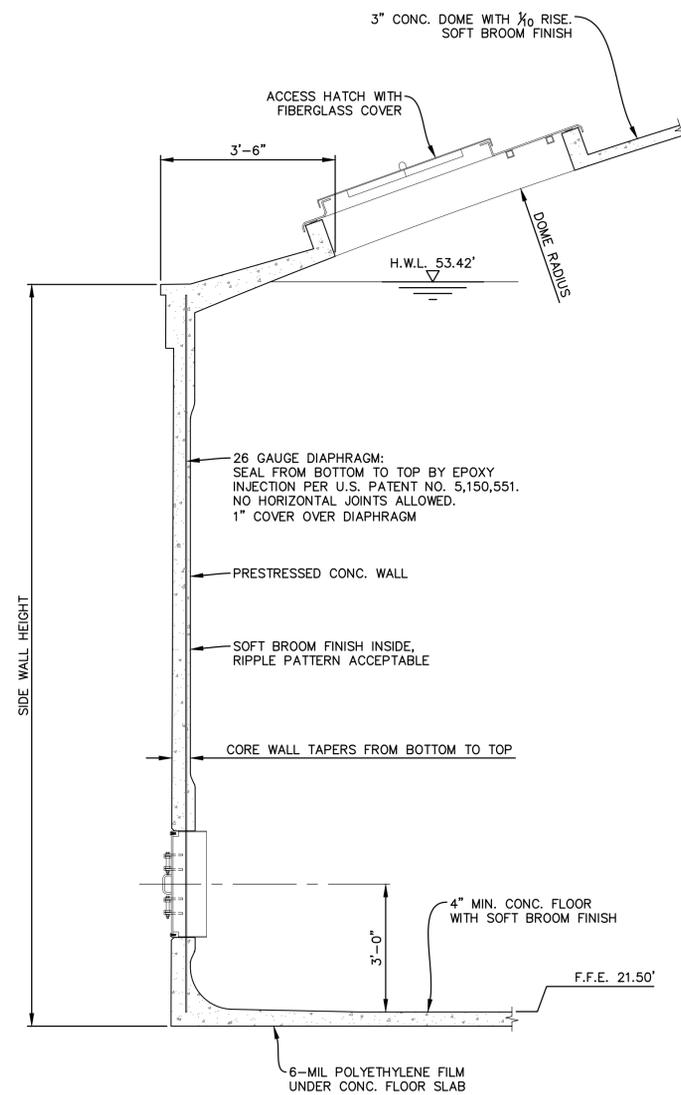


**PLAN VIEW**

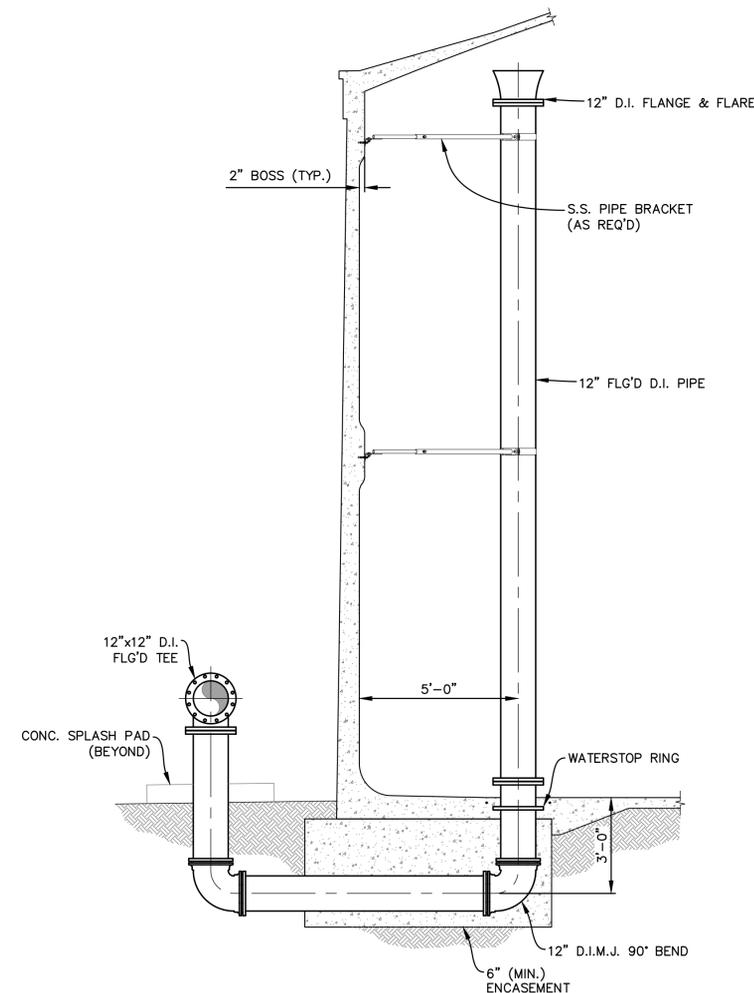


**SECTION VIEW**

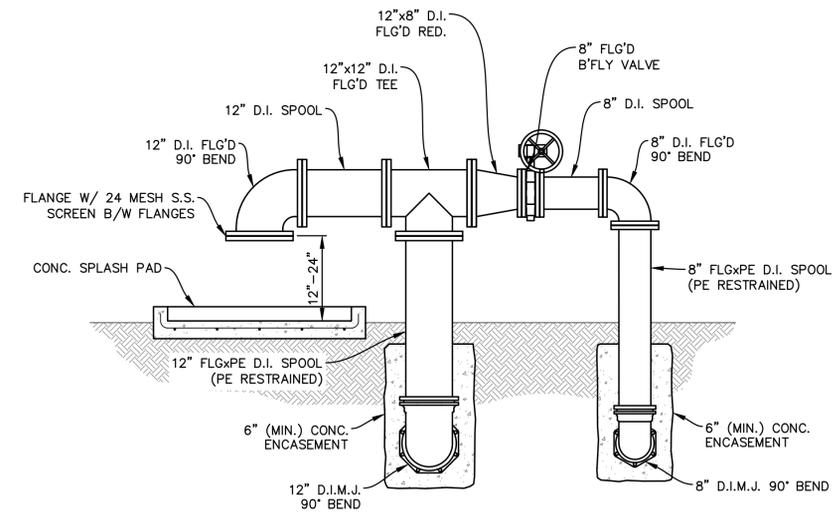
**TYPICAL PIPE ENCASEMENT**  
 SCALE: 1/2" = 1'-0"



**TYPICAL TANK WALL SECTION**  
 SCALE: NONE



**TANK OVERFLOW RISER**  
 SCALE: 3/8" = 1'-0"



**TANK OVERFLOW & DRAIN PIPING ELEVATION**  
 SCALE: 1/2" = 1'-0"

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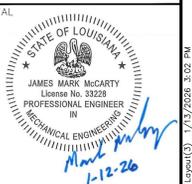
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 PHASE I - BOOSTER STATION



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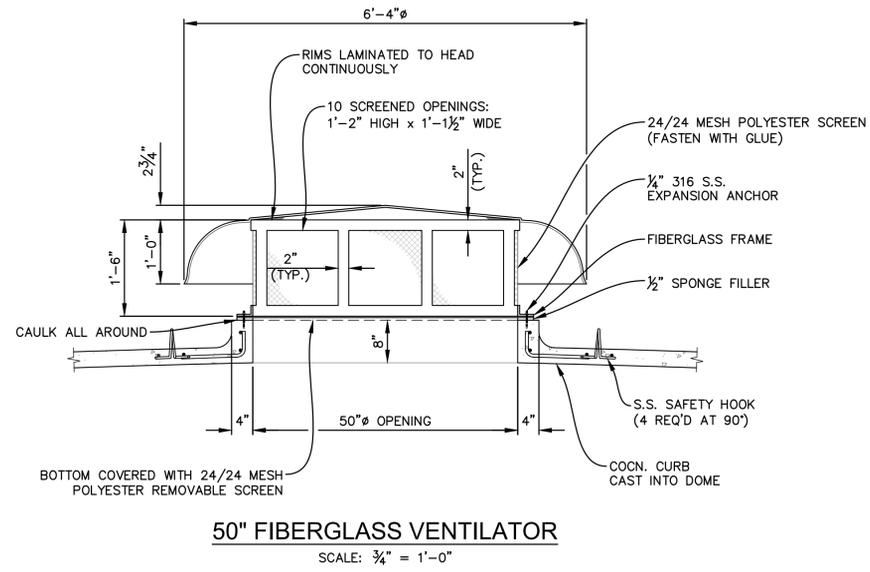
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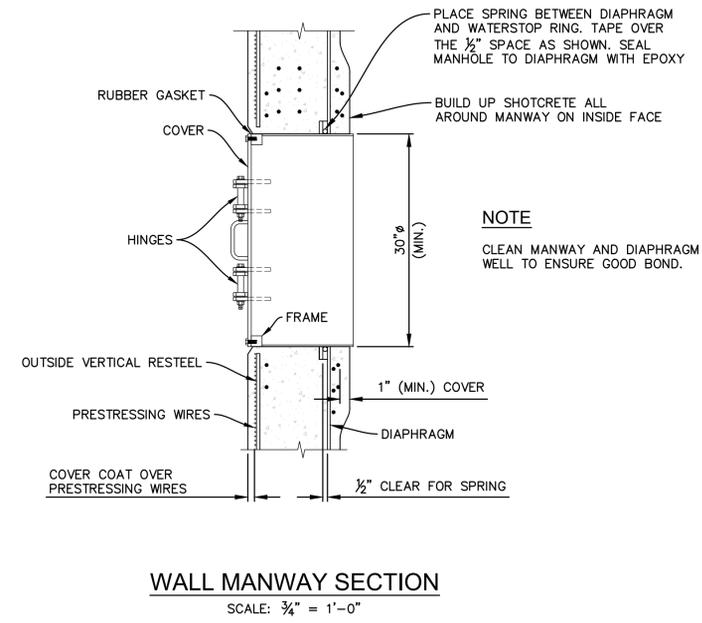
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 TANK DETAILS  
 (ALTERNATE NO. 2)

SHEET NO.

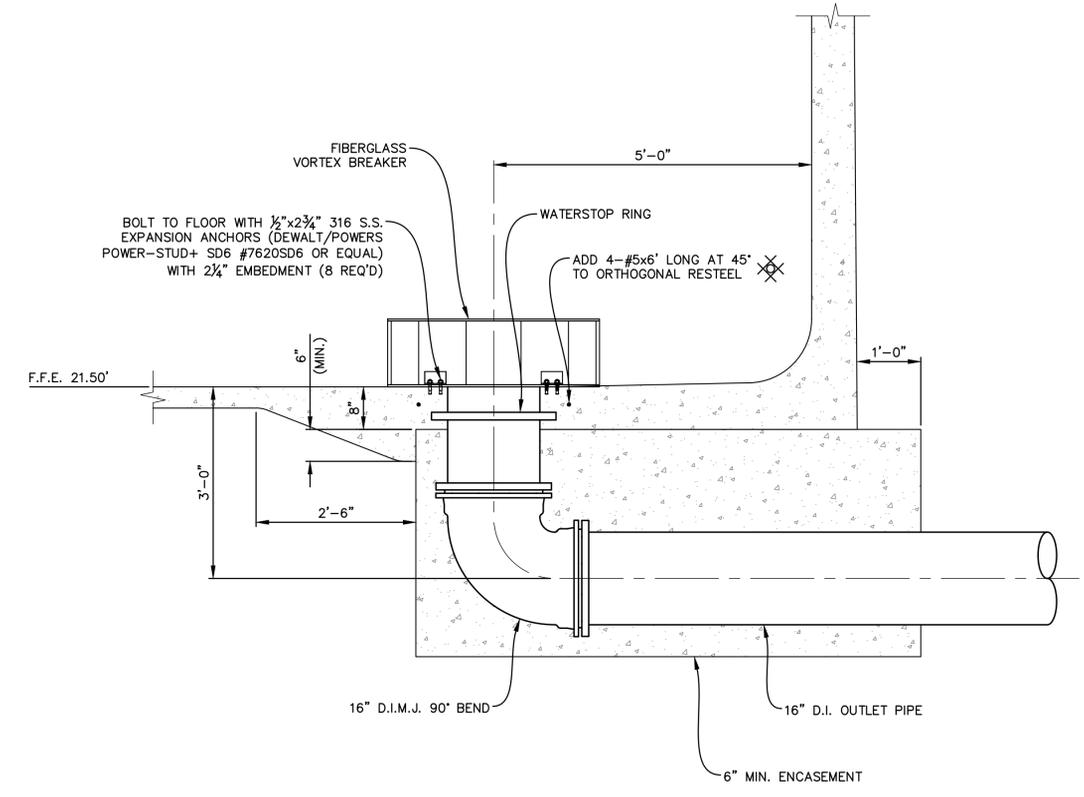
M3.2



**50" FIBERGLASS VENTILATOR**  
 SCALE: 3/4" = 1'-0"



**WALL MANWAY SECTION**  
 SCALE: 3/4" = 1'-0"



**OUTLET PIPE & TYPICAL FLOOR PENETRATION**

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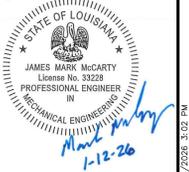
REVISIONS/COMMENTS

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DATE

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SCALE

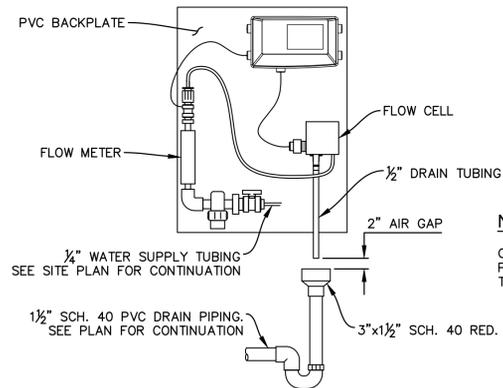
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SHEET TITLE

PIPING DETAILS

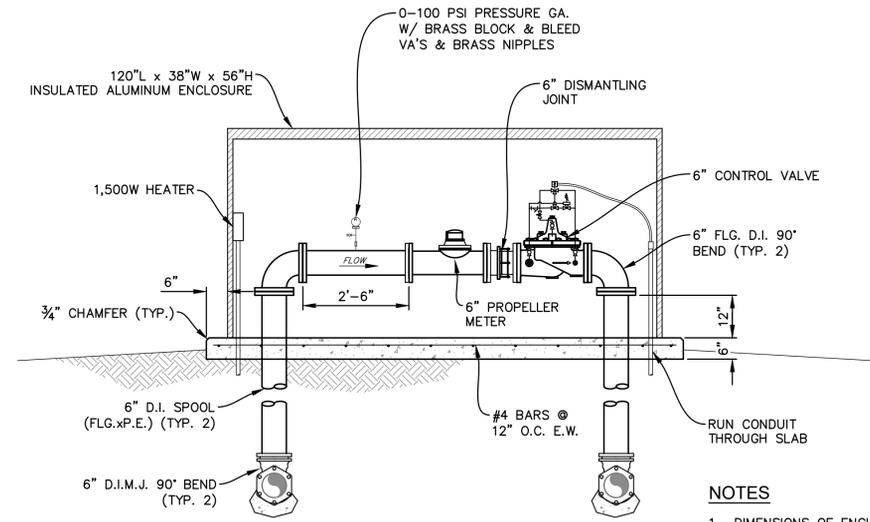
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M4.0



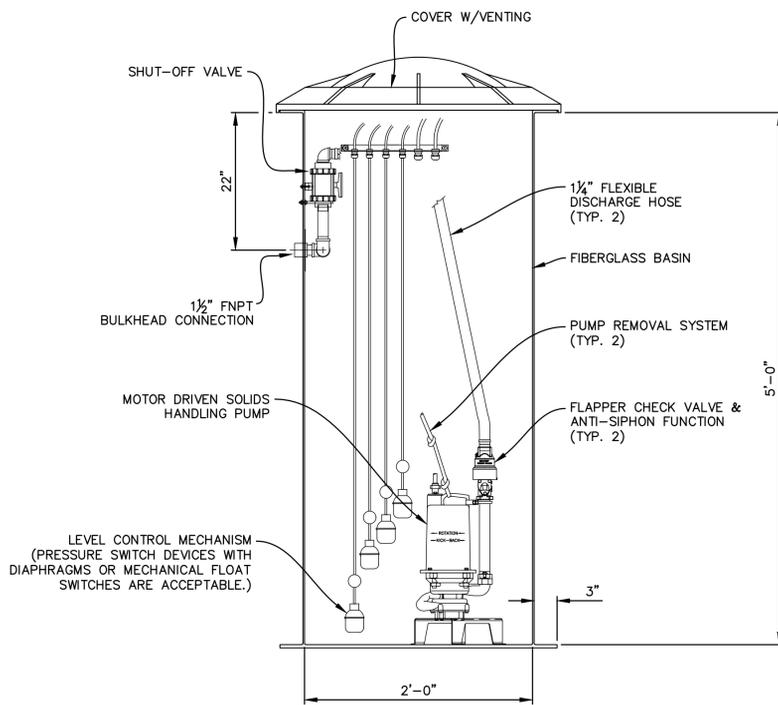
**NOTE**  
 CONTRACTOR SHALL PROPERLY SECURE ALL PIPING TO THE WALL AND PROVIDE STANDOFFS TO CENTER DRAIN TUBING OVER REDUCER.

**CHLORINE RESIDUAL ANALYZER**

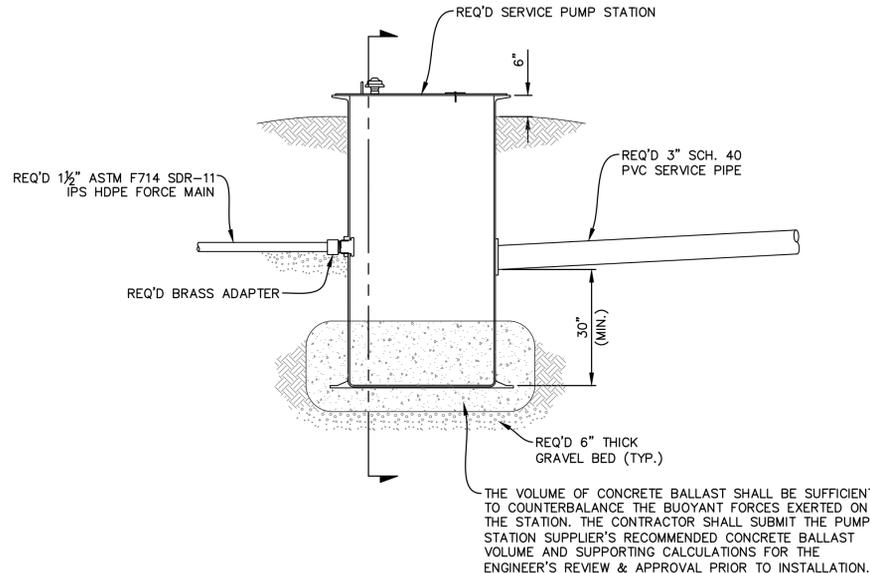


**NOTES**  
 1. DIMENSIONS OF ENCLOSURE & CONCRETE PAD SHALL BE VERIFIED WITH THE CONTROL VALVE MANUFACTURER.  
 2. IF CONTROL TUBING REQUIRES DISCHARGE TO ATMOSPHERE, EXTEND TUBING OR HOSE OUTSIDE OF ENCLOSURE & TERMINATE W/ AIR GAP.

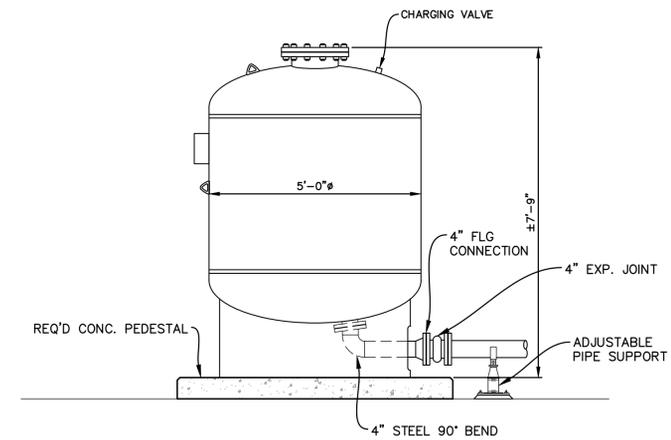
**TANK FILL CONTROL VALVE PIPING**



**SIMPLEX SERVICE PUMP STATION SECTION**



**SERVICE PUMP STATION INSTALLATION**



**BLADDER TANK**

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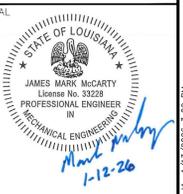
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 PHASE I - BOOSTER STATION**



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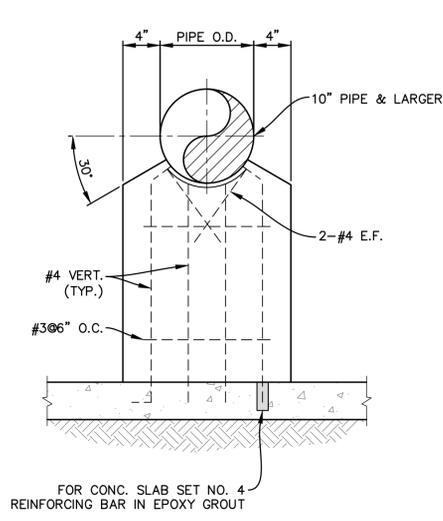
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DATE: JANUARY, 2026

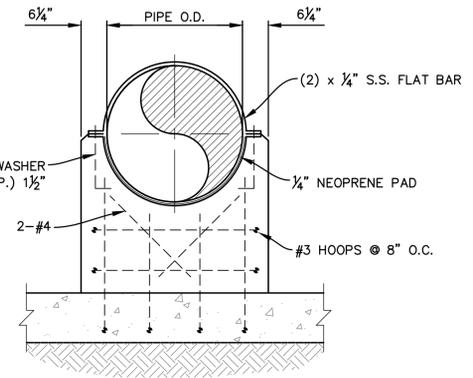
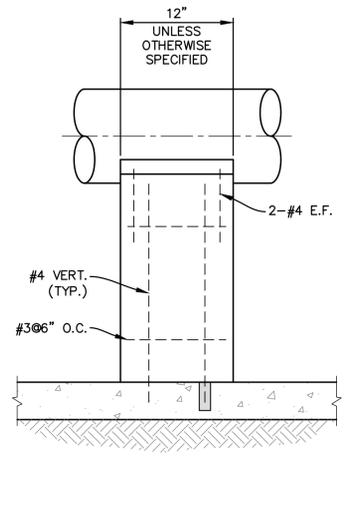
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SHEET TITLE: PIPE SUPPORT DETAILS

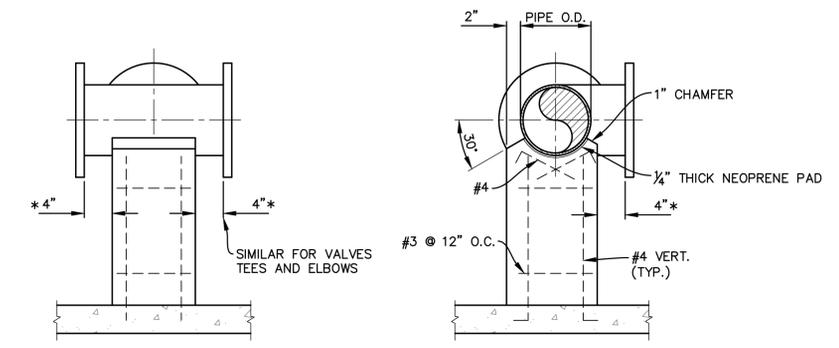
SHEET NO.: M5.0



**DETAIL B**  
PIPE SUPPORT



**DETAIL C**  
REACTION TYPE PIPE SUPPORTS



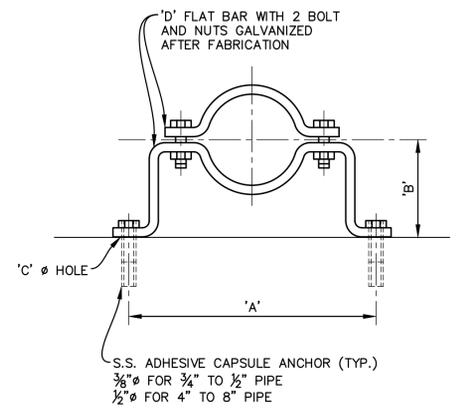
**DETAIL D**  
FITTING PIPE SUPPORT

\* INCREASE 4" CLEARANCE AS REQUIRED IF BOLT HAS TO BE INSERTED FROM THE SUPPORT SIDE OF THE CONNECTION.

ADJUSTABLE PIPE SUPPORT APPROX. DIMENSIONS IN INCHES					
PIPE SIZE	A	B	C	D MIN	D MAX
2-1/2	2-1/2	1-1/2	9	8	11-1/2
3	2-1/2	1-1/2	9	8-1/4	11-3/4
3-1/2	2-1/2	1-1/2	9	8-1/2	12
4	3	2-1/2	9	10-1/4	14
6	3	2-1/2	9	11-5/8	15-1/4
8	3	2-1/2	9	13-5/8	16-1/2
10	3	2-1/2	9	14-5/8	18-1/4
12	3	2-1/2	9	15-5/8	19-3/4
14	4	3	11	18-7/8	20-3/4
16	4	3	11	19-7/8	22-1/4
18	6	3-1/2	13-1/2	21-1/4	24
20	6	3-1/2	13-1/2	23-1/4	25-1/2
24	6	4	13-1/2	26-1/2	28-1/4
30	6	4	13-1/2	29-5/8	31-1/2
32	6	4	13-1/2	30-5/8	32-3/4
36	6	4	13-1/2	32-5/8	34-3/4

**NOTE**

UNDER VALVES, METERS OR OTHER SPECIAL APPURTENANCES, A FABRICATED SUPPORT PIECE MAY BE UTILIZED AS ACCEPTABLE TO ENGINEER.



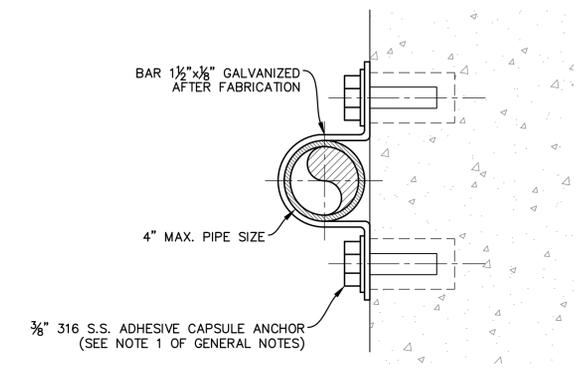
**DETAIL E**  
PIPE CLAMP FOR INDIVIDUAL PIPES

DIMENSIONS IN INCHES					
PIPE DIA	'A'	'B' SEE NOTE 3 BELOW	'C' HOLE DIA	'D' FLAT BAR SIZE	LOAD RATING
3/4	5 1/8	2 1/2	7/16	3/8 x 1 1/4	300
1	6 1/2	2 5/8	7/16	3/8 x 1 1/4	300
1 1/4	6 13/16	2 3/4	7/16	3/8 x 1 1/4	300
1 1/2	6 15/16	3	7/16	3/8 x 1 1/4	300
2	8 5/16	3 3/8	7/16	1/2 x 1 1/4	500
2 1/2	8 7/8	3 7/8	7/16	1/2 x 1 1/4	500
3	9 1/8	3 3/4	7/16	1/2 x 1 1/4	500

**NOTES**

- WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.
- WHEN USED WITH PVC OR FIBERGLASS PIPE PROVIDE STEEL SHIELD AROUND PIPE AT CLAMP, WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" STRIP OF RUBBER FABRIC.
- FOR FLANGED PIPING INCREASE 'B' DIMENSION AS REQUIRED.

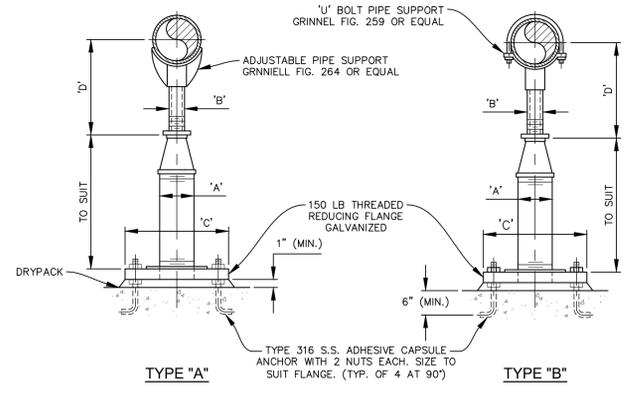
\* SAFETY FACTOR OF 5



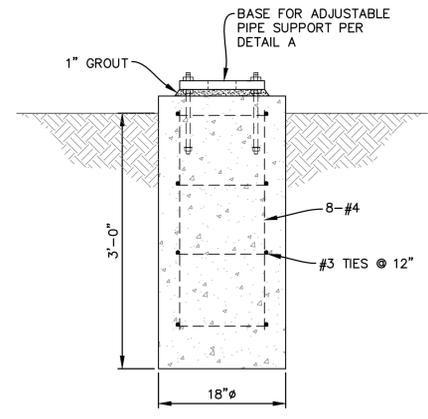
**NOTES**

- WHERE SUBMERGED OR LOCATED ON OR ABOVE TOP OF WALL OF HYDRAULIC STRUCTURE, PIPE CLAMP, WASHER AND SHIELD SHALL BE TYPE 316 STAINLESS STEEL.
- WHEN USED WITH PVC OR FIBERGLASS PIPE, PROVIDE STEEL SHIELD AROUND PIPE AT CLAMP WITH LOOSE FIT. WRAP COPPER TUBES WITH 2" WIDE STRIP OF RUBBER FABRIC.

**DETAIL F**  
PIPE CLAMP FOR INDIVIDUAL PIPES



**DETAIL A**  
ADJUSTABLE PIPE SUPPORT



**DETAIL A1**  
SHAFT FOR ADJ. PIPE SUPPORT

STRUCTURAL GENERAL NOTES

A. GENERAL

- 1. DO NOT SCALE CONTRACT DRAWINGS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.
2. VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK OR FABRICATING MATERIALS.
3. ENGINEERS APPROVAL MUST BE SECURED FOR ALL SUBSTITUTIONS.
4. CHECK ALL DIMENSIONS ON STRUCTURAL DRAWINGS AGAINST PRE-ENGINEERED METAL BUILDING DRAWINGS.
5. COORDINATE WITH THE MECHANICAL, PLUMBING, ELECTRICAL, AND CIVIL DRAWINGS AND VERIFY THE LOCATION OF ALL CHASES, INSERTS, OPENINGS, SLEEVES, FINISHES, DEPRESSIONS, PADS, WALL OPENINGS, AND OTHER PROJECT REQUIREMENTS.
6. REFERENCE MECHANICAL PLANS FOR VERIFICATION OF ALL BOLTS, BLOCKING, ANCHORS, ETC., AND THE ANCHORAGE OF THEIR RESPECTIVE ITEMS.
7. CONCRETE TRUCKS, CRANES, FORKLIFTS, OR ANY VEHICLE WITH A WHEEL LOAD GREATER THAN 16,000 POUNDS SHALL NOT BE PERMITTED ON THE STRUCTURAL SLAB UNTIL CONCRETE HAS REACHED AT LEAST 75% OF ITS DESIGN STRENGTH WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER OF RECORD.
8. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT AND PLACED ON FRAME FLOORS OR ROOF. LOAD SHALL NOT EXCEED THE DESIGNED LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT OBTAINED DESIGN STRENGTH.

B. GOVERNING BUILDING CODE

- 1. INTERNATIONAL BUILDING CODE 2021.
2. STRUCTURAL MEMBERS ARE DESIGNED USING LOAD COMBINATIONS IN ACCORDANCE WITH THE ADOPTED BUILDING CODE.
3. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-16.

C. DESIGN CRITERIA AND LIVE LOADS

- 1. FOUNDATION LIVE LOADS
I. UNIFORM LOAD..... 250 PSF
II. CONCENTRATED LOAD..... 16 KIP WHEEL LOAD
2. ROOF LIVE LOAD ..... 20 PSF REDUCIBLE
3. COLLATERAL LOAD..... 5 PSF
4. WIND DESIGN DATA:
a. ULTIMATE DESIGN WIND SPEED, V ult ..... 142 MPH
b. NOMINAL DESIGN WIND SPEED, V asd..... 110 MPH
c. RISK CATEGORY ..... IV
d. WIND EXPOSURE ..... C
e. INTERNAL PRESSURE COEFFICIENT ..... +/- 0.18
f. COMPONENT & CLADDING WIND PRESSURES, SEE SHEET S0.2
4. SEISMIC DESIGN DATA:
SEISMIC RISK CATEGORY ..... IV
SEISMIC IMPORTANCE FACTOR, Ie ..... 1.5
MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS, Ss ..... 0.11
DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS, Sds ..... 0.092
SITE CLASS ..... D
SEISMIC DESIGN CATEGORY..... C

D. DISCOVERY AND FIELD VERIFICATION

- 1. DURING CONSTRUCTION, THE CONTRACTOR MAY ENCOUNTER EXISTING CONDITIONS WHICH ARE NOT KNOWN OR ARE AT VARIANCE WITH PROJECT DOCUMENTATION (DISCOVERY). SUCH CONDITIONS MAY INTERFERE WITH NEW CONSTRUCTION OR REQUIRE PROTECTION AND/OR SUPPORT OF EXISTING WORK DURING CONSTRUCTION, OR MAY CONSIST OF DAMAGE OR DETERIORATION TO STRUCTURAL MATERIALS OR COMPONENTS WHICH COULD JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING(S).
2. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE STRUCTURAL ENGINEER OF ALL DISCOVERIES HE BELIEVES MAY INTERFERE WITH PROPER EXECUTION OF THE WORK OR JEOPARDIZE THE STRUCTURAL INTEGRITY OF THE BUILDING(S) PRIOR TO PROCEEDING WITH WORK RELATED TO SUCH DISCOVERIES.
3. THE STRUCTURAL DOCUMENTS MAY SPECIFY DIMENSIONS, ELEVATIONS AND CONSTRUCTION CONDITIONS TO BE FIELD VERIFIED. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF ALL SPECIFIED CONDITIONS PRIOR TO PROCEEDING WITH THE CONSTRUCTION OR FABRICATION OF ANY STRUCTURAL COMPONENTS RELATED TO SUCH CONDITIONS. THIS FIELD VERIFICATION SHALL BE MADE IN A TIMELY MANNER SO AS TO CAUSE NO DELAYS IN EXECUTION OF THE WORK.

E. STRUCTURAL STABILITY DURING CONSTRUCTION

- 1. THE STRUCTURAL DRAWINGS ILLUSTRATE THE COMPLETED STRUCTURE WITH ALL ELEMENTS IN THEIR FINAL POSITIONS, PROPERLY SUPPORTED AND BRACED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS AND METHODS.
3. THE STRUCTURAL STEEL SUPERSTRUCTURE IS NOT LATERALLY SELF-SUPPORTING UNTIL ALL ROOF DIAPHRAGMS AND THE CONNECTIONS TO ALL LATERAL LOAD RESISTING ELEMENTS ARE IN PLACE.
4. ERECTION CONNECTORS SHALL BE PROVIDED IN ORDER TO PROPERLY ALIGN AND HOLD THE STRUCTURE. MEMBERS SHALL BE IN THEIR PROPER PLANE AND BE TRUE TO PLUMB WHEN WELDS ARE MADE.
5. THE CONTRACTOR, IN THE PROPER SEQUENCE, SHALL PROVIDE SHORING AND BRACING AS MAY BE REQUIRED DURING CONSTRUCTION TO ACHIEVE THE FINAL COMPLETED STRUCTURE.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE SAFETY ISSUES AS MANDATED BY FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL EMPLOY A "COMPETENT PERSON" AS DEFINED IN OSHA REGULATIONS TO IDENTIFY SAFETY ISSUES. THE CONTRACTOR SHALL EMPLOY A "QUALIFIED PERSON" AS DEFINED IN OSHA REGULATIONS TO SPECIFY THE RESOLUTION OF SAFETY ISSUES.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND SPECIFYING ANY MODIFICATIONS TO THE STRUCTURE REQUIRED FOR COMPLIANCE WITH OSHA REGULATIONS AND GENERALLY ACCEPTED PRINCIPLES OF CONSTRUCTION. THE CONTRACTOR SHALL PROPOSE ALL SUCH MODIFICATIONS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.

F. SUBMITTALS

- 1. DEFERRED SUBMITTALS: THE FOLLOWING ITEMS ARE ENGINEERED BY OTHERS. ENGINEERING AND DOCUMENTATION OF THESE ITEMS ARE TO BE PROVIDED BY OTHERS FOR REVIEW BY THE STRUCTURAL ENGINEER. AFTER REVIEW, THESE DEFERRED SUBMITTAL ITEMS WILL BE SUBMITTED TO THE REVIEWING BUILDING OFFICIAL
a.) PRE-ENGINEERED METAL BUILDINGS
2. FURNISH SHOP AND ERECTION DRAWINGS TO STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION. SUBMIT IN A TIMELY MANNER TO PERMIT 10 WORKING DAYS FOR REVIEW BY STRUCTURAL ENGINEER.
3. FURNISH CONCRETE, GROUT AND MORTAR MIX DESIGNS INCLUDING STRENGTH TEST DATA AND MANUFACTURER'S LITERATURE ON ADMIXTURES FOR REVIEW BY STRUCTURAL ENGINEER NO LATER THAN 2 WEEKS PRIOR TO ON-SITE USE OF THESE MATERIALS.
4. GENERAL AND SUB-CONTRACTOR NOTES:
a.) THE GENERAL CONTRACTOR SHALL REVIEW ALL SUB-CONTRACTOR AND SUPPLIER SUBMITTALS PRIOR TO SUBMITTAL FOR REVIEW BY THE STRUCTURAL ENGINEER. IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, ALL SUBMITTALS SHALL BE STAMPED BY THE CONTRACTOR INDICATING HIS REVIEW.
b.) THE STRUCTURAL DRAWINGS SHALL NOT BE USED AS BACKGROUNDS FOR SHOP OR ERECTION DRAWINGS. DRAWINGS PREPARED IN THIS MANNER AND SUBMITTED FOR REVIEW TO THE STRUCTURAL ENGINEER WILL BE REJECTED, RETURNED AND CONSIDERED AS NOT BEING IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS.

G. FOUNDATIONS

- 1. THE SUBGRADE INFORMATION AND FOUNDATION DESIGN ARE BASED UPON REPORT NO. 24-045 PREPARED BY DANIEL J. HOLDER, P.E., INC., ENTITLED "GEOTECHNICAL ENGINEERING REPORT LACASSINE WATER TREATMENT PLANT LA HIGHWAY 101 LACASSINE LOUISIANA ", DATED JAN 23 2025. REFERENCE THIS REPORT FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
2. PREPARE SITE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT, SECTION "SITE PREPARATION AND EARTHWORK ACTIVITIES":
2.1. SITE PREPARATION AND EARTHWORK ACTIVITIES SHOULD BE INSPECTED AND TESTED BY QUALIFIED CONSTRUCTION MATERIAL TESTING (CMT) PERSONNEL EXPERIENCED IN EARTHWORK CONSTRUCTION
2.2. ALL VEGETATION AND ROOTS: ANY SOFT, WET, OR WEAK SOILS THAT YIELD EXCESSIVELY UNDER THE INSPECTION ACTIVITIES (E.G., A PROOFROLL) OR CONSTRUCTION OPERATIONS, OR ANY OTHER UNSUITABLE MATERIALS UNCOVERED DURING THE STRIPPING OF THE PROJECT AREA SHALL BE REMOVED AS NECESSARY DURING THE SITE PREPARATION ACTIVITIES.
2.3. AN INITIAL UNDERCUT OF 1 TO 2 FEET OR MORE SHALL BE ANTICIPATED TO EXPOSE FIRM NATURAL CLAYEY SOILS FREE OF EXCESSIVE VEGETATION OR ROOTS, ETC.
2.4. UNSUITABLE MATERIALS SHOULD BE REMOVED FROM THE TANK AND BUILDING AREAS. FOR FOUNDATIONS, UNDERCUT EQUAL TO NEWLY PLACED 4 FEET THICK SELECT FILL (I.E., 2 FEET BELOW THE BOTTOM OF THE FOOTING AND 4 FEET BELOW THE BOTTOM OF SLAB)
2.5. THE AMOUNT OF SUBGRADE EXPOSED AT ANY GIVEN TIME SHALL BE LIMITED TO THAT WHICH CAN BE PROPERLY PROCESSED AND BACKFILLED BEFORE INCLEMENT WEATHER OR CONSTRUCTION TRAFFIC, ETC., CAN DETERIORATE THE APPROVED SUBGRADE.
3. MAINTAIN THE SITE TO PREVENT PONDING AND/OR STANDING WATER DURING AND FOLLOWING CONSTRUCTION.
3.1. STANDING WATER ON THE SUBGRADE OR IN ANY EXCAVATIONS SHOULD BE PROMPTLY DRAINED OR PUMPED OFF.
4. SELECT FILL SHOULD BE FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL CONSISTS OF SILTY OR SANDY CLAY WITH A LIQUID LIMIT (LL) OF 30 TO 42 % AND A PLASTICITY INDEX (PI) OF 12 TO 22. NATURAL CLAYEY SOIL NOT MEETING THESE REQUIREMENTS SHALL BE BLENDED WITH SAND ALSO TREATED WITH LIME AND SHOULD HAVE A MAX LL OF 55 AND PI OF 35 OR LESS. LIME TREATMENT SHALL BE PERFORMED IN ACCORDANCE WITH LSSRB, SECTION 304, TYPE C TREATMENT. PULVERIZATION SHOULD BE CHECK ACCORDING TO TR 431, AT LEAST 70% OF PARTICLE SHOULD PASS THE NO 4 SIEVE.

H. CAST-IN-PLACE CONCRETE (NON-PRESTRESSED)

- 1. STRUCTURAL CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI 318-19.
2. WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 301 LATEST EDITION, "SPECIFICATIONS FOR STRUCTURAL CONCRETE" PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE, FARMINGTON HILLS, MICHIGAN, EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
3. TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS SHALL CONFORM TO ALL REQUIREMENTS OF ACI 117 LATEST EDITION, "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS" PUBLISHED BY THE AMERICAN CONCRETE INSTITUTE, FARMINGTON HILLS, MICHIGAN, EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE CONTRACT DOCUMENTS.
4. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE, UNIT WEIGHT APPROXIMATELY 145 PCF, UNLESS NOTED. CLEARLY IDENTIFY INTENDED USE FOR EACH MIX DESIGN SUBMITTED FOR APPROVAL.
5. CONCRETE SHALL CONFORM TO THE FOLLOWING:
USE f'c AT 28-DAYS AIR CONTENT W/C RATIO
a.) SLAB / GRADE BEAMS 4,000 PSI ±1% 0.45
6. ALL CONCRETE SHALL USE TYPE III-IV CEMENT.
7. CLASS C FLY ASH CONFORMING TO THE REQUIREMENTS AS OF ASTM C618 CAN BE USED UP TO 10% BY MASS OF CEMENTITIOUS MATERIAL.
8. GROUND GRANULATED BLAST- FURNACE SLAG CONFORMING TO THE REQUIREMENTS OF ASTM C989 CAN BE USED UP TO 25% BY MASS OF CEMENTITIOUS MATERIAL.
9. A MAXIMUM COMBINED TOTAL OF 25% BY MASS OF CEMENTITIOUS MATERIAL OF BOTH FLY ASH & GRANULATED BLAST- FURNACE SLAG CAN BE USED.
10. COARSE AND FINE AGGREGATES SHALL CONFORM TO ASTM C33. USE #67 STONE FOR COARSE AGGREGATE IN CONCRETE.
11. MAXIMUM SLUMP FOR CONCRETE WITHOUT WATER-REDUCING ADMIXTURES OR PRIOR TO THEIR ADDITION IS 4 INCHES. MAXIMUM SLUMP FOR CONCRETE WITH LOW TO MODERATE RANGE WATER- REDUCING ADMIXTURE IS 6 INCHES. MAXIMUM SLUMP FOR CONCRETE WITH HIGH RANGE WATER REDUCING ADMIXTURE IS 8 INCHES.
12. MIXING WATER SHALL BE POTABLE. THE USE OF WASH WATER AS A PORTION OF THE MIXING WATER SHALL NOT BE PERMITTED.
13. CLEAN CONSTRUCTION JOINTS THOROUGHLY AND PURPOSELY ROUGHEN THE SURFACE TO 1/4" AMPLITUDE PRIOR TO PLACING ADJACENT CONCRETE.
14. SLABS AND BEAMS SHALL NOT HAVE JOINTS IN HORIZONTAL PLANE. ANY STOP IN CONCRETE WORK MUST BE MADE AT 1/3 OF SPAN OR AT CENTER OF SUPPORT WITH VERTICAL BULKHEADS AND HORIZONTAL KEYS, UNLESS OTHERWISE SHOWN. ALL CONSTRUCTION JOINTS SHALL BE AS DETAILED OR AS APPROVED BY ARCHITECT AND STRUCTURAL ENGINEER.
15. PLACEMENT OF SLEEVES OR OPENINGS THROUGH BEAMS IS NOT PERMITTED UNLESS INDICATED ON STRUCTURAL DRAWINGS OR APPROVED, IN WRITING, BY ENGINEER.
16. CAREFULLY COORDINATE THE PLACEMENT OF ALL CAST-IN PLACE EMBEDS AND ANCHORS RODS. ANCHOR RODS SHALL BE SET WITH A TEMPLATE. ALL EMBED ITEMS SHALL BE SECURELY ATTACHED TO FORMWORK OR REINFORCING.
17. DO NOT PLACE CONCRETE FOR FOOTING OR SLABS AGAINST SUBGRADE CONTAINING FREE WATER, FROST, OR ICE.
18. DO NOT BACKFILL FOUNDATION UNTIL CONCRETE HAS CURED FOR A MINIMUM OF 7 DAYS OR UNTIL CONCRETE HAS REACHED A MINIMUM OF 75% OF DESIGN STRENGTH.

J. REINFORCING STEEL

- 1. PROVIDE NEW BILLET STEEL REINFORCING CONFORMING TO ASTM A615, GRADE 60.
2. CONCRETE CLEAR COVER OVER REINFORCING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318-19 AS FOLLOWS:
a.) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH..... 3"
b.) CONCRETE EXPOSED TO WEATHER OR EARTH:
i. BARS #5 AND SMALLER..... 1-1/2"
ii. BARS #6 AND LARGER..... 2"
c.) CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
i. COLUMNS, BEAMS, PRIMARY STIRRUPS OR TIES..... 1-1/2"
ii. SLABS, JOISTS, OR WALLS NO. 11 AND SMALLER..... 3/4"
iii. SLABS, JOISTS, OR WALLS NO. 14 AND NO. 18..... 1-1/2"
3. REINFORCING PLACING TOLERANCES
a.) CLEAR DISTANCE FROM BARS TO:
i. SOFFIT ON EARTH..... ± 1/2"
ii. FORMED SOFFIT..... ± 1/4"
iii. FORMED SIDE OR VERTICAL SURFACE..... ± 3/8"
iv. TOP SURFACE
(1) DEPTH 8" OR LESS..... ± 1/4"
(2) DEPTH MORE THAN 8", NOT MORE THAN 24"..... ± 1/2"
(3) DEPTH MORE THAN 24"..... ± 1"
b.) SPACING OF BARS:
i. LONGITUDINAL BARS IN COLUMNS, GIRDERS, BEAMS..... ± 1/4"
ii. TIES AND STIRRUPS..... ± 1"
iii. IN SLABS AND WALLS..... ± 2"
c.) LONGITUDINAL LOCATION OF BENDS AND BAR ENDS:
i. AT DISCONTINUOUS END OF MEMBER..... ± 1/2"
ii. ALL OTHER LOCATIONS..... ± 2"
4. ALL REINFORCING SHALL BE CONTINUOUS UNLESS NOTED OTHERWISE. ALL CONTINUOUS BARS SHALL HAVE CLASS "B" SPLICES UNLESS NOTED OTHERWISE.
5. PROVIDE STANDARD 90 DEGREE HOOKS IN ACCORDANCE WITH ACI 318-19, UNLESS NOTED OTHERWISE. STAGGER SPLICES UNLESS SPECIFICALLY NOTED.
6. CONTINUOUS TOP AND BOTTOM BARS IN GRADE BEAMS SPLICED AS FOLLOWS:
a.) TOP BARS- AT MIDSPAN
b.) BOTTOM BARS- OVER SUPPORT
7. DETAIL BARS IN ACCORDANCE WITH "ACI DETAILING", PUBLICATION SP-66, AND "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," ACI 318, LATEST EDITIONS, PROVIDE DETAILS INDICATING REINFORCING CONTINUITY AT CONSTRUCTION JOINTS.
8. REINFORCING BARS SHALL BE FREE OF ALL DELETERIOUS COATINGS/DIRT WHEN CONCRETE IS PLACED AND THE LENGTH, SIZE, AND LOCATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

J. REINFORCING STEEL (CONTINUED)

- 9. WHERE REQUIRED, PROVIDE DOWELS MATCHING SIZE AND SPACING OF MAIN REINFORCEMENT.
10. HOOK UNSCHEDULED TOP AND SIDE REINFORCING BARS AT DISCONTINUOUS END.
11. PROVIDE ACCESSORIES NECESSARY TO PROPERLY SUPPORT REINFORCING AT POSITIONS SHOWN ON PLANS AND DETAILS.
12. ENSURE HORIZONTAL CONTINUITY IN GRADE BEAMS BY PROVIDING 3'-0"/3'-0" CORNER BARS MATCHING SIZE AND SPACING OF MAIN REINFORCEMENT AT ALL WALL CORNERS AND INTERSECTIONS.
13. PROVIDE STIRRUPS WITH (2) #4 TOP SUPPORT BARS FOR LENGTH OF STIRRUP SPACING WHERE TOP BARS NOT OTHERWISE PROVIDED.
14. NO WELDING OF REINFORCING WILL BE PERMITTED.
15. DO NOT RE-BEND ANY BARS.
16. PROVIDE SUPPORT CHAIRS WITH SAND PLATES FOR SLABS POURED ON GROUND. DO NOT USE BRICK FOR REBAR PLACING.

L. FIELD DRILLED ADHESIVE ANCHORS

- 1. UNLESS OTHERWISE NOTED ON THE DRAWINGS, FIELD DRILLED ADHESIVE ANCHORS SHALL BE HIT-HY 200 INJECTION ADHESIVE ANCHORING SYSTEM AS SUPPLIED BY HILTI, INC. ICC ESR-3187, OR APPROVED EQUAL.
2. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT ESR REPORT FOR THE ANCHOR AND THE RECOMMENDATIONS OF THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE (NOT DISTRIBUTOR OR AGENT) SHALL TRAIN ALL INSTALLERS PER THE INSTALLATION INSTRUCTIONS AS LISTED IN THE ESR REPORT FOR THE ANCHOR BEING INSTALLED. IF SHOWN ON THE DRAWINGS, A MANUFACTURER'S REPRESENTATIVE (NOT DISTRIBUTOR OR AGENT) SHALL BE ON SITE TO OBSERVE INITIAL INSTALLATION OF THE ANCHORS.
3. ANCHORS SHALL BE INSTALLED PERPENDICULAR TO THE FACE OF CONCRETE. DEVIATION FROM PERPENDICULAR GREATER THAN 10 DEGREES IS UNACCEPTABLE.
4. CREATE A TEMPLATE AT EACH ADHESIVE ANCHOR CONNECTION LOCATION PRIOR TO FABRICATING HOLES IN CONNECTION PLATES. TEMPLATE SHALL BE MADE BY LOCATING EXISTING REBAR WITH A HITLI PS-20 MULTI-DETECTOR OR OTHER APPROVED REINFORCEMENT DETECTION SYSTEM. ANCHORS MAY BE REPOSITIONED A MAXIMUM OF 1/2" AS REQUIRED TO AVOID CONFLICTS WITH EXISTING REINFORCING.
5. HOLES SHALL BE DRILLED IN A CONTINUOUS OPERATION. HOLES SHALL BE CLEANED WITH A WIRE BRUSH. DUST SHALL BE BLOWN FROM THE HOLE USING COMPRESSED AIR.
6. DRILL HOLES WITH ROTARY IMPACT HAMMER DRILLS USING MATCHED TOLERANCE CARBIDE TIPPED BITS AS SPECIFIED BY THE MANUFACTURER. DO NOT USE DIAMOND CORE BITS UNLESS OTHERWISE RECOMMENDED BY MANUFACTURER.
7. TIGHTEN NUTS AGAINST SMOOTH WASHERS TO THE MANUFACTURER'S RECOMMENDED TORQUE, USING A CALIBRATED TORQUE WRENCH.
8. ALL ABANDONED HOLES SHALL BE FILLED WITH EPOXY GROUT.
9. HOLES IN CONNECTION PLATES SHALL BE NO MORE THAN 1/16" LARGER THAN THE BOLT DIAMETER. IF LARGER HOLES ARE NEEDED FOR ERECTION PURPOSES THE CONTRACTOR SHALL PROVIDE PLATE WASHERS WELDED TO THE CONNECTION PLATE TO TRANSFER THE BOLT LOAD.
10. NOTE MANUFACTURER'S REQUIRED CURING TIMES FOR BOTH ANCHOR SIZE AND BASE MATERIAL TEMPERATURE. THE SET ANCHOR MAY NOT BE DISTURBED OR LOADED BEFORE THE SPECIFIED CURING TIME.

M. FIELD DRILLED EXPANSION ANCHORS

- 1. FIELD DRILLED EXPANSION ANCHORS SHALL BE KWIK BOLT TZ, AS SUPPLIED BY HILTI, INC. ICC ESR-1917, OR APPROVED EQUAL.
2. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE CURRENT ESR REPORT FOR THE ANCHOR AND THE RECOMMENDATIONS OF THE MANUFACTURER. A MANUFACTURER'S REPRESENTATIVE (NOT DISTRIBUTOR OR AGENT) SHALL TRAIN ALL INSTALLERS PER THE INSTALLATION INSTRUCTIONS AS LISTED IN THE ESR REPORT FOR THE ANCHOR BEING INSTALLED. IF SHOWN ON THE DRAWINGS, A MANUFACTURER'S REPRESENTATIVE (NOT DISTRIBUTOR OR AGENT) SHALL BE ON SITE TO OBSERVE INITIAL INSTALLATION OF THE ANCHORS.
3. ANCHORS SHALL BE INSTALLED PERPENDICULAR TO THE FACE OF CONCRETE. DEVIATION FROM PERPENDICULAR GREATER THAN 10 DEGREES IS UNACCEPTABLE.
4. CREATE A TEMPLATE AT EACH EXPANSION ANCHOR CONNECTION LOCATION PRIOR TO FABRICATING HOLES IN CONNECTION PLATES. TEMPLATE SHALL BE MADE BY LOCATING EXISTING REBAR WITH A HITLI PS-20 MULTI-DETECTOR OR OTHER APPROVED REINFORCEMENT DETECTION SYSTEM. ANCHORS MAY BE REPOSITIONED A MAXIMUM OF 1/2" AS REQUIRED TO AVOID CONFLICTS WITH EXISTING REINFORCING.
5. HOLES SHALL BE DRILLED IN A CONTINUOUS OPERATION. DUST SHALL BE BLOWN FROM THE HOLE USING COMPRESSED AIR.
6. DRILL HOLES WITH ROTARY IMPACT HAMMER DRILLS USING MATCHED TOLERANCE CARBIDE TIPPED BITS AND/OR CORE DRILLS USING MATCHED TOLERANCE DIAMOND CORE BITS AS SPECIFIED BY MANUFACTURER.
7. AIM WEDGES AWAY FROM ANY CONCRETE EDGES LESS THAN 9" FROM THE CENTER LINE OF THE HOLE. TIGHTEN NUTS AGAINST SMOOTH WASHERS TO THE MANUFACTURER'S RECOMMENDED TORQUE, USING A CALIBRATED TORQUE WRENCH. FOLLOWING ATTAINMENT OF 10% OF THE SPECIFIED TORQUE 100% OF THE SPECIFIED TORQUE SHALL BE REACHED WITHIN 7 OR LESS COMPLETE TURNS OF THE NUT. IF THE SPECIFIED TORQUE IS NOT ACHIEVED WITHIN THE REQUIRED NUMBER OF TURNS, THE ANCHOR SHALL BE REMOVED AND REPLACED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
8. ALL ABANDONED HOLES SHALL BE FILLED WITH EPOXY GROUT.
9. HOLES IN CONNECTION PLATES SHALL BE NO MORE THAN 1/16" LARGER THAN THE BOLT DIAMETER. IF LARGER HOLES ARE NEEDED FOR ERECTION PURPOSES THE CONTRACTOR SHALL PROVIDE PLATE WASHERS WELDED TO THE CONNECTION PLATE TO TRANSFER THE BOLT LOAD.



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BASIN Engineering & Surveying
2811 B Toulouse Street
New Orleans, Louisiana 70119
(504)766-0526

Table with columns: NO., DATE, REVISIONS/COMMENTS, BID SET

JEFFERSON DAVIS PARISH WATER & SEWER COMMISSION #1 WATER SYSTEM IMPROVEMENTS
LACASSINE WATER TREATMENT PLANT PHASE -1 BOOSTER STATION



Table with fields: DESIGNED (SS), DRAWN (SS), PROJECT NO. (A8-23035-DA), DATE (JANUARY, 2026), SCALE (AS SHOWN), SHEET TITLE (STRUCTURAL GENERAL NOTES), SHEET NO. (S0.1)





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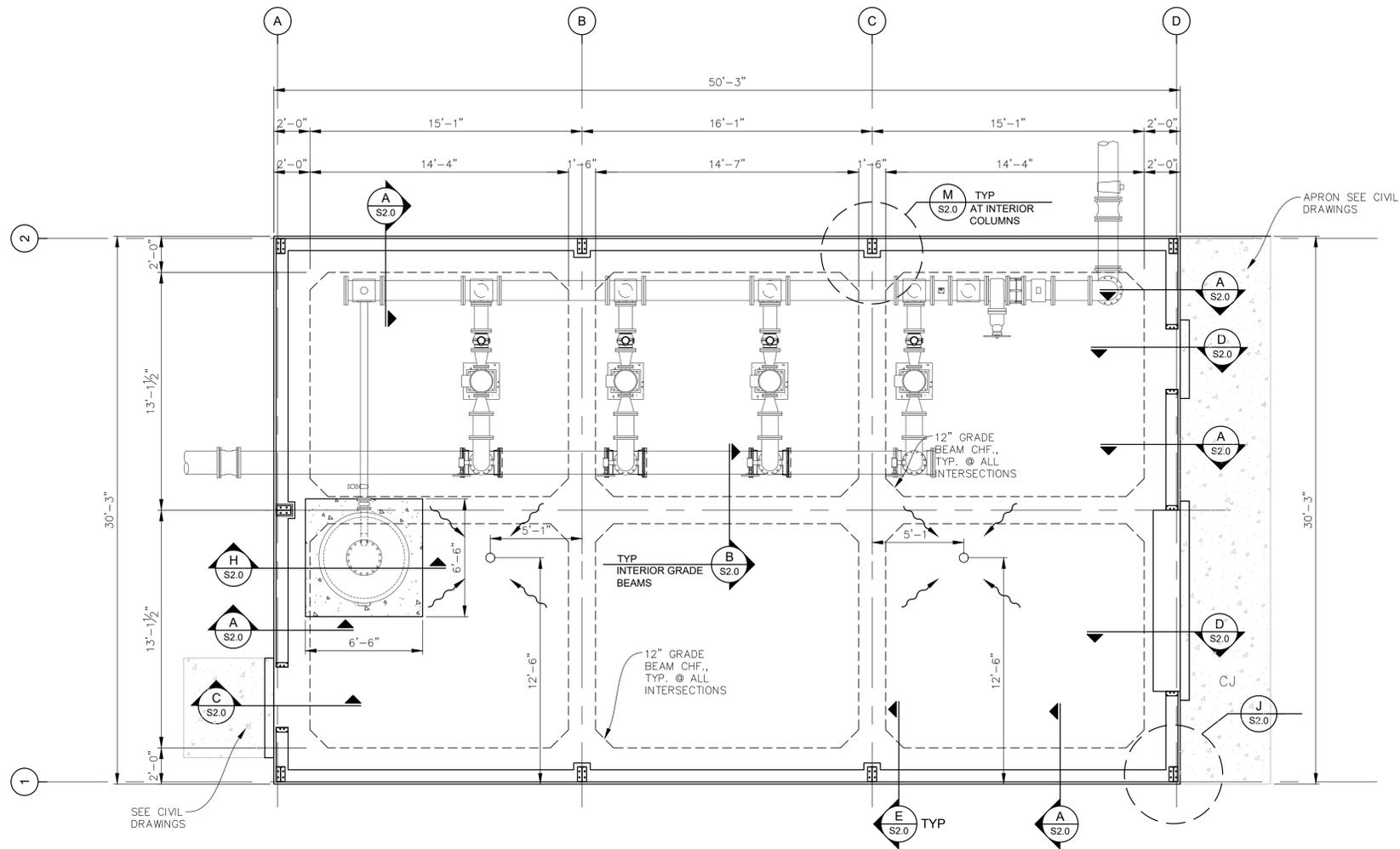
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DATE

REVISIONS/COMMENTS

NO.

BID SET



**BUILDING FOUNDATION PLAN**  
 SCALE: 1/4"=1'-0"



**PLAN NOTES**

- TOP OF FLOOR DRAIN GRATES SHALL BE 1" BELOW BLDG. FINISH FLOOR ELEV. SLAB SHALL BE GRADED TO DRAIN TO NEAREST DRAIN SEE ARCH FOR LOCATIONS
- CONCRETE SLAB SHALL BE 8" THICK WITH #5 @ 10" O.C. EA. WAY
- \* ~ INDICATES AN APPROXIMATE DIMENSION TO MECHANICAL/MANUFACTURER FEATURES. CONTRACTOR SHALL VERIFY THESE DIMENSIONS WITH APPROPRIATE DOCUMENTATION PRIOR TO PROCEEDING WITH ANY AFFECTED WORK.
- THE PREPARED BUILDING SURFACE SHALL EXTEND A MINIMUM HORIZONTAL DISTANCE OF 3 FEET OUTSIDE THE EXTERIOR BUILDING LINES.

**LEGEND:**

- INDICATES PEMB COL.
- INDICATES FLOOR DRAIN SECTION DETAIL 2/S3.0

CLIENT/PROJECT  
 JEFFERSON DAVIS PARISH  
 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE -1 BOOSTER STATION

SEAL



DESIGNED

SS

DRAWN

SS

PROJECT NO.

A8-23035-DA

DATE

JANUARY, 2026

SCALE

AS SHOWN

SHEET TITLE

**BUILDING  
 FOUNDATION PLAN**

SHEET NO.

**S1.0**



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DATE

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CLIENT/PROJECT  
**JEFFERSON DAVIS PARISH  
 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE -1 BOOSTER STATION**

SEAL



DESIGNED **SS** DRAWN **SS**

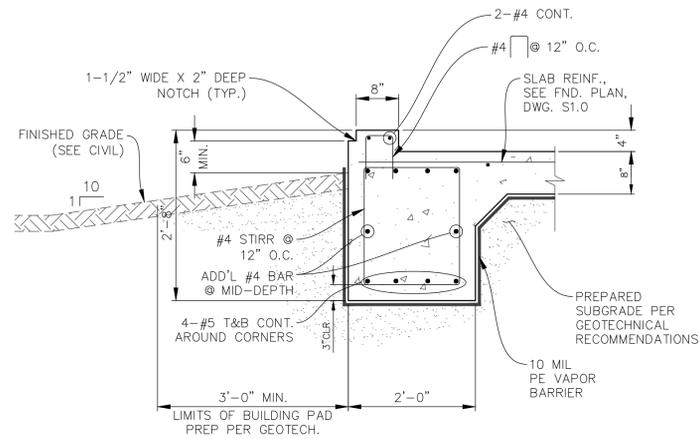
PROJECT NO.  
**A8-23035-DA**

DATE  
**JANUARY, 2026**

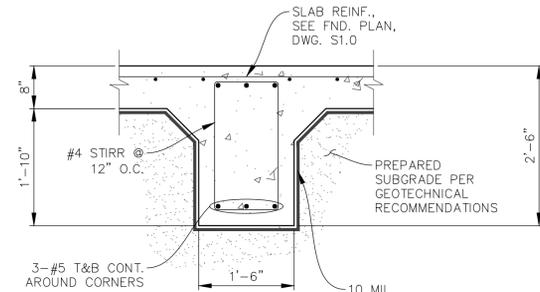
SCALE  
**AS SHOWN**

SHEET TITLE  
**TYPICAL FOUNDATION SECTIONS**

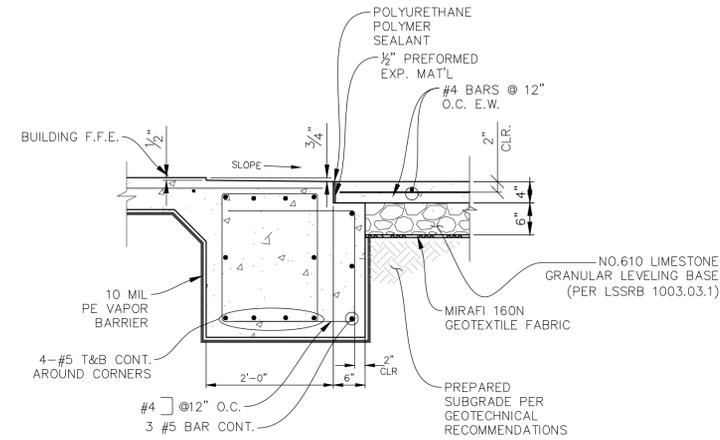
SHEET NO.  
**S2.0**



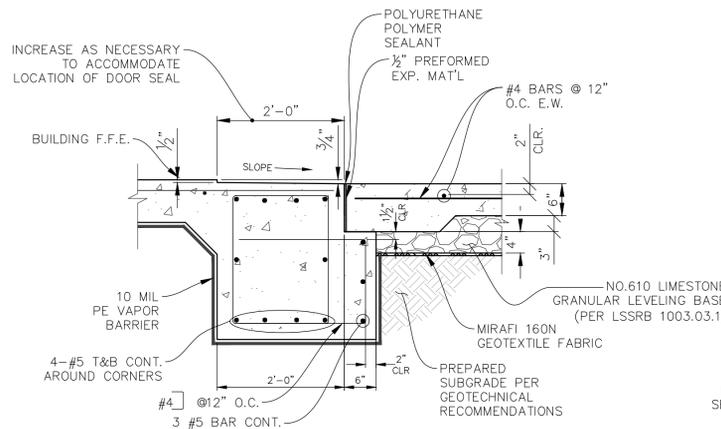
**A** TYPICAL EXTERIOR GRADE BEAM SECTION  
 S2.0 SCALE: 3/4" = 1'-0"



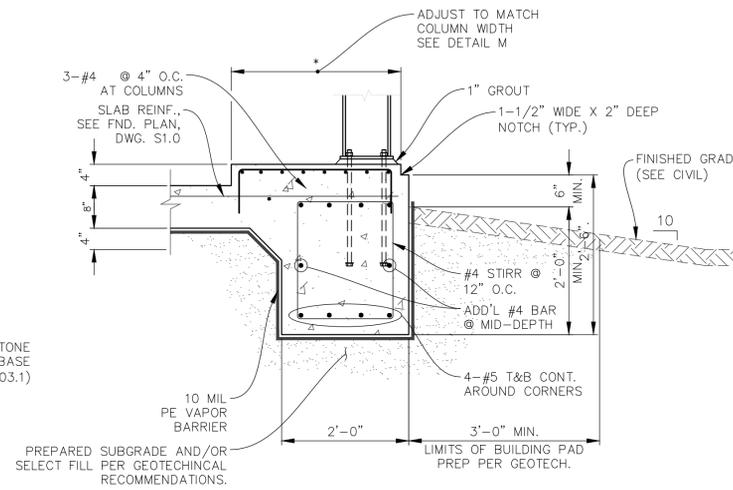
**B** TYPICAL INTERIOR GRADE BEAM SECTION  
 S2.0 SCALE: 3/4" = 1'-0"



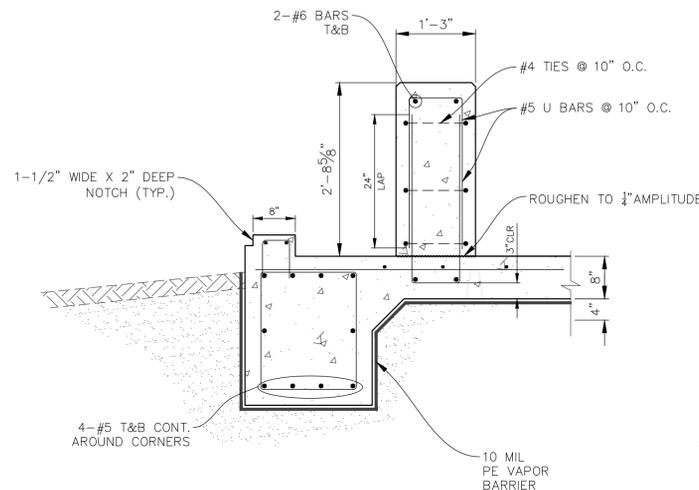
**C** TYPICAL SECTION @ DOOR OPENING  
 S2.0 SCALE: 3/4" = 1'-0"



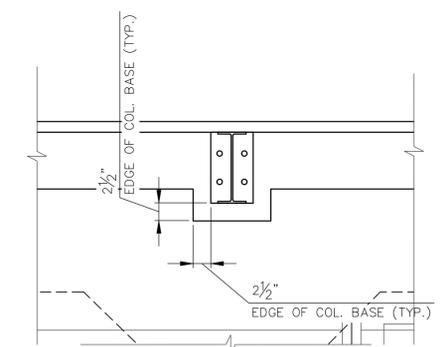
**D** TYPICAL SECTION @ DOOR OPENING  
 S2.0 SCALE: 3/4" = 1'-0"



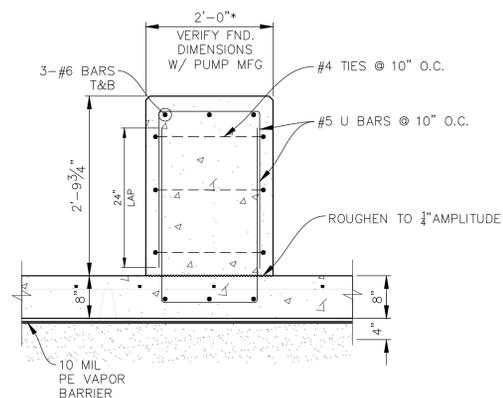
**E** TYPICAL COLUMN/CORNER GRADE BEAM SECTION  
 S2.0 SCALE: 3/4" = 1'-0"



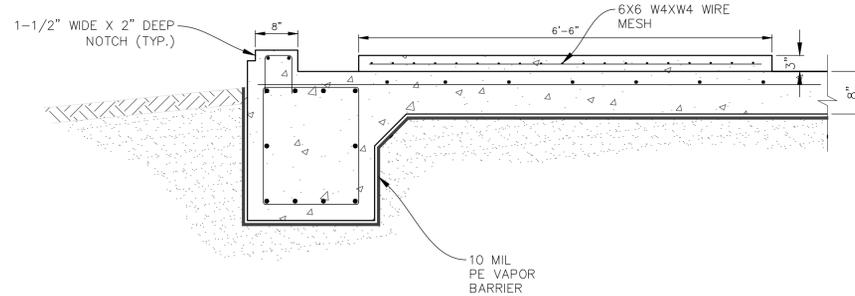
**F** TYPICAL SECTION @ PUMP RISER  
 S2.0 SCALE: 3/4" = 1'-0"



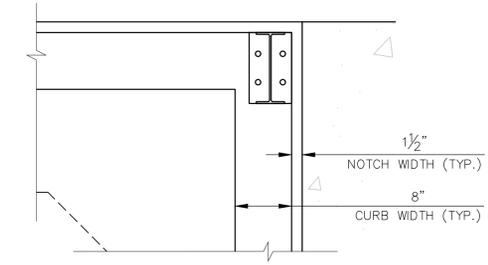
**M** TYPICAL ENLARGED PLAN @ INTERIOR COLUMNS  
 S2.0 SCALE: 1" = 1'-0"



**G** TYPICAL SECTION @ PUMP RISER  
 S2.0 SCALE: 3/4" = 1'-0"



**H** TYPICAL SECTION @ TANK BASE  
 S2.0 SCALE: 3/4" = 1'-0"

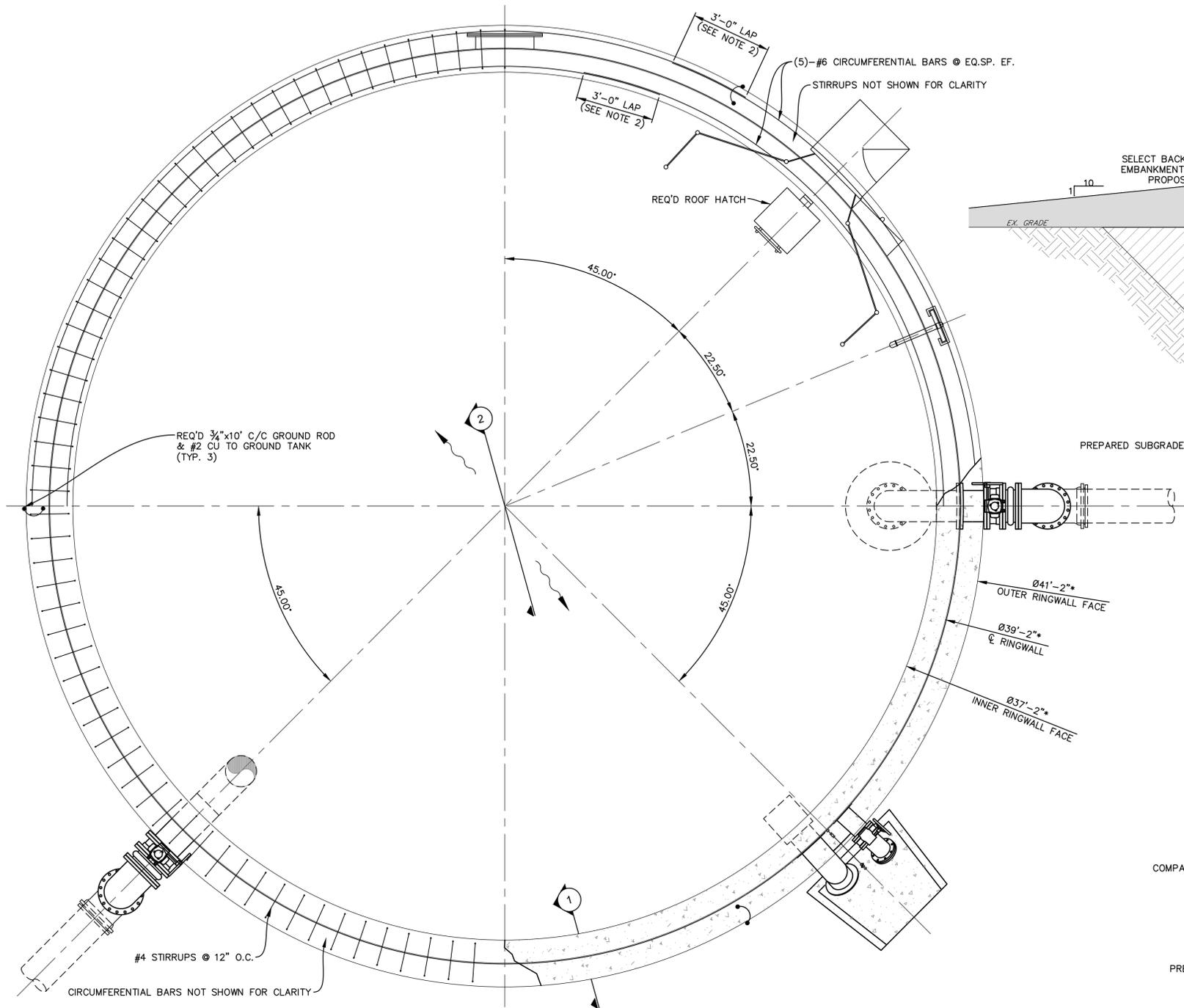


**J** TYPICAL PLAN @ CORNER COLUMNS  
 S2.0 SCALE: 1" = 1'-0"



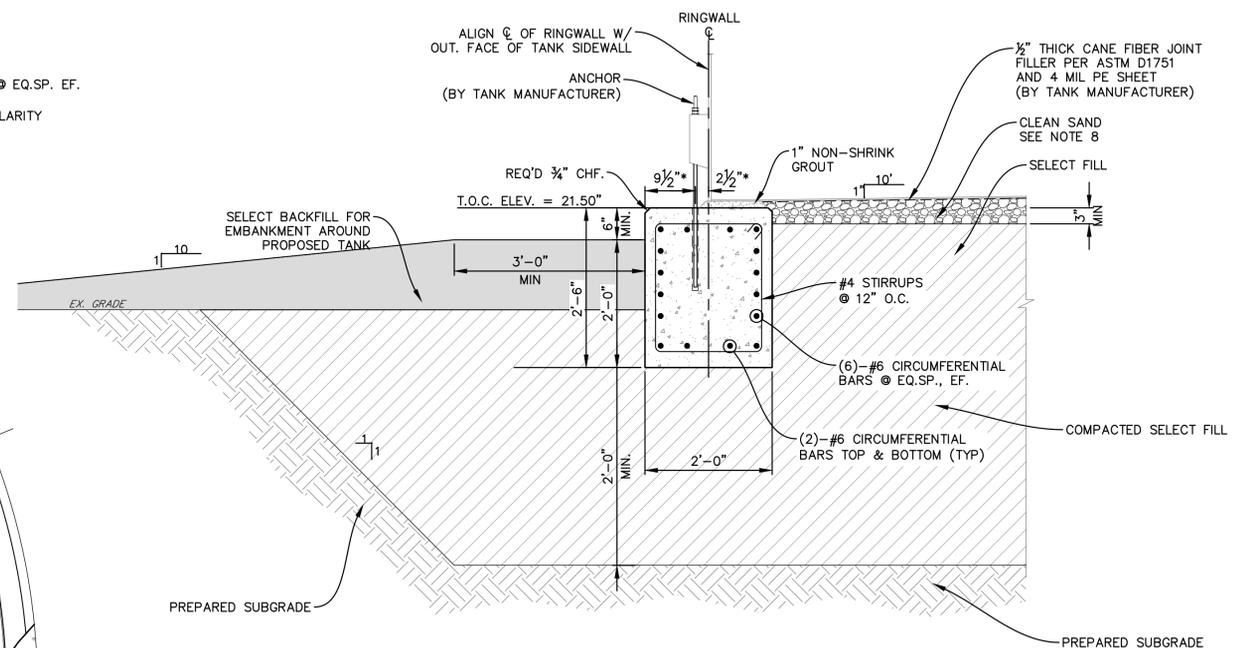
**TANK HYDRO-TESTING REQUIREMENTS:**

1. A HYDRO-TEST OF THE TANK SHALL BE PERFORMED PRIOR TO MAKING FINAL PIPING CONNECTIONS. THE TANK SHALL BE FILLED USING INCREMENTS OF ONE THIRD TOTAL CAPACITY AND MAINTAIN EACH INCREMENT AS LONG AS PRACTICAL (A 2 DAY MINIMUM FOR EACH FILL IS SUGGESTED).



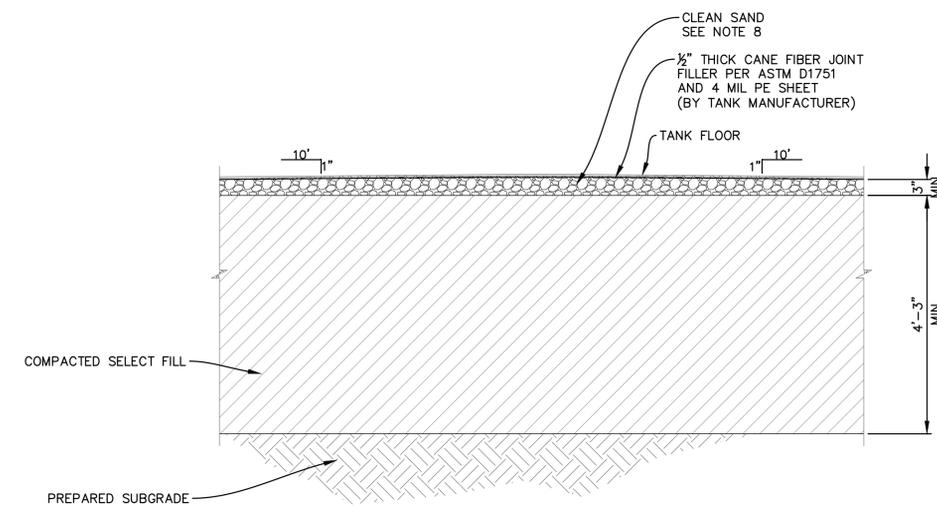
**TANK FOUNDATION PLAN**

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



**1 TYPICAL RINGWALL SECTION**

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



**2 TANK CENTER SECTION**

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

**FOUNDATION NOTES:**

1. \* ~ INDICATES AN APPROXIMATE DIMENSION OR ELEVATION TO MECHANICAL FEATURES. CONTRACTOR SHALL VERIFY THESE DIMENSIONS WITH APPROPRIATE DOCUMENTATION PRIOR TO PROCEEDING WITH ANY AFFECTED WORK.
2. LAPPED REINFORCING BARS SHALL BE STAGGERED A MINIMUM FOUR (4) FEET FROM ADJACENT LAPPED REINFORCING BARS.
3. THE EXISTING LAYERS OF TOPSOIL AND ANY SOFT, WET OR WEAK SOILS THAT YIELD EXCESSIVELY UNDER PROOFROLLING OR CONSTRUCTION ACTIVITIES SHALL BE REMOVED AND REPLACED WITH SELECT FILL.
4. TREATMENT OF THE SUBGRADE SHALL BE CONSIDERED TO HELP PROVIDE A FIRM WORKING SUBGRADE SURFACE. SEE GEOTECHNICAL REPORT.
5. SELECT FILL DEPTH SHALL BE AT LEAST TWO (2) FEET BELOW BOTTOM OF THE FOUNDATION
6. SELECT FILL SHALL CONSIST OF SILTY OR SANDY CLAY WITH A LIQUID LIMIT (LL) OF 30-42 AND PLASTIC INDEX (PI) OF 12-22.

**FOUNDATION NOTES CONT'D:**

7. SELECT FILL SHALL BE PLACED IN SIX (6) TO EIGHT (8) INCH THICK LOOSE LIFTS OR LESS AND COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY AT ±2% OF THE OPTIMUM MOISTURE CONTENT (ASTM D 698). SEE GEOTECHNICAL REPORT FOR TESTING REQUIREMENTS.
  - 7.1. EACH LIFT OF COMPACTED SOIL SHALL BE TESTED AND INSPECTED BY THE SOILS ENGINEER OR HIS REPRESENTATIVE PRIOR TO PLACEMENT OF SUBSEQUENT LIFTS. SEE GEOTECHNICAL REPORT FOR TESTING REQUIREMENTS.
  - 7.2. ALL LIFTS SHALL BE PLACED ON FLAT UNIFORM SURFACES; FILL THAT IS PLACED AGAINST EXISTING SLOPES SHALL BE BENCHED INTO EXISTING SOILS IN STEPS A MINIMUM OF TWO FEET WIDE AND MAXIMUM OF 1 LIFT THICK
8. PROVIDE A MINIMUM 3-INCH LAYER OF CLEAN SAND FILL BENEATH TANK, FREE OF ORGANICS AND DEBRIS; THICKNESS VARYING AS REQUIRED TO CROWN THE CENTER OF THE PAD; SAND SHALL HAVE LESS THAN 60% PASSING THE NO. 50 STD SIEVE AND LESS THAN 10% PASSING THE NO. 200 STD SIEVE; COMPACTED TO A MINIMUM OF 80% RELATIVE DENSITY.



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DATE

REVISIONS/COMMENTS

NO.

BID SET

CLIENT/PROJECT

JEFFERSON DAVIS PARISH  
 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE -1 BOOSTER STATION

SEAL



DESIGNED

SS

DRAWN

SS

PROJECT NO.

A8-23035-DA

DATE

JANUARY, 2026

SCALE

AS SHOWN

SHEET TITLE

TANK FOUNDATION  
 PLAN & SECTIONS  
 (BASE BID)

SHEET NO.

S4.0



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 PHASE I - BOOSTER STATION

SEAL



DESIGNED JMM DRAWN CNC

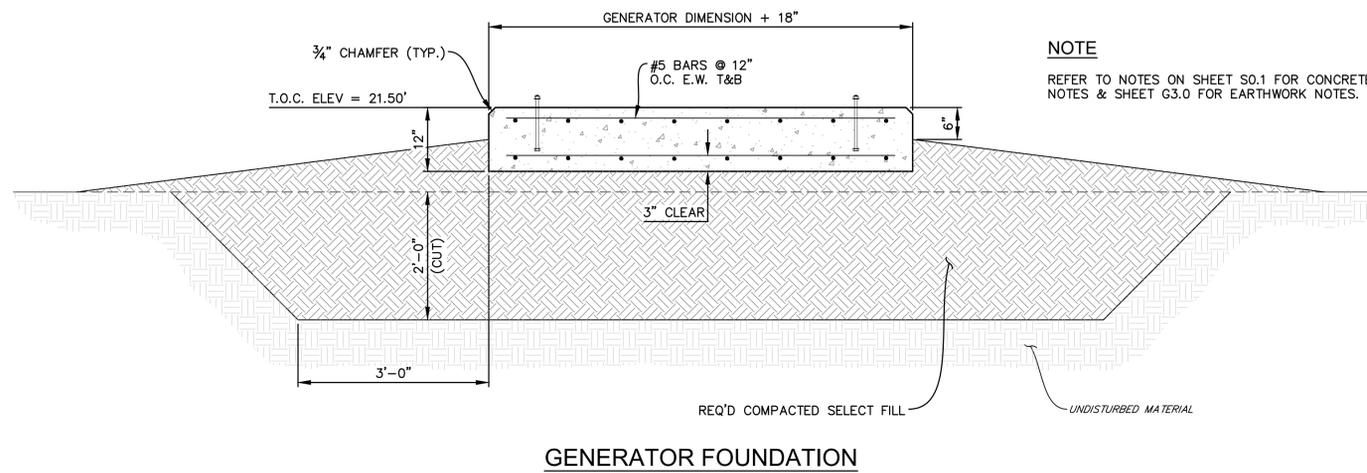
PROJECT NO. A8-23035-DA

DATE JANUARY, 2026

SCALE NONE

SHEET TITLE  
 MISCELLANEOUS  
 FOUNDATION  
 DETAILS

SHEET NO. S5.0





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SEAL



DESIGNED JMM DRAWN CNC

PROJECT NO. A8-23035-DA

DATE JANUARY, 2026

SCALE NONE

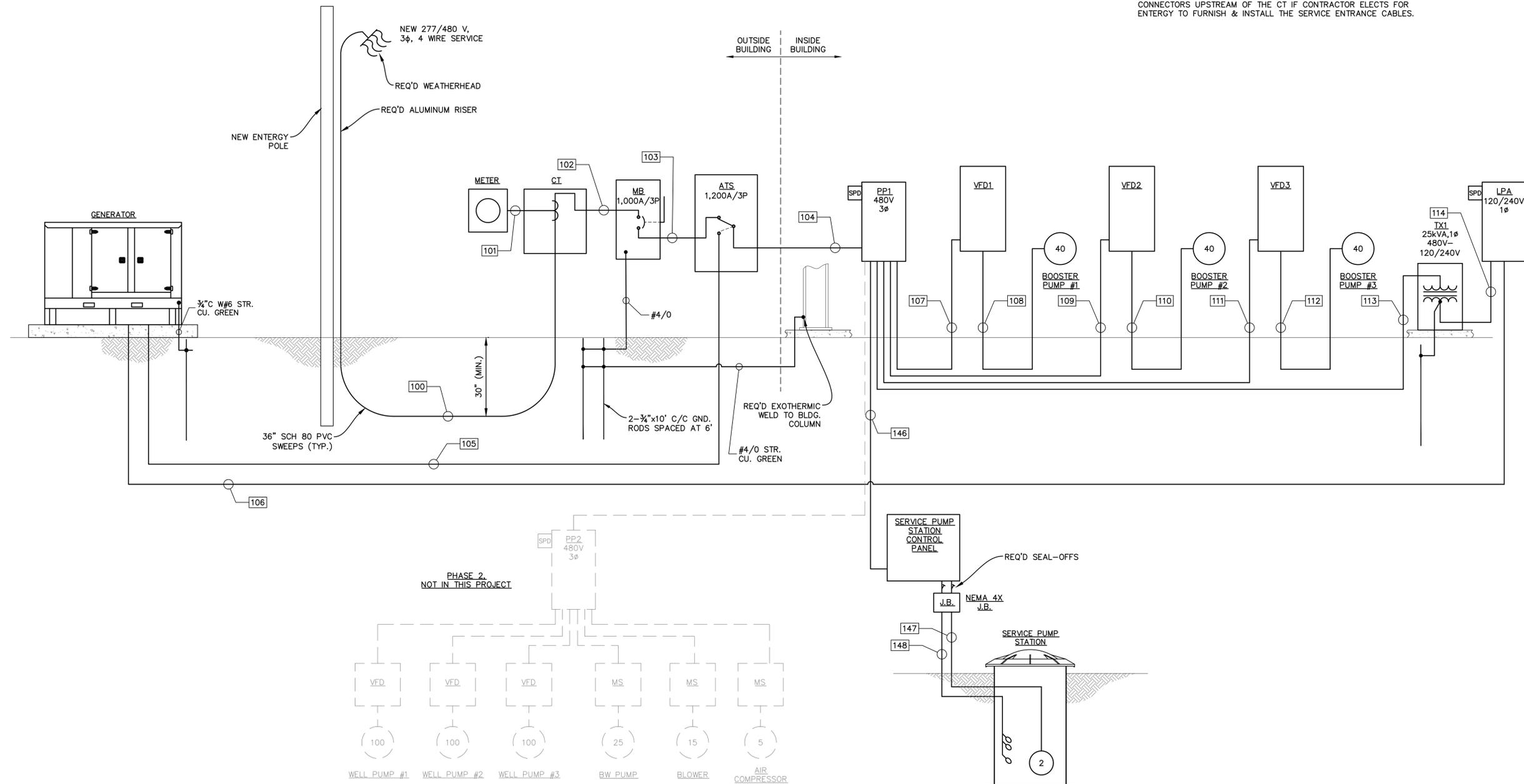
SHEET TITLE

RISER DIAGRAM

SHEET NO. E1.0

**GENERAL NOTES**

1. ALL WIRES TO BE THWN COPPER.
2. ALL CONDUIT TO BE RIGID ALUMINUM ABOVE GROUND AND SCH 40 PVC BELOW GROUND.
3. ALL WORK SHALL BE PER NEC AND LOCAL CODES.
4. PROVIDE 4' OF WORKING SPACE IN FRONT OF ALL ELECTRICAL EQUIPMENT AND DEVICES.
5. FIELD LOCATE ELECTRICAL EQUIPMENT AS DIRECTED BY THE ENGINEER.
6. COORDINATE WITH THE POWER COMPANY FOR ALL SERVICE RELATED WORK.
7. CONTRACTOR SHALL FURNISH & INSTALL UTILITY JUNCTION BOX & CONNECTORS UPSTREAM OF THE CT IF CONTRACTOR ELECTS FOR ENERGY TO FURNISH & INSTALL THE SERVICE ENTRANCE CABLES.





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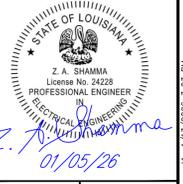
REVISIONS/COMMENTS

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 PHASE I - BOOSTER STATION**

SEAL



DESIGNED: JMM DRAWN: CNC

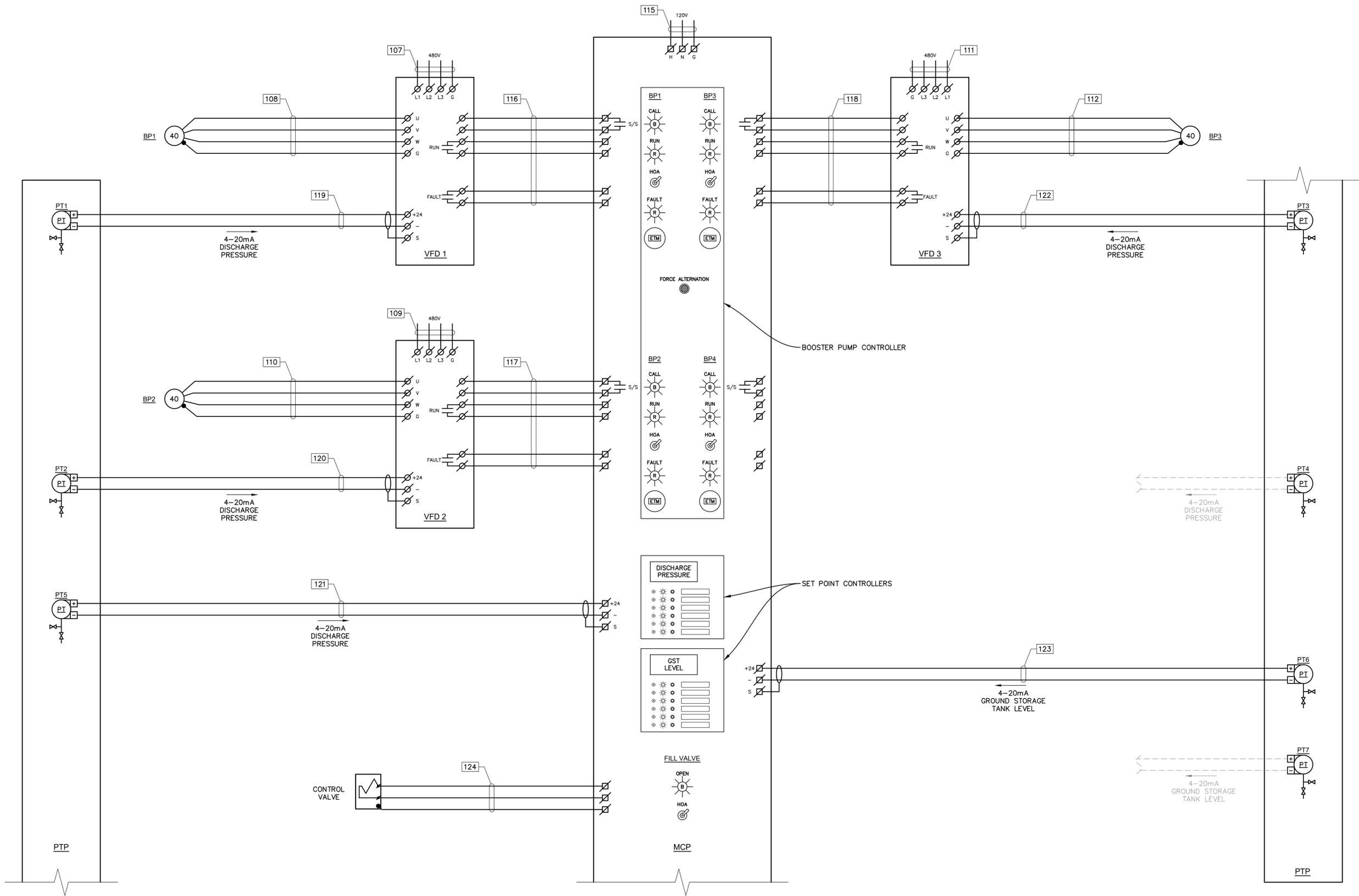
PROJECT NO.: A8-23035-DA

DATE: JANUARY, 2026

SCALE: NONE

SHEET TITLE: INTERCONNECTION DIAGRAMS

SHEET NO.: E2.0





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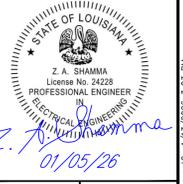
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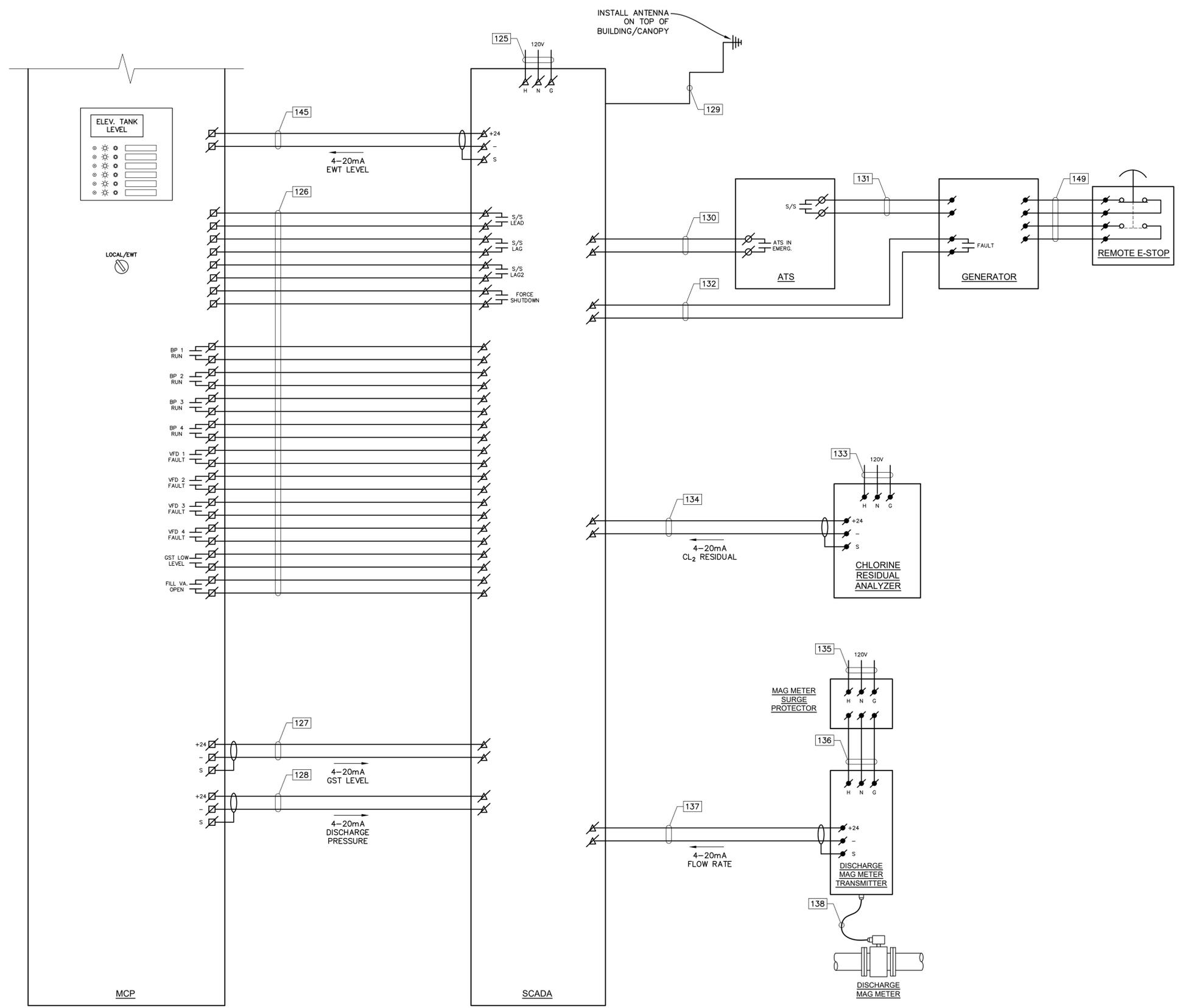
PROJECT NO.: **A8-23035-DA**

DATE: **JANUARY, 2026**

SCALE: **NONE**

SHEET TITLE: **INTERCONNECTION DIAGRAMS**

SHEET NO.: **E2.1**



**RUN SCHEDULE**

RUN No.	FROM	TO	CONDUIT	WIRE (AWG./KCMIL)	NOTES
100	SERVICE TRANSFORMERS	CT ENCLOSURE	3-4"	EACH W/3#600, 1#250 GC.	
101	SERVICE METER	CT ENCLOSURE	1"	AS REQ'D BY ENTERGY	
102	CT ENCLOSURE	MB	3-4"	EACH W/3#600, 1#250 GC.	
103	MB	ATS	3-4"	EACH W/3#600, 1#250 GC., 1#3/0 EGC.	
104	ATS	PP1	3-4"	EACH W/3#600, 1#250 GC., 1#3/0 EGC.	
105	ATS	GENERATOR	3-4"	EACH W/3#600, 1#250 GC., 1#3/0 EGC.	
106	LPA	GENERATOR	1"	3#6, 1#10 EGC.	
107	PP1	VFD1	1 1/4"	3#4, 1#8 EGC.	
108	VFD1	BP1	1 1/4"	3#4, 1#8 EGC.	
109	PP1	VFD2	1 1/4"	3#4, 1#8 EGC.	
110	VFD2	BP2	1 1/4"	3#4, 1#8 EGC.	
111	PP1	VFD3	1 1/4"	3#4, 1#8 EGC.	
112	VFD3	BP3	1 1/4"	3#4, 1#8 EGC.	
113	PP1	TX1	1"	2#4, 1#8 EGC.	
114	TX1	LPA	1 1/4"	3#1, 1#6 EGC.	
115	LPA	MCP	1/2"	3#12	
116	MCP	VFD1	1/2"	6#14	
117	MCP	VFD2	1/2"	6#14	
118	MCP	VFD3	1/2"	6#14	
119	PTP	VFD1	1/2"	2/C#16 SHLD.	
120	PTP	VFD2	1/2"	2/C#16 SHLD.	
121	PTP	MCP	1/2"	2/C#16 SHLD.	
122	PTP	VFD3	1/2"	2/C#16 SHLD.	
123	PTP	MCP	1/2"	2/C#16 SHLD.	
124	MCP	CONTROL VALVE	3/4"	3#12	
125	LPA	SCADA	1/2"	3#12	
126	MCP	SCADA	1"	28#14	
127	MCP	SCADA	1/2"	2/C#16 SHLD.	
128	MCP	SCADA	1/2"	2/C#16 SHLD.	
129	SCADA	ANTENNA	--	ANTENNA CABLE	
130	SCADA	ATS	3/4"	2#14	
131	ATS	GENERATOR	3/4"	2#14, OR AS REQ'D BY MANUF.	
132	SCADA	GENERATOR	3/4"	2#14	
133	LPA	CL2 RESIDUAL MONITOR	1/2"	3#12	
134	SCADA	CL2 RESIDUAL MONITOR	1/2"	2/C#16 SHLD.	
135	LPA	MAG METER SURGE PROTECTOR	1/2"	3#12	
136	MAG METER SURGE PROTECTOR	DISCHARGE MAG METER TRANSMITTER	1/2"	3#12	
137	SCADA	DISCHARGE MAG METER TRANSMITTER	1/2"	2/C#16 SHLD.	
138	DISCHARGE MAG METER TRANSMITTER	DISCHARGE MAG METER FLOW TUBE	3/4"	FACTORY CABLE	
139	LPA	CONTROL VALVE ENCLOSURE HEATER	3/4"	3#12	
140	PP1	STUB-OUT SOUTH SIDE OF BUILDING	2-3"	--	
141	MPC	STUB-OUT SOUTH SIDE OF BUILDING	1"	--	
142	SCADA	STUB-OUT SOUTH SIDE OF BUILDING	1 1/4", 2-3/4"	--	
143	PTP	STUB-OUT SOUTH SIDE OF BUILDING	3/4"	--	
144	FUTURE VFD4	FUTURE BP4	1"	--	
145	MCP	SCADA	1/2"	2/C#16 SHLD.	
146	PP1	SERVICE PUMP STATION CONTROL PANEL	3/4"	3#14, 1#14 EGC.	
147	SERVICE PUMP STATION CONTROL PANEL	SERVICE PUMP STATION	1"	PUMP CABLE	
148	SERVICE PUMP STATION CONTROL PANEL	SERVICE PUMP STATION	1"	FLOAT CABLES	
149					
150					
151					
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REVISIONS/COMMENTS

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BID SET

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**JEFFERSON DAVIS PARISH  
 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE I - BOOSTER STATION**

SEAL



DESIGNED: JMM DRAWN: CNC

PROJECT NO.: A8-23035-DA

DATE: JANUARY, 2026

SCALE: NONE

SHEET TITLE: RUN SCHEDULE

SHEET NO.: E3.0



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DESIGNED: JMM DRAWN: CNC

PROJECT NO.: A8-23035-DA

DATE: JANUARY, 2026

SCALE: NONE

SHEET TITLE: PANEL SCHEDULES

SHEET NO.: E3.1

PANEL PP1			
LOCATION: PUMP BUILDING 480V, 3φ, 4W, 1,200 AMP BUS W/ 1,200A MLO SURFACE MOUNTING NEMA 1 ENCLOSURE SERIES RATING 65,000 AMPS SYMMETRICAL			
CKT NO.	AMPS POLES	WIRE SIZE	MAIN SERVICING
1	30/3	-	SPD
2	100/3	*	VFD1
3	-	-	-
4	-	-	-
5	-	-	-
6	-	-	-
7	100/3	*	VFD2
8	100/3	*	VFD3
9	-	-	-
10	-	-	-
11	-	-	-
12	-	-	-
13	100/3	-	FUTURE VFD4
14	70/2	*	TX1
15	-	-	-
16	-	-	-
17	-	-	-
18	600/3	-	FUTURE FILTER BLDG. FEEDER
19	15/3	*	SERVICE PUMP STATION
20	-	-	-
21	-	-	-
22	-	-	-
23	-	-	-
24			
25			
26			
27			
28			
29			
30			

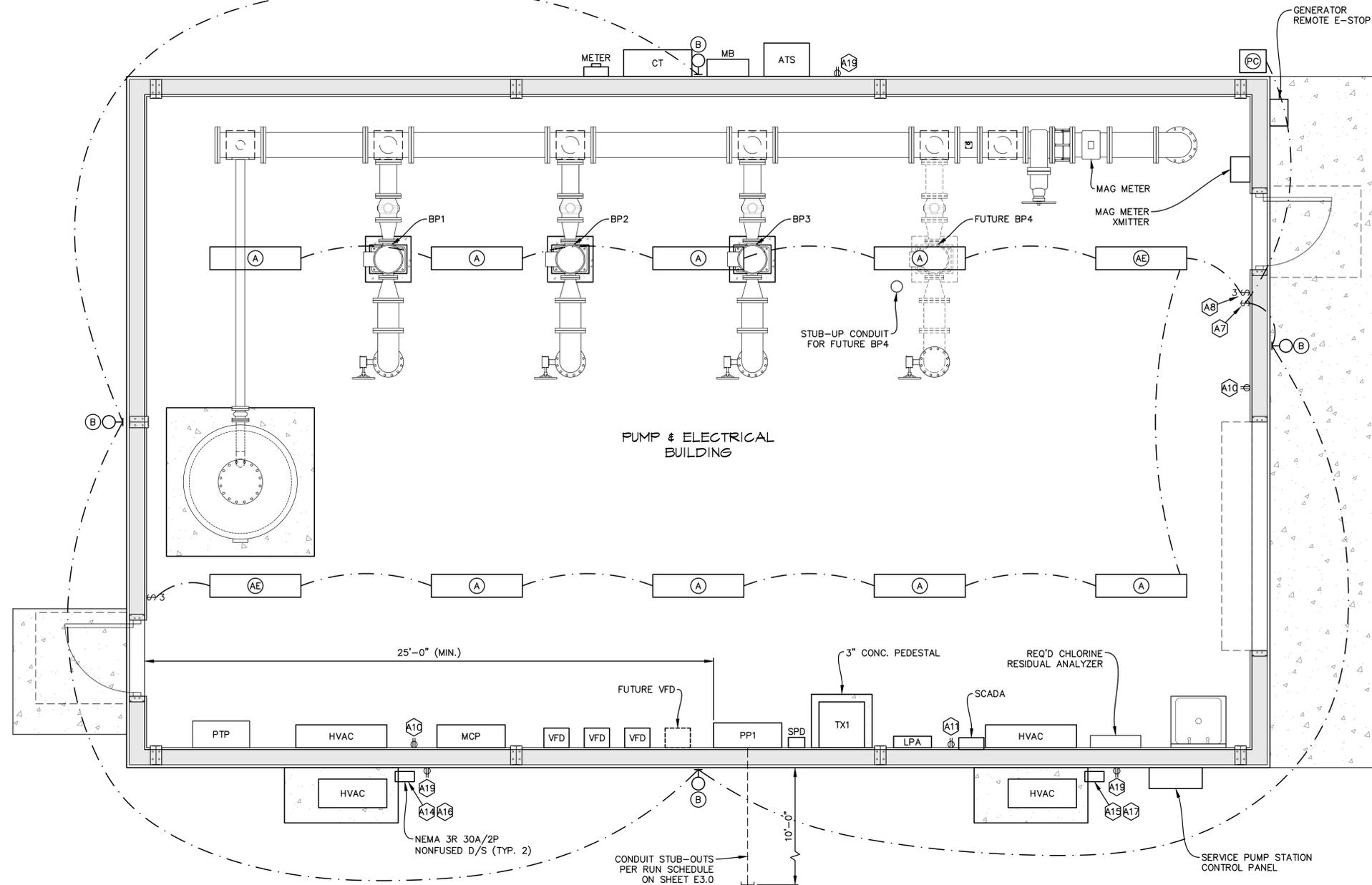
\* SEE RUN SCHEDULE

PANEL LPA			
LOCATION: PUMP BUILDING 120/240V, 1φ, 3W, 125 AMP BUS W/ 125A MAIN BREAKER SURFACE MOUNTING NEMA 1 ENCLOSURE SERIES RATING 10,000 AMPS SYMMETRICAL			
CKT NO.	AMPS POLES	WIRE SIZE	MAIN SERVICING
1	30/2	-	SPD
2	20/1	*	MCP
3	-	-	-
4	20/1	*	SCADA
5	20/1	*	RESIDUAL ANALYZER
6	20/1	*	MAG METER
7	20/1	3#12	BLDG EXTERIOR LIGHTS
8	20/1	3#12	BLDG INTERIOR LIGHTS
9	20/1	3#10	SITE LIGHTING (TYPE D FIXTURES)
10	20/1	3#12	BLDG INTERIOR GFCI
11	20/1	3#12	BLDG INTERIOR GFCI
12	60/2	*	GENERATOR LOAD CENTER
13	-	-	-
14	25/2	3#10	HEAT PUMP #1
15	25/2	3#10	HEAT PUMP #2
16	-	-	-
17	-	-	-
18	20/1 GFCI	*	CONTROL VALVE ENCLOSURE HEATER
19	20/1	3#12	BLDG EXTERIOR GFCI'S
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

\* SEE RUN SCHEDULE

**NOTES**

1. ALL RECEPTACLES TO BE GFCl.
2. ALL OUTDOOR RECEPTACLES TO BE WATERPROOF.
3. REFER TO SPECIFICATIONS FOR LIGHT FIXTURE SCHEDULE.



**Meyer & Associates, Inc.**  
 Consulting Engineers  
 600 N. Cities Service Hwy.  
 Sulphur, Louisiana 70663  
 (337)625-8353 Fax: (337)625-8453  
 www.meyerassociates.com

CONSULTANT	
DATE	
REVISIONS/COMMENTS	
NO.	

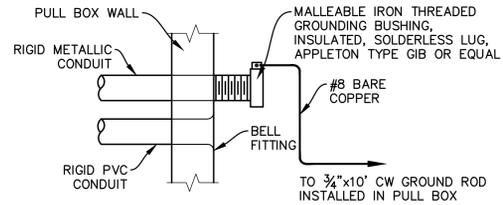
CLIENT/PROJECT  
 JEFFERSON DAVIS PARISH  
 WATER & SEWER COMMISSION #1  
 WATER SYSTEM IMPROVEMENTS  
 LACASSINE WATER TREATMENT PLANT  
 PHASE I - BOOSTER STATION

SEAL

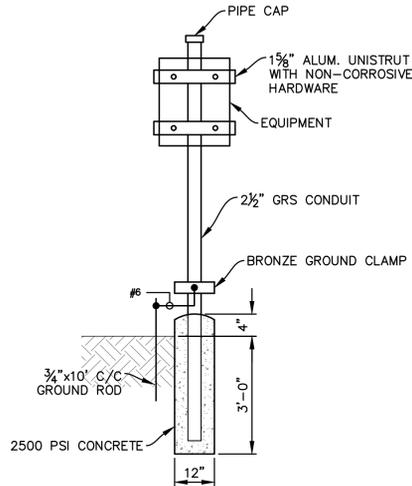
Z. A. SHAMMA  
 License No. 24228  
 PROFESSIONAL ENGINEER  
 IN  
 ELECTRICAL ENGINEERING  
 01/05/26

DESIGNED	JMM	DRAWN	CNC
PROJECT NO.	A8-23035-DA		
DATE	JANUARY, 2026		
SCALE	3/8" = 1'-0"		
SHEET TITLE	ELECTRICAL FLOOR PLAN		
SHEET NO.	E4.0		

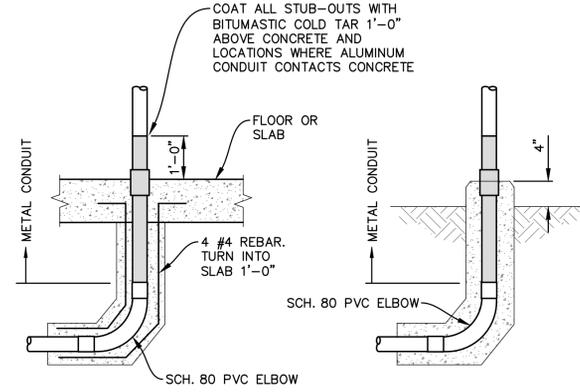




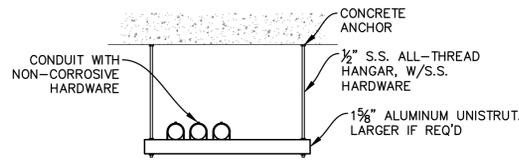
**CONDUIT GROUNDING INSIDE PULL BOX**



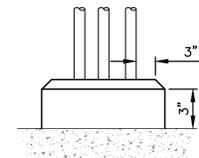
**SINGLE POST RACK**



**CONDUIT STUB-UPS**

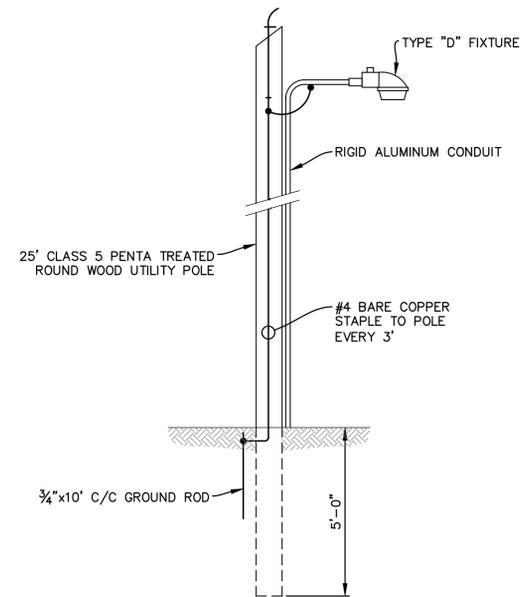


**TRAPEZE CONDUIT HANGAR**

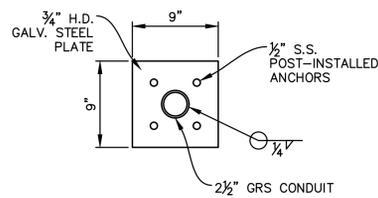


HOUSEKEEPING CURB REQ'D AT ALL INTERIOR WALL LOCATIONS FOR SINGLE & MULTIPLE RISERS.

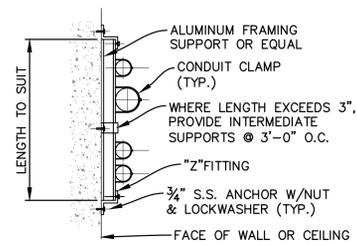
**CONCRETE HOUSEKEEPING CURB**



**TYPE "D" FIXTURE MOUNTING**



**ELECTRICAL RACK BASE PLATE**



**WALL OR CONCRETE CEILING MOUNTED CONDUIT SUPPORT (FOR CEILING MOUNT, ROTATE 90° CW)**



**Meyer & Associates, Inc.**  
 Consulting Engineers  
 600 N. Cities Service Hwy.  
 Sulphur, Louisiana 70663  
 (337)625-8353 Fax: (337)625-8453  
 www.meyerasociates.com

CONSULTANT	
DATE	
REVISIONS/COMMENTS	
NO.	

BID SET

CLIENT/PROJECT  
**JEFFERSON DAVIS PARISH**  
**WATER & SEWER COMMISSION #1**  
**WATER SYSTEM IMPROVEMENTS**  
**LACASSINE WATER TREATMENT PLANT**  
**PHASE I - BOOSTER STATION**

SEAL  
  
 Z. A. Shamma  
 01/05/26

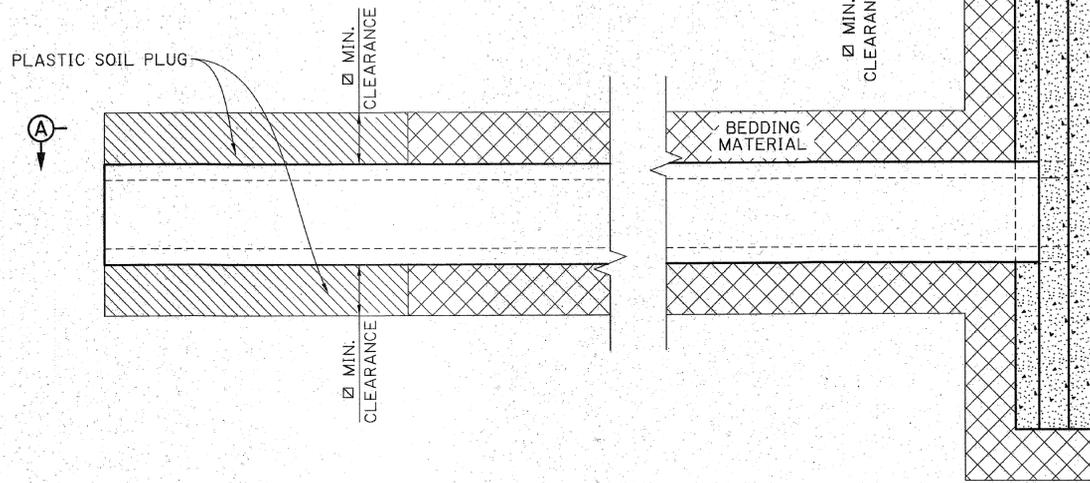
DESIGNED	DRAWN
JMM	CNC
PROJECT NO.	A8-23035-DA
DATE	JANUARY, 2026
SCALE	NONE
SHEET TITLE	STANDARD ELECTRICAL DETAILS
SHEET NO.	E6.0

09:45  
10/23/2023

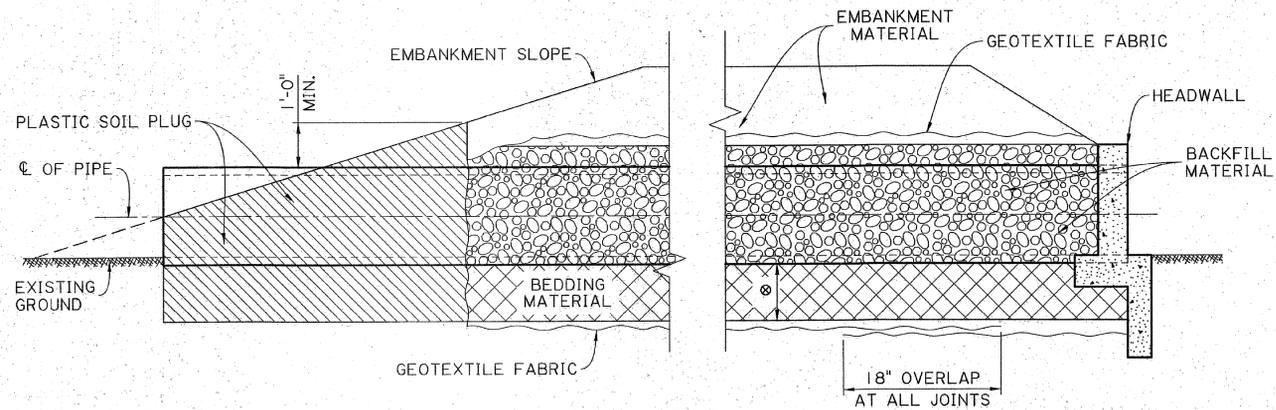
**GENERAL NOTES :**

1. REINFORCED CONCRETE PIPE AND FLEXIBLE PIPE ARE SHOWN AS TYPICAL STRUCTURES. DETAILS ALSO APPLY TO REINFORCED CONCRETE BOX CULVERT, REINFORCED CONCRETE PIPE ARCH, CORRUGATED METAL PIPE ARCH, AND CORRUGATED STRUCTURAL PLATE STRUCTURES.
2. CONSTRUCTION COVER REQUIREMENTS MAY EXCEED FINAL COVER.
3. CROSS DRAIN DETAILS APPLY TO ALL REACHES OF PIPE UNDER RIGID OR FLEXIBLE ROADWAYS.
4. FOR STRUCTURES INSTALLED OUTSIDE THE LIMITS OF THE ROADWAY, THE 12" OF FINAL BACKFILL ABOVE TYPE B BACKFILL UP TO THE EXISTING GROUND SHALL BE PLASTIC SOIL BLANKET MATERIAL. IF THE EMBANKMENT TO BE INSTALLED IS GREATER THAN 12" ABOVE EXISTING GROUND IN THE AREA OVER THE STRUCTURE, THEN THE PLASTIC SOIL BLANKET IS NOT REQUIRED AND TYPE B BACKFILL MAY EXTEND TO EXISTING GROUND.

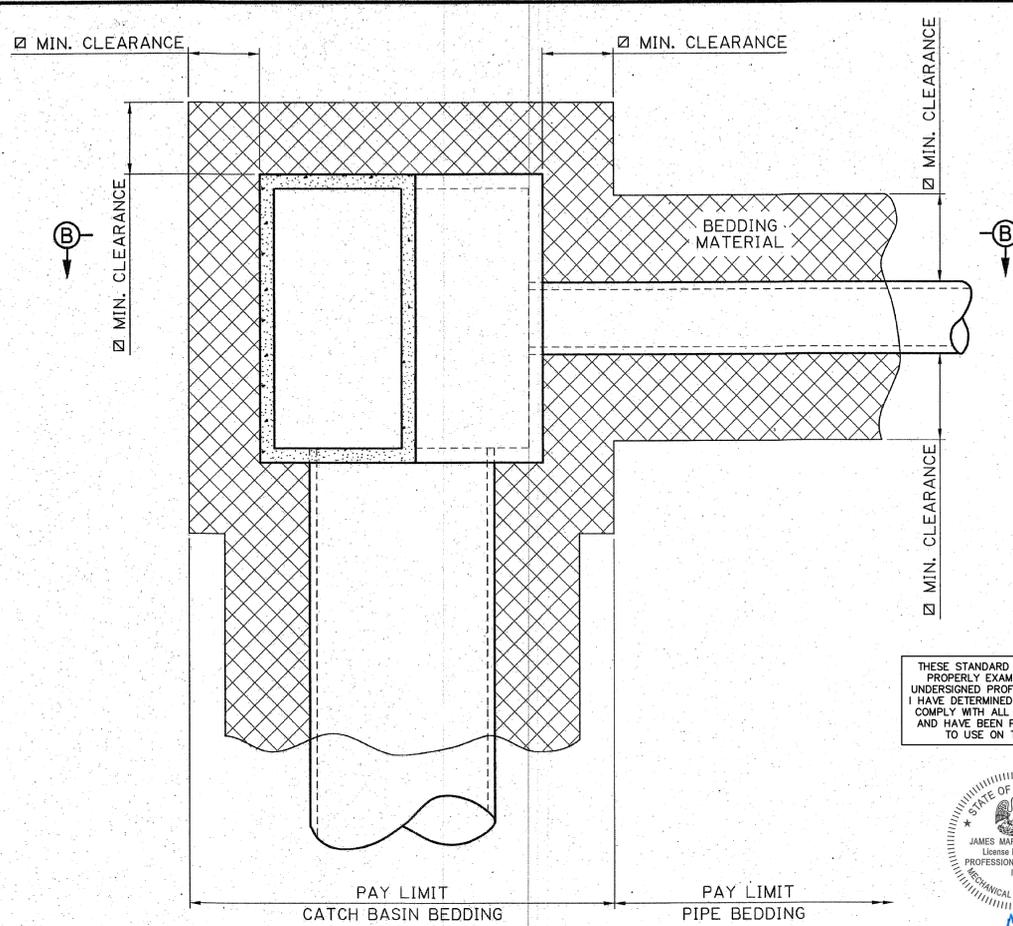
Ø MINIMUM TRENCH CLEARANCE		
TYPE OF STRUCTURE	INSIDE DIAMETER	MIN. CLEARANCE
REINFORCED CONCRETE	ALL	18"
FLEXIBLE PIPE	<48"	18"
FLEXIBLE PIPE	≥48"	24"



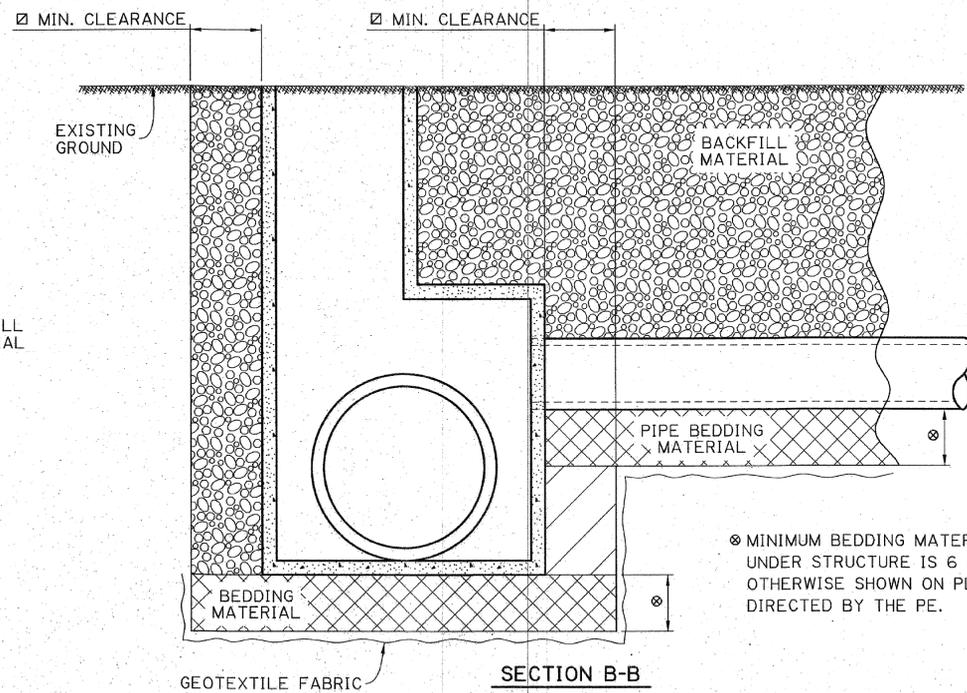
**TYPICAL CROSS DRAIN INSTALLATION**  
WITH AND WITHOUT HEADWALL  
(EMBANKMENT MATERIAL NOT SHOWN FOR CLARITY)  
NTS



**SECTION A-A**  
WITH AND WITHOUT HEADWALL  
NTS

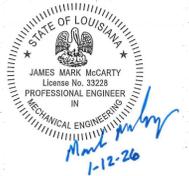


**TYPICAL CATCH BASIN AND STORM DRAIN INSTALLATION**  
NTS



**SECTION B-B**  
NTS

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.



SHEET NUMBER	R1.0
DESIGN	C. NICKEL
CHECK	J. RAUSER
DETAIL	L. HASTINGS
CHECK	A. NICKEL
REVIEW	C. NICKEL
SERIES #	1 OF 2
PARISH	
CONTROL SECTION	
STATE PROJECT	

APPROVED BY CHIEF ENGINEER: *[Signature]* DATE: 10/26/2023

STATE OF LOUISIANA  
JAMES MARK McCARTY  
License No. 33228  
PROFESSIONAL ENGINEER  
IN  
MECHANICAL ENGINEERING

**DRAINAGE STRUCTURES  
BEDDING & BACKFILL**

STANDARD PLAN  
BM-01

**DOTD**  
LOUISIANA DEPARTMENT OF  
TRANSPORTATION & DEVELOPMENT

PAVEMENT &  
GEOTECHNICAL  
SERVICES

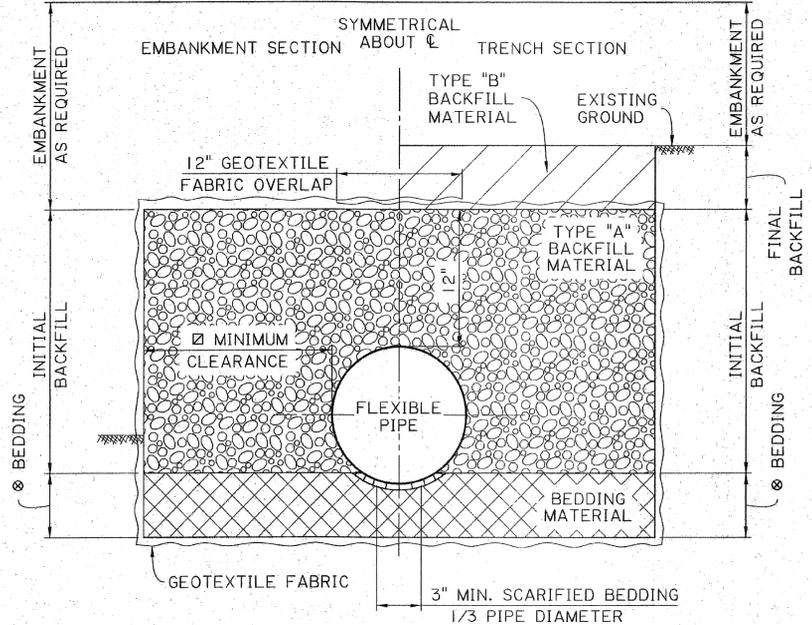
10/23/2023 09:18

MINIMUM TRENCH CLEARANCE		
TYPE OF STRUCTURE	INSIDE DIAMETER	MIN. CLEARANCE
REINFORCED CONCRETE	ALL	18"
FLEXIBLE PIPE	<48"	18"
FLEXIBLE PIPE	≥48"	24"

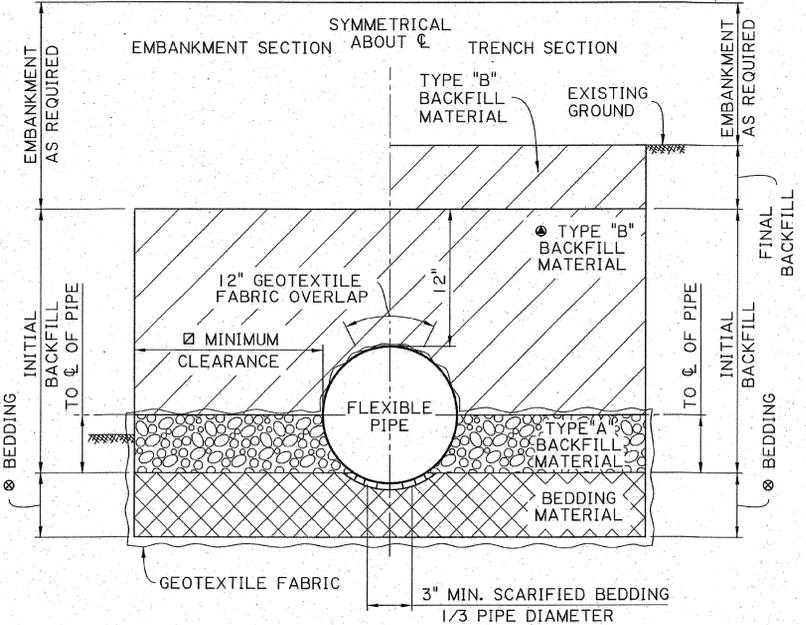
THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.



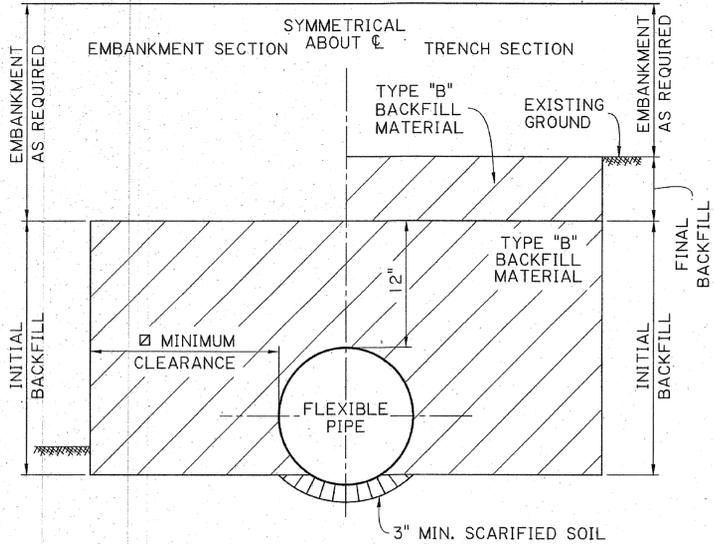
- ⊗ MINIMUM BEDDING MATERIAL THICKNESS UNDER STRUCTURE IS 6 INCHES UNLESS OTHERWISE SHOWN ON PLANS OR AS DIRECTED BY THE PE.
- △ NO BEDDING MATERIAL REQUIRED UNLESS OTHERWISE SPECIFIED ON THE PLANS OR AS DIRECTED BY THE PE.
- REFER TO NOTE 3 ON SHEET 1 OF THIS SERIES.



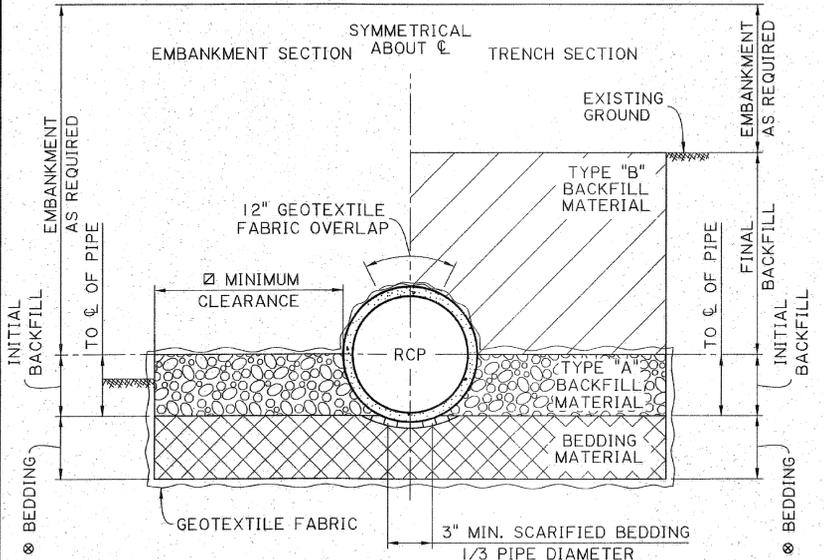
**FLEXIBLE PIPE CROSS DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1 1/2" = 1'-0"



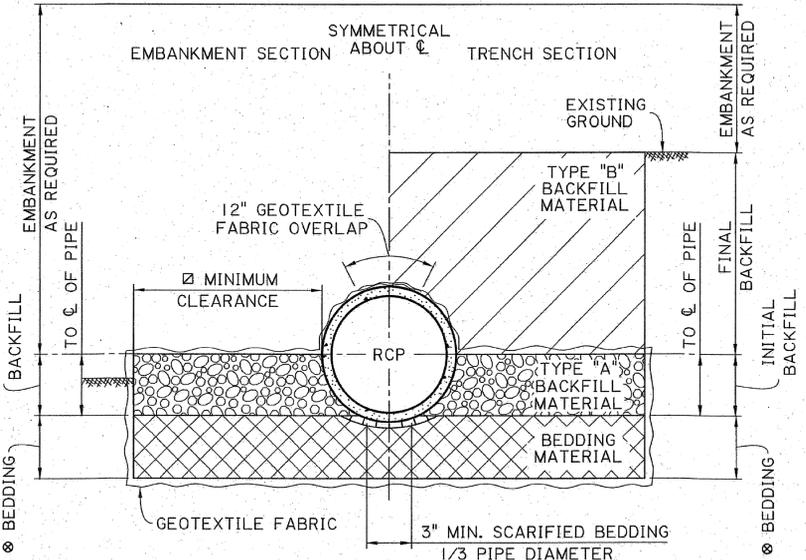
**FLEXIBLE PIPE STORM DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1 1/2" = 1'-0"



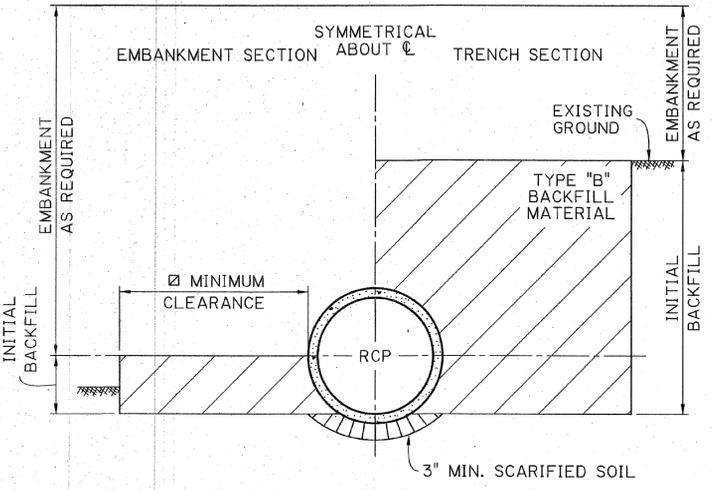
**△ FLEXIBLE PIPE SIDE DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1 1/2" = 1'-0"



**REINFORCED CONCRETE PIPE CROSS DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1 1/2" = 1'-0"



**REINFORCED CONCRETE PIPE STORM DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1 1/2" = 1'-0"



**△ REINFORCED CONCRETE PIPE SIDE DRAIN**  
TRENCH AND EMBANKMENT INSTALLATIONS  
SCALE: 1 1/2" = 1'-0"

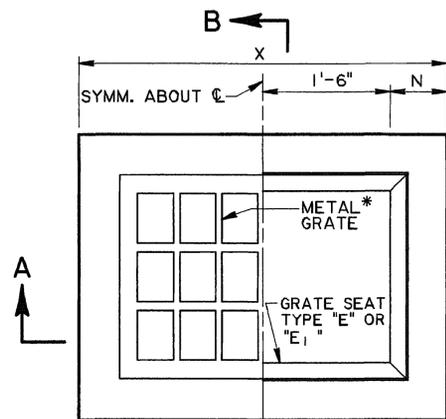
SHEET NUMBER		R1.1
DESIGN	C. NICKEL	PARISH
CHECK	J. RAUSER	CONTROL SECTION
DETAIL	L. HASTINGS	STATE PROJECT
CHECK	A. NICKEL	
REVIEW	C. NICKEL	
SERIES #	2 OF 2	

APPROVED BY CHIEF ENGINEER: *[Signature]* DATE: 10/26/2023

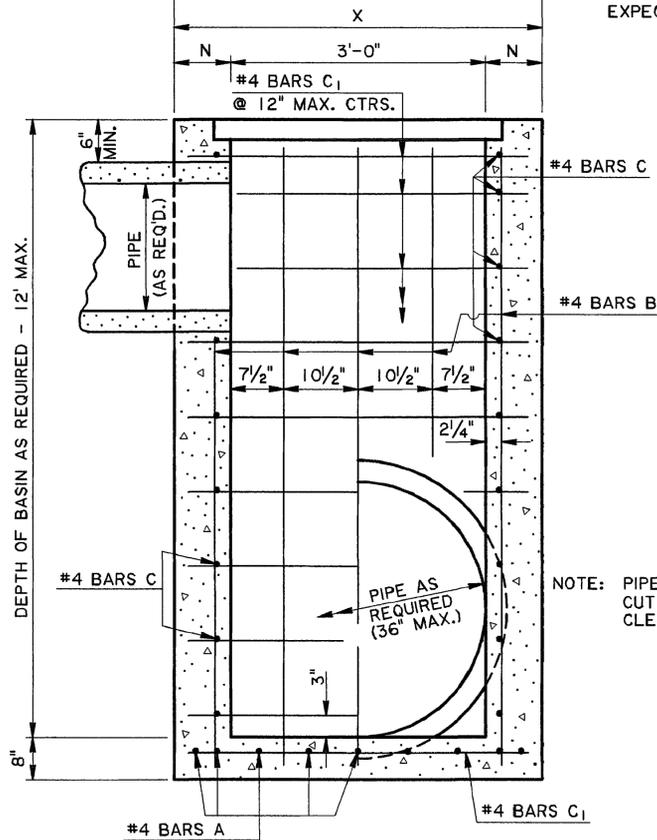
STATE OF LOUISIANA  
CHRISTOPHER J. NICKEL  
License No. 3672  
PROFESSIONAL ENGINEER  
IN  
CIVIL ENGINEERING  
10/23/2023

DRAINAGE STRUCTURES  
TYPICAL SECTIONS FOR CROSS DRAINS & SIDE DRAINS  
STANDARD PLAN  
BW-01

**DOTD**  
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT  
PAVEMENT & GEOTECHNICAL SERVICES



**PLAN**  
\* GRATE TO BE TYPE "B" OR "C"  
TYPE "B" SHOWN.

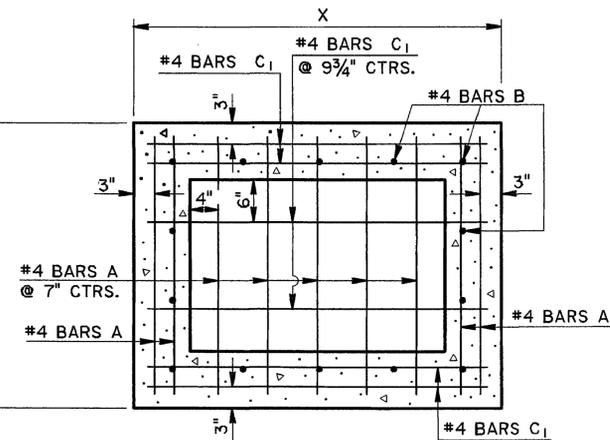


**SECTION A-A**

NOTE: TYPE "B" GRATE TO BE USED WHERE NO PEDESTRIAN TRAFFIC IS EXPECTED.

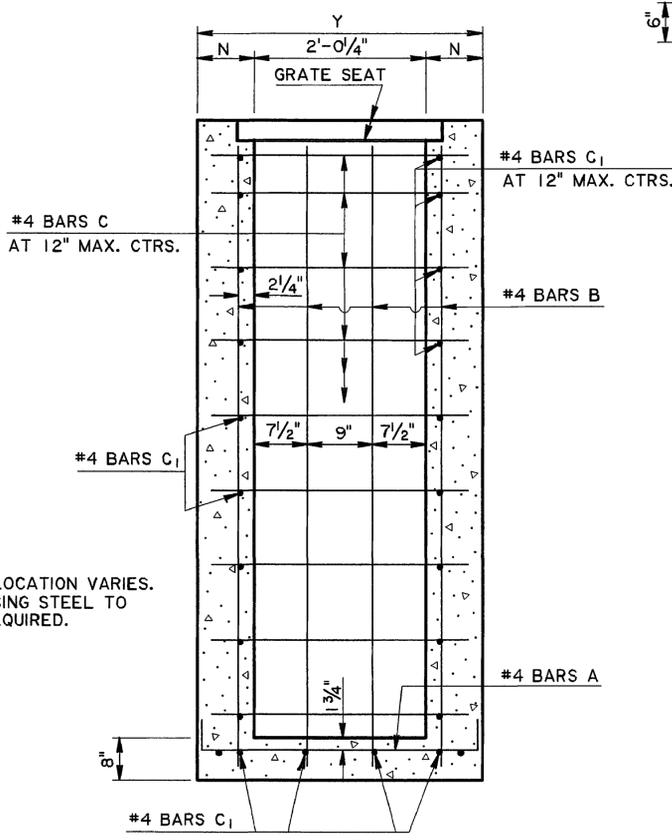
TYPE "C" GRATE TO BE USED WHERE PEDESTRIAN TRAFFIC IS EXPECTED.

NOTE: PIPE SIZE & LOCATION VARIES. CUT REINFORCING STEEL TO CLEAR, AS REQUIRED.



**HORIZONTAL SECTION**

SHOWING BOTTOM SLAB REINFORCING STEEL



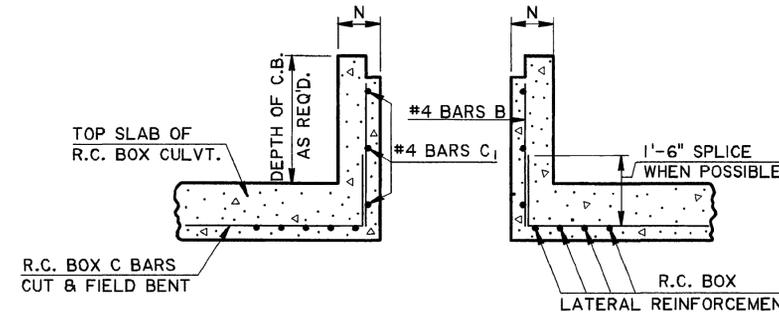
**SECTION B-B**

DIMENSIONS			
DEPTH OF BASIN	N	X	Y
FT.	IN.	FT.- IN.	FT.- IN.
0 - 8	7	4-2	3-2 1/4
8.1 - 12	8	4-4	3-4 1/4

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

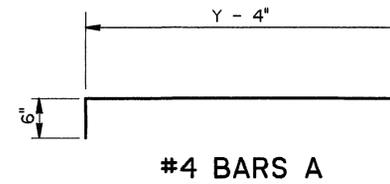


*Mark McCarty*  
1-12-26

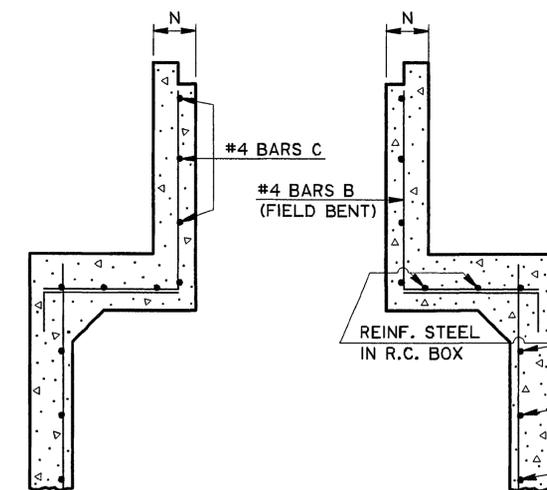


**LONGITUDINAL SECTION**

SHOWING CATCH BASIN USED WITH R.C. BOX CULVERT.



**#4 BARS A**



**TRANSVERSE SECTION**

SHOWING CATCH BASIN USED WITH R.C. BOX CULVERT.

**GENERAL NOTES:**

SECTION 702 OF THE CURRENT DOTD STANDARD SPECIFICATIONS SHALL APPLY.

DIMENSIONS RELATING TO REINFORCING STEEL ARE TO BAR CENTERS.

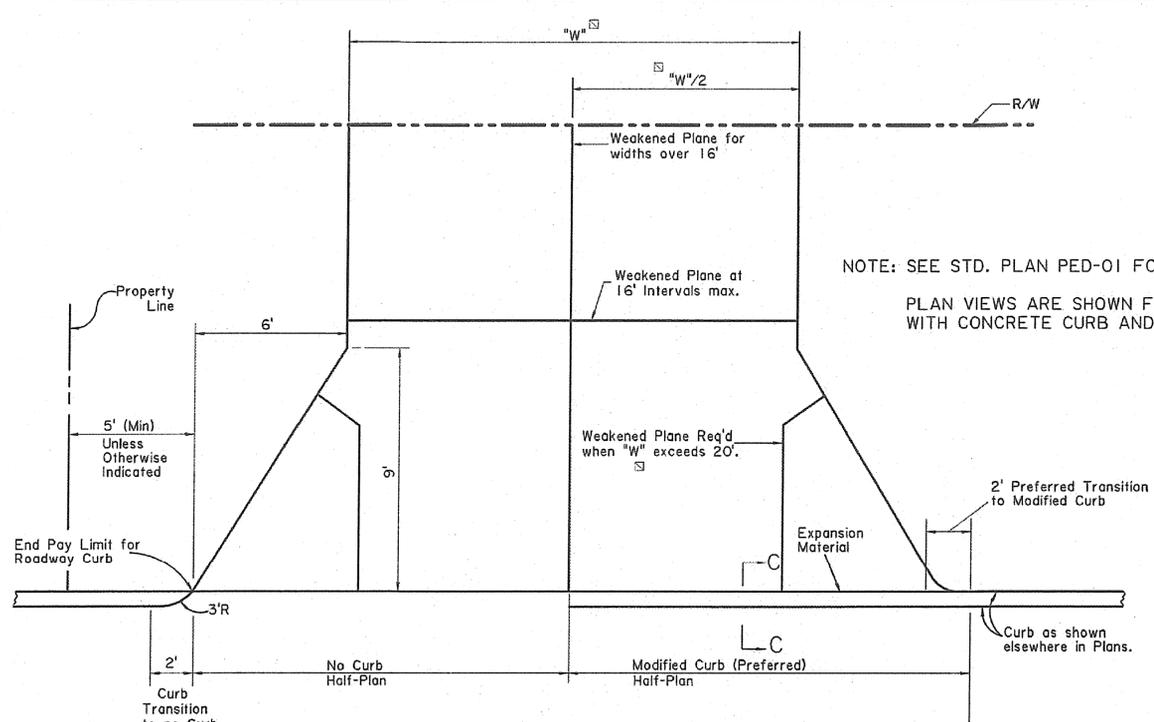
VERTICAL REINFORCING STEEL MAY BE SPLICED. SPLICE LENGTH IS 35 DIAMETERS.

FOR DETAILS OF GRATE AND SEAT, SEE STD. PLAN MC-01 (TYPE B or C).

SEE PLANS FOR TYPE OF GRATE TO BE USED FOR EACH CATCH BASIN.

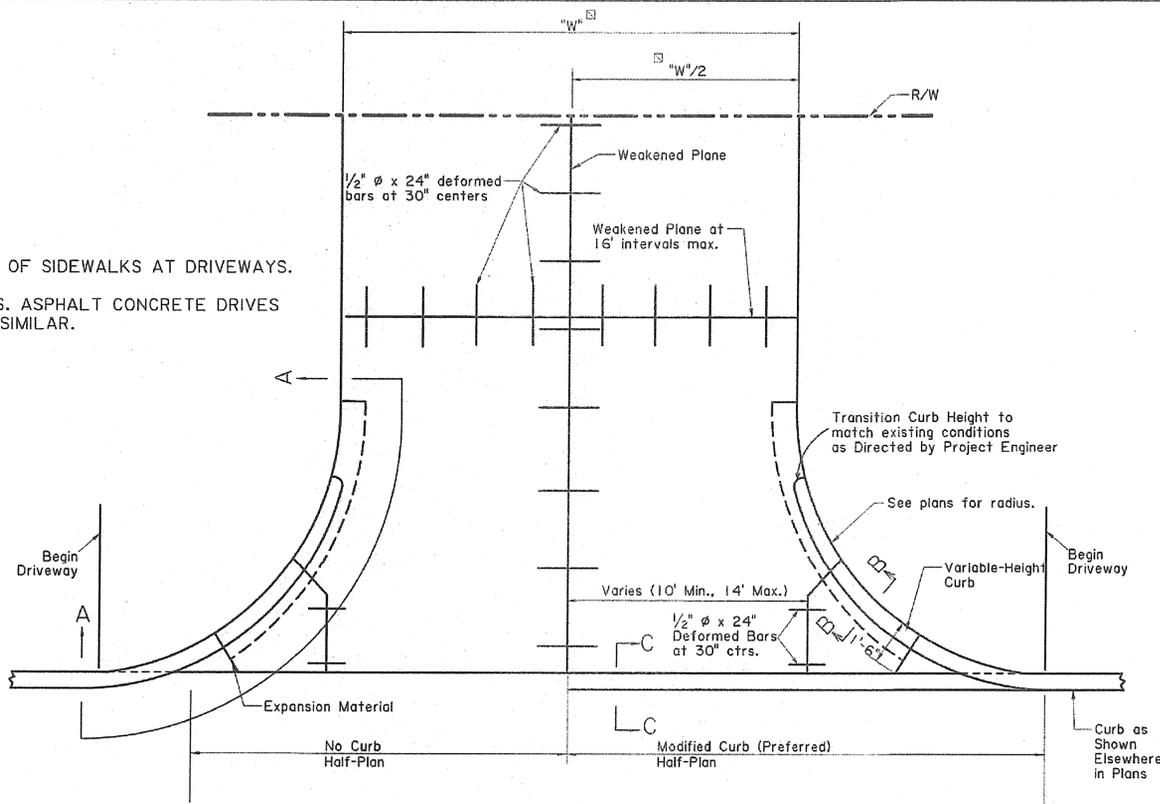
SHEET NUMBER	R2.0
DESIGNED	PAA
CHECKED	KAJ
DATE	1-31-97
REVISION DESCRIPTION	11-2-00 Converted Metric CB-01M to English CB-01
APPROVED BY	<i>[Signature]</i>
CHIEF ENGINEER	<i>[Signature]</i>
DATE	11-2-00
STANDARD PLAN	CB-01
CONCRETE OPEN TOP CATCH BASIN	
Max. Pipe: 36" x 24"	
Max. Depth: 12'	
To Be Used in Conjunction With Std. Plan MC-01	
HYDRAULICS SECTION	

R:\Unit022\Driveway Standards\DRIVEWAY STANDARDS UPDATE - Aidan Eymard 2021\MicroStation Files\DW01 NEWEST.dgn 8/2/2022 08:53



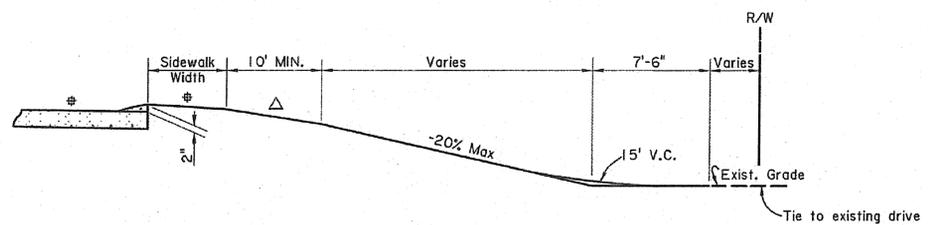
**PLAN OF RESIDENTIAL DRIVEWAY**

NOTE: MODIFIED CURB TO BE PAID FOR AS CURB AND WILL BE USED AS SHOWN IN THE PLANS OR WHEN DIRECTED BY THE PROJECT ENGINEER.  
 RADII TRANSITION SHAPE MAY BE USED IN LIEU OF A FLARE.



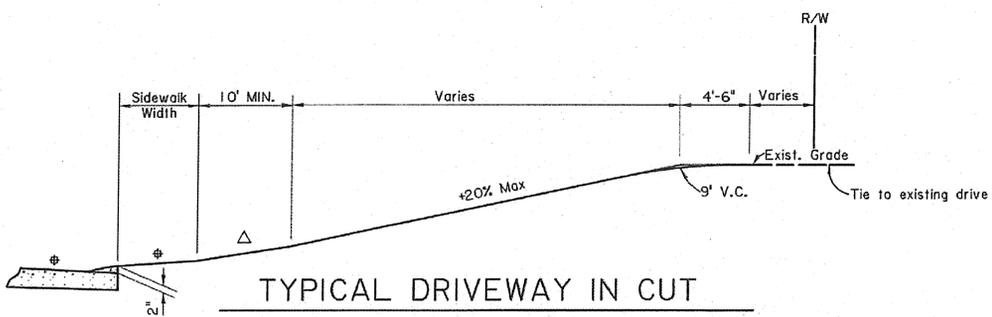
**PLAN OF COMMERCIAL DRIVEWAY**

NOTE: MODIFIED CURB TO BE PAID FOR AS CURB AND WILL BE USED AS SHOWN IN THE PLANS OR WHEN DIRECTED BY THE PROJECT ENGINEER.  
 WHEN CURB IS REQUIRED ALONG RADII OF DRIVEWAY, PAYMENT FOR TOE WALL AND CURB WILL BE INCLUDED IN THE PRICE FOR DRIVEWAY ITEMS.  
 WHEN CURB IS NOT REQUIRED ALONG RADII, TRANSITION CURB AS SHOWN ON RESIDENTIAL DRIVEWAY.

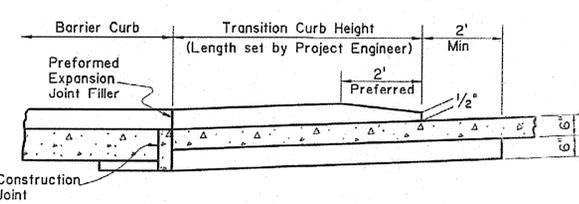


**TYPICAL DRIVEWAY IN FILL**

- NOTES:
1. DRIVEWAY PROFILES SHOWN ASSUME A SIDEWALK ADJACENT TO THE CURB.
  2. MAXIMUM DRIVEWAY GRADE SHALL BE 20% (25% FOR SPECIAL CASES). MAXIMUM BREAK IN GRADE WITHOUT A VERTICAL CURVE SHALL BE 10% FOR CRESTS AND 9% FOR SAGS, AT NOT LESS THAN 10' INTERVALS.
  3. ROADWAY AND SIDEWALK SLOPES VARY AS PER PLANS.

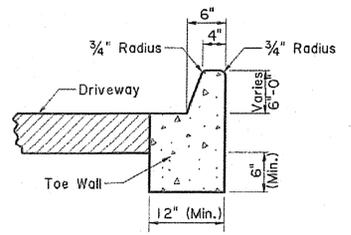


**TYPICAL DRIVEWAY IN CUT**



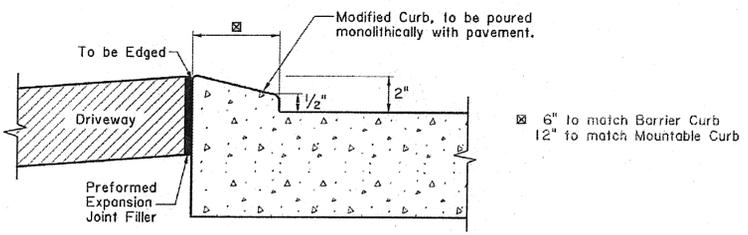
**SECTION A-A**

(Weakened Plane not shown.)



**SECTION B-B**

NOTE: For PCC Driveway, Curb, Toe Wall & Driveway to be poured monolithically.



**SECTION C-C**

NOTE: See Std. Plan CP-01 for Curb construction

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.



SHEET NUMBER	R3.0	PARISH	CONTROL SECTION	STATE PROJECT	
DESIGN	P. TONEY	CHECK	R. MC MILLAN	REVIEW	D. SMITH
DETAIL	P. TONEY	CHECK	R. MC MILLAN	SERIES #	1 OF 3

APPROVED BY CHIEF ENGINEER: *[Signature]*

DATE: 8/4/2022

**DRIVEWAYS ON CURBED ROADWAYS**

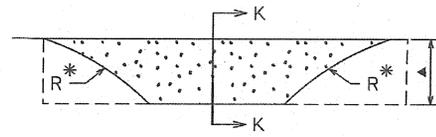
STANDARD PLAN DW-01

**DOTD**  
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

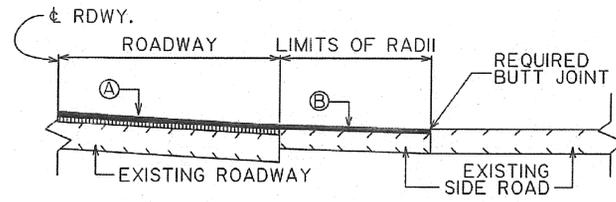
STANDARD PLAN

R:\Unit022\Driveway Standards\DRIVEWAY STANDARDS UPDATE - Aidan Eymard 2021\MicroStation Files\Turnout and Drive Tie In for Overlay\2106022 08:50

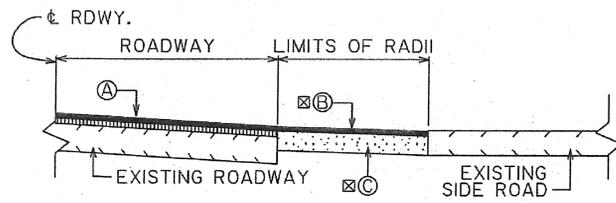
### TURNOUT TIE-IN DETAILS FOR OVERLAY PROJECTS



DETAIL OF APRON AT TURNOUT (TYPICAL)



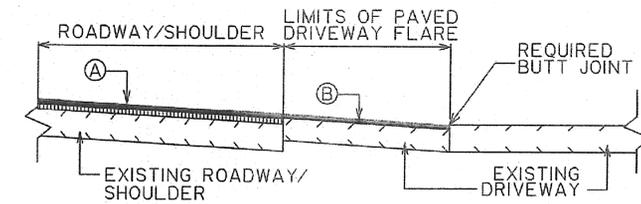
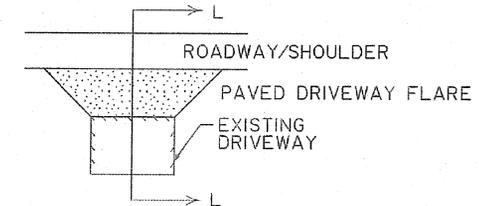
SECTION K-K (PAVED SIDE ROAD)



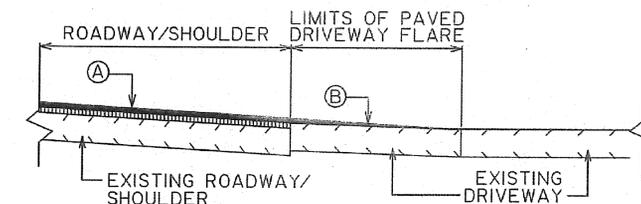
SECTION K-K (UNPAVED SIDE ROAD)

- Ⓐ ASPHALT CONCRETE (COURSES AND TYPES SHOWN ON ROADWAY TYPICAL SECTION)
- Ⓑ ASPHALT CONCRETE (THICKNESS SHALL MATCH ROADWAY WEARING SURFACE)
- ⓐ ASPHALT CONCRETE BASE COURSE
- \* MATCH EXISTING RADIUS
- ▲ VERTICAL TRANSITION FROM ROADWAY TO BUTT JOINT TIE-IN WHERE NEEDED
- ⓐ TOTAL THICKNESS OF WEARING COURSE AND BASE COURSE SHALL BE A MINIMUM OF 6"

### DRIVEWAY TIE-IN DETAILS FOR OVERLAY PROJECTS



SECTION L-L (ALTERNATE 1)



SECTION L-L (ALTERNATE 2)

- Ⓐ ASPHALT CONCRETE (COURSES AND TYPES SHOWN ON ROADWAY TYPICAL SECTION)
- Ⓑ ASPHALT CONCRETE (THICKNESS SHALL MATCH ROADWAY WEARING COURSE)

NOTES:

1. DRIVE WIDTHS AND FLARE DIMENSIONS TO BE ADJUSTED TO MATCH EXISTING CONDITIONS AS DIRECTED BY THE PROJECT ENGINEER.
2. TYPE OF TIE-IN AND LENGTH OF OVERLAY TRANSITION TO BE SET BY PROJECT ENGINEER TO ACHIEVE A SUITABLE CONNECTION FOR EXISTING DRIVE.
3. REFER TO SHEET 2 OF DW-01 FOR SUGGESTED TIE-IN CRITERIA OF STEEP GRADES.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA  
 JAMES MARK MCCARTY  
 License No. 33228  
 PROFESSIONAL ENGINEER  
 IN  
 CIVIL ENGINEERING  
 Mark McCarty  
 1-12-26

SHEET NUMBER	R3.1
DESIGN	P. TONEY
CHECK	R. McMILLAN
DETAIL	P. TONEY
CHECK	R. McMILLAN
REVIEW	D. SMITH
SERIES #	3 OF 3

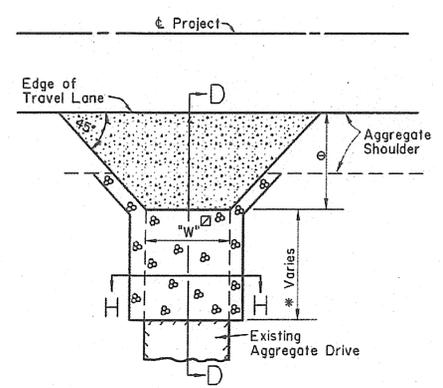
APPROVED BY CHIEF ENGINEER:  
*[Signature]*  
 DATE: 8/14/2022

STATE OF LOUISIANA  
 AIDAN EYMARD  
 License No. 46220  
 PROFESSIONAL ENGINEER  
 IN  
 CIVIL ENGINEERING  
 Aidan Eymard  
 9/2/2022

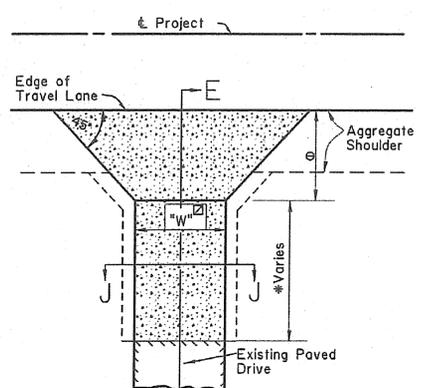
TURNOUT AND DRIVEWAY TIE-IN DETAILS  
 STANDARD PLAN DW-01

DOTD  
 LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT  
 STANDARD PLAN

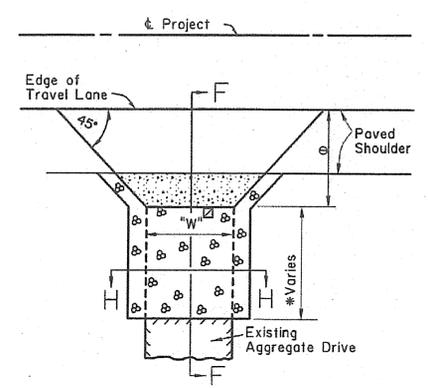
R:\Unit022\Driveway Standards\DRIVEWAY STANDARDS UPDATE - Aidan Eymard 2021\MicroStation Files\DW02 NEWEST.dgn 8/2/2022 08:53



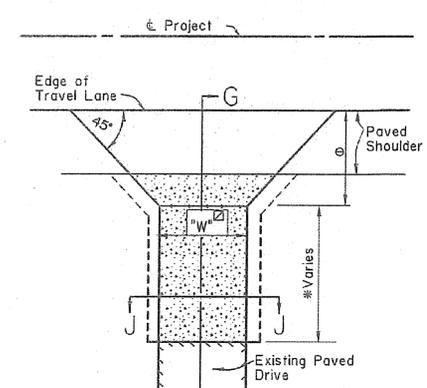
**TYPE "A"**  
Paved Driveway Flare Along Aggregate Shoulder



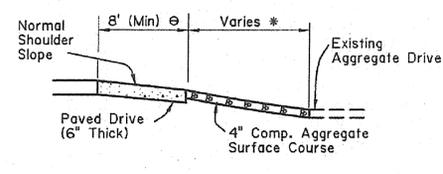
**TYPE "B"**  
Paved Driveway Flare Along Aggregate Shoulder Connecting Existing Paved Drive



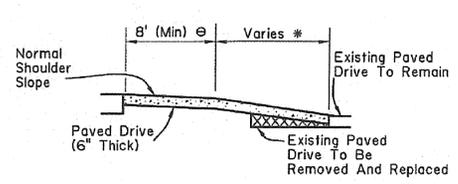
**TYPE "C"**  
Paved Driveway Flare Along Paved Shoulder



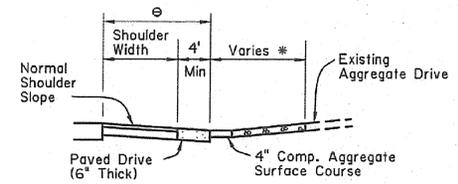
**TYPE "D"**  
Paved Driveway Flare Along Paved Shoulder Connecting Existing Paved Drive



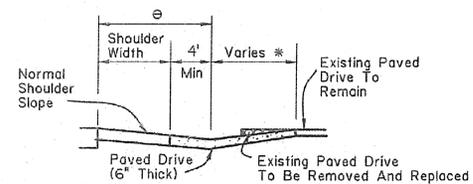
**SECTION D-D**



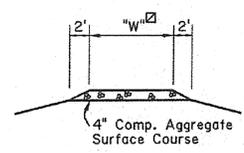
**SECTION E-E**



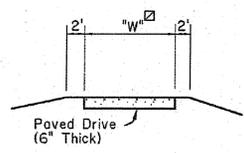
**SECTION F-F**



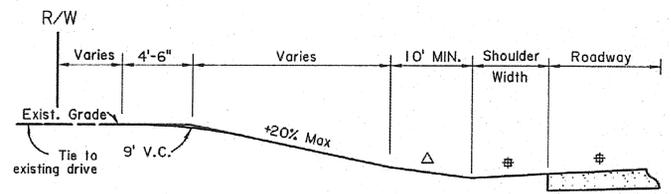
**SECTION G-G**



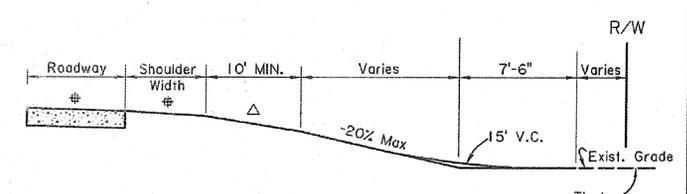
**SECTION H-H**



**SECTION J-J**



**TYPICAL DRIVEWAY IN CUT**



**TYPICAL DRIVEWAY IN FILL**

☐ "W" = Width as per plans

**NOTES:**

1. PORTLAND CEMENT CONCRETE DRIVES WILL BE CONSTRUCTED TO REPLACE OR CONNECT TO EXISTING CONCRETE DRIVES.
- \*2. SEE PLANS: APPLIES WHERE EXISTING DRIVE IS TO BE REMOVED FOR ROADWAY CONSTRUCTION AND/OR TO ACHIEVE VERTICAL GEOMETRY REQUIREMENTS.
- ☉3. PAVEMENT SHALL EXTEND 8' MINIMUM FROM EDGE OF PAVED ROADWAY SURFACE (TRAVEL LANE) FOR SINGLE-FAMILY RESIDENTIAL/NON-COMMERCIAL AGRICULTURE TYPE CONNECTIONS, AND 25' FOR TRAFFIC GENERATOR (COMMERCIAL) TYPE CONNECTIONS, OR AS PER THE PLANS. PAVED DRIVEWAY FLARE SHALL EXTEND 4' MINIMUM FROM EDGE OF PAVED SHOULDER. RADI TRANSITION SHAPE MAY BE USED IN LIEU OF FLARE.
4. COMPACTION OF SUBGRADE AND GRADING WORK FOR CONSTRUCTION OF DRIVES SHALL BE SATISFACTORY TO THE ENGINEER AND PAYMENT SHALL BE INCLUDED IN THE DRIVEWAY ITEMS.
- △5. MAXIMUM DRIVEWAY GRADE SHALL BE 20% (25% FOR SPECIAL CASES). MAXIMUM BREAK IN GRADE WITHOUT A VERTICAL CURVE SHALL BE 10% FOR CRESTS AND 9% FOR SAGS, AT NOT LESS THAN 10' INTERVALS.
- ☉6. ROADWAY AND SHOULDER SLOPES VARY AS PER PLANS

**LEGEND**

- ASPHALT
- AGGREGATE
- REMOVAL

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

STATE OF LOUISIANA  
JAMES MARK MCCARTY  
License No. 33228  
PROFESSIONAL ENGINEER  
IN  
1-12-26

SHEET NUMBER	R3.2	PARISH	CONTROL SECTION	STATE PROJECT	
DESIGN	P. TONEY	CHECK	R. MC MILLAN	REVIEW	D. SMITH
DETAIL	P. TONEY	CHECK	R. MC MILLAN	SERIES #	2 OF 3

AIDAN EYMARD  
License No. 46220  
PROFESSIONAL ENGINEER  
IN  
CIVIL ENGINEERING  
Under Seal  
3/2/2022

APPROVED BY CHIEF ENGINEER:  
  
DATE: 8/4/2022

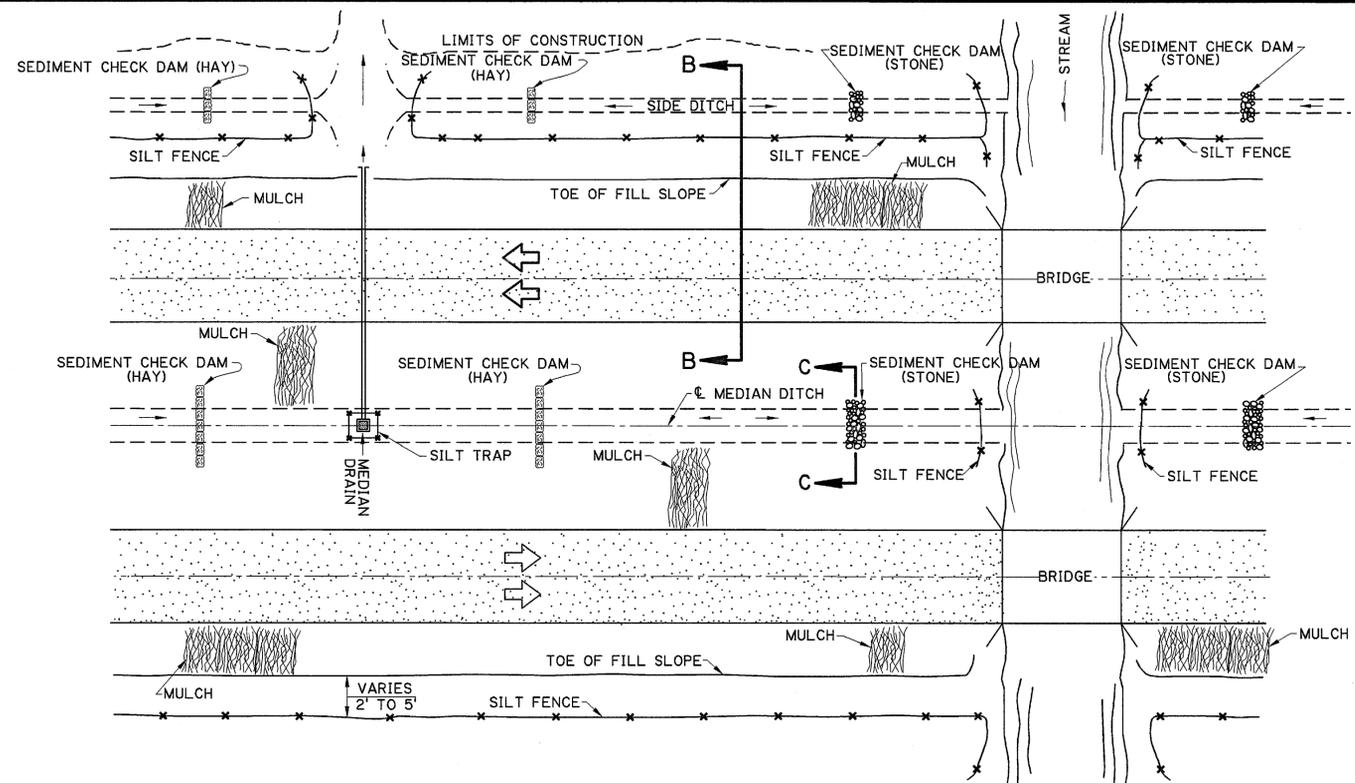
JAMES MARK MCCARTY  
License No. 33228  
PROFESSIONAL ENGINEER  
IN  
1-12-26

**DRIVEWAYS ON NON-CURBED ROADWAYS**

STANDARD PLAN DW-01

**DOTD**  
LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

STANDARD PLAN

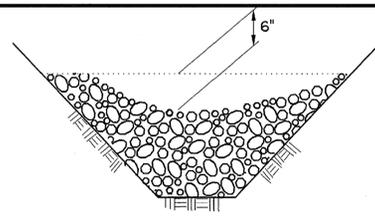


PLAN SHOWING TYPICAL TEMPORARY EROSION CONTROL

**MULCHES**

MULCHES ARE THE APPLICATION OF MATS OF MATERIAL PLACED ON THE SOIL SURFACE TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND TO REDUCE THE VELOCITY OF OVERLAND FLOW. MULCHES CAN BE ORGANIC OR SYNTHETIC. MULCHES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW GUIDELINES FOR THE USE OF MULCHES ARE:

1. USE ON CUT AND EMBANKMENT SLOPES WHICH HAVE NOT BEEN COMPLETED TO PLAN GRADE OR WHERE THE WEATHER OR SOIL CONDITIONS WILL NOT PERMIT COMPLETING THEM WITHIN A REASONABLE TIME
2. USE ON CLEARED, GRUBBED, AND SCALPED AREAS WHERE SOIL EROSION IS LIKELY TO OCCUR
3. USE WITH TEMPORARY SEEDING



SECTION C-C

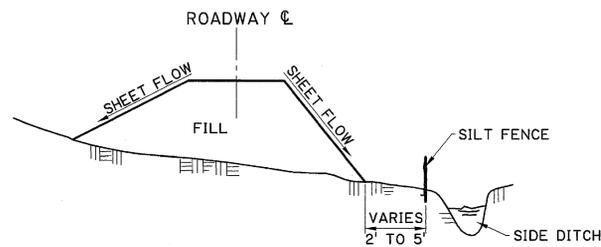
**TEMPORARY SEDIMENT CHECK DAM (STONE)**

PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (STONE)

**NOTES:**

A STONE CHECK DAM IS A SMALL TEMPORARY DAM CONSTRUCTED ACROSS A SWALE OR DRAINAGE DITCH. THE PURPOSE OF THIS MEASURE IS TO REDUCE THE VELOCITY OF CONCENTRATED STORM WATER FLOWS, THEREBY REDUCING EROSION OF THE SWALE OR DITCH. THE STONE CHECK DAM WILL TRAP SMALL AMOUNTS OF SEDIMENTS GENERATED IN THE DITCH ITSELF, HOWEVER IT SHOULD NOT BE USED AS A SEDIMENT TRAPPING DEVICE. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF STONE CHECK DAMS ARE:

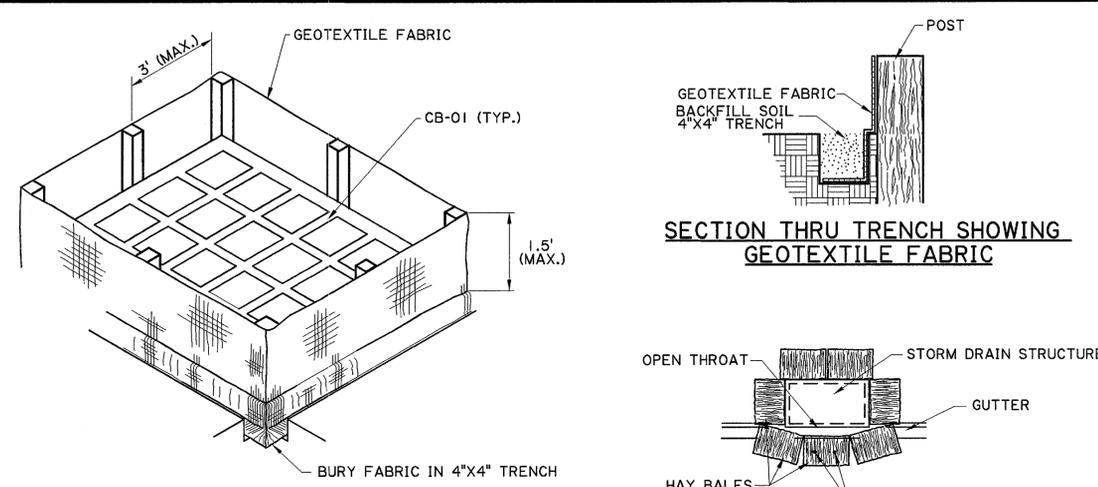
1. USE IN SMALL OPEN CHANNELS WHICH DRAIN 10 ACRES OR LESS
2. DO NOT USE IN A LIVE STREAM
3. USE IN A TEMPORARY DITCH OR SWALE WHICH, BECAUSE OF THEIR SHORT LENGTH OF SERVICE, CANNOT RECEIVE A NON-ERODIBLE LINING
4. USE IN PERMANENT DITCHES OR SWALES WHICH WILL NOT RECEIVE A PERMANENT LINING FOR AN EXTENDED PERIOD OF TIME
5. USE IN TEMPORARY OR PERMANENT DITCHES OR SWALES WHICH NEED PROTECTION DURING THE ESTABLISHMENT OF GRASS LININGS
6. FOR STONE SPECIFICATIONS, SEE PROJECT SPECIFICATIONS FOR RIPRAP, (CLASS 2 LB)



SECTION B-B

**TEMPORARY SILT FENCE APPLICATION**

(FOR CONSTRUCTION DETAILS AND SPECIFICATIONS SEE SHEET 2 OF 2.)



ISOMETRIC VIEW SHOWING GEOTEXTILE FABRIC (BACKFILL SOIL NOT SHOWN)

SECTION THRU TRENCH SHOWING GEOTEXTILE FABRIC

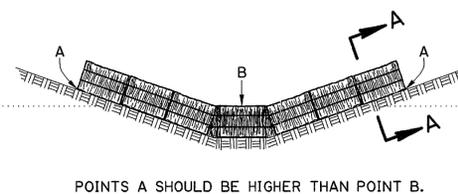
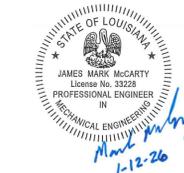
PLAN SHOWING HAY BALES  
PAY ITEM: TEMPORARY HAY OR STRAW BALES

**TEMPORARY INLET SILT TRAP**

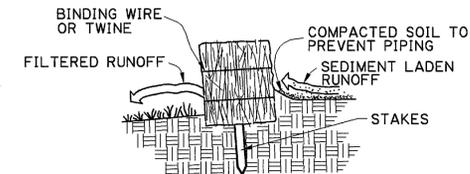
THE TEMPORARY DROP INLET SILT TRAP IS TO BE USED FOR SMALL DRAINAGE AREAS (LESS THAN 1 ACRE) WHERE THE STORM DRAIN IS FUNCTIONAL BEFORE THE AREA IS STABILIZED. THE TRAP CAN BE EITHER GEOTEXTILE FABRIC OR HAY BALES.

1. THE GEOTEXTILE FABRIC SHALL CONFORM TO PROJECT SPECIFICATIONS FOR GEOTEXTILE FABRIC (CLASS G).
2. WOODEN STAKES SUPPORTING THE FABRIC SHALL BE 2" X 2" OR 2" X 4" WITH A MINIMUM LENGTH OF 3 FEET. THE STAKES SHALL BE SPACED AROUND THE INLET AT A MAXIMUM SPACING OF 3 FEET.
3. THE HEIGHT OF THE FABRIC ABOVE THE INLET SHALL BE LIMITED TO 1.5' AND THE BOTTOM OF THE FABRIC SHALL BE BURIED IN A TRENCH APPROXIMATELY 4" WIDE BY 4" DEEP. THE FABRIC SHALL BE STAPLED TO THE POST WITH 1/2" STAPLES.
4. THE TRAP SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM. THE SEDIMENT SHOULD BE REMOVED AND EACH STAKE SHOULD BE FIRMLY IN THE GROUND.
5. HAY BALES SHALL BE PLACED SO THAT THE BINDING WIRE OR TWINE IS NOT IN CONTACT WITH THE GROUND.

THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.



ELEVATION



SECTION A-A

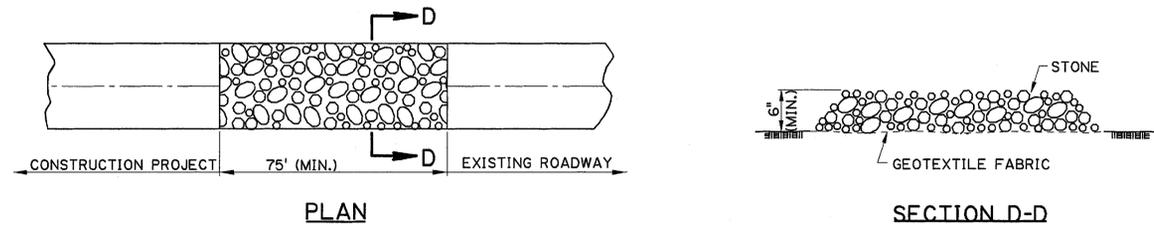
**TEMPORARY SEDIMENT CHECK DAM (HAY)**

PAY ITEM: TEMPORARY SEDIMENT CHECK DAM (HAY)

**NOTES:**

- A HAY BALE BARRIER IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A ROW OF ENTRENCHED AND ANCHORED BALES OF STRAW OR HAY. THE HAY BALE BARRIER IS ALSO USED AS A CHECK DAM TO REDUCE THE VELOCITY IN SMALL DITCHES OR SWALES. THE HAY BALES SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A HAY BALE BARRIER ARE:
1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION
  2. USE IN MINOR SWALES OR DITCHES WHERE THE MAXIMUM DRAINAGE AREA IS 2 ACRES
  3. ONLY USE WHERE THE EFFECTIVENESS IS REQUIRED FOR LESS THAN 3 MONTHS
  4. DO NOT USE IN LIVE STREAMS OR IN SWALES OR DITCHES WHERE THERE IS A POSSIBILITY OF A WASHOUT

SHEET NUMBER	R4.0
DESIGNED BY	JCM
CHECKED BY	JCM
DATE	1-14-94
REVISIONS	1 OF 2
APPROVED BY	JCM
DATE	1-14-94
REVISION DESCRIPTION	REMOVE SPECIFIC PAY ITEM NOS., GENERAL REVISIONS
BY	MH
DATE	10-1-08
CHIEF ENGINEER	W. H. Temple
STANDARD PLAN	EC-01
TEMPORARY EROSION CONTROL DETAILS	
HYDRAULICS SECTION	



### TEMPORARY STONE CONSTRUCTION ENTRANCE

PAY ITEM: TEMPORARY STONE CONSTRUCTION ENTRANCE

**NOTES:**

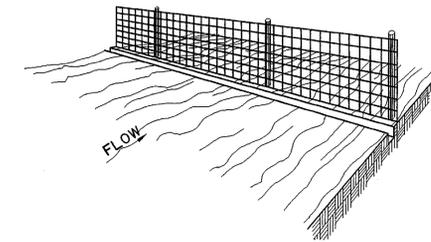
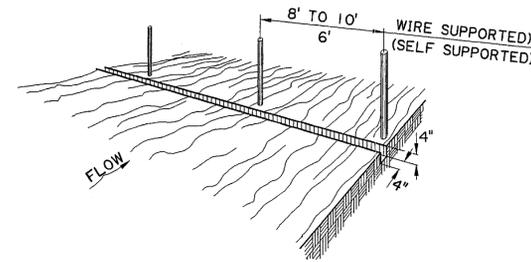
**TEMPORARY STONE CONSTRUCTION ENTRANCE AND/OR WASH RACK**

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON THE CONSTRUCTION SITE TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PUBLIC ROADS. IF THE ACTION OF THE VEHICLE TRAVELING OVER THE GRAVEL PAD IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF THE MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLE ENTERS A PUBLIC ROAD. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A STONE ENTRANCE AND/OR WASH RACKS ARE:

1. THE STONE LAYER MUST BE AT LEAST 6 INCHES THICK.
2. THE STONE SHALL CONFORM TO PROJECT SPECIFICATIONS FOR RIPRAP (CLASS 2 LB).
3. THE LENGTH OF THE PAD MUST BE A LEAST 75 FEET AND IT MUST EXTEND THE FULL WIDTH OF THE VEHICULAR INGRESS AND EGRESS.
4. A GEOTEXTILE FABRIC UNDERLINER IS REQUIRED. THE GEOTEXTILE FABRIC SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR GEOTEXTILE FABRIC (CLASS D).
5. IF A WASH RACK IS NECESSARY, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF-SITE.

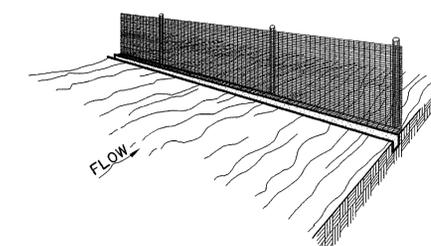
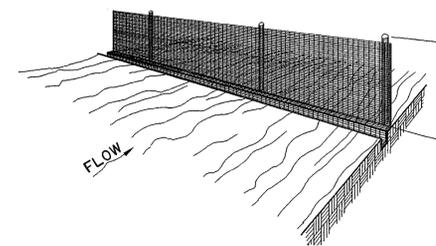
1. SET POSTS AND EXCAVATE A 4" X 4" TRENCH UPSLOPE ALONG THE LINE OF POSTS.

2. STAPLE WIRE FENCING TO THE POSTS.

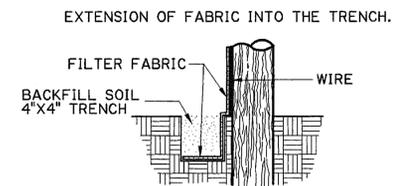
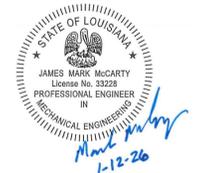


3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.

4. BACKFILL AND COMPACT EXCAVATED SOIL.



THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.



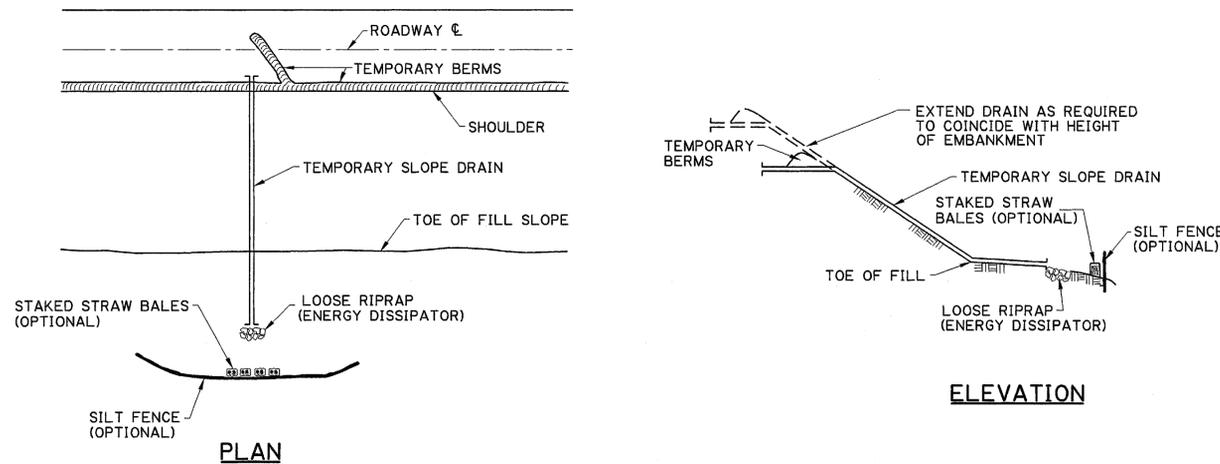
### CONSTRUCTION OF TEMPORARY SILT FENCING

(WIRE SUPPORTED SILT FENCE IS SHOWN. SELF SUPPORTED SILT FENCE WILL BE CONSTRUCTED ACCORDING TO MANUFACTURERS SPECIFICATIONS.)

**NOTES:**

SILT FENCING IS A TEMPORARY SEDIMENT BARRIER CONSISTING OF A FILTER FABRIC SUPPORTED BY POSTS AND STRETCHED ACROSS AN AREA TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT. THE SILT FENCING SHALL BE IN ACCORDANCE WITH PROJECT SPECIFICATIONS FOR TEMPORARY EROSION CONTROL. A FEW BASIC GUIDELINES FOR THE USE OF SILT FENCING ARE:

1. USE WHERE EROSION WOULD OCCUR IN THE FORM OF SHEET AND RILL EROSION
2. USE WHERE THE MAXIMUM DRAINAGE AREA BEHIND THE SILT FENCE IS 1/4 ACRE PER 100 FEET OF SILT FENCE LENGTH
3. USE WHERE THE MAXIMUM SLOPE LENGTH BEHIND THE BARRIER IS 100 FEET
4. USE WHERE THE MAXIMUM GRADIENT BEHIND THE BARRIER IS 2:1
5. DO NOT USE SILT FENCES IN LIVE STREAMS OR IN DITCHES OR SWALES WHERE FLOWS EXCEED ONE CUBIC FOOT PER SECOND



### TEMPORARY SLOPE DRAIN

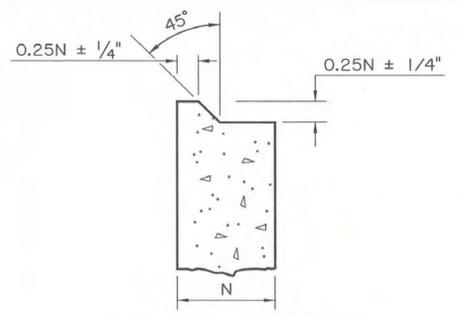
A TEMPORARY SLOPE DRAIN IS A DEVICE USED TO CARRY WATER FROM THE CONSTRUCTION WORK AREA TO A LOWER ELEVATION. SLOPE DRAINS MAY BE PLASTIC SHEET, METAL OR PLASTIC PIPE, STONE GUTTERS, FIBER MATS, OR CONCRETE OR ASPHALT DITCHES. A FEW BASIC DESIGN GUIDELINES FOR THE USE OF A TEMPORARY SLOPE DRAIN ARE:

1. THE SPACING OF THE SLOPE DRAINS VARIES WITH THE ROAD GRADE.  
 FOR GRADES: 0.0% - 2.0% USE 500' SPACING  
 2.1% - 5.0% USE 200' SPACING  
 GREATER THAN 5.0% USE 100' SPACING
2. SLOPE DRAIN MATERIAL: SMOOTH PIPE - 8" MINIMUM - 3 MILS THICK MIN.  
 CORRUGATED PIPE - 12" MINIMUM  
 PLASTIC SHEETING - 4' WIDE MINIMUM  
 PLASTIC SHEETING - 3 MILS THICK MIN.
3. PLASTIC SHEETING CAN BE STAKED DOWN OR WEIGHTED WITH ROCKS OR LOGS. THE AREA UNDER THE SHEETING SHOULD BE SHAPED TO PROVIDE AN ADEQUATE CHANNEL.
4. THE OUTLET END SHOULD BE PROTECTED OR HAVE SOME MEANS OF DISSIPATING ENERGY. THE FLOW SHOULD BE DIRECTED THROUGH A SEDIMENT TRAP SUCH AS A SILT FENCE, HAY BALES, OR OTHER APPROVED SEDIMENT CONTROL DEVICES.
5. TO INSURE PROPER OPERATION, TEMPORARY SLOPE DRAINS SHOULD BE INSPECTED REGULARLY AND AFTER EACH STORM, FOR CLOGGING OR DISPLACEMENT. EROSION AT THE OUTLET SHOULD BE CHECKED AND THE SILT TRAPS CLEANED IF NECESSARY.

SHEET NUMBER	R4.1
DESIGNED	JCM
CHECKED	KAJ
DATE	1-14-94
SHEET	2 OF 2
REVISIONS	GENERAL REVISIONS
DATE	10-1-08
APPROVED BY	W. H. - J. Temple
CHIEF ENGINEER	
STATE OF LOUISIANA	
JAMES MARK MCCARTY	
License No. 33228	
PROFESSIONAL ENGINEER	
MECHANICAL ENGINEER	
1-12-26	
TEMPORARY EROSION CONTROL DETAILS	
STANDARD PLAN	EC-01
HYDRAULICS SECTION	

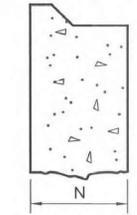
**GENERAL NOTES:**

- THIS STRUCTURE MEETS ALL DOTD HYDRAULIC PERFORMANCE CRITERIA WHEN USED IN ACCORDANCE WITH THE DOTD HYDRAULICS MANUAL AND ALL DOTD HYDRAULIC DESIGN POLICIES.
- PROVIDE PRECAST UNITS AS THE LOWER PORTION OF A COMPOSITE STRUCTURE. PROVIDE CAST-IN-PLACE CONCRETE (SEE APPROPRIATE STANDARD PLAN FOR REQUIRED REINFORCING AND DIMENSIONS) FOR THE TOP 1'-6" OF THE STRUCTURE AS FOLLOWS:
  - CB-01, CB-02, CB-04, CB-05, AND MANHOLES MAY BE FULLY PRECAST IF THE STRUCTURES ARE NOT EXPOSED TO TRAFFIC LOADS; ELEVATIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION.
  - CB-06, CB-07, CB-08, AND CB-09 STRUCTURES MUST HAVE THE TOP 18" CAST-IN-PLACE; ELEVATIONS MUST BE FIELD VERIFIED PRIOR TO FABRICATION.
- DESIGN IS TO BE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION, 2017, AND THE LATEST LOUISIANA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.
- FINISH CAST-IN-PLACE CONCRETE IN ACCORDANCE WITH OTHER STANDARD PLANS AND 805.
- FORM PIPE OPENINGS ONLY AS REQUIRED FOR INTERSECTING PIPES. PROVIDE OPENING DIMENSIONS TO ACCOMMODATE PIPE DIAMETER AND SKEW ANGLE. PROVIDE OPENING DIMENSION THAT IS 4 1/2 INCH LARGER THAN OUTSIDE PIPE DIMENSION.
- RESILIENT CONNECTORS OR CONCRETE COLLARS ARE REQUIRED FOR CONNECTIONS OF ALL PIPE SIZES (EXCEPT YARD DRAIN PIPE AND UNDERDRAINS) WITH COST TO BE INCLUDED IN THE COST OF THE PRECAST STRUCTURE.

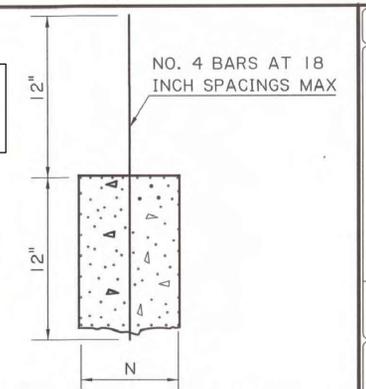


**JOINT DETAIL A  
 PRECAST/PRECAST**  
 1. SEAL AND WRAP JOINT IN ACCORDANCE WITH 702.04.01

USE DIMENSIONS FROM JOINT DETAIL "A"



THESE STANDARD PLANS HAVE BEEN PROPERLY EXAMINED BY ME, THE UNDERSIGNED PROFESSIONAL ENGINEER. I HAVE DETERMINED THAT THESE PLANS COMPLY WITH ALL APPLICABLE CODES AND HAVE BEEN PROPERLY ADAPTED TO USE ON THIS PROJECT.

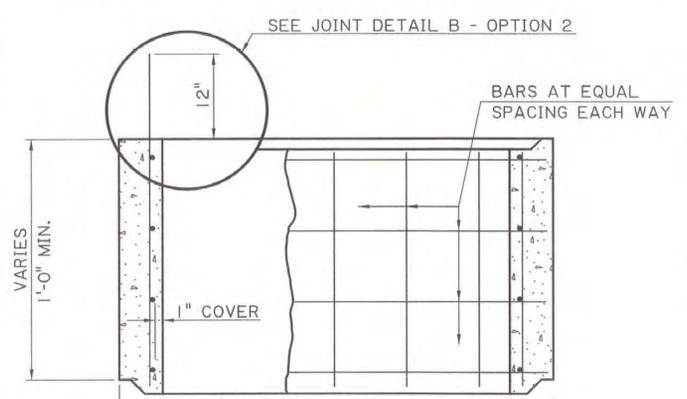


**JOINT DETAIL B - OPTION 1  
 CAST-IN-PLACE/PRECAST**     **JOINT DETAIL B - OPTION 2  
 CAST-IN-PLACE/PRECAST**

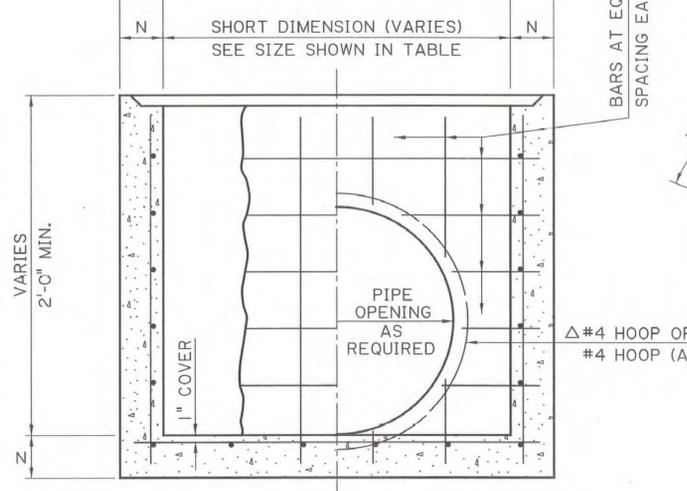
IN OPTIONS 1 AND 2, COAT PRECAST CONCRETE JOINT SURFACE AND A MAXIMUM OF 2 INCHES OF REINFORCING STEEL WITH TYPE V, GRADE 2 OR GRADE 3 EPOXY RESIN CONFORMING TO 1017. APPLY EPOXY RESIN AND PLACE CONCRETE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

		PRECAST UNITS FOR CATCH BASINS & MANHOLES											
MAXIMUM HEIGHT	N	4' MAX. DIMENSION			6' MAX. DIMENSION			8' MAX. DIMENSION			10' MAX. DIMENSION		
		TYPICAL SIZES 3'X3' 4'X4'			TYPICAL SIZES 6'X4' 6'X6'			TYPICAL SIZES 8'X4' 8'X6' 8'X8'			TYPICAL SIZES 10'X4' 10'X6' 10'X8' 10'X10'		
FT.	IN.	BAR SIZE	SPAC. IN.	As IN <sup>2</sup> /FT.	BAR SIZE	SPAC. IN.	As IN <sup>2</sup> /FT.	BAR SIZE	SPAC. IN.	As IN <sup>2</sup> /FT.	BAR SIZE	SPAC. IN.	As IN <sup>2</sup> /FT.
8	4	4	6	0.40	4	8	0.30	4	5.5	0.44	5	5.5	0.68
8	6	4	9	0.27	4	6	0.40	5	5	0.74	5	3.25	1.14
14	6	4	9	0.27	4	6	0.40	5	5	0.74	5	3.25	1.14
20	6	4	7	0.34	4	4.5	0.53						

OTHER SIZES ARE ACCEPTABLE AS LONG AS THE DIMENSIONS DO NOT EXCEED THE MAXIMUM DIMENSIONS.  
 BAR SPACING APPLIES TO BOTH DIRECTIONS AND AT ALL LOCATIONS.  
 BAR SIZES AND SPACING MAY DIFFER FROM VALUES SHOWN, BUT THE AREA OF STEEL (As) SHALL BE EQUAL TO OR GREATER THAN VALUE SHOWN, AND BAR SPACING SHALL NOT EXCEED 1.5 TIMES THE WALL THICKNESS. THE AREA OF STEEL (As) MAY BE PROVIDED WITH STEEL DEFORMED WELDED WIRE FABRIC.

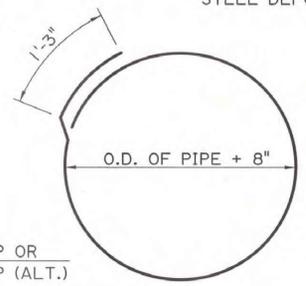


**OPTIONAL RISER UNIT**

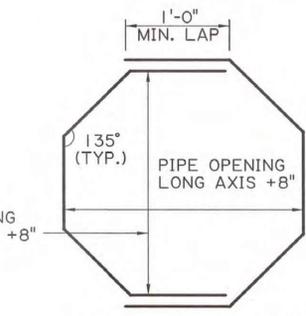


**BASE UNIT  
 SECTION B-B**

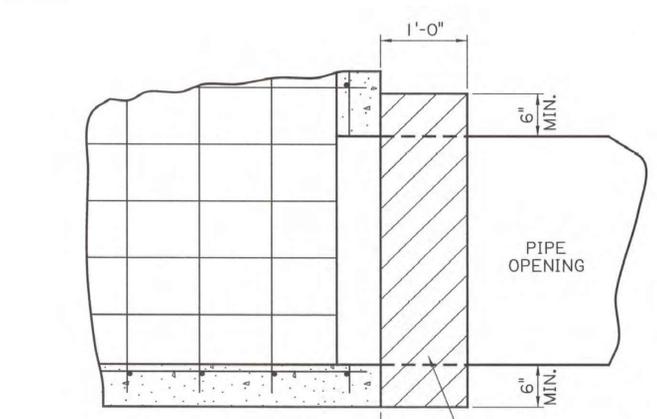
#4 HOOP MAY BE USED WHEN PIPE IS CIRCULAR AND CONNECTS TO THE CATCH BASIN AT +/- 90 (DEGREE) ANGLE.  
 #4 HOOP (ALT.) SHALL BE USED FOR NON-CIRCULAR (ELLIPTICAL) PIPES AND ALL PIPES THAT ENTER THE CATCH BASIN AT A SKEWED ANGLE.



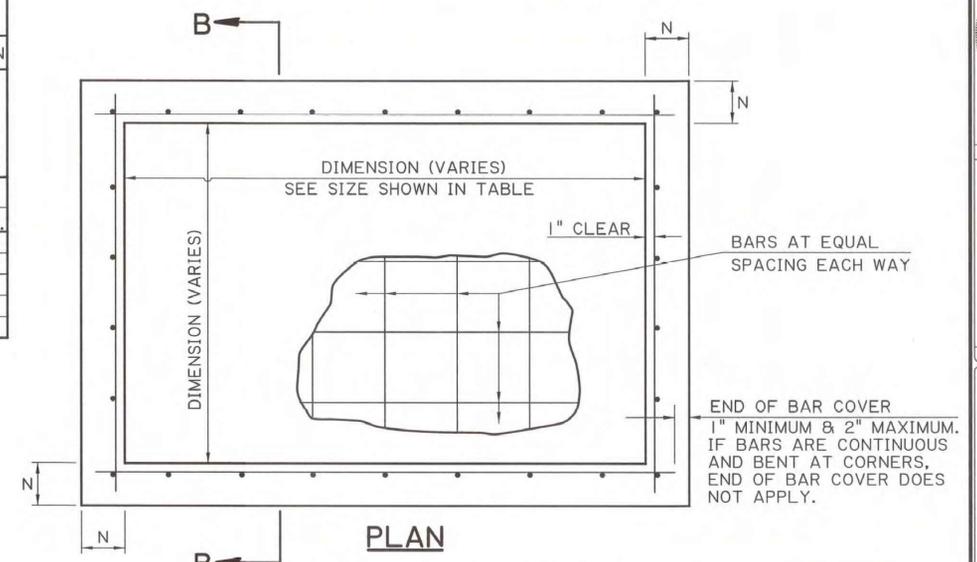
**#4 HOOP**



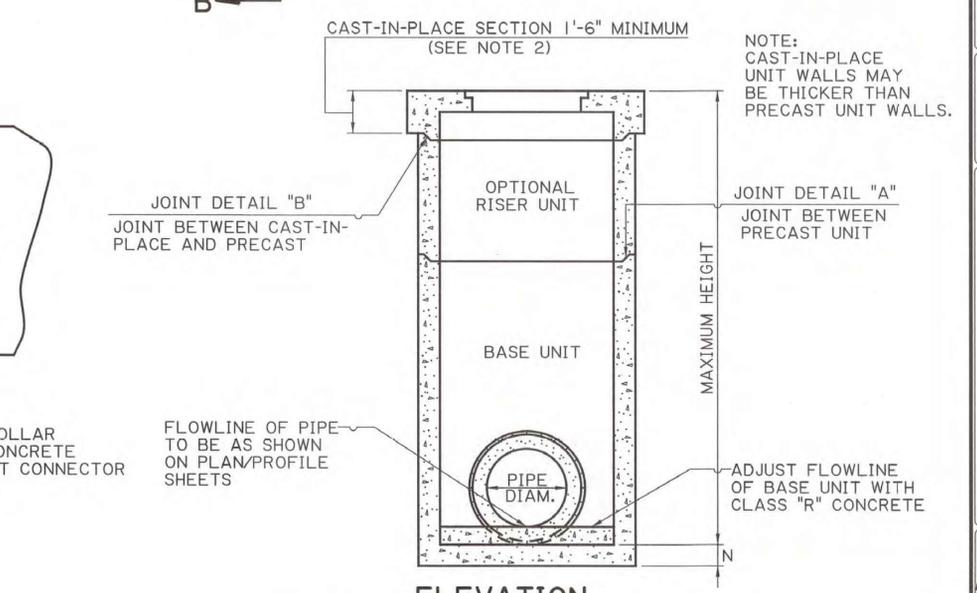
**#4 HOOP (ALT.)**



**PIPE CONNECTION DETAIL**



**PLAN**



**ELEVATION  
 TYPICAL COMPOSITE STRUCTURE**