

**PUBLIC UTILITIES**

AT&T  
337 N. ABBOTT, RM. 201  
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517.337.3660

**TELEPHONE**

CONSUMERS ENERGY  
530 W. WILLOW ST.  
P.O. BOX 30162  
LANSING, MI 48909  
517.373.6100

**GAS  
ELECTRIC**

COMCAST  
1070 TROWBRIDGE ROAD  
EAST LANSING, MI 48823  
517.332.1012

**CABLE TV**

MERIDIAN TOWNSHIP  
5151 MARSH RD.  
OKEMOS, MI 48864  
517.853.4440

**WATER MAINS  
SANITARY SEWER  
PATHWAYS**

WOLVERINE PIPE LINE  
8105 VALLEYWOOD LANE  
PORTAGE, MI 49024-5251  
231.323.2491

**PETROLEUM PIPELINE**

INGHAM COUNTY DRAIN  
COMMISSIONER  
707 BUHL ST.  
MASON, MI 48854  
517.676.8395

**DRAINS  
STORM SEWER**

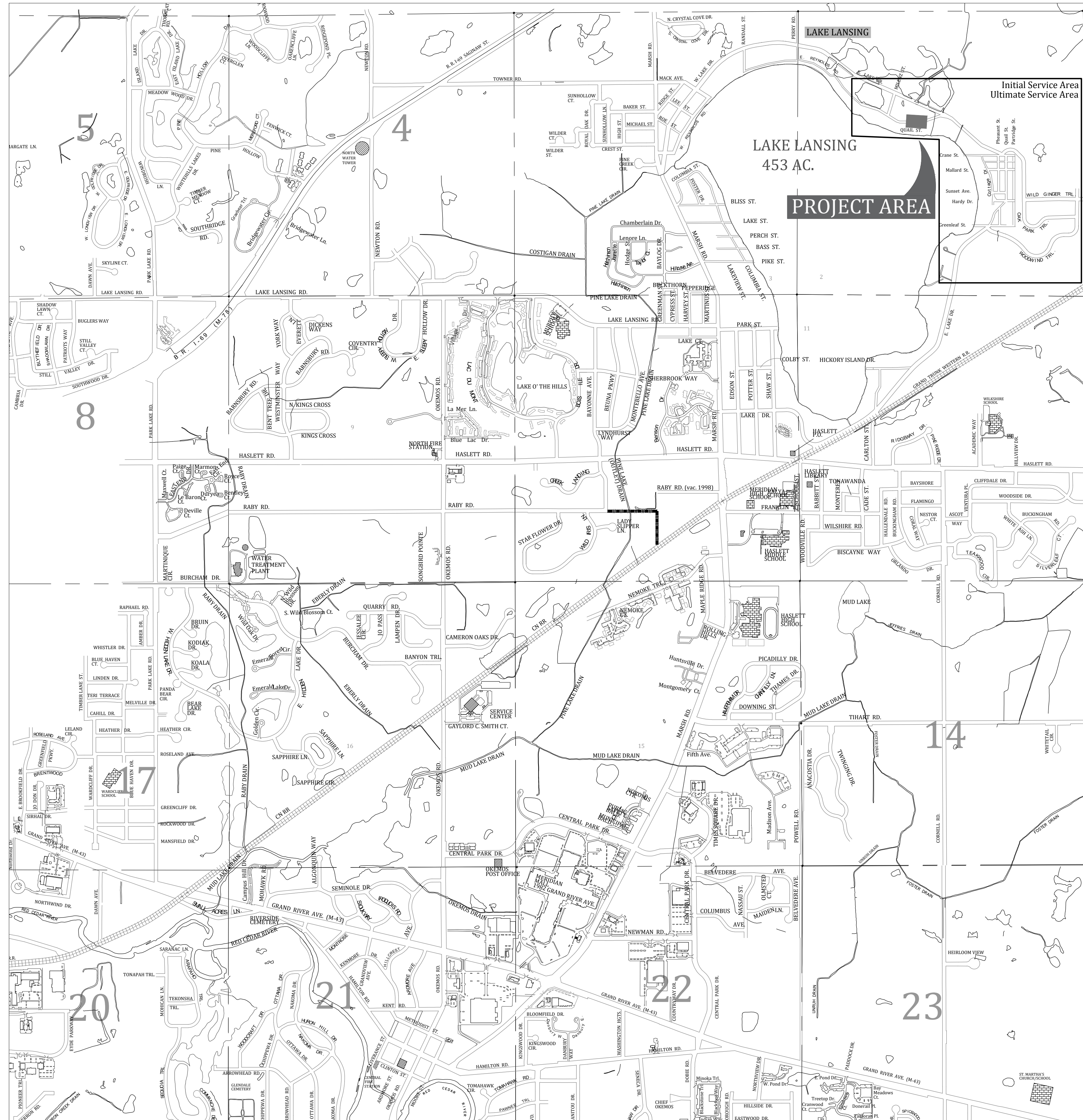
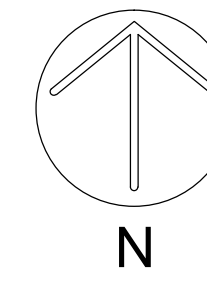
INGHAM COUNTY ROAD DEPT  
301 BUSH ST.  
MASON, MI 48854  
517.676.9722

**PUBLIC ROADS AND  
RIGHTS OF WAY**

**SOIL EROSION & SEDIMENTATION CONTROL NOTES**

- All soil erosion and sediment control (SESC) work shall conform to the standards and specifications of the Ingham County Drain Commissioner's Office and Meridian Township.
- Daily inspections shall be made by the contractor for effectiveness of SESC measures. Any necessary repairs shall be performed without delay.
- Erosion of any sediment from work on the site shall be contained on-site and not allowed to collect on any off-site areas or in waterways. Waterways include both natural and man-made open ditches, streams, storm drains, lakes, ponds, and wetlands.
- The Contractor shall apply temporary SESC measures when required and as directed on these plans. The Contractor shall remove temporary measures as soon as permanent stabilization of slopes, ditches, and other changes have been established.
- Staging the work shall be done by the Contractor as directed in these plans and as required to ensure progressive stabilization of disturbed earth.
- Soil erosion control practice shall be established in the early stages of construction by the Contractor. Sedimentation control practices shall be applied as a perimeter defense against any transporting of soil off the site.
- The Contractor shall preserve natural vegetation as much as possible.
- Vegetative stabilization of all disturbed areas shall be established within 15 days of completion of the final grading.

**COUNTY PARK LIFT STATION REPLACEMENT 2024  
CONSTRUCTION PLANS  
for  
MERIDIAN TOWNSHIP  
INGHAM COUNTY, MICHIGAN**



**STANDARD CONSTRUCTION NOTES**

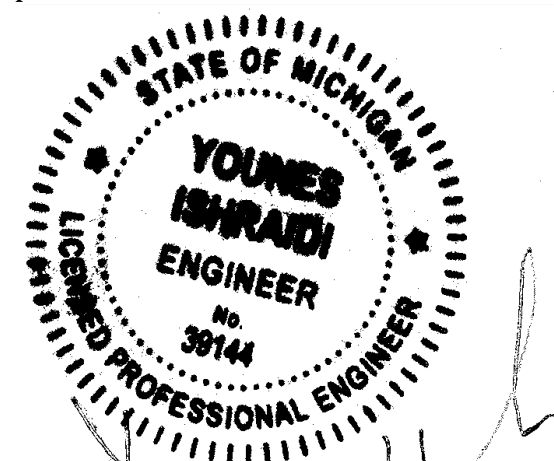
- The Contractor shall notify the Charter Township of Meridian, Department of Public Works, Office of Engineering 517-853-4440 a minimum of 72 hours prior to the start of construction of public utilities or of construction within the public right-of-way.
- All construction shall conform to the current standards and specifications of the Charter Township of Meridian which are included as part of these plans in effect at the time of construction.
- After the completion of construction of public utilities or construction within public right-of-way, the contractor must request a final inspection. Any punchlist items resulting from the final inspection must be resolved prior to final release and acceptance.
- The existing utilities indicated on the plans are in accordance with available information. It shall be the contractor's obligation to verify the exact location of all existing utilities, which might affect this job.
- The contractor shall notify "MISS DIG" 811 at least 72 hours prior to the start of construction.
- The contractor shall at all times be aware of inconvenience caused to the abutting property owners and the general public. Where the contractor does not remedy undue inconveniences, the Charter Township of Meridian, upon four hours notice, reserves the right to perform the work and deduct the cost therefore from the money due the contractor.
- A Registered Land Surveyor provided by the contractor at the contractor's expense shall replace all property irons and monuments disturbed or destroyed by the contractor's operations.
- Contractor shall provide Owner and Township Engineer a copy of written permission to use private property for storage of equipment and materials or for his construction operations.
- Trench backfill under existing or proposed roadways, driveways, and parking areas, shall be sand or gravel, placed in 12" layers (maximum) and consolidated to 95% of maximum density as measured by modified proctor unless otherwise noted.
- Trees and shrubs are to be protected during construction and bored where necessary.
- Existing fences shall be removed and restored to their original condition or better where in conflict with construction.
- Driveways, culverts, ditches, drain tile, tile fields, drainage structures, etc., that are disturbed by the contractor's operations shall be immediately restored.
- All established lawn areas disturbed by the contractor's operations shall be resodded with matching sod. All other areas shall be seeded and mulched. Seeding and mulching shall be done in accordance with the General Specifications.
- All ditch slopes shall have established vegetation and be protected from erosion.
- All utility poles in close proximity to construction shall be supported in a manner satisfactory to the utility owner.
- Onsite parking and sanitary facilities shall be provided for construction workers. The facilities shall be constructed and operated (with minimal impact to the surrounding area) to the satisfaction of the Township.

**SANITARY SEWER NOTES**

- All sewers to be placed in class "B" bedding or better.
- Wyes, risers, and house leads are to be placed at locations shown on the plans or as directed by the Township Engineer. All wyes are incidental.
- Each wye or house lead shall have a plug of the same type of joint as the house lead.
- House leads shall have a minimum of 9 ft. deep at the property line. Individual site topography may require a deviation of this minimum.
- Down spouts or other conduits carrying storm or ground water shall not be connected to the sanitary sewer.
- Whenever existing manholes or sewer pipe are to be tapped holes are to be drilled at 4-inch center to center spacing around the periphery of the proposed opening to create a plane of weakness joint (or core saw the diameter) - a 12 inch thick collar is to encase the new pipe and opening.
- All sanitary sewer manholes shall be provided with watertight covers.
- All manhole covers shall bear the legend "MERIDIAN SANITARY SEWER" with tree logo.
- All public sanitary sewer main lines shall be SDR-26, or ABS truss pipe. Clay pipe may be installed in locations approved by the Township Engineer.
- The PVC (SDR-26) pipe material shall conform to ASTM D 2241, with bell and spigot joints in accordance with ASTM F 477.
- Pipe installation shall be in accordance with ASTM D 2321. All pipe shall be marked to provide ASTM designation, SDR number, manufacturer's name and pipe diameter.
- The contractor shall test the flexible pipe main for deflection by pulling a mandrel through the sewer after all backfill has been placed and compacted over the pipe. The outside diameter of the test mandrel shall be equal to the inside diameter. The outside diameter of the test mandrel shall be equal to the inside diameter of the pipe installation. A second test shall be performed after ten months of pipe installation or just before line's intended use.
- Inspection and testing of the sanitary system shall also include video inspection by CCTV method of sanitary main, air testing of sanitary main, and vacuum testing of sanitary manholes. All inspections and testing shall be performed in the presence of Township inspectors.

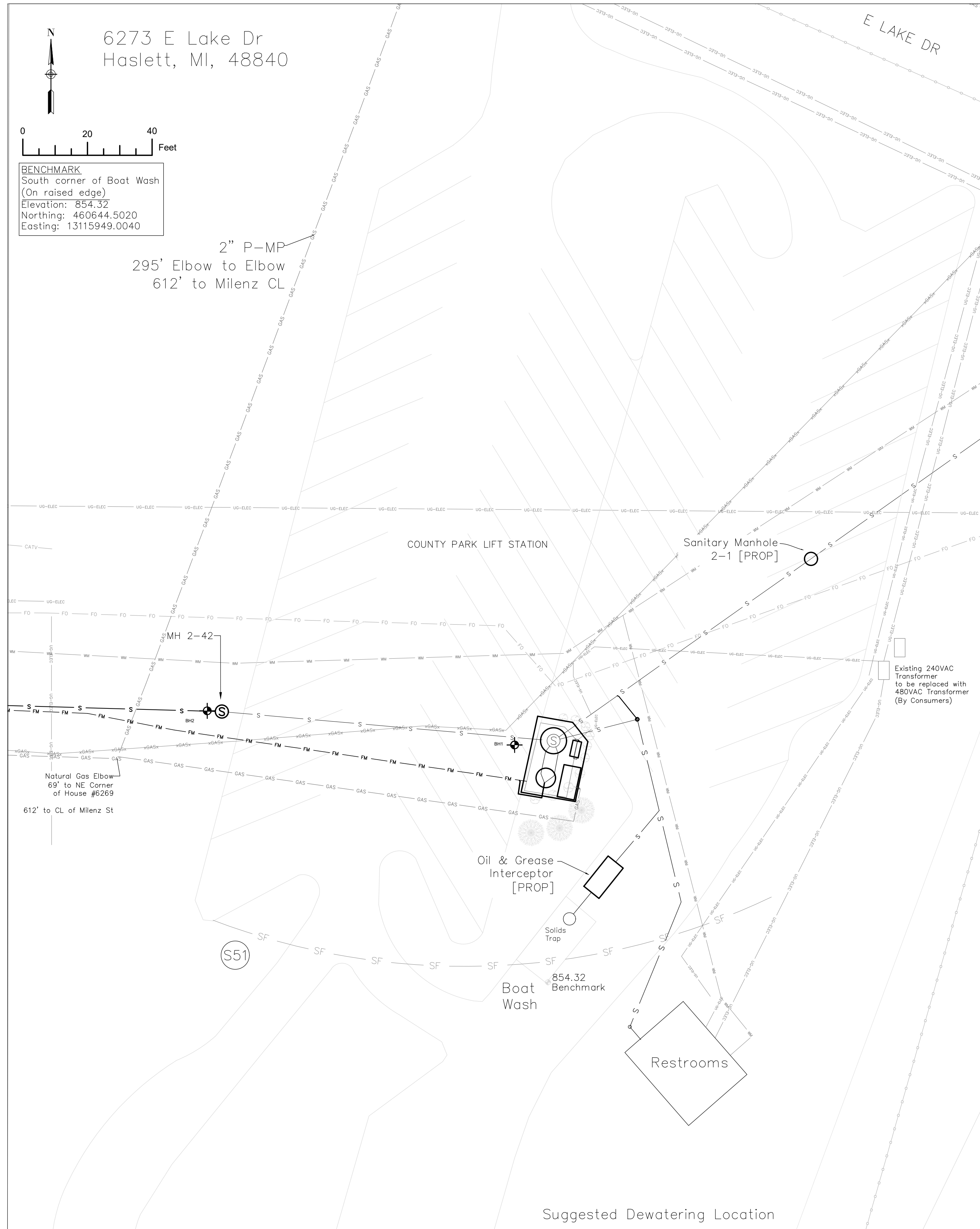
**SHEET INDEX**

SHT #	TITLE
1	COVER SHEET
2	SITE OVERVIEW AND ZOOMED VIEW
3	LIFT STATION - PLAN & PROFILE
4	LIFT STATION - DETAILS
5	STANDARD ELECTRICAL DETAILS
6	STANDARD SANITARY SEWER SYSTEM DETAILS



RECOMMENDED CONSTRUCTION SCHEDULING & SEQUENCING	NOVEMBER	DECEMBER	JANUARY 25	FEBRUARY 25	MARCH 2025	APRIL 2025	MAY 2025	JUNE 2025	JULY 2025	AUGUST 2025	SEPT. 2025	OCTOBER 25
DEWATERING												
INSTALL MANHOLE 2-1												
BYPASS PUMPING												
REMOVE STRUCTURES												
INSTALL STRUCTURES												
SITE RESTORATION												

# County Park Overview



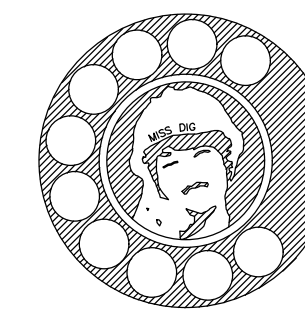
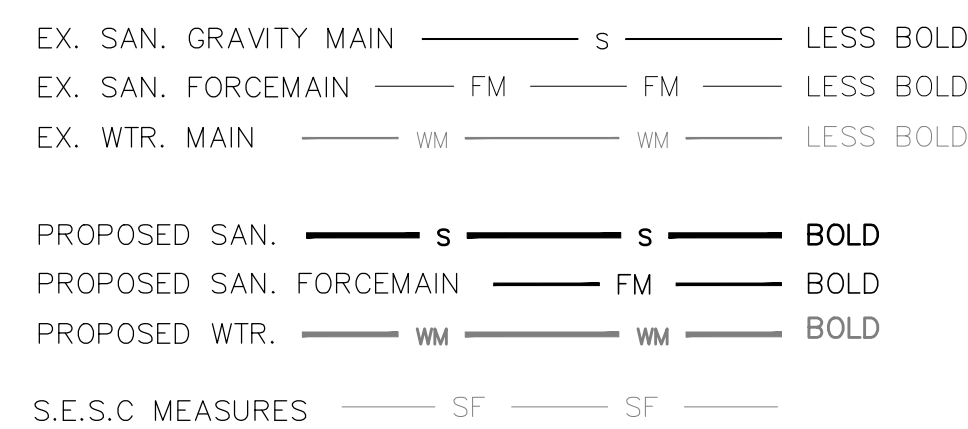
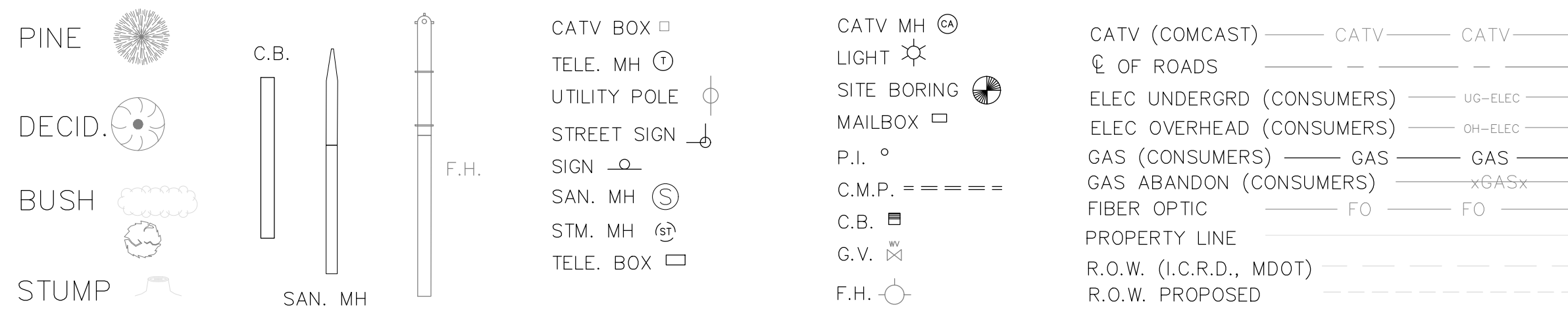
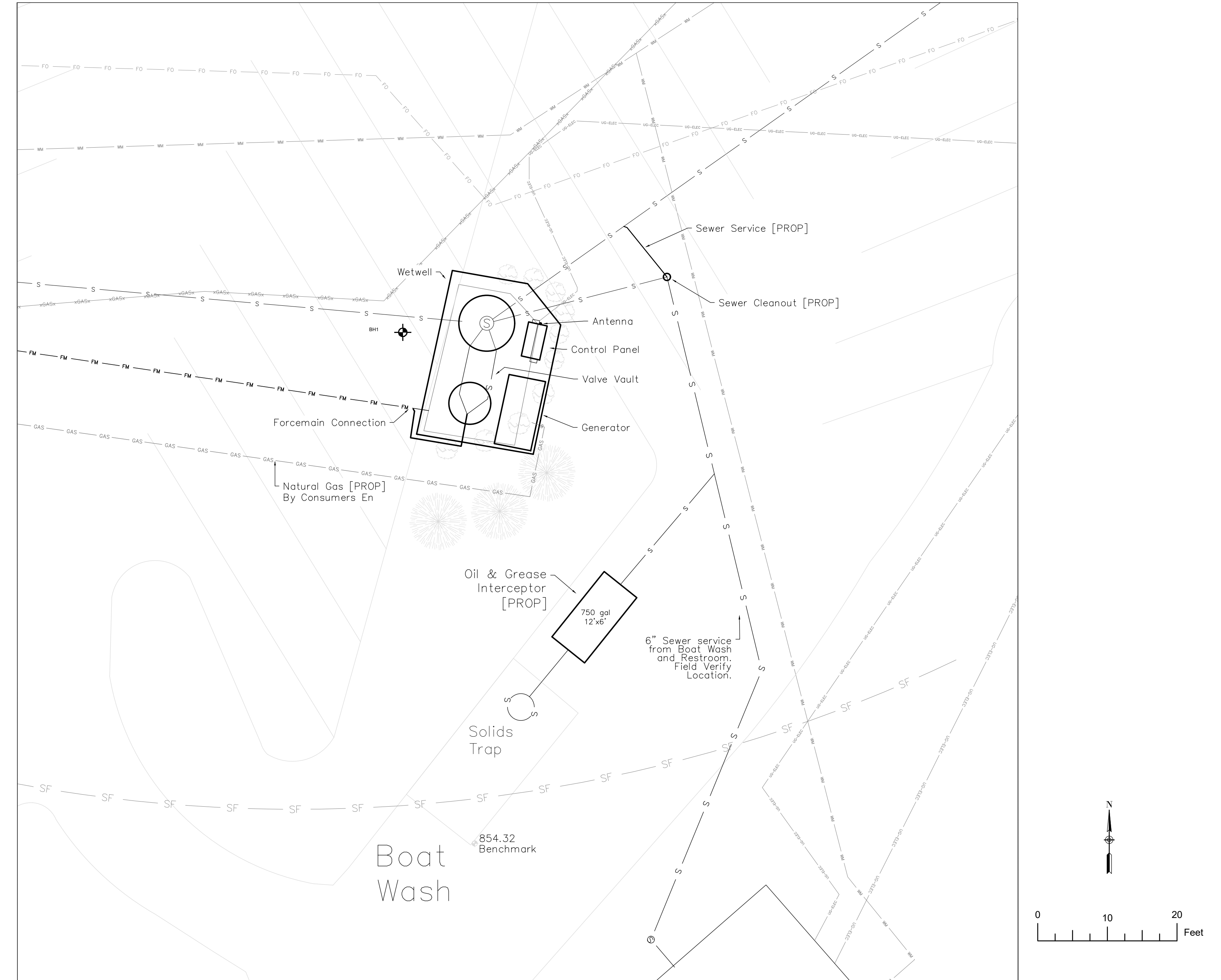
## LIFT STATION – SANITARY UPGRADES

- 1) Increase diameter of the Wetwell from 6 feet to 8 feet.
- 2) Redirect 6" sewer service from Boat Wash and Restrooms to 12" gravity sewer, tapped with a Saddle and Riser.
- 3) Install new 750 gallon Oil and Grease Interceptor downstream of the Boat Wash.
- 4) Install new 48" Sanitary Manhole on the 12" gravity sewer for use in Bypassing.
- 5) Replace existing dry pumps with fully-submersible ones on chain hoists for servicing.
- 6) Replace deep pump chamber with shallow valve vault. Includes Bypass Assembly.
- 6)• Valve Box and Entry Hatch installed over valves to reduce confined space entries.
- 7) Construct concrete pad and install Natural Gas Generator.

## TOWNSHIP PROVIDED EQUIPMENT

- 1) Control Panel and Exterior Junction Box, fabricated by IDC Corp.
- 2) Pumps (2x), guide rails and lifting assembly, check valves (2x) and gate valves (3x) by Kennedy Industries.
- 3) Natural Gas/Propane Genset, by Cummins.
- 4) Radio Unit to be re-used from existing Station.

## Lift Station Zoomed View



WOLVERINE PIPE LINE COMPANY 219-844-9510

72 HOURS  
(3 WORKING DAYS)  
BEFORE YOU DIG  
CALL MISS DIG  
1-800-482-7171  
(TOLL FREE)

Meridian Charter Township  
Ingham County, Michigan

County Park Lift Station  
Replacement 2024

DRAWN BY: JH 10/13/23

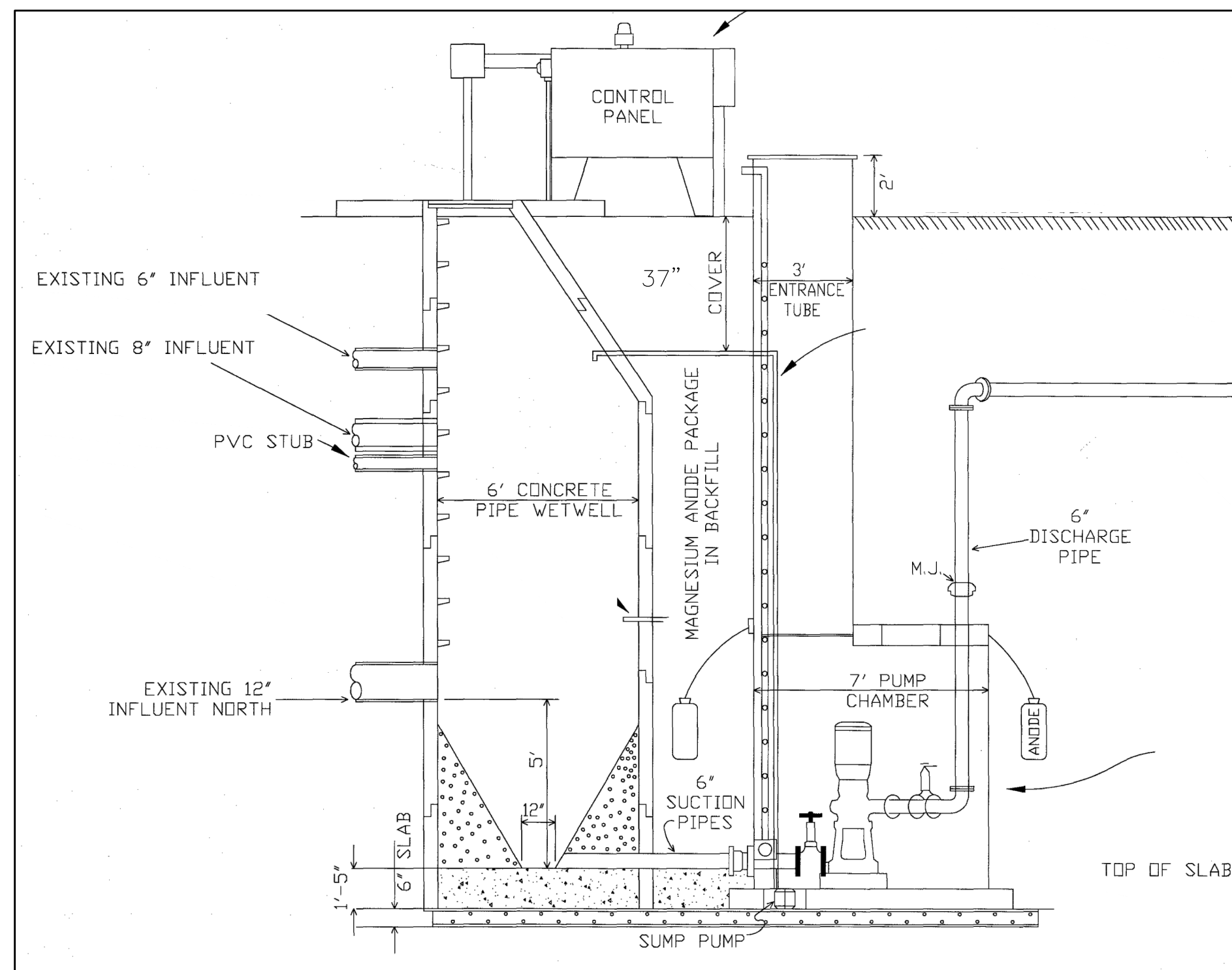
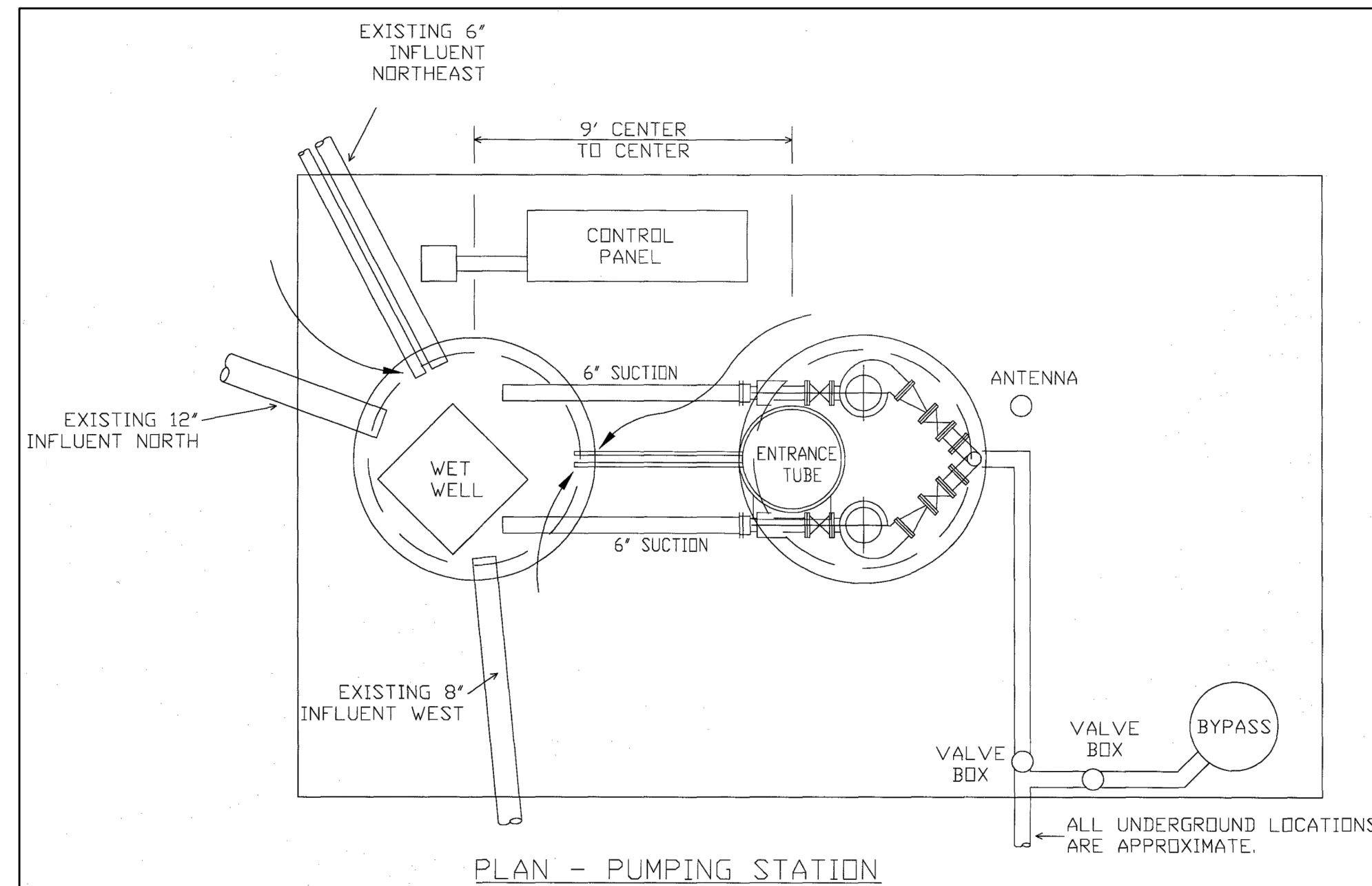
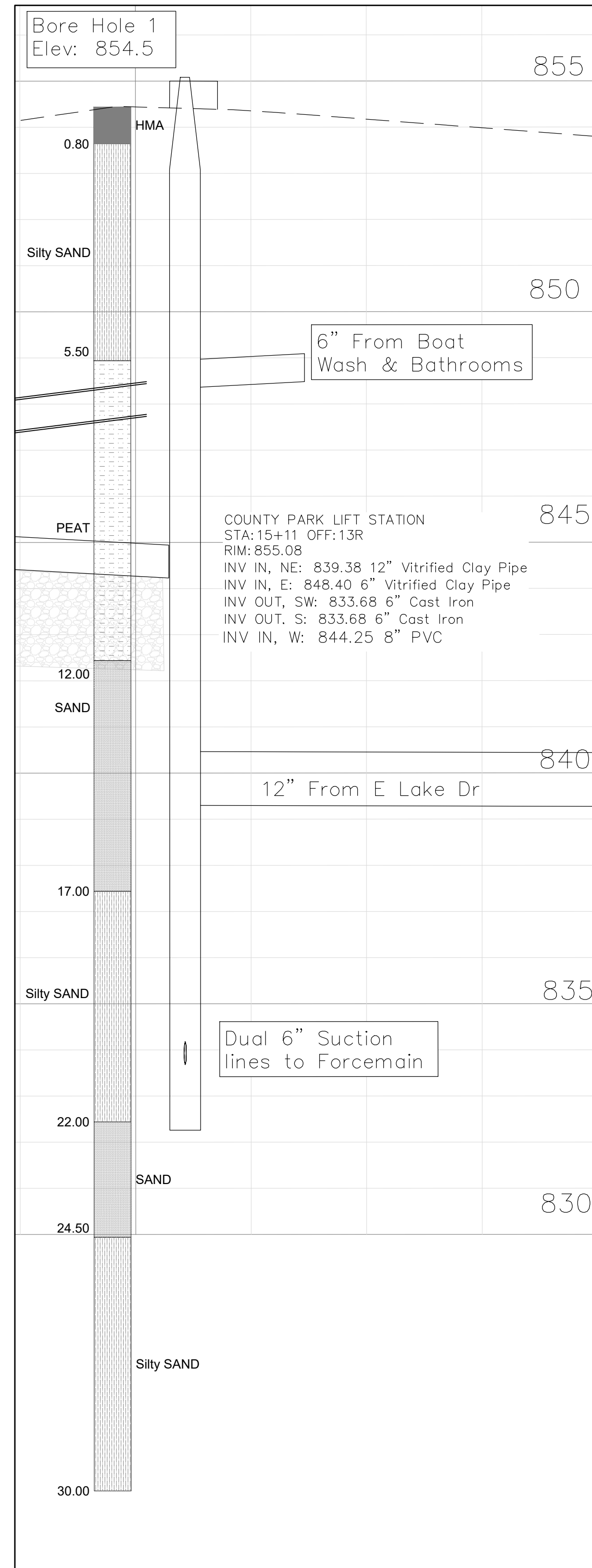
CHECKED BY: YI 10/13/23

REVISIONS:		
DATE	BY:	COMMENTS:
10/13/23	JH	Preliminary for Permitting
1/30/24	JH	Revised for Bidding

SCALE:  
1" = 20' Overview  
1" = 10' Zoom View

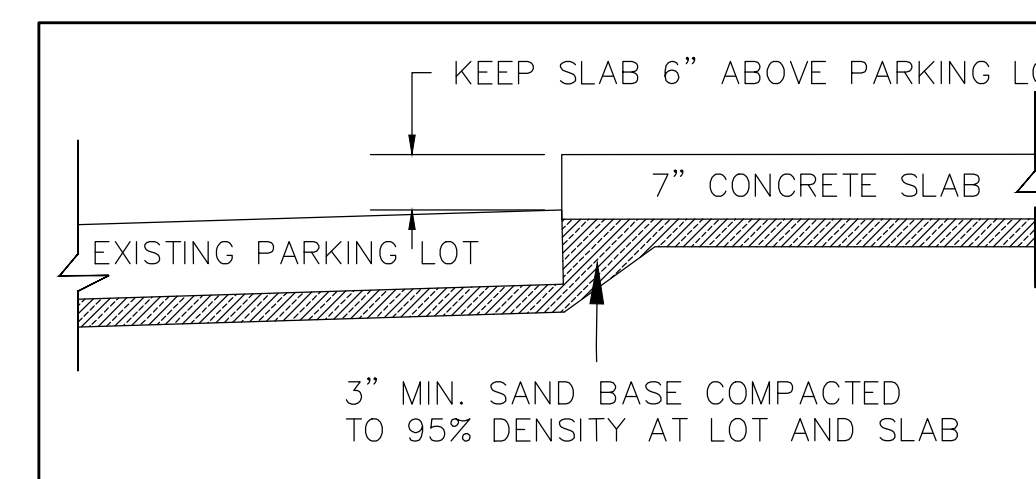
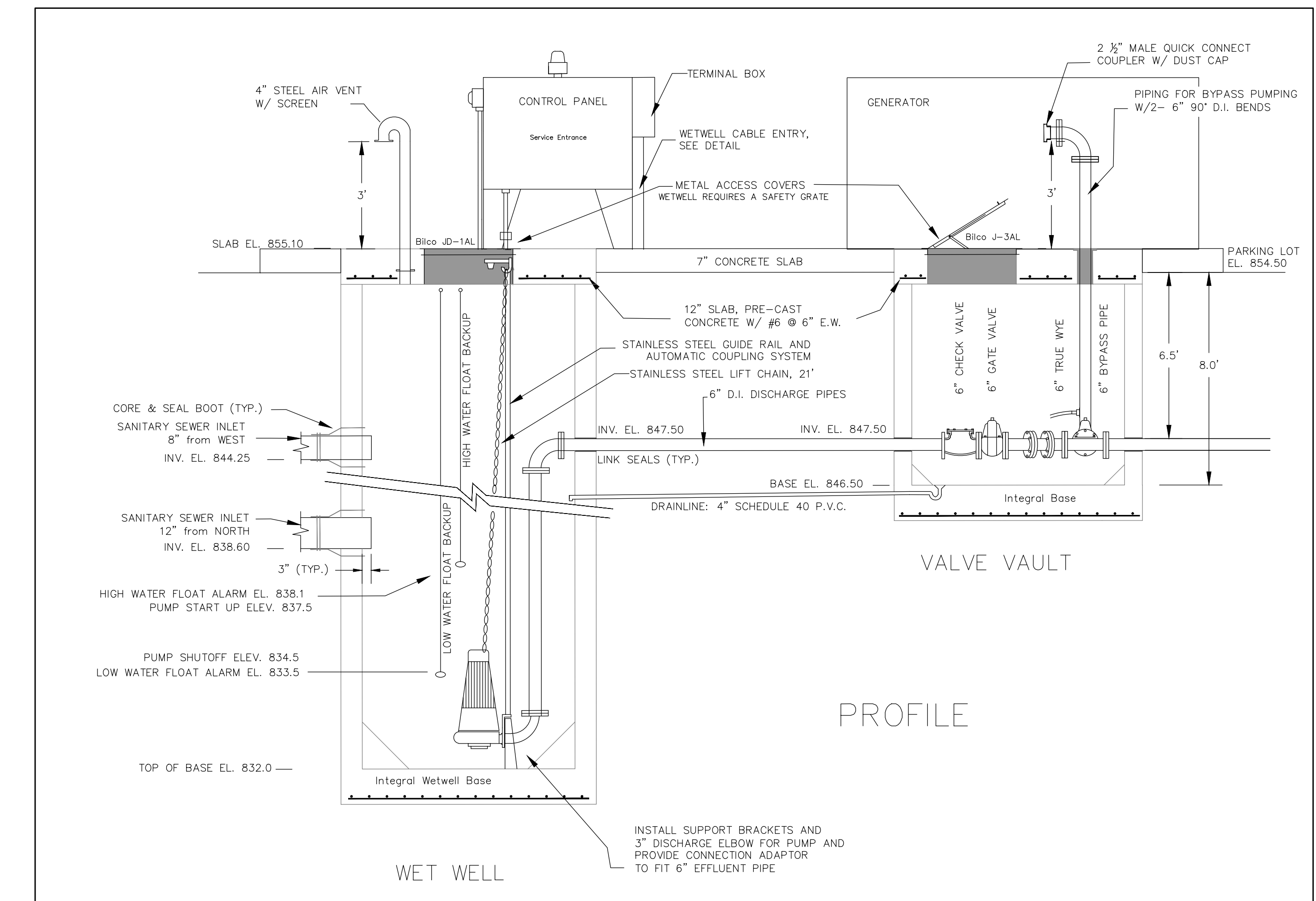
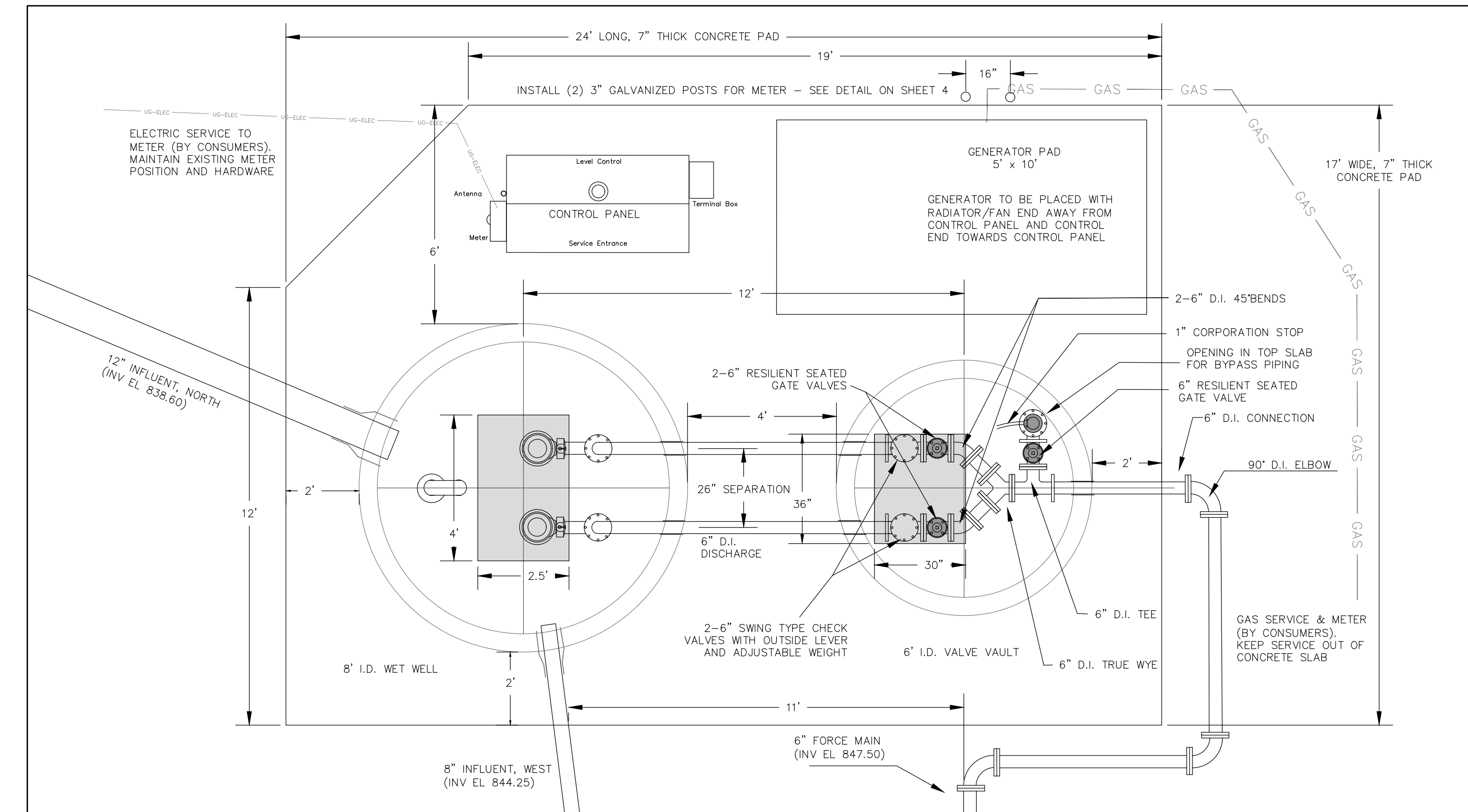
SHEET 2/6

# Existing Lift Station



BENCHMARK  
South corner of Boat Wash  
Elevation: 854.32  
Northing: 460644.5020  
Easting: 13115949.0040

# Proposed Replacement



## LIFT STATION REPLACEMENT – GENERAL CONSTRUCTION NOTES

- 1) Ductile Iron pipes and valves shall be Class 52 and Hydrogen Sulfide (H<sub>2</sub>S) resistant.
- 2) Penetrations into the Wetwell and Valve Vault shall be sealed water tight.
- 3) Remove surrounding shrubbery. Maintain Pine Trees if possible, if encroaching then remove.
- 4) Support strapping shall be 316 Stainless Steel.
- 5) Pipes and Valves within Wetwell and Valve Vault shall be coated with Epoxy.

Meridian Charter Township  
Ingham County, Michigan  
SANITARY SEWER SYSTEM

County Park Lift Station  
Replacement 2024

REVISIONS:		
DATE	BY:	COMMENTS:
10/13/23	JH	Preliminary for Permitting
1/30/24	JH	Revised for Bidding

SCALE:  
1" = N.T.S.  
SHEET 3/6

DRAWN BY: JH 10/13/23 CHECKED BY: YI 10/13/23

# Lift Station Details

## ELECTRICAL CONSTRUCTION NOTES

- 1) Plan is to re-use existing Electrical Meter and Socket in their current position.
- 2) Shut off Power before removing Electrical Meter. Disconnect Meter before excavation. Reconnect after new Wetwell construction, mounted on Unistrut Rack.
- 3) Expose conduit to next threaded joint and rotate out of the way. If obstructing Wetwell excavation, pull back wires and remove last segment of conduit.
- 4) Exterior conduit shall be Vinyl-Coated Rigid, except for Antenna.
- 5) Generator conduits to be placed for future Generator Installation.

## ELECTRICAL AND GAS UPGRADES

- 1) Consumers to replace Existing 240VAC Transformer with new 480VAC Transformer.
- 2) Existing conduits, wires, meter and socket to be maintained and re-used.
  - 2)• Conductor Wires: 4W 1/0 Al
- 3) Pad and Natural Gas service line for 45kW backup Generator.
- 3)• Natural Gas Service: Elevated Pressure, 11" Water Column

## LIFT STATION HARDWARE – GENERATOR

Cummins C45N6, 45kW, 60Hz, Standby, Natural Gas/Propane Genset Automatic Transfer Switch: OTEC70, Transfer Switch–Electronic Control, 70 Amp

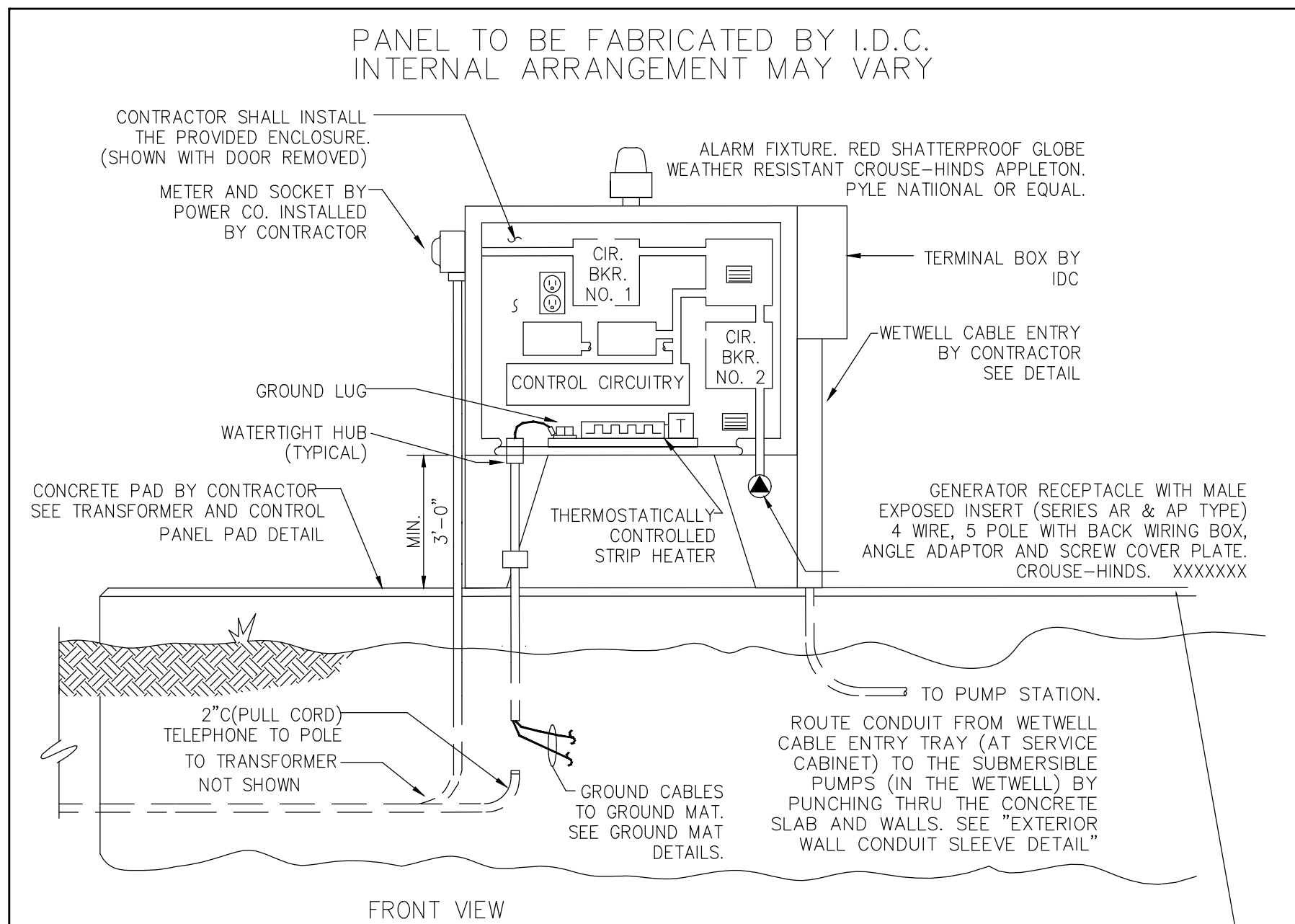
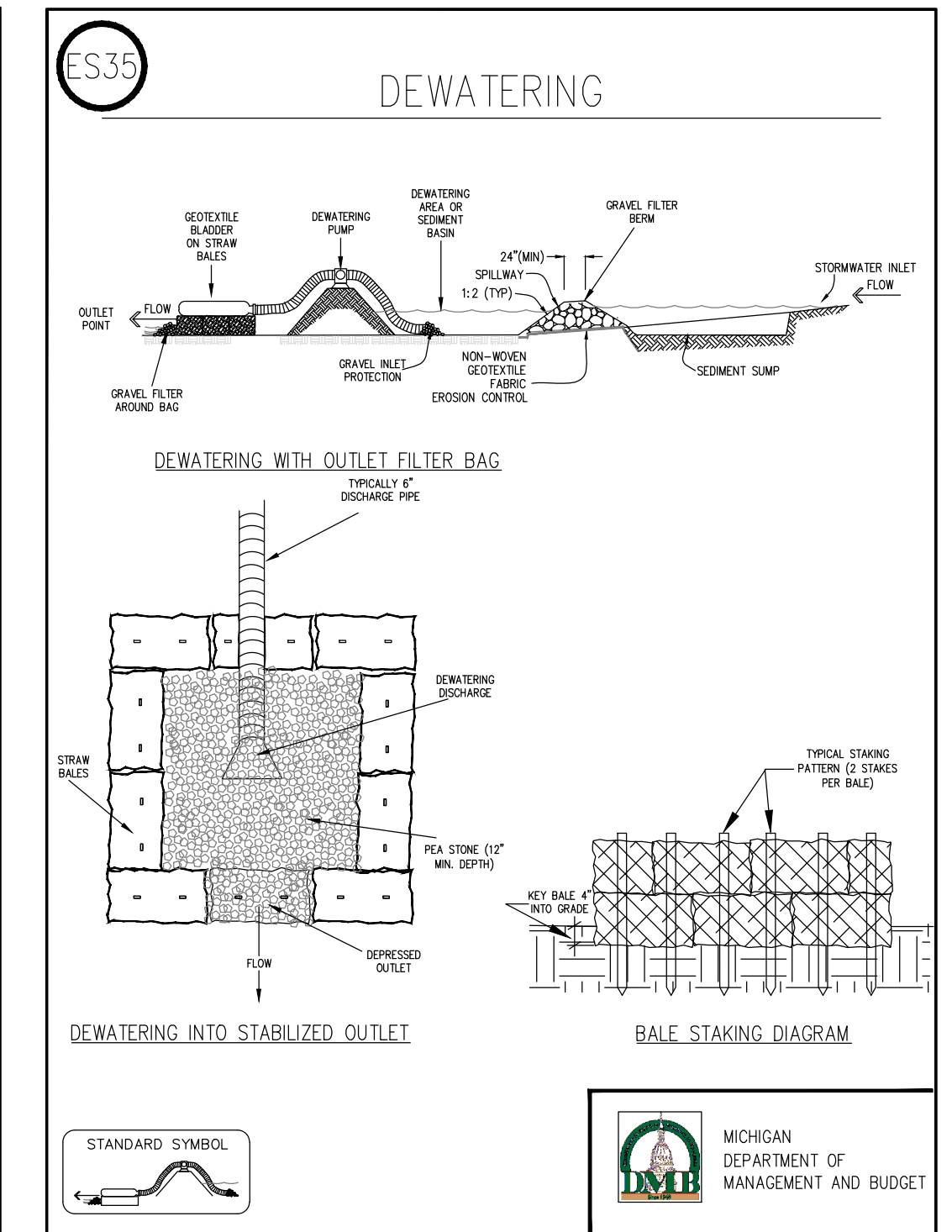
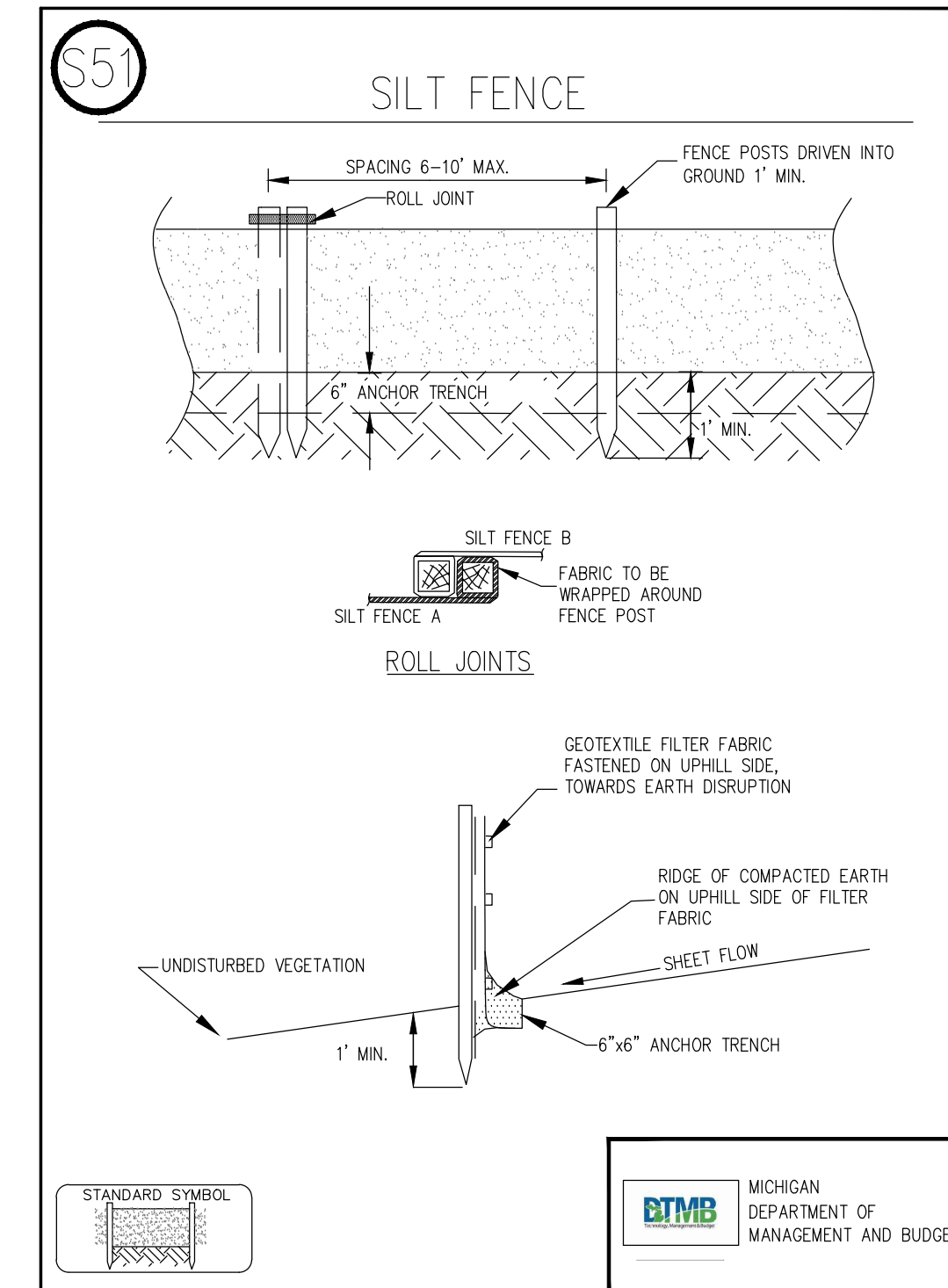
## LIFT STATION HARDWARE – PUMPS

Two (2) Flygt Concertor DP N80–7800. 10 HP, 10.5 A, 460 V

## DEWATERING OBJECTIVES

- A geotechnical firm has recommended lowering the standing water table to two feet below the lowest excavation. The water table was measured at a springtime high of 851' and the existing lift station resides at 832'.
- To protect the nearby lake, discharge must be filtered of fine soil particles before being released to the environment. This can be accomplished with suitable SESC measures such as a geotextile filtration bag or temporary sedimentation basin dosed with coagulants. See the Dewatering Specification for details.
- A suggested discharge point is at the south eastern corner of the County Park Boat Launch property, spaced at least six feet away from the shoreline.

# Soil Erosion and Sediment Control



- CONTROL PANEL AND POLE DETAILS**
- THE CONTROL PANEL DIMENSIONS SHALL NOT EXCEED 30" HIGH IF SPACE IS NOT SUFFICIENT FOR ALL REQUIRED COMPONENTS, THE CABINET SHALL BE EXTENDED IN WIDTH PAINT CONTROL PANEL FOREST GREEN OR TO MATCH UTILITY TRANSFORMER.
1. 240V SINGLE PHASE, CROUSE-HINDS AR637S-22
  2. 240V 3-PHASE, CROUSE-HINDS AR641S-22
  3. 480V 3-PHASE, CROUSE-HINDS AR1041S-22

# Natural Gas Service: Meter Posts

## 5.13 FREESTANDING METER SUPPORT

**General**

- Consumers Energy reserves the right to refuse to connect a gas service to an improperly installed meter support.
- Use freestanding support where the building wall will not support the meter installation.

**Meter Pedestal**

This meter pedestal can also accommodate the following sizes: Multiple 175 RMs, 250 Metris, 425, 800, 1000, and up to 11M compact rotary meters.

- 16" between posts will accommodate 425 through 11M compact rotary meter installations.
- 36" between posts will accommodate multiples of up to three 250 RMM Metris meters.
- Up to a 60" span is acceptable for multiples of greater than three 250 RMM Metris meters.

**Height**

Height is field adjustable based on selected meter stand.

**Customer Responsibilities**

Customer to provide and install Items A and B (Figure 1). Fence posts are NOT acceptable:

- For 1.5–7 M rotary meters — Use two 2" ID (internal diameter) galvanized steel pipe (Schedule 40) a minimum of 11' long.
- For 11M–16M rotary meters — Use two 3" ID (internal diameter) galvanized steel pipe (Schedule 40) a minimum of 11' long.
- A 6" (or larger) auger is recommended for the postholes. The steel pipes must be plumb.

**Figure 1A**

1. See Meter Pedestal section within this Practice.  
2. See Height section within this Practice.

Item	Quantity	Description	Material No.
A	2	Galvanized steel pipe (11 feet)	Customer*
B	—	Concrete	Customer*
C	As Required	Unistrut channel — 1-5/8" x 3/16"	10143622
D	4	2" STD Unistrut pipe clamp	10090216

\*See Customer Responsibilities section within this Practice.

**Figure 1B**

**GAS SERVICE MANUAL**

The Controlled Version of this document is provided electronically for use by Company Employees and Contractors. For print documents to be valid, the holder has the sole responsibility to ensure the data matches the Controlled Version.

REVISION: 04.1.01.1.2017

**SILT FENCE SPECIFICATIONS**

**When**

- A temporary measure for preventing sediment movement.

**Why**

- Used to prevent sediment suspended in runoff from leaving an earth change area.

**Where**

- Use adjacent to critical areas, wetlands, base of slopes, and watercourses.

**How**

1. Install parallel to a contour.
2. The silt fence should be made of woven geotextile fabric.
3. Silt fence should accommodate no more than 1/2 to 1 acre of drainage per 100' of fence and on slopes less than 1:2 (x:h).
4. Dig a 6" trench along the area where the fence is to be installed.
5. Place 6" of the silt fence bottom flap into the trench.
6. Backfill the trench with soil and compact the soil on both sides.
7. Create a small ridge on the up-slope side of the fence.
8. Install wooden stakes 6 – 10' apart and drive into the ground a minimum of 12".
9. Staple the geotextile fabric to the wooden stakes.
10. Join sections of silt fence by wrapping ends together (See drawing).

**Maintenance**

- Inspect frequently and immediately after each storm event. Check several times during prolonged storm events. If necessary, repair immediately.
- If the sediment has reached 1/3 the height of the fence, the soil should be removed and disposed of in a stable upland site.
- The fence should be re-installed if water is seeping underneath it or if the fence has become ineffective.
- Silt fence should be removed once vegetation is established and up-slope area has stabilized.

**Limitations**

- Silt fence may cause temporary ponding and could fail if too much water flows through the area.
- Do not use in areas with concentrated flows.
- Chance of failure increases if fence is installed incorrectly or if sediment accumulation is not removed.

**DEWATERING SPECIFICATIONS**

**When**

- When construction activities are limited by presence of water and dry work area is required.
- When water prevents or limits construction or when accumulated construction area stormwater requires discharge.

**Why**

- Removes ground or surface water to facilitate construction activities (Release must be filtered of sediment).

**Where**

- Use in areas with high ground water tables or those without adequate drainage anytime dewatering may contain sediment.

**How**

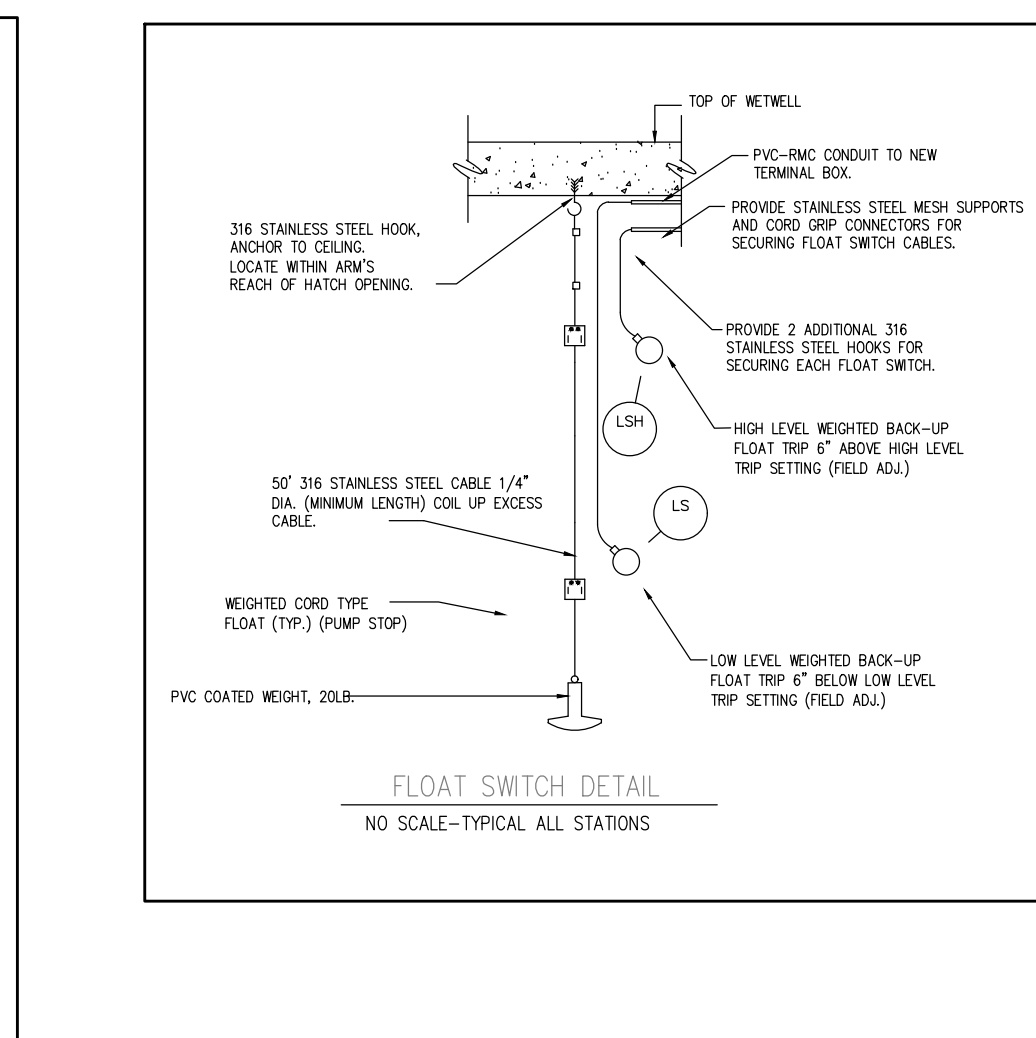
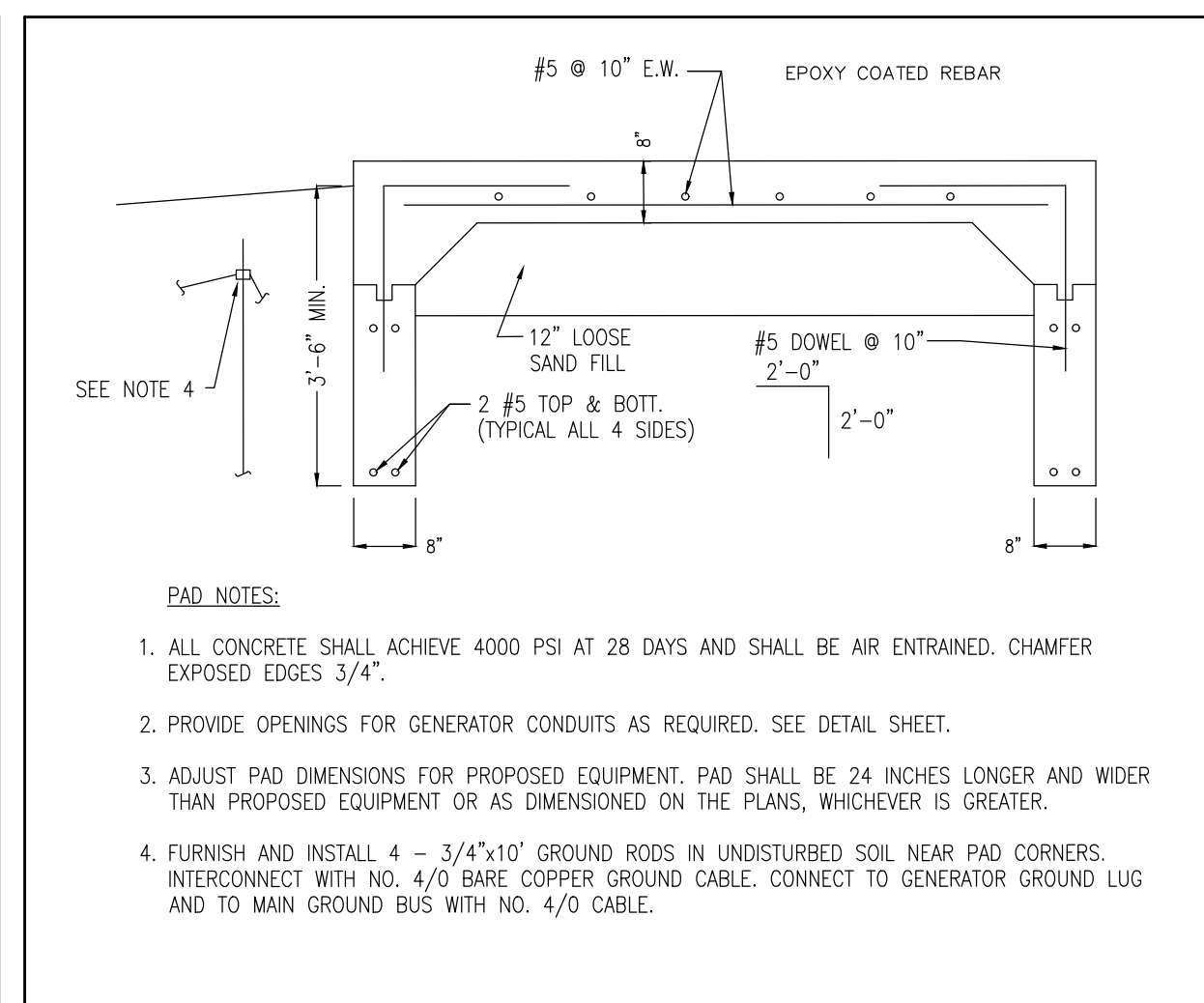
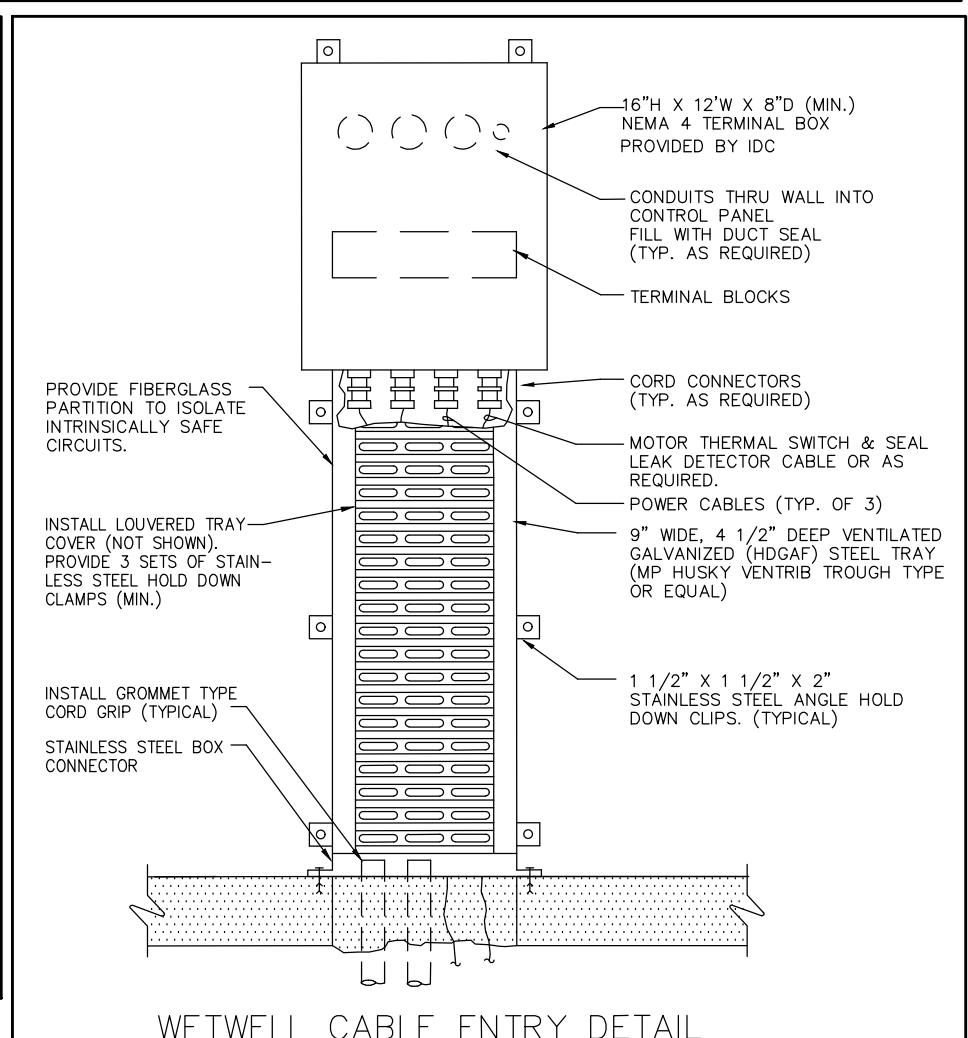
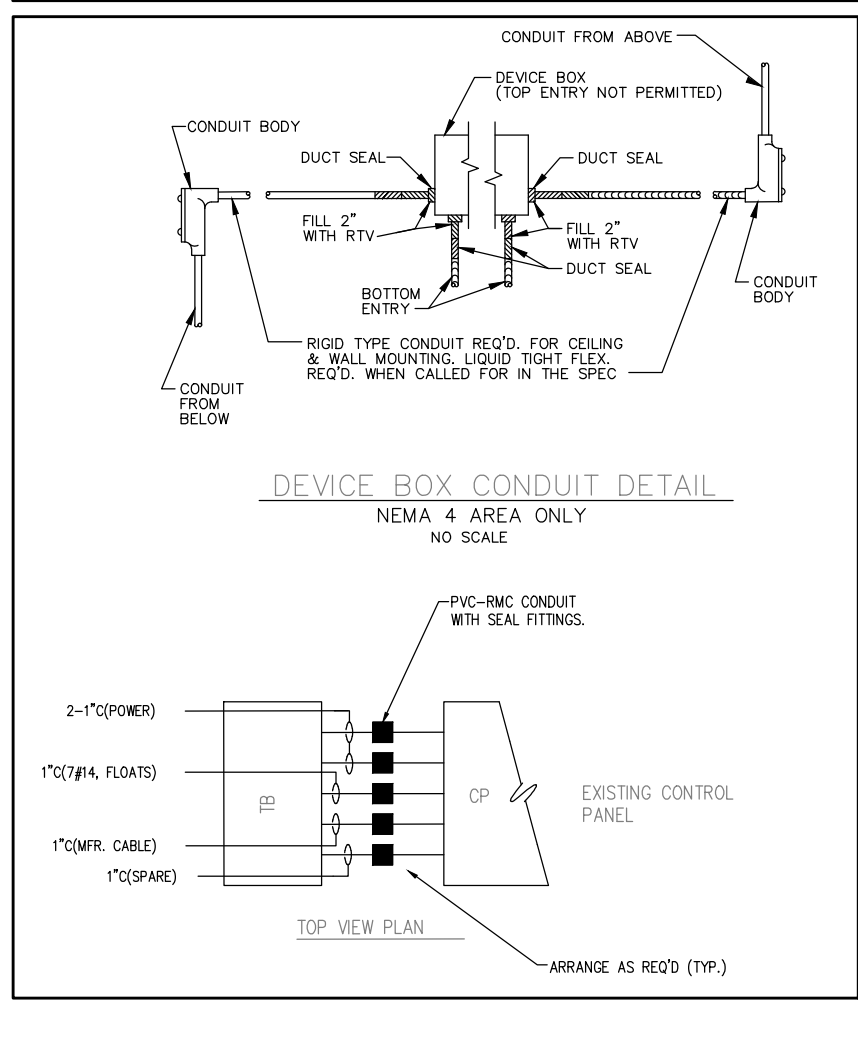
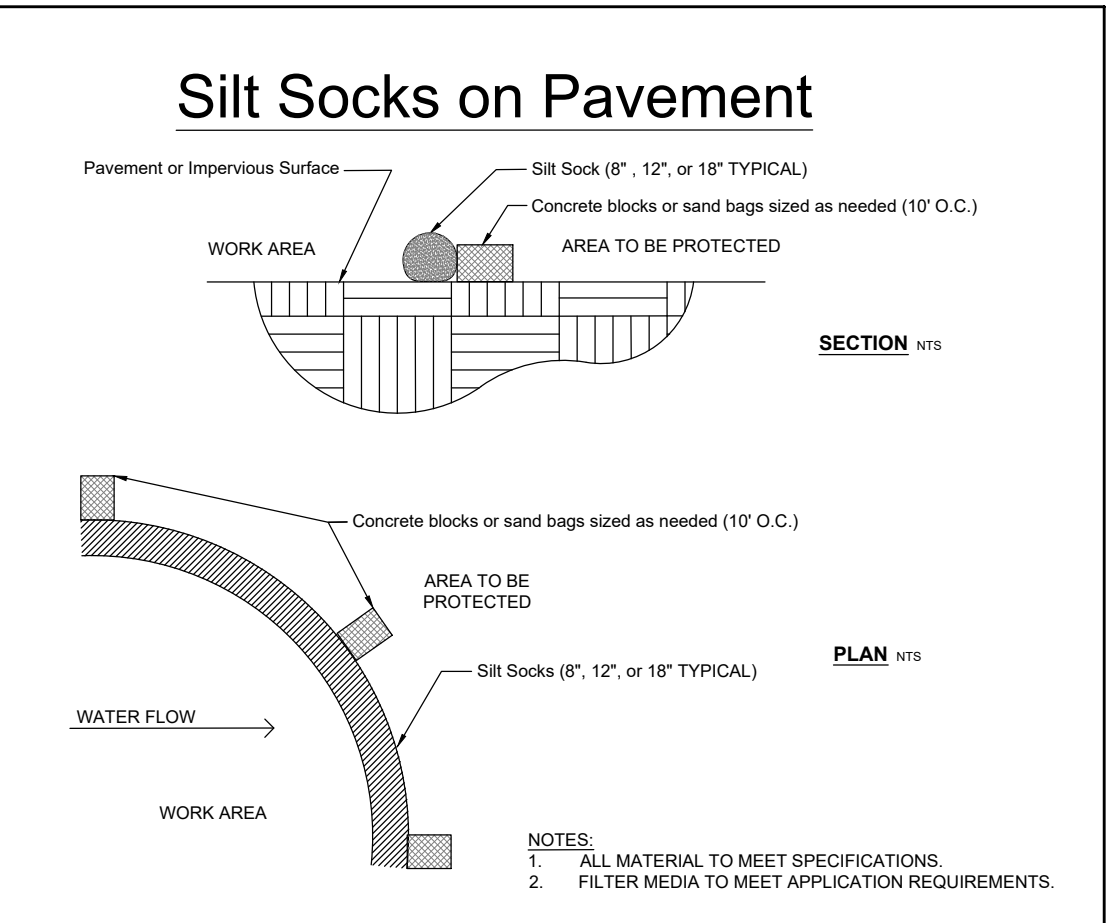
1. Dewatering system to be designed by engineer or CPESC.
2. Obtain appropriate permits from local authorities for discharge into receiving waters.
3. Dewatering system must be of sufficient size and capacity to maintain a dry condition without delays to construction operations.
4. Dewatering must be conducted so that discharge water velocity doesn't cause scouring of receiving area.
5. If sediment filtration is required, water should be filtered through a stone filter near dewatering pump inlet or released through a filter prior to discharge.
6. Sediment accumulated as part of discharge filtering must be either spread and stabilized on-site or disposed of in a manner approved by the project manager.
7. For stationary dewatering device, identify and structure dewatering area complete with appropriate filter.
8. For portable dewatering device, identify suitable dewatering pump area and place filter bag on outlet pipe prior to discharge.

**Maintenance**

- Maintain sediment controls and filters in good working order.
- Inspect excavated areas daily for signs of contaminated water as evidenced by discoloration, oily sheen, or odors.
- Inspect dewatering discharge points daily for signs of scour or erosive damage.
- Repair any problems immediately.

**Limitations**

- Do not provide filtration of contaminated stormwater flows.
- Discharge may result in erosion of receiving watercourse unless properly stabilized.
- Requires adequate sediment settling area prior to discharge point to be effective.



Meridian Charter Township  
Ingham County, Michigan

SANITARY SEWER SYSTEM

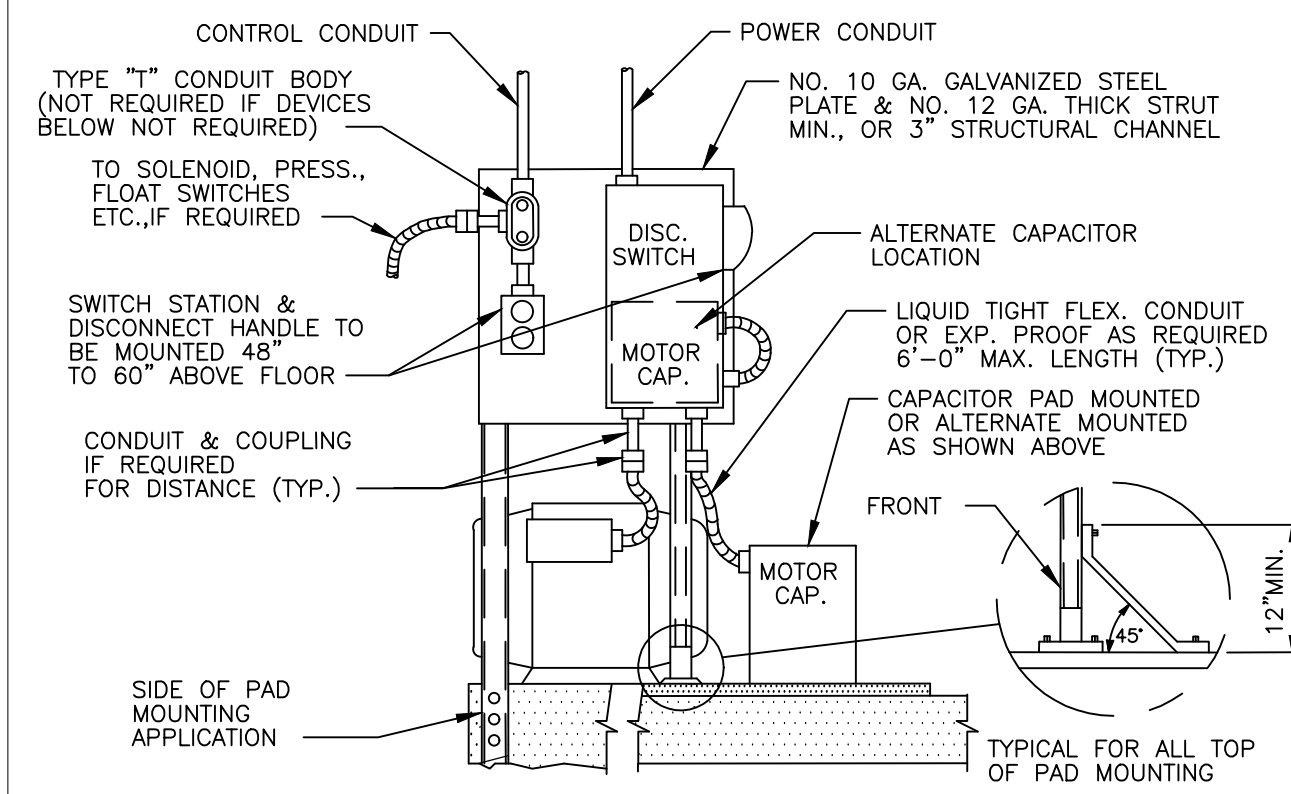
County Park Lift Station  
Replacement 2024

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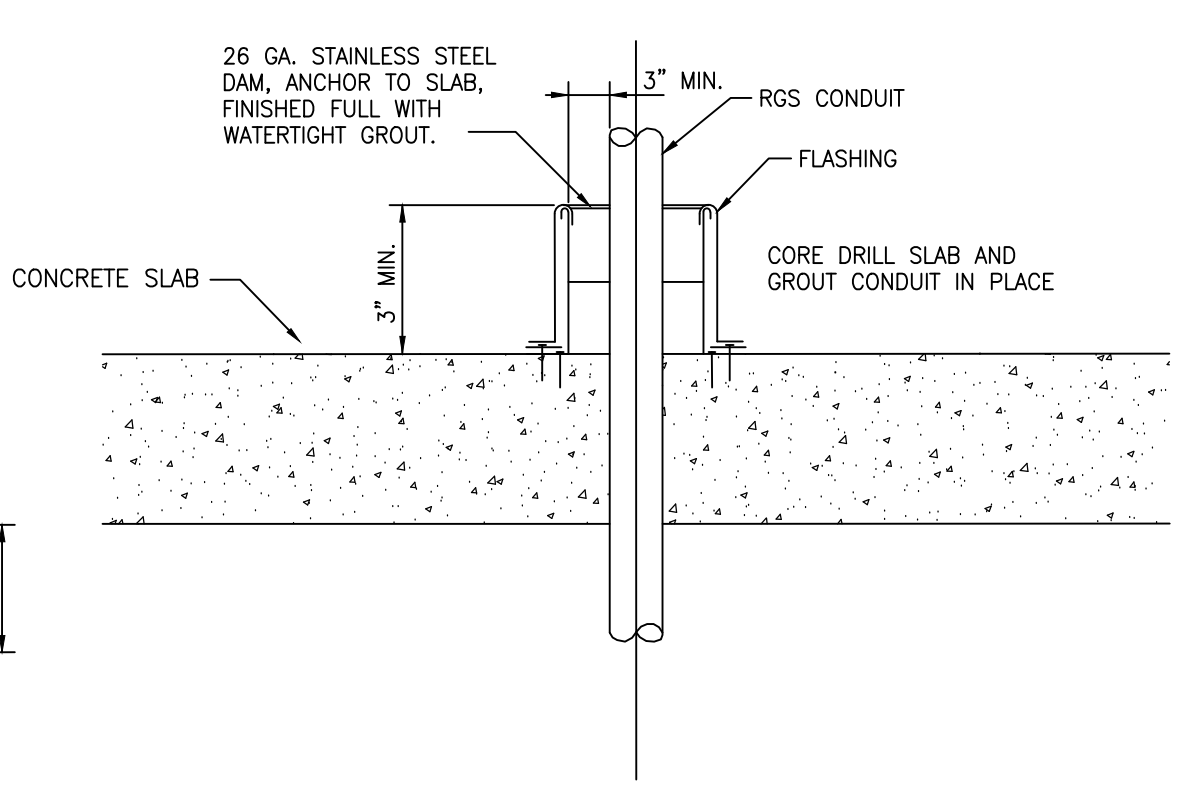
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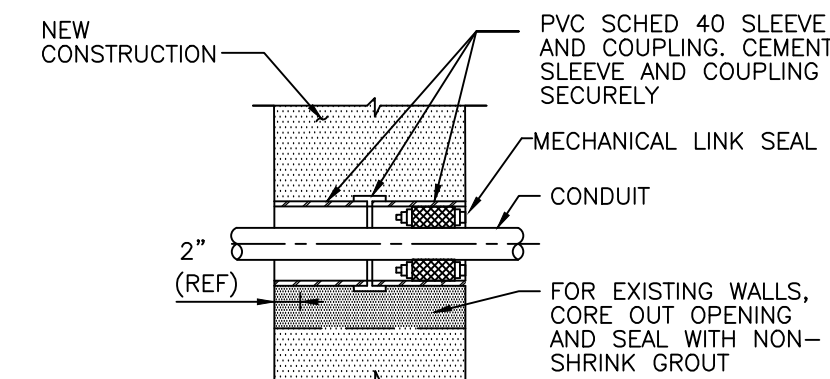
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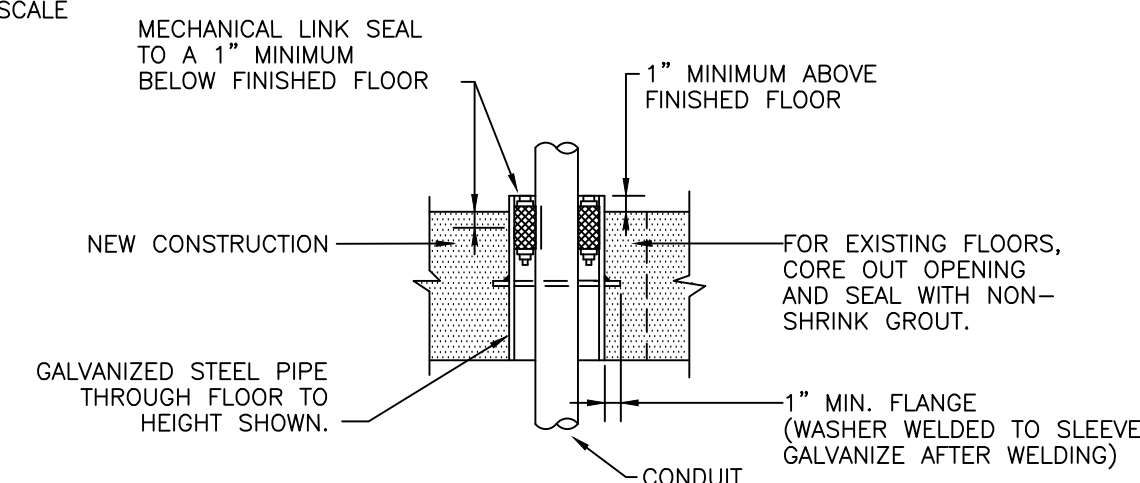
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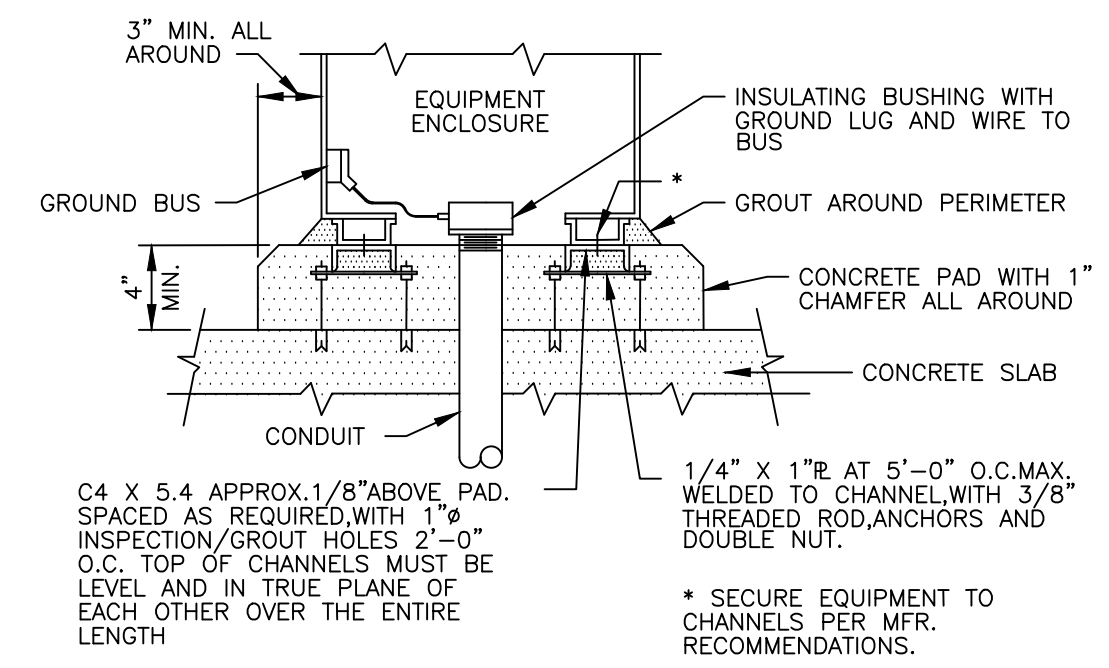
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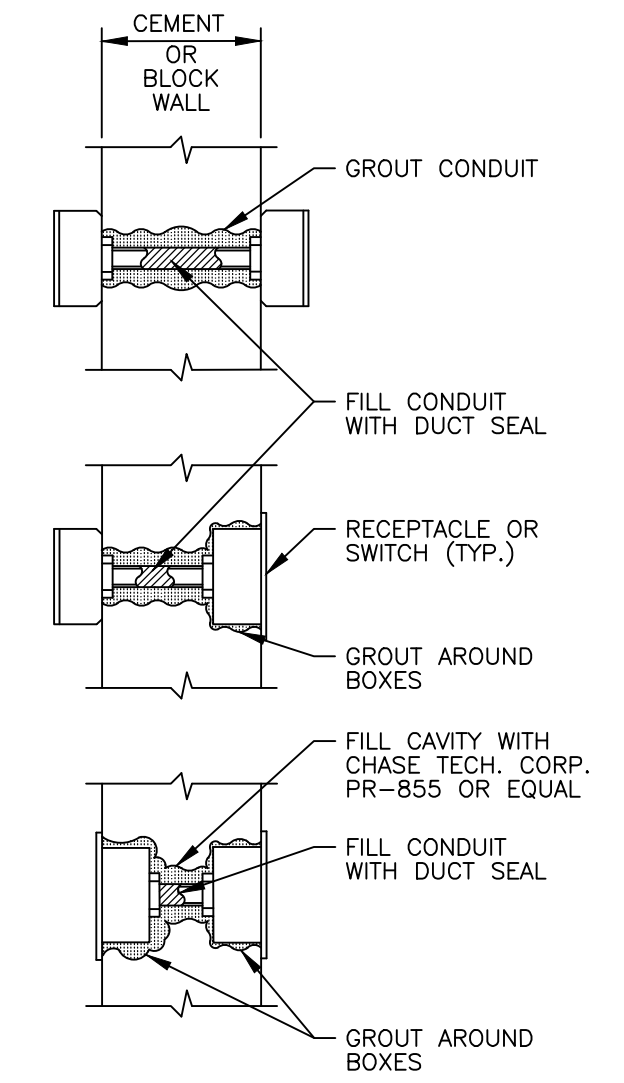
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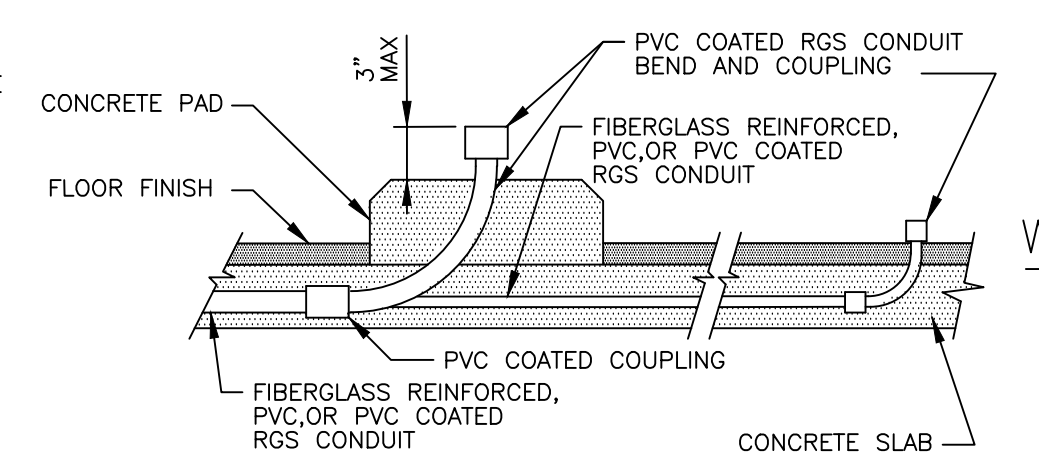
**INTERIOR FLOOR CONDUIT SLEEVE DETAIL**  
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**OUTDOOR PAD MOUNTED EQUIPMENT DETAIL**  
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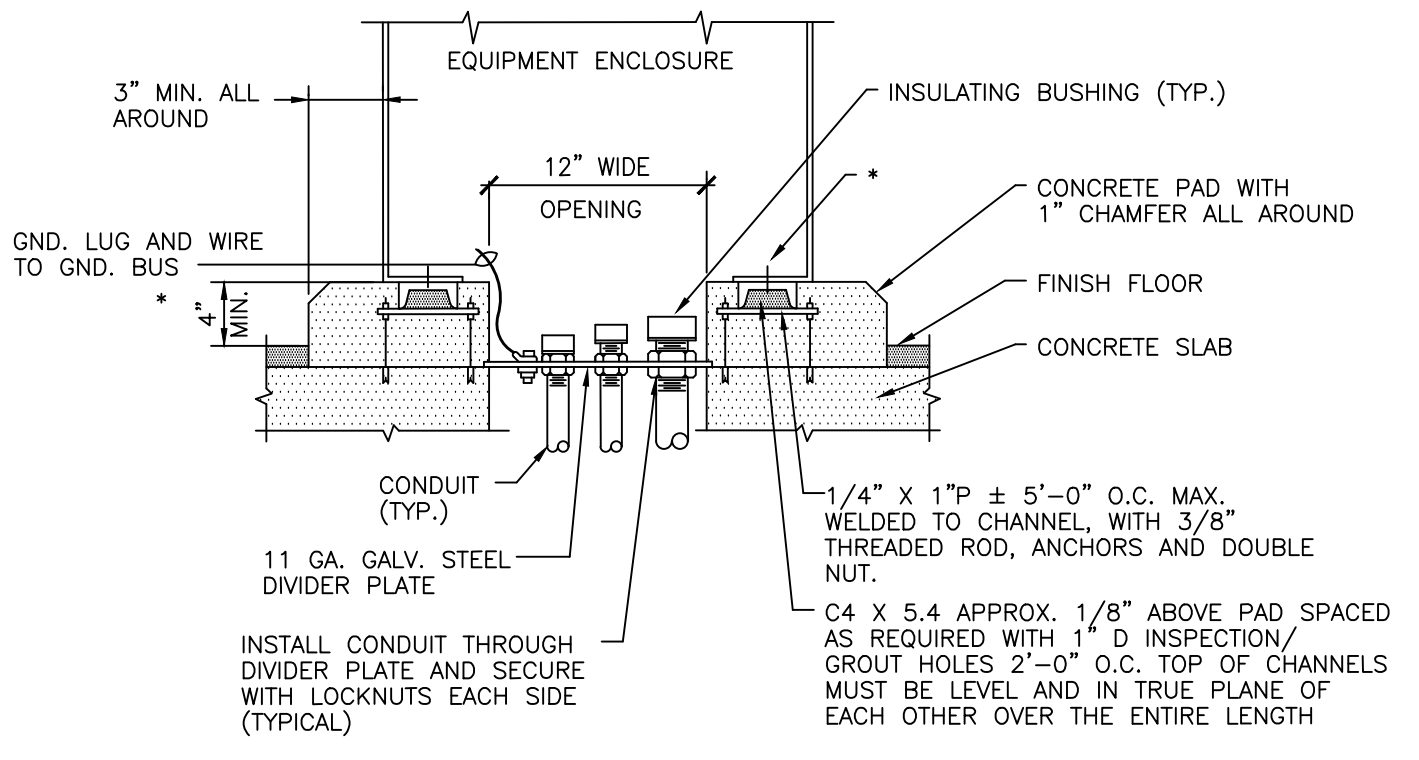


**WALL BOXES BACK-TO-BACK FOR SOUND PROOFING**  
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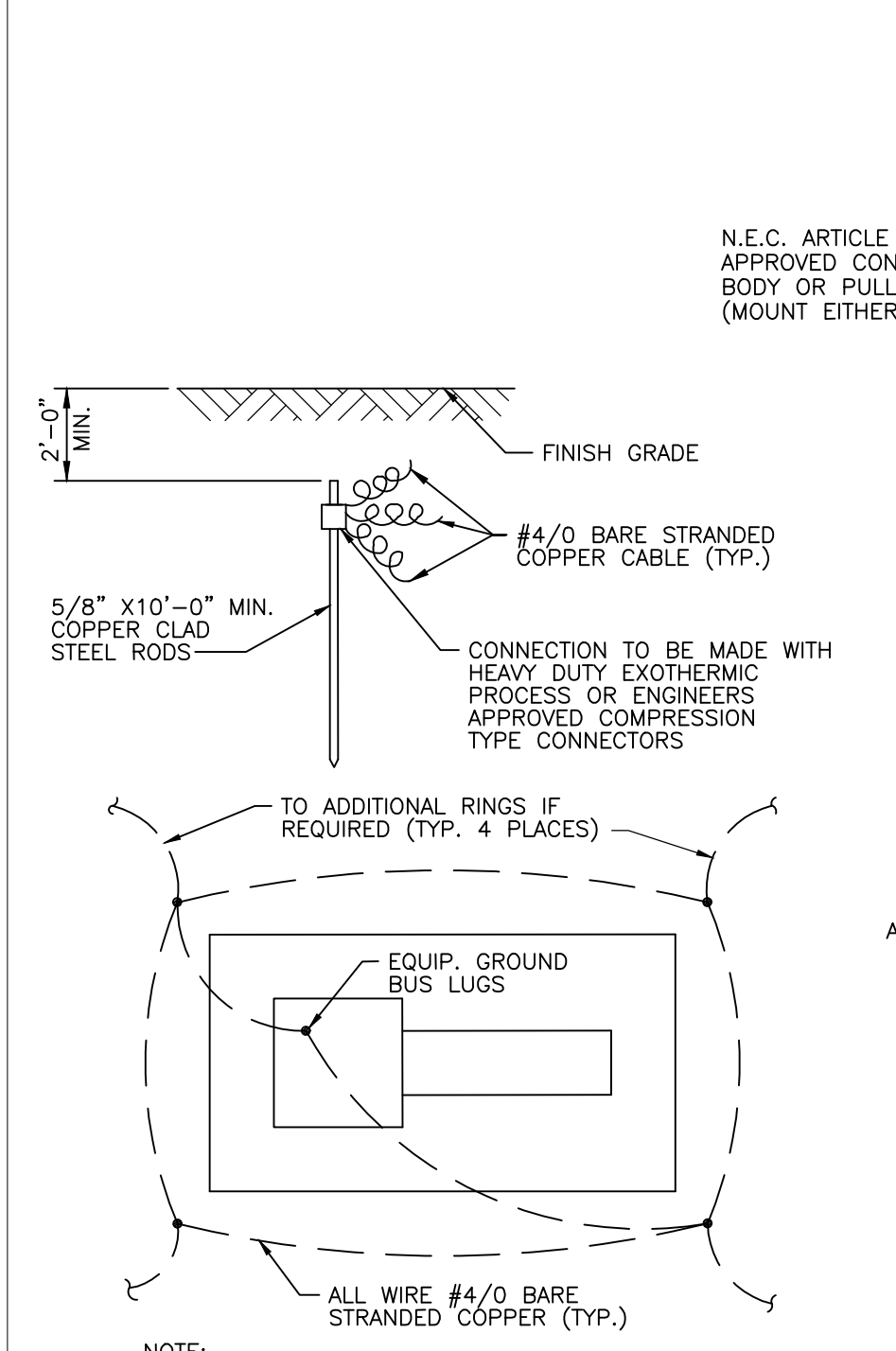


**CONDUIT STUB-UP DETAIL**  
NO SCALE

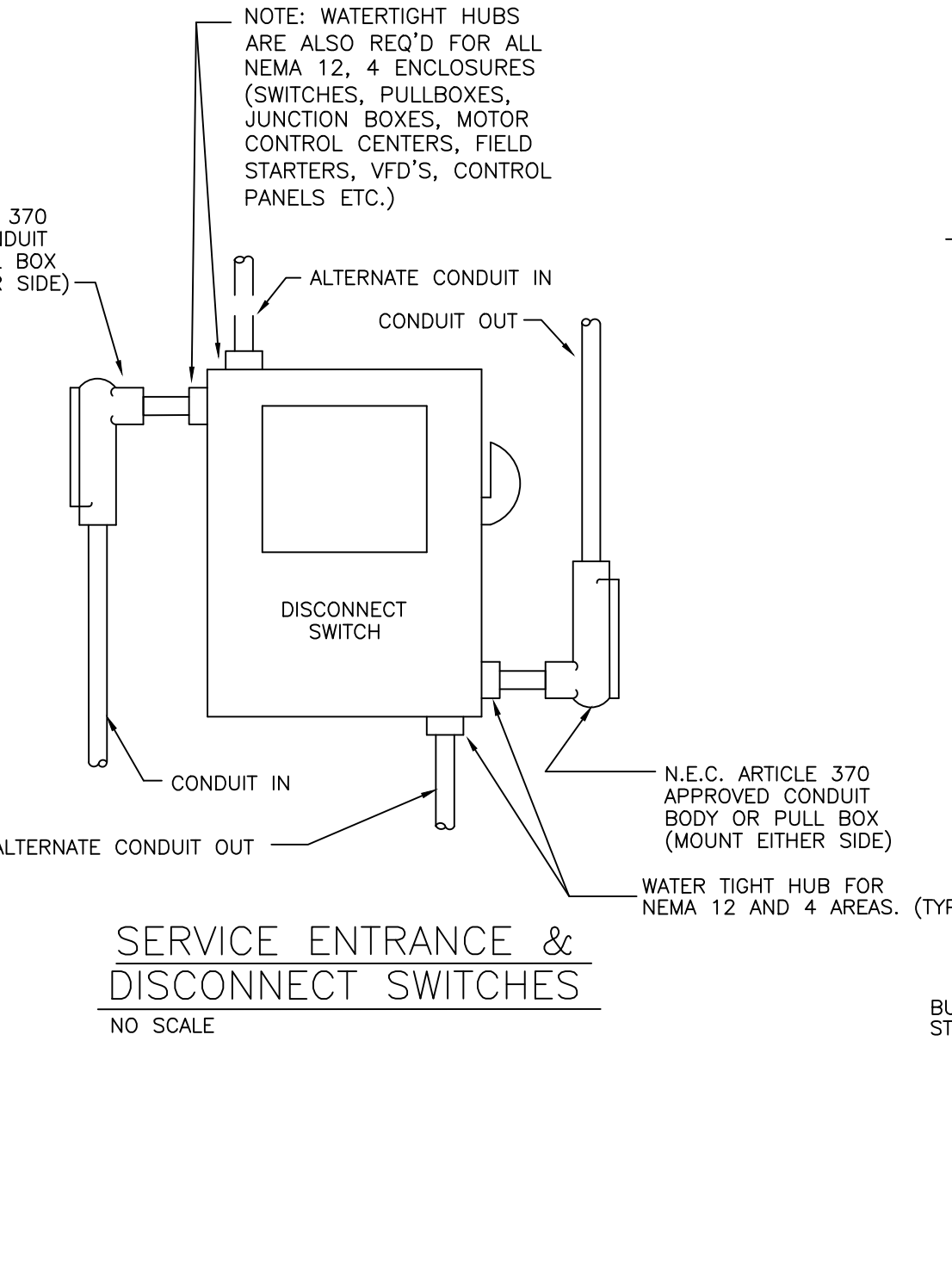
NOTE: PVC COATED CONDUIT BENDS AND FITTINGS SHALL BE USED WHERE CONCEALED CONDUIT RUNS ARE STUBBED UP FROM THE SLAB. RISERS ON POLES SHALL BE PVC COATED RGS INCLUDING WEATHERHEADS.



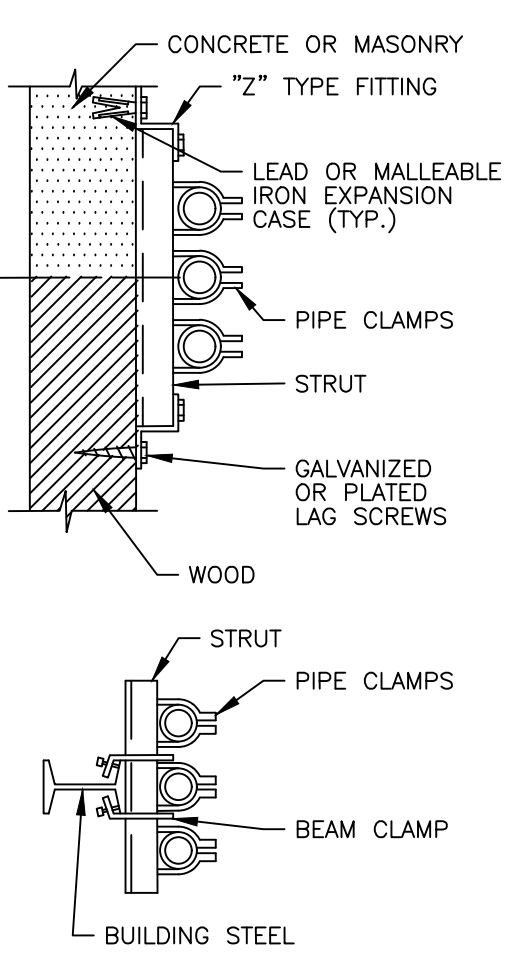
**INTERIOR PAD MOUNTED EQUIPMENT DETAIL**  
NO SCALE



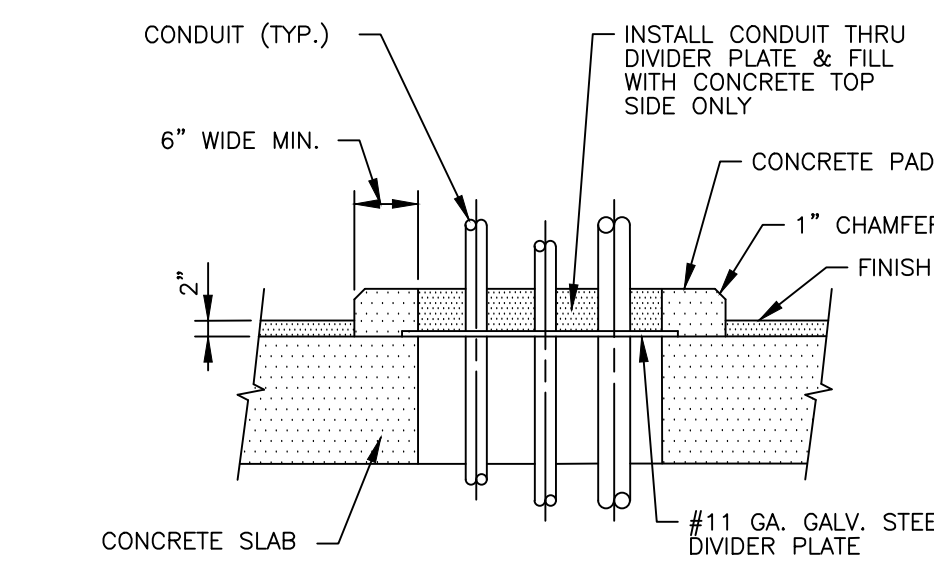
**GROUND MAT DETAIL**  
NO SCALE



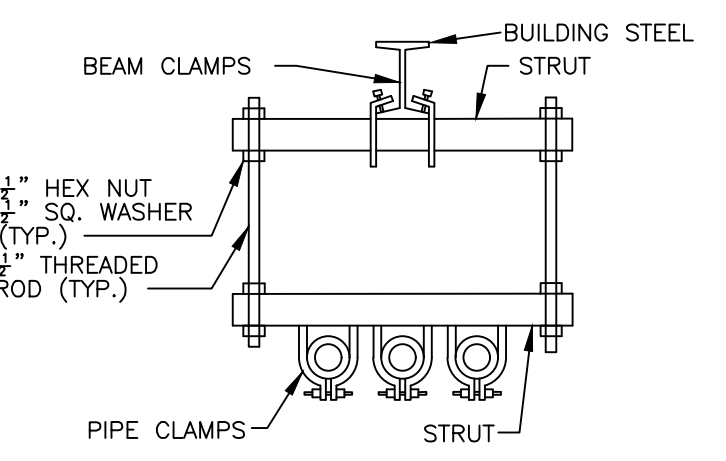
**SERVICE ENTRANCE & DISCONNECT SWITCHES**  
NO SCALE



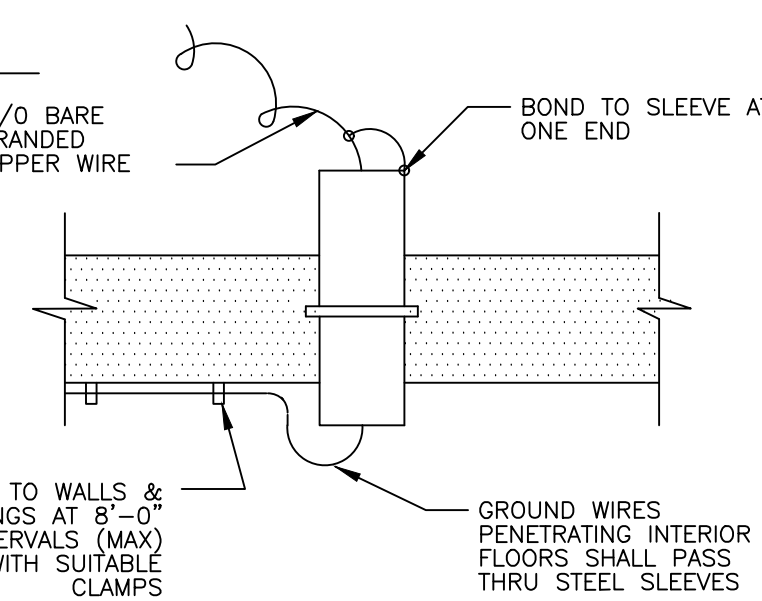
**VERTICAL AND HORIZONTAL CONDUIT RACKS AND HANGERS**  
NO SCALE



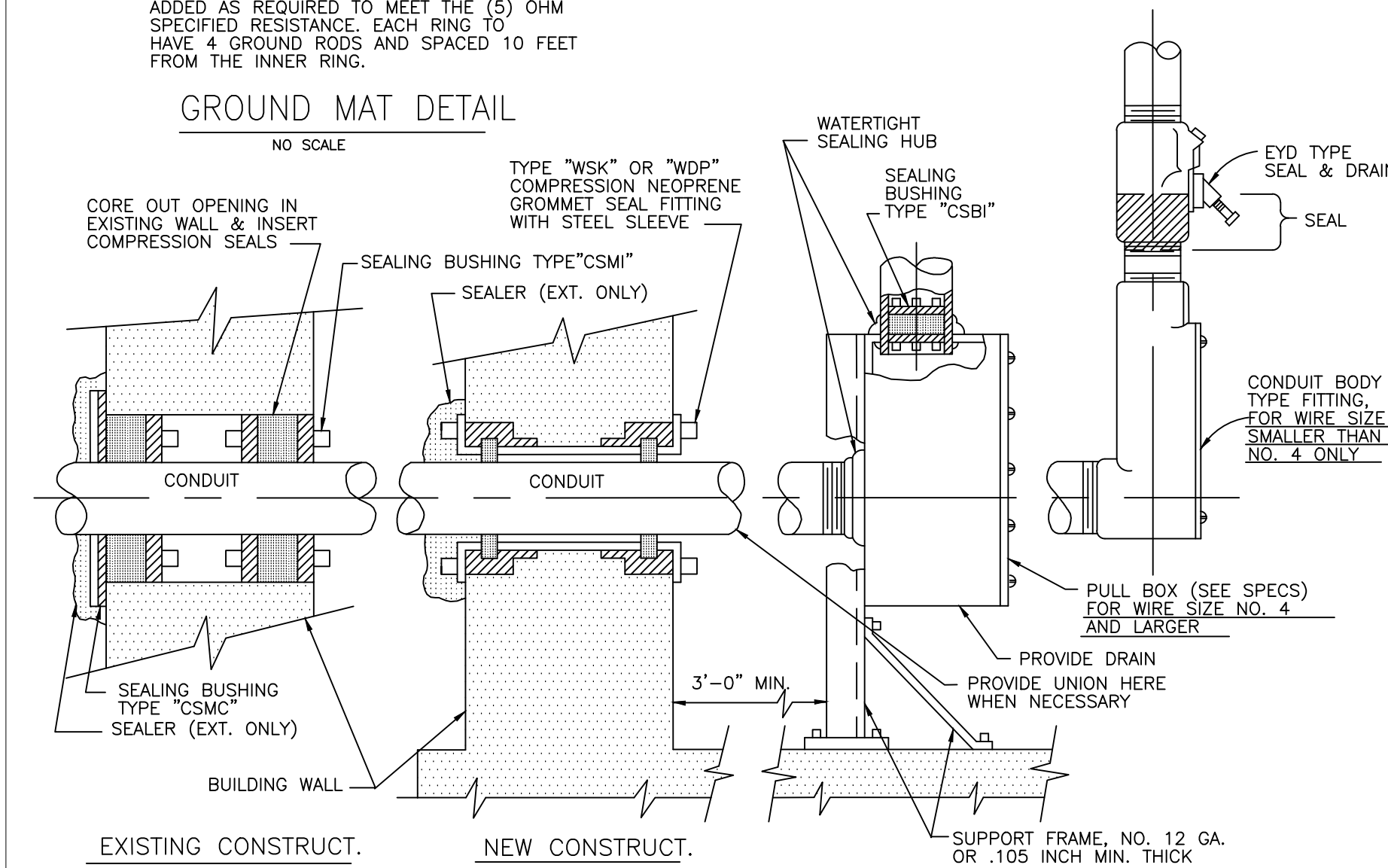
**INTERIOR FLOOR CONDUIT FLOOR OPENING DETAIL**  
NO SCALE



**INTERIOR GROUND FLOOR SLEEVE**  
NO SCALE

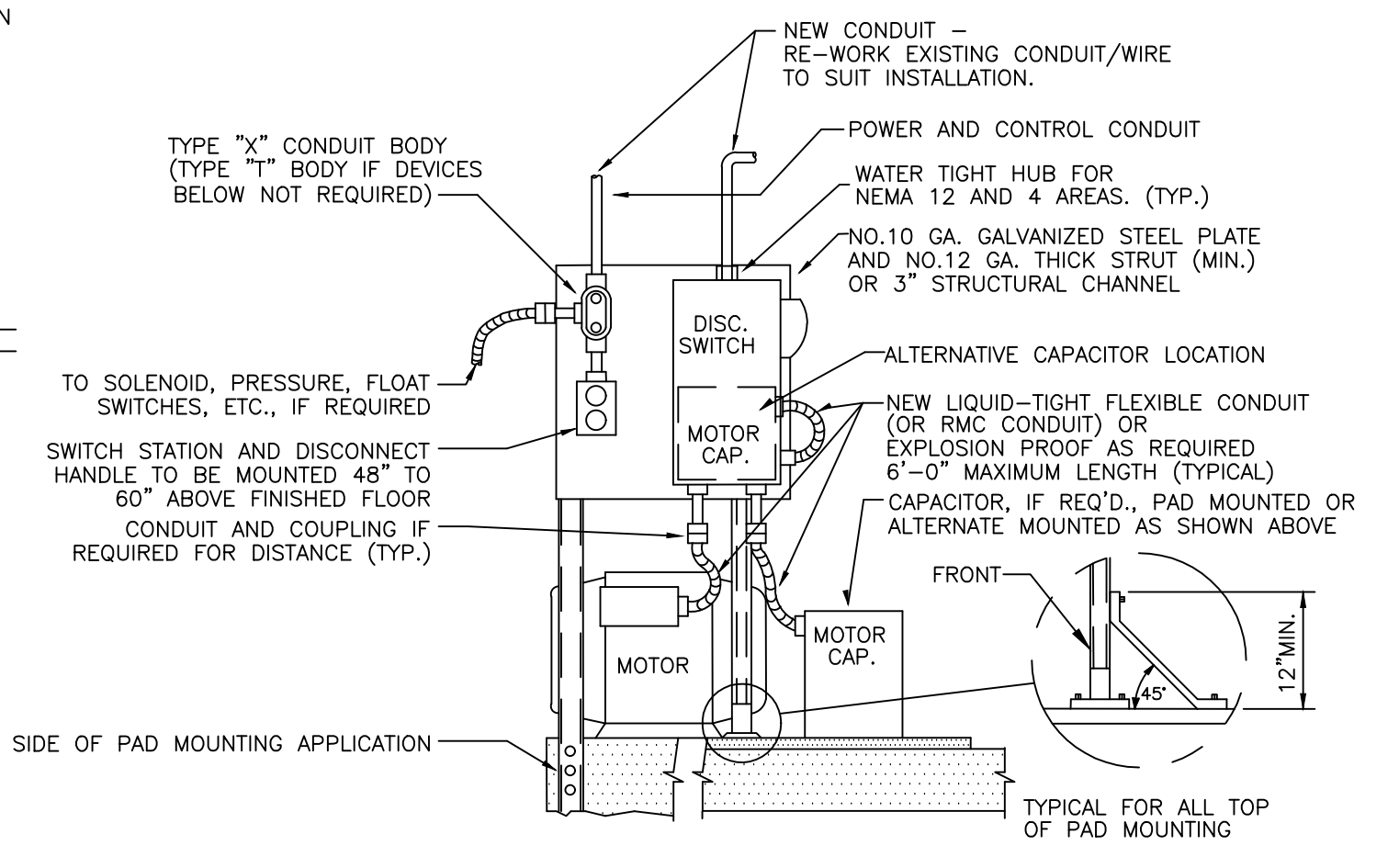


**CONCRETE PAD WITH 1\"/>**



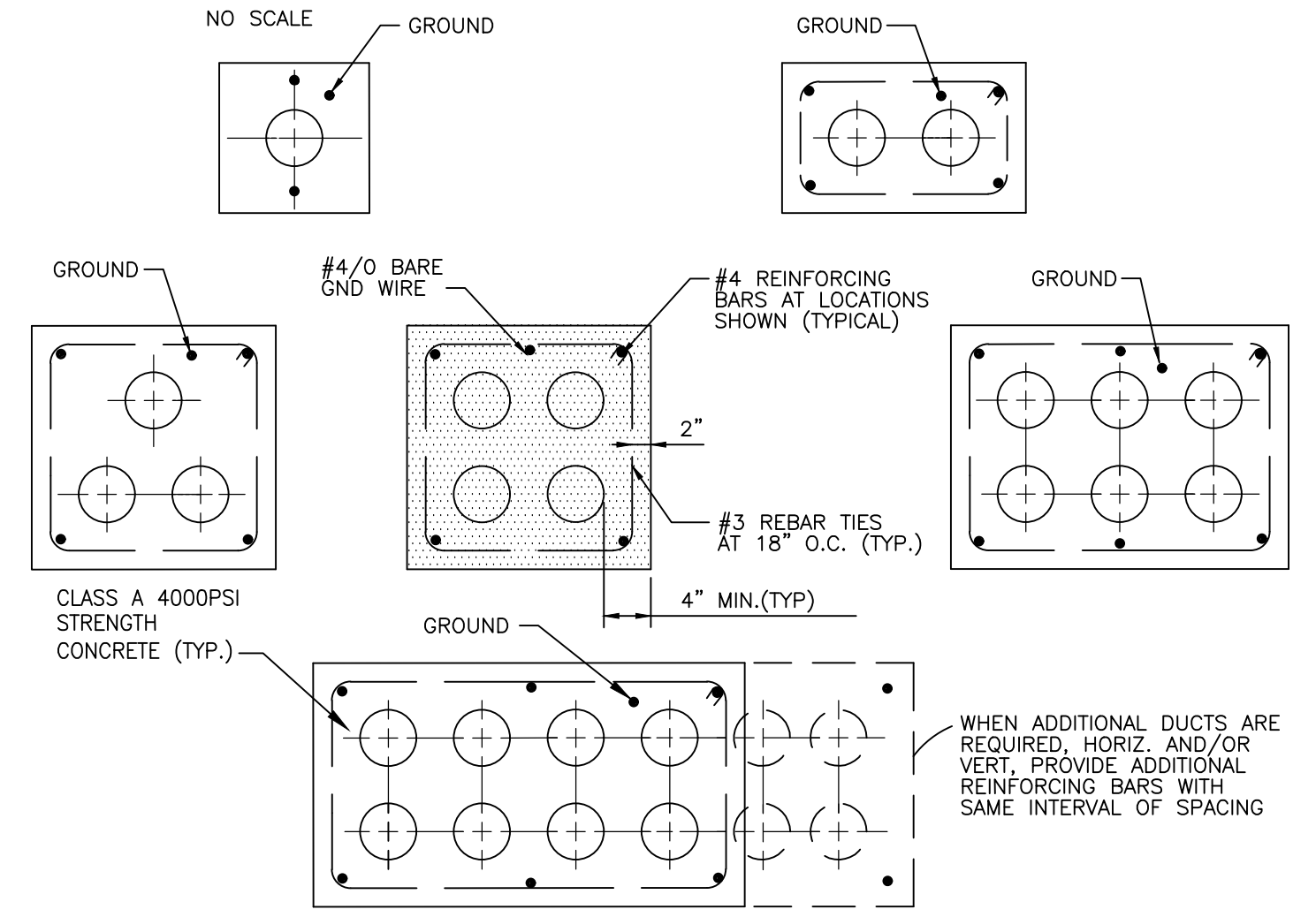
**BELOW GRADE CONDUIT ENTRANCE DETAIL**  
NO SCALE

NOTE: ALL CONDUIT ENTRANCES SHALL HAVE SEAL & DRAIN



**MOTOR DISCONNECT DETAIL**  
NO SCALE

FOR NEW DISCONNECTS SHOWN TO BE PROVIDE FOR EXISTING MOTORS. (TYPICAL)



**UNDERGROUND DUCT SECTIONS**  
NO SCALE

WHEN ADDITIONAL DUCTS ARE REQUIRED, HORIZ. AND/OR VERT. PROVIDE ADDITIONAL REINFORCING BARS WITH SAME INTERVAL OF SPACING

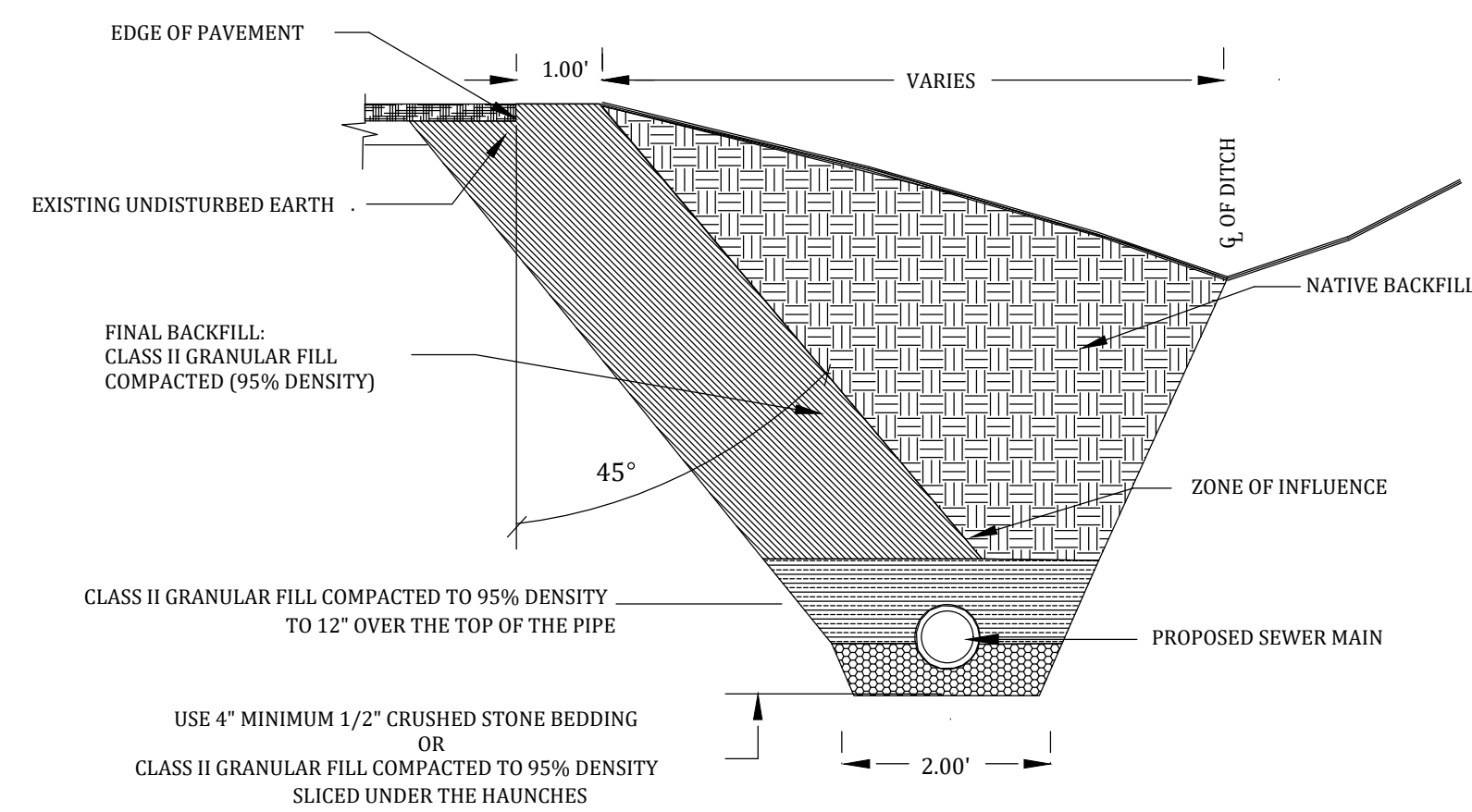
Meridian Charter Township  
Ingham County, Michigan  
SANITARY SEWER SYSTEM

County Park Lift Station  
Replacement 2024  
Standard Electrical Details

DRAWN BY: JH 10/13/23 CHECKED BY: YI 10/13/23

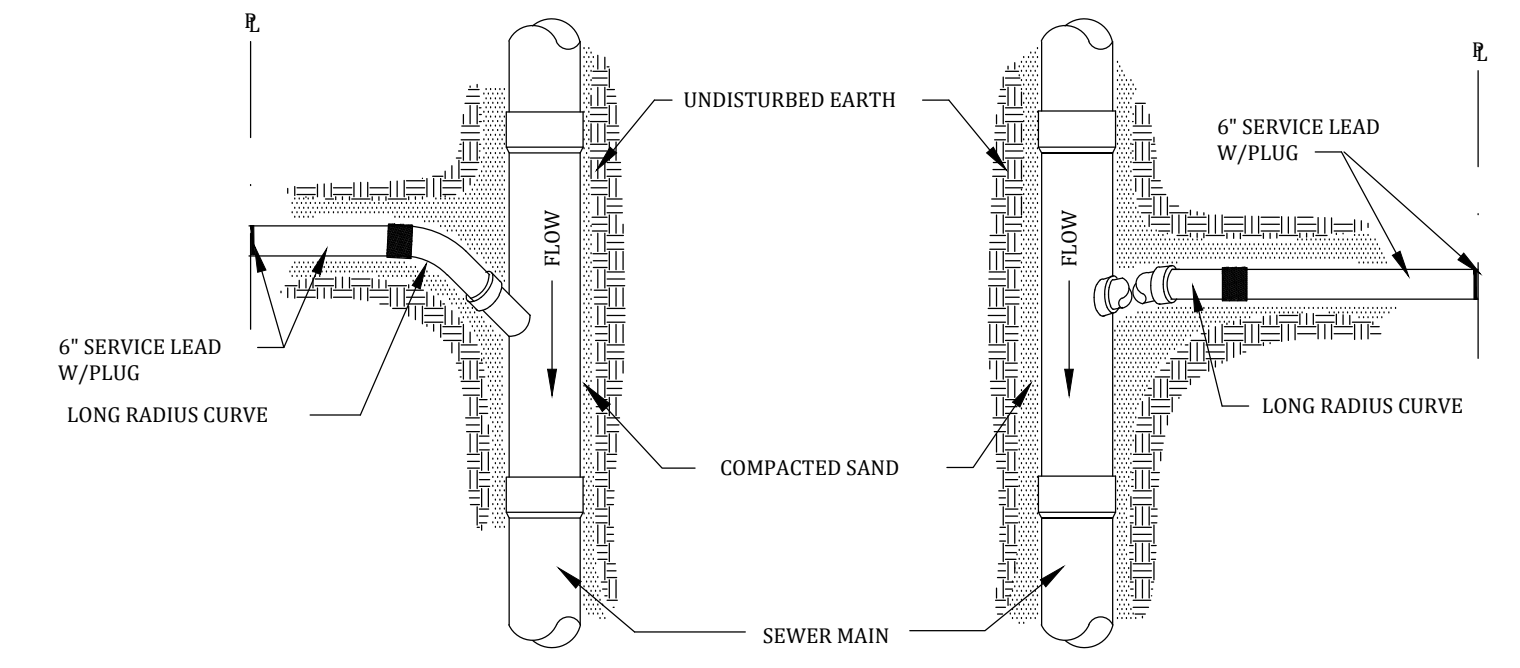
REVISIONS:		
DATE	BY:	COMMENTS:
10/13/23	JH	Preliminary for Permitting
1/30/24	JH	Revised for Bidding

SCALE:  
1" = N.T.S. SHEET 5/6

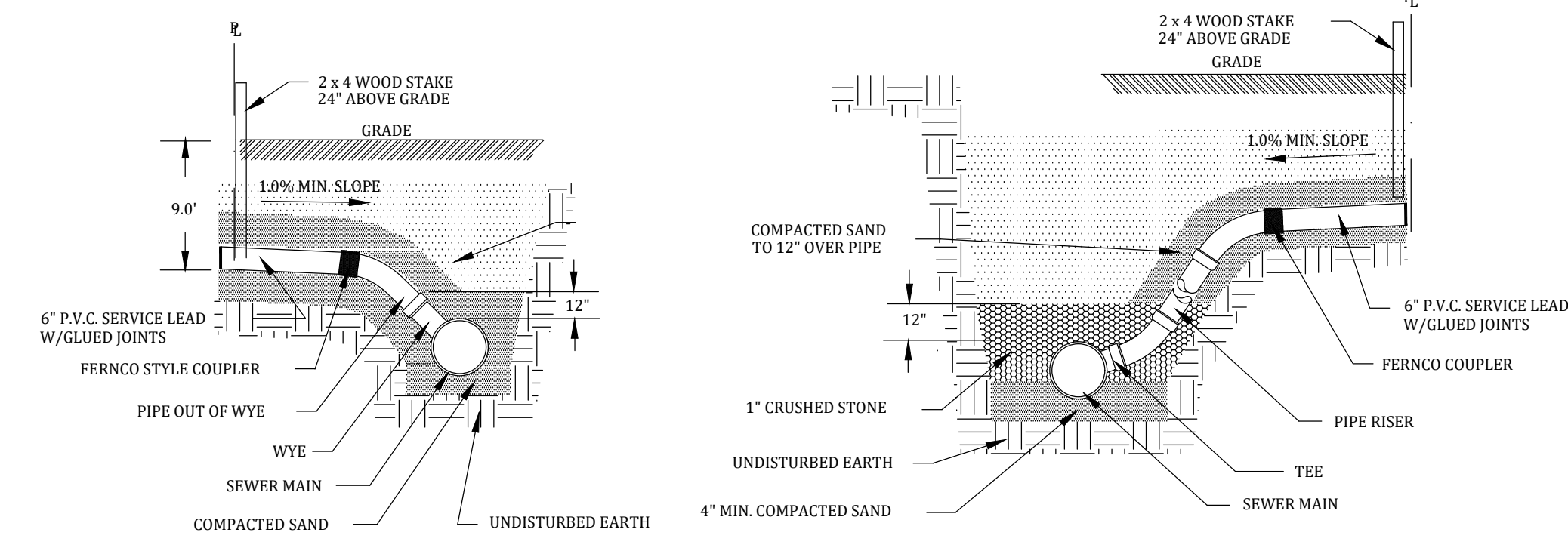


**CLASS-B TRENCH DETAIL**

- NOTES:**
- LEADS AND RISERS SHALL BE CONSTRUCTED OF MATERIALS AS SPECIFIED AND OF SIZES AS SHOWN ON THE PLANS.
  - DEPTH AT PROPERTY LINE SHALL BE 9' UNLESS OTHERWISE SHOWN ON THE PLANS.
  - IF CONCRETE PIPE IS USED, AN ASBESTOS CEMENT BELLS TO BE CAST IN THE WALL OF THE PIPE FOR USE AS A TEE BRANCH.
  - FERNCO-STYLE FLEXIBLE COUPLINGS SHALL BE USED WHEN CONNECTING THE HOUSE TO THE STUB.
  - MIN. 3" SEPARATION BETWEEN WATER & SEWER SERVICES.
  - ALL REFERENCES TO STONE BEDDING SHALL MEAN CRUSHED STONE.

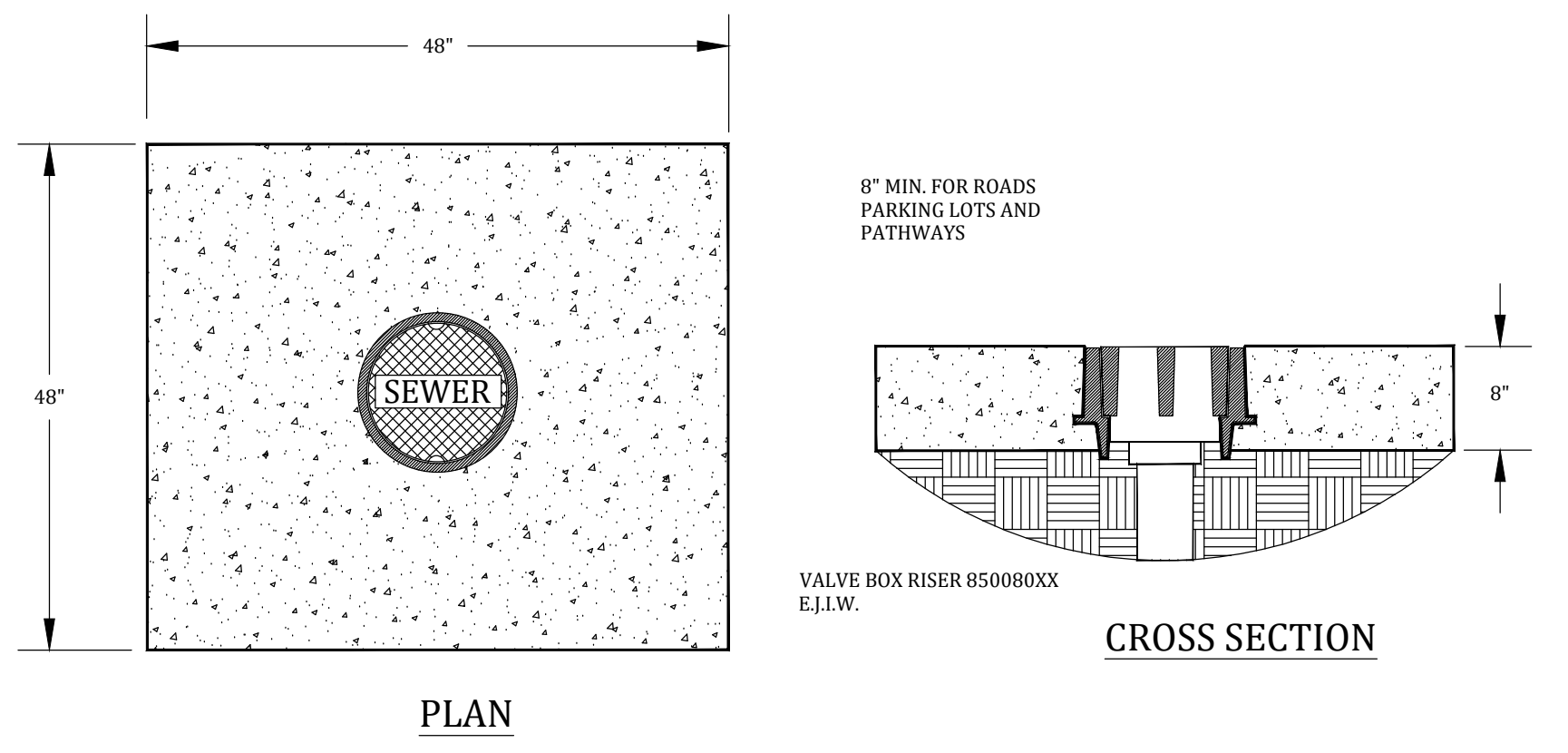


**PLAN WITH RISER** and **PLAN WITHOUT RISER**

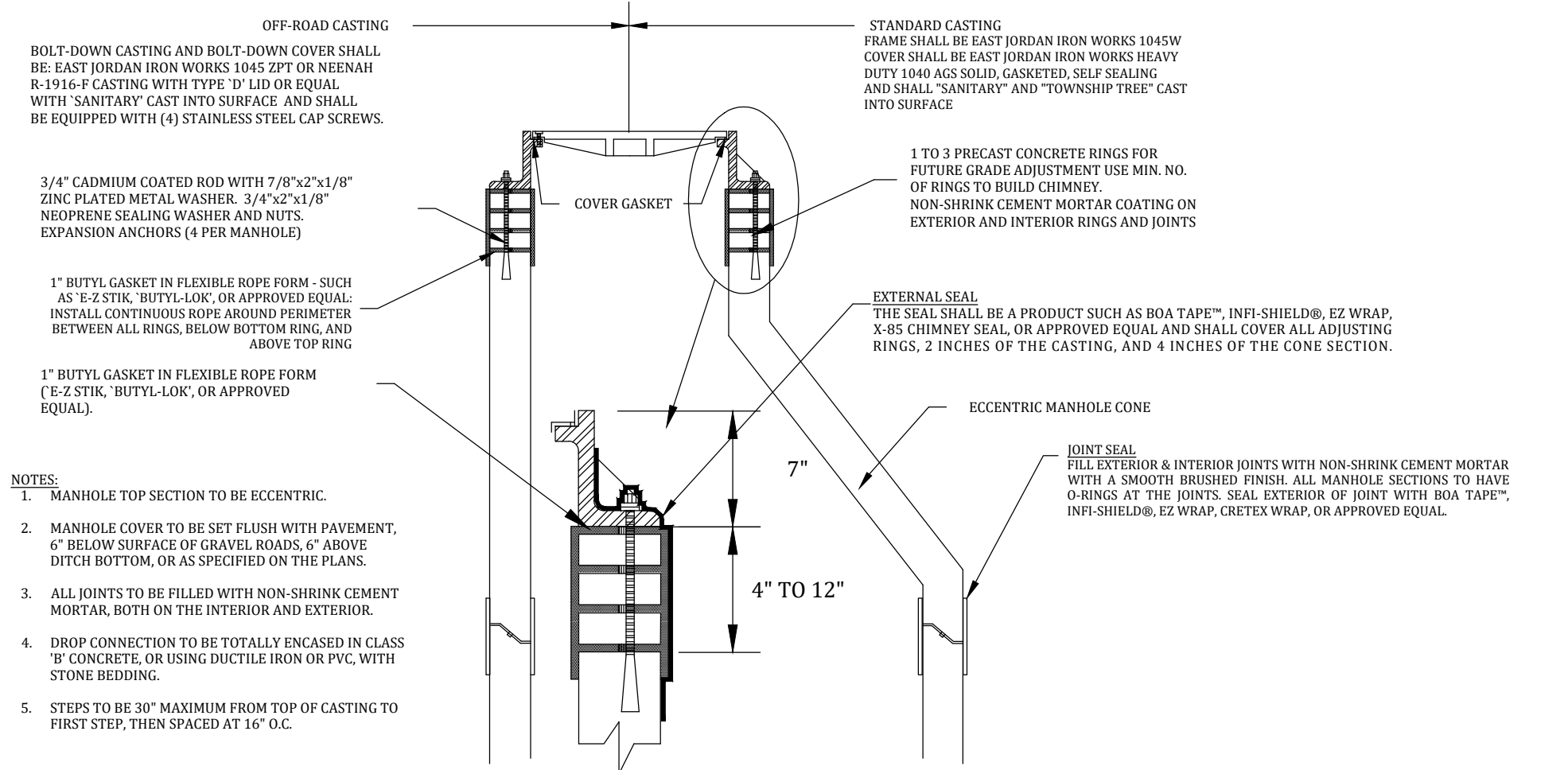


**SECTION WITHOUT RISER** and **SECTION WITH RISER**

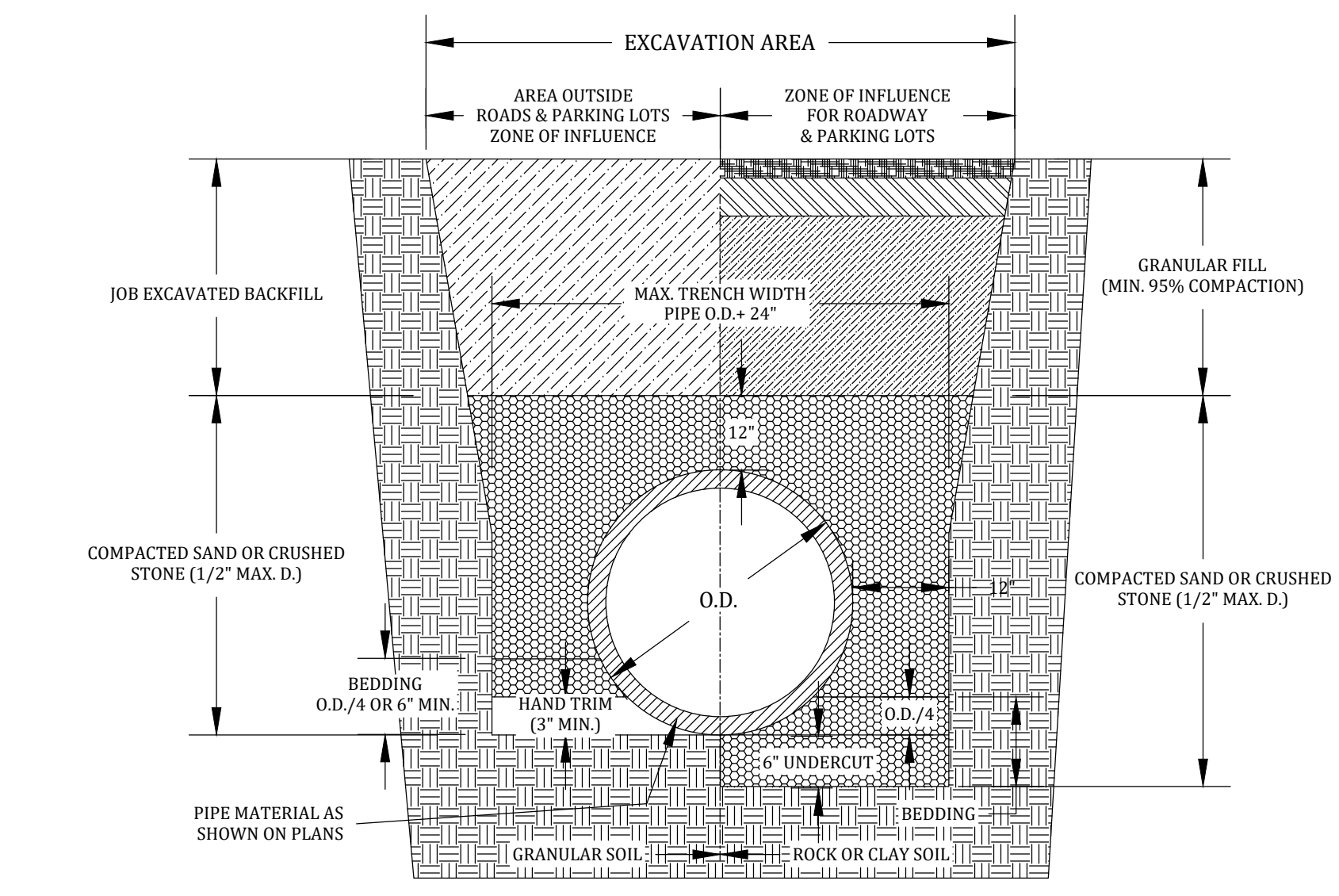
**SERVICE/CONNECTION DETAIL**



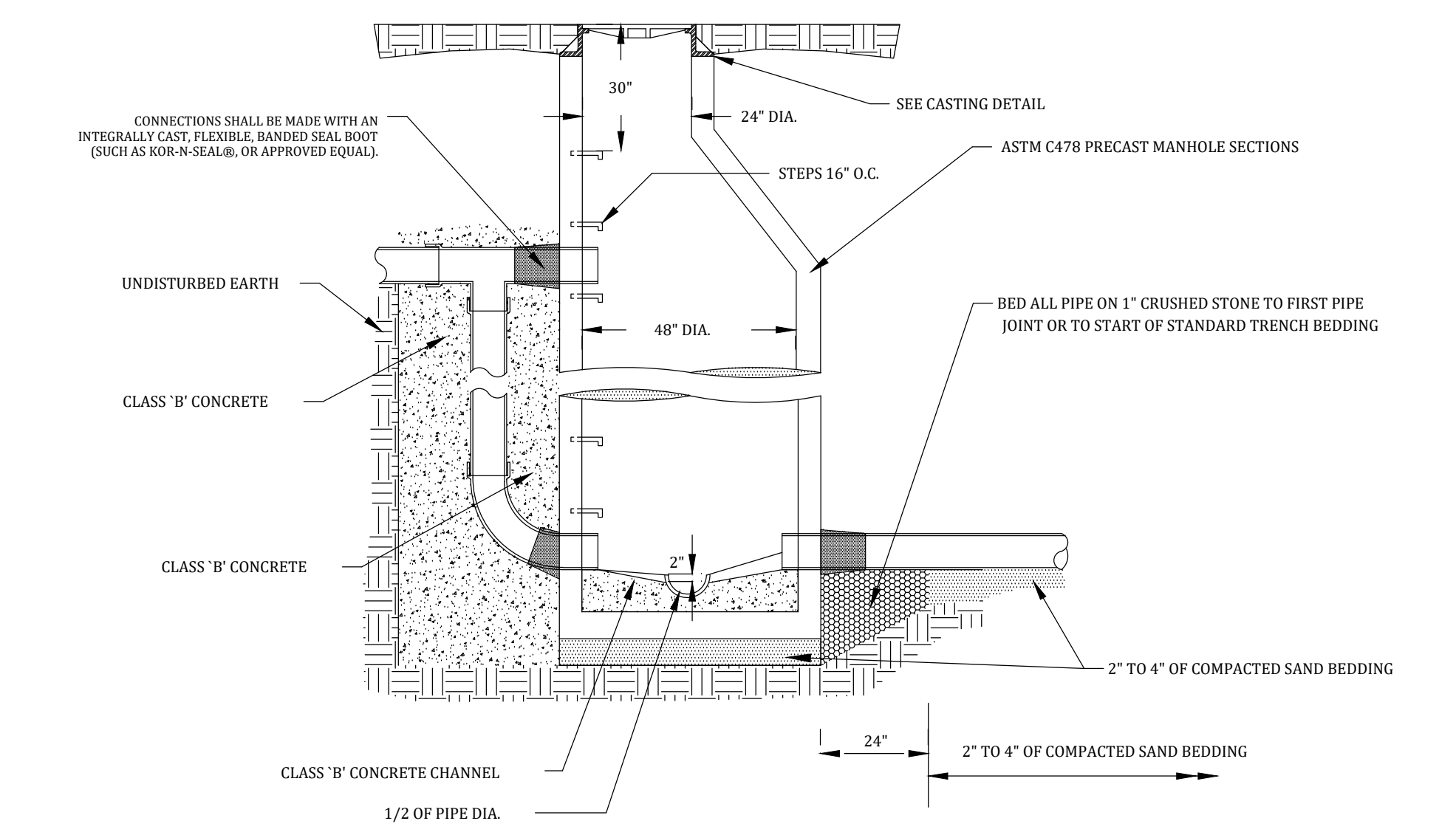
**CLEANOUT BOXES IN CONCRETE**



**MANHOLE CASTING DETAIL**



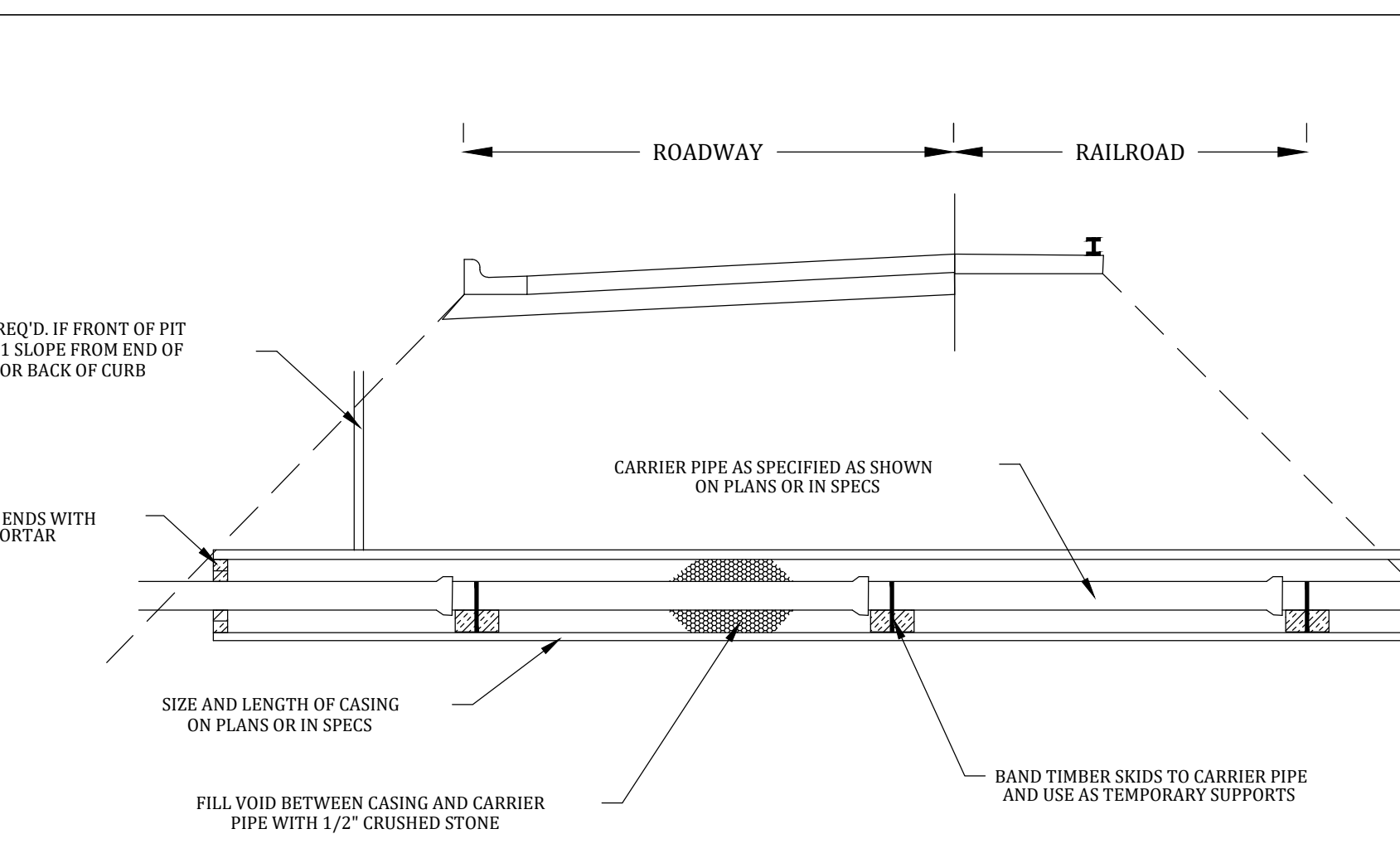
**TYPICAL TRENCH DETAIL (SDR26 PVC ONLY)**



**MANHOLE-SECTION DETAIL**

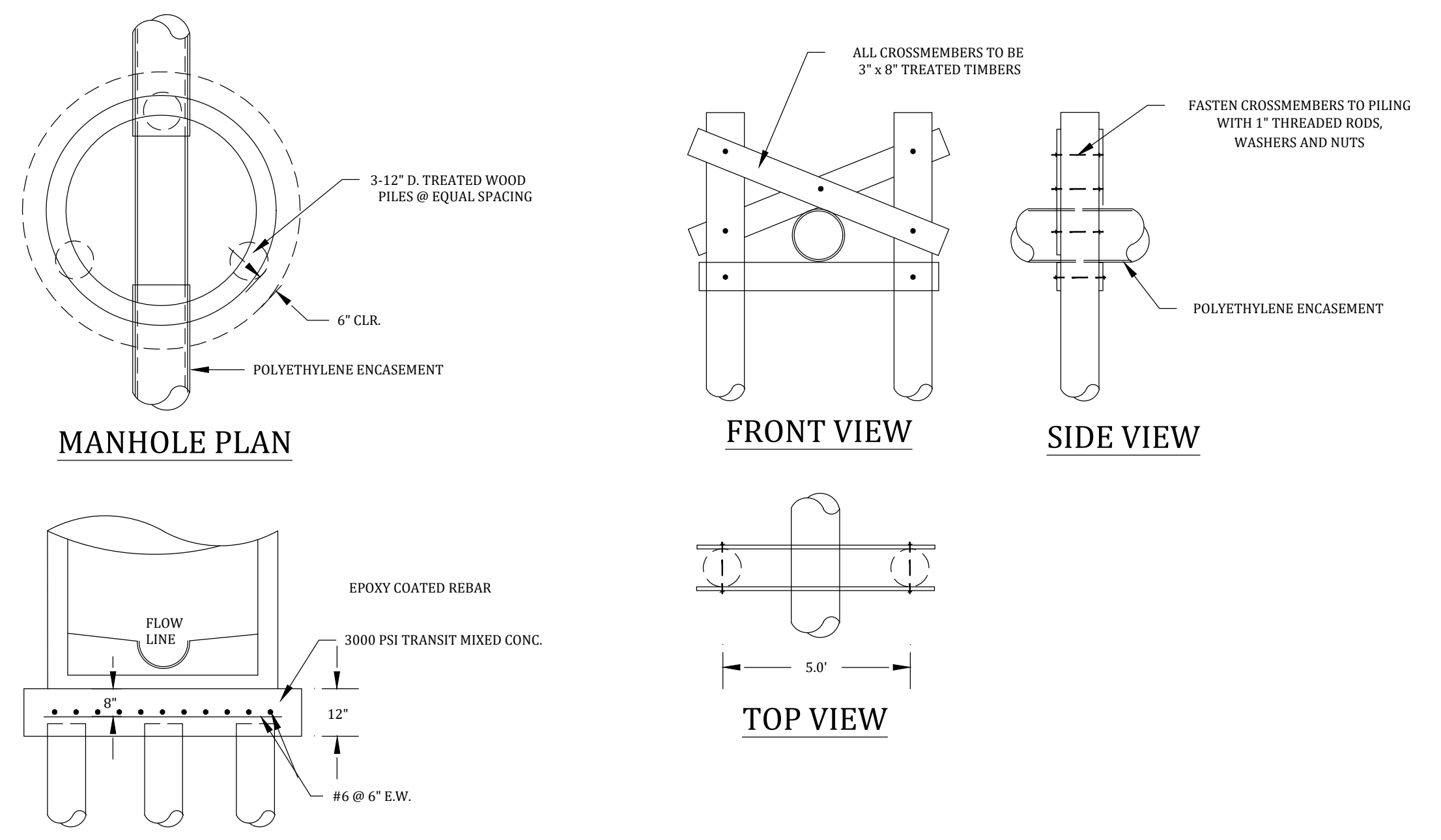
THE PVC (SDR-26) PIPE MATERIAL SHALL CONFIRM TO ASTM D 2241, WITH BELL AND SPIGOT JOINTS IN ACCORDANCE WITH ASTM F 47. PIPE INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D 2321. ALL PIPE SHALL BE MARKED TO PROVIDE ASTM DESIGNATIONS, SDR NUMBER, MANUFACTURERS NAME AND PIPE DIAMETER.

THE CONTRACTOR SHALL TEST THE MAIN FOR DEFLECTION BY PULLING A MANDREL THROUGH THE SEWER AFTER ALL BACKFILL HAS BEEN PLACED AND COMPACTED OVER THE PIPE. THE MAXIMUM ALLOWABLE DEFLECTION SHALL NOT EXCEED 5% OF THE PIPE'S INSIDE DIAMETER. THE OUTSIDE DIAMETER OF THE TEST MANDREL SHALL BE EQUAL TO THE INSIDE DIAMETER OF THE PIPE LESS 5%. THE INITIAL TEST SHALL BE PERFORMED AT LEAST 30 DAYS AFTER PIPE INSTALLATION. A SECOND TEST SHALL BE PERFORMED AFTER 10 MONTHS OF PIPE INSTALLATION.

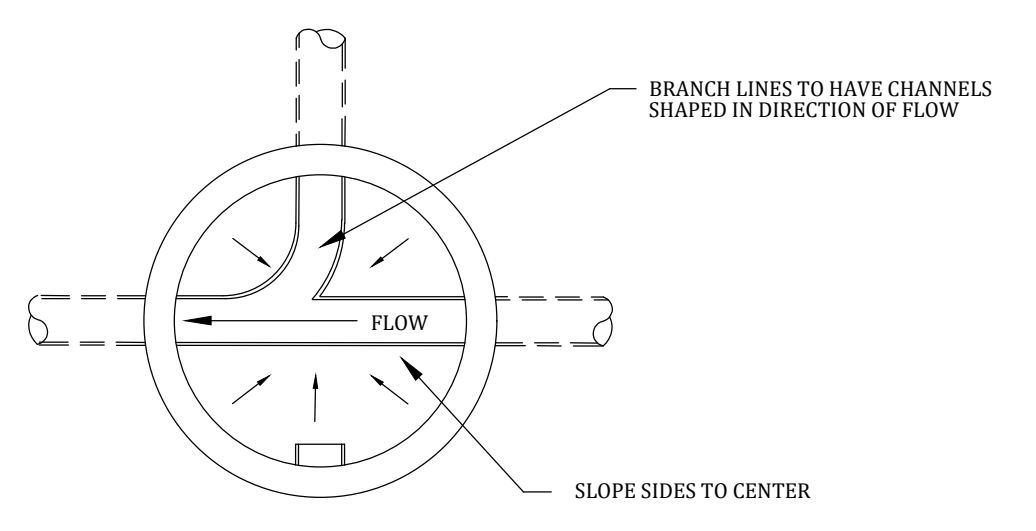


**CASING INSTALLATION DETAIL FOR ROADS & RAILROADS**

- NOTES:**
- WORK IN ROAD OR RAILROAD RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AGENCY'S REQUIREMENTS.
  - CASING PIPE SHALL MEET THE GRADE B REQUIREMENTS OF ASTM 139, ASTM A-53, OR API 5-L, WITH 0.375" MINIMUM WALL THICKNESS.



**PILING DETAILS**



**MANHOLE FLOWLINE PLAN**

<b>Meridian Charter Township</b> <b>Ingham County, Michigan</b> <b>Public Works Department</b>			<b>REVISIONS:</b>		
			DATE:	BY:	COMMENTS:
			07/02/99	JG	Add Bolts to Casting Detail
			01/13/00	JG	Add SDR 26 Detail
<b>STANDARD DETAILS FOR</b> <b>SANITARY SEWER SYSTEM</b>			05/12/08	JG	Add "Wrapidseal" & Grout to Casting Detail
			07/31/12	JG	Clarified "Crushed Stone"
			05/15/15	JG	Add Cleanout in Concrete
			03/09/21	NN	Butyl btwn Rings
			03/23/21	NN	Additional Chimney/Join Seal
			06/12/23	JH	Pile Support Update
SCALE: NTS	PAGE: 6/6	FILE:			
DRAWN BY: MK 03/1983					