

**ADOPTION**

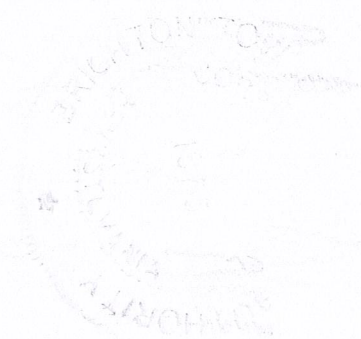
The "Sewage Lift Station Design Requirements" dated January 17, 2025 are hereby approved and adopted this 20<sup>th</sup> day of January, 2025 by the Board of Directors of the Brighton Township Sewage Authority.

Mark P. ...

Chairman

[Signature]

Secretary



**BRIGHTON TOWNSHIP SEWAGE AUTHORITY**  
**SEWAGE LIFT STATION DESIGN REQUIREMENTS**

For developments requiring a sewage lift station to extend service to the Brighton Township Sewage Authority (BTSA), the following standard specifications for sewage lift stations are provided. These specifications outline the minimum design and construction requirements, in addition to ensuring compliance with the Pennsylvania Department of Environmental Protection standards.

Sewage lift stations will only be considered in applications where a comprehensive alternatives analysis demonstrates that a gravity sewer extension is not feasible. This analysis must receive approval from BTSA.

The developer is required to submit a complete design for the sewage lift station, in accordance with the specifications outlined below. The design submission must bear the seal of a Professional Engineer who is actively licensed in the Commonwealth of Pennsylvania. At a minimum, the Developer must provide the following information to the Authority for review:

- a. Comprehensive plans, including mechanical, civil/site, structural, and electrical details for the proposed lift station.
- b. Technical Specifications
- c. A project completion schedule.
- d. An estimated construction cost.
- e. Narrative project description.
- f. All required permitting applications for Sewage Facilities Planning, Construction, and Operation of the proposed lift station.

## ***DESIGN ENGINEERS REPORT***

Submit a design engineer's report for the proposed sewage lift station to BTSA. The report should include a comprehensive design of the sewage lift station, including, but not limited to, the following:

1. Description of proposed project
  - a. Existing Sewer System
  - b. Proposed Sewage Collection and Conveyance System
  - c. Alternative Analysis
2. Basis of Sewage Generation - Planning design calculations for components as outlined in the PaDEP design modules.
3. Wet Well Sizing Calculations
4. Pump Station and Forcemain Design Calculations
  - a. Total Dynamic head calculations using Hazen Williams computation with a C-Factor of 100
  - b. Minor Loss Calculations
  - c. Cycle Time
  - d. Wet Well and Forcemain Retention Time
  - e. Forcemain operating velocity
  - f. Forcemain operating pressure ranges
  - g. Air Release valve sizing
  - h. Buoyancy Calculations
  - i. Brake Horsepower
  - j. Pump Performance Curves
  - k. NPSH Calculations and Pump Inlet design in accordance with the Hydraulic Institute Standards
  - l. Hydraulic capacity analysis of downstream sewer system (forcemain discharge).

## **TECHNICAL REQUIREMENTS:**

### ***LIFT STATION PERMITTED TYPE***

1. Lift stations shall be of the wet pit/dry pit type construction, as depicted in the standard detail drawings.
2. The below-grade structure shall be cast-in-place reinforced concrete, designed in accordance with ACI 350 (latest edition), and include waterproofing using a XYPEX concrete admixture.
3. The dry pit, above-grade structure, shall consist of concrete masonry unit (CMU) walls and an engineered wood truss roof, in accordance with the standard detail drawings.
4. Dry wells, including their superstructures, shall be completely isolated from the wet well. The common wall between the wet well and dry well must be both gas- and liquid-tight.

### ***LIFT STATION LOCATION/SITE REQUIREMENTS***

1. The lift station shall be located at an elevation and position that ensures protection of the station structures, as well as the electrical and mechanical equipment, from physical damage, while also being accessible during a 100-year flood event.
2. The lift station must be easily accessible to maintenance vehicles in all weather conditions. It should be situated away from the main traffic areas of streets and alleys.
3. Provide security fencing and/or access gates as specified by the Authority and Engineer. Additionally, include landscaping, screening, shrubs, or solid fencing in locations designated by the Authority and Engineer. A bituminous paved driveway and parking area shall be provided on-site as necessary for access.
4. The civil/site design must comply with the requirements outlined in the Brighton Township Land Development Code and applicable Ordinances.

## ***LIFT STATION INTERIOR GENERAL SPECIFICATIONS***

1. Provisions shall be made to facilitate the removal of pumps, motors, and other mechanical and electrical equipment. This includes the installation of crane rails with hoists and access hatches for equipment installation and removal. Pump removal and maintenance operations must not disrupt the continued operation of the remaining pumps.
2. Steps and safety landings shall be provided in compliance with current OSHA regulations, with rest landings placed at vertical intervals not exceeding 12 feet (3.7 meters), or less if required by OSHA guidelines.
3. A geotechnical engineering report must be provided, including foundation and buoyancy designs for the lift station. In areas with anticipated high groundwater conditions, the buoyancy of the wastewater pumping station structures must be addressed, and necessary provisions should be made to protect against uplift.
4. Clearances around all electrical equipment must comply with the National Electrical Code (latest edition).
5. Electric-powered ventilation and heating systems must be provided in accordance with PaDEP standards and the National Electrical Code (latest edition).
6. Water service to the lift station must be provided as follows:
  - a. When public water is available, provide water service in accordance with Brighton Township Municipal Authority (BTMA) Rules and Regulations.
  - b. When public water is unavailable, provide a well system, including a stainless steel submersible pump with a variable frequency drive, a minimum 2-inch schedule 80 drop pipe, a 100-gallon pressure tank, a minimum 2-inch discharge piping, and

necessary appurtenances. The depth and size of the well will be determined by the Developer, and approved by the BTSA.

- c. Provide one frost-free hose bib on each floor of the lift station, along with one frost-free Kupferle Yard Hydrant located outside the lift station at a location specified by BTSA.
7. Provide a minimum 4-ft (L) x 2-ft (W) x 2-ft (D) sump pump pit on the basement floor. The floors should be sloped toward the sump pump pit in accordance with the International Building and Plumbing Code (latest edition). Install a duplex sump pump with a float controller, check valves, gate valves, and interior piping leading to the exterior of the lift station.

### ***PUMPS***

1. The pumps shall be submersible motor-type raw sewage pumps, as manufactured by Flygt or an approved equivalent. Suction lift-style pumps are not acceptable.
2. The pumps shall be equipped with motors rated for use with variable frequency drives (inverter-duty, premium type). Motors shall be 3-phase, designed for dry pit installation, and rated for continuous use.
3. Pumps shall feature ceramic-coated impellers for enhanced durability and performance.
4. Multiple pumps shall be provided, with at least two units of the same size. The pump capacity must be sufficient so that, in the event of one unit being out of service, the remaining pump can handle the design peak hourly flow.
5. Certified pump test curves must be provided for the pumps, sealed by a Professional Engineer licensed in the Commonwealth of Pennsylvania.

6. A pump control system, approved by the pump manufacturer, must be provided for use with the proposed pumps, including.
  - a. All relays necessary for pump operation
  - b. A PLC with a touch screen for programming and control of the pumping system.
  - c. A sonar level transducer for primary level and pump control, along with a PVC float system as a backup for level and pump control.

### ***AUTODIALER AND ALARM SYSTEM***

**ALARM SYSTEMS:** Alarm systems with a backup power source shall be installed at pumping stations. These systems must be capable of detecting and activating alarms in the event of conditions such as power failure, high water levels in the dry well sump and wet well, pump failure, unauthorized entry, or any other malfunction of the pump station. The alarm system must transmit and clearly identify alarm conditions to BTSA Operations staff. The system shall also include datalogging functionality as outlined below.

1. Provide a third-party alarm system integrated with the Sewage Authority's existing security system provider, featuring individual alarms as specified by the Sewage Authority.
2. Provide a separate autodialer system with cloud-based data backup for logging pump operations, as directed by the Sewage Authority.

### ***ELECTRICAL***

1. Electrical components in the wet well shall comply with National Electrical Code (NEC) requirements for Class I, Division 1, Group D locations. Equipment in the wet well must be suitable for use in corrosive environments. Each flexible cable shall be equipped with a watertight seal and separate strain relief.
2. **MOTOR CONTROL CENTER:** Provide a NEMA 12-rated Motor Control Center (MCC)/Switchgear for three-phase electrical service, motor starters, and related equipment. The MCC shall include a lightning arrestor, power meter with display (showing

incoming voltage, amperage, etc.), surge protector, and other necessary components. The MCC shall be manufactured by EATON or an approved equal.

3. Pump Motor Starters - Variable Frequency Drives – Provide variable frequency drives (VFDs) that are compatible with the Motor Control Center, such as the EATON SVX9000 or an approved equal, designed for use with pumping systems and offering the same features as the SVX9000.
4. Exterior panels (above grade) and interior control panels must be fabricated from NEMA 4X stainless steel.
5. Generator and Automatic Transfer Switch – Provide a diesel-fueled emergency generator with an Automatic Transfer Switch (ATS) to power all electrical equipment and appurtenances at the lift station during power outages. The system shall include a double-walled, 24-hour subbase fuel tank and a sound-attenuated enclosure mounted on a concrete slab. The indoor generator shall be manufactured by Onan/Cummins or an approved equal.
6. Conduits shall be approved by the Sewage Authority, with rigid galvanized steel conduit used inside the dry side, PVC conduit for buried service, and conduit in the wet well subject to Sewage Authority review. Wiring shall be THWN or an approved equal.
7. Provide a minimum of 15 Foot-Candles of lighting in accordance with the National Electrical Code. The lighting design must ensure average maintained illumination levels, using a 0.70 maintenance factor.



### ***WET WELL DESIGN***

1. Provide a dual auger system for the influent sewer, complete with an auger mounting plant, stainless steel debris bin, heat tracing, and all necessary appurtenances, including mounting hardware, conduit, wiring, and waterproofing.
2. Provide a cast-in-place concrete wet well with a sloping floor designed for self-cleaning.
3. Install an inlet trash basket or mechanical screen, as specified by BTSA for the application.
4. The rail system and all exposed metal components in the wet well must be constructed from stainless steel.
5. Ensure adequate volume for the proposed pumping system cycles and provide sufficient emergency capacity between the normal high operating level and any upstream structures (e.g., basements).
6. Provide a dedicated intake for each pump, with a ductile iron flared inlet. The wet well and intake design must minimize turbulence near the intake and prevent vortex formation.
7. Install a protective barrier around the top of the wet well, complete with a security gate to ensure accessibility for BTSA personnel.
8. Provide a chemical feed system for the Bioxide Feed System to control odors.
9. Include a lighting system for proper inspection of the wet well.
10. Provide an aluminum platform across the top of the wet well for safe access and maintenance.

### ***MECHANICAL PIPE AND VALVES DESIGN***

1. Piping (suction and discharge) inside the lift station shall be Class 53 flanged ductile iron with Protecto 401 lining.
2. Isolation valves shall be full-port plug valves.
3. Check valves shall be air-cushioned swing check valves with interior epoxy lining.
4. Provide a surge relief valve on the discharge piping, connected to the wet well, to alleviate excess pressure.
5. Install a magnetic flow meter on the discharge piping. Ensure that the piping is arranged to provide sufficient straight pipe for accurate flow measurement. If adequate straight pipe cannot be provided within the dry well, an exterior manhole with a flow meter shall be provided as required.

### ***FORCEMAIN INSTALLATION***

The following includes all external, underground wastewater piping and associated accessories to be installed for the conveyance of sewage to the discharge point.

1. Forcemain Pipe Materials and Fittings:

- a. *High Density Polyethylene Pipe (HDPE):*

- i. Pipe shall be manufactured from a PE 4710 resin listed with the Plastic Pipe Institute (PPI) as TR-4. Provide high performance, high molecular weight, high density polyethylene pipe equal to Driscopipe 4000, as manufactured by Phillips Driscopipe, Inc., Dallas, Texas; or an approved equivalent. Provide pipe material of Type III, Class C, Category 5, P34 material as described in ASTM D1248. Provide minimum cell classification values of the pipe material to be 4 4 5 5 7 4 C as referenced in ASTM D3350.

- ii. Provide density of 0.941 - 0.957 gms/cm<sup>3</sup> when tested in accordance with ASTM D1505. Provide melt flow no greater than 0.15 gms/10 min. when tested in accordance with ASTM D1238 - Condition E. (Provide melt flow no greater than 4.0 gms/10 min. when tested in accordance with ASTM D1238 - Condition F.) Provide flexural modulus of 110,000 psi to less than 160,000 psi when tested in accordance with ASTM D790. Provide tensile strength at yield of 3,200 psi to less than 3,500 psi when tested in accordance with ASTM D638. Provide environmental stress crack resistance in excess of 5,000 hours with zero failures when tested in accordance with ASTM D1693 - Condition C. Provide hydrostatic design basis of 1,600 psi at 23°C when tested in accordance with ASTM D2837.
- iii. Provide a minimum Standard Diameter Ratio (SDR) of 11 and Iron Pipe Size (IPS).

b. *Polyvinyl Chloride (PVC) Pressure Pipe:*

- i. Polyvinyl Chloride Pipe (PVC) designed, manufactured, and tested in strict accordance with AWWA C900. Pressure rated at 200 psi minimum (AWWA C900-97 and FM 1612). Minimum Standard Dimension Ratio (SDR) of 21 for both barrel and bell dimensions. Pipe greater than 20 feet in length will not be accepted. Comply with the requirements for Type 1, Grade 1 (PVC 1120), of ASTM D-1784.
- ii. Use rubber gaskets for pipe joints, designed to withstand both positive and negative (vacuum) pressure, and suitable for conveying domestic sewage.

c. Fittings: Gray iron or ductile iron ANSI A21.10. Fittings to be ductile iron conforming with all applicable provisions of AWWA C153. Working pressure rated at 350 psi. Make connections of ductile iron fittings using fully restrained retainer glands specifically rated for use on PVC.

i. Ductile Iron Fittings Lining and Coating:

1. Provide HDPE Mechanical Joint (MJ) adaptors for all fittings associated with the HDPE piping system.

2. Line ductile iron fittings for sanitary sewer service with an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment (ceramic epoxy).

a. Apply ceramic epoxy lining to the ductile iron fittings with 40 mils nominal dry film thickness.

b. Cover the interior surfaces of the pipe and fittings with ceramic epoxy lining from the interior of the spigot end to a point sufficiently forward in the bell socket such that the gasket, in the assembled joint, seals over the end of the lining.

c. Repair the cut end as per the manufacturer's written procedure where pipes are cut in the field.

d. Manufacturer: Provide Protecto 401 as manufactured by Induron or an approved equal meeting the requirements of this specification.

e. Pipe and Fitting Lining: Manufacturer's ceramic epoxy lining single thickness.

3. Retainer Glands:
  - a. Use retainer glands on all mechanical joints on fittings, plugs, and valves 24 inches or less. Use fully restrained type joints on pipe greater than 24 inches. Retainer glands on pipe greater than 24 inches will not be accepted.
  - b. Install mechanical joint retainer glands in accordance with the manufacturer's recommendations. Where retainer glands are used, joint deflection limit to a 2 degree maximum.
  - c. Retainer glands shall be adequate to prevent joint separation at 350 psig.
  - d. Provide EBAA Iron, Inc. Series 1100 (MEG-A-LUG) or approved equal.
2. Detectable Mylar Marking Tape: Install detectable Mylar marking tape over all PVC and HDPE lines. The tape shall be labeled with the text "CAUTION - SEWER LINE BURIED BELOW" printed under the Mylar for visibility through the clear material. The tape should be green in color, 3 inches wide, and buried 1 to 2 feet below finished grade. Place the tape in the backfill and allow it to settle securely within the backfill material.
3. Trace Wire: The tracer wire shall be 8 AWG solid, hard-drawn copper-clad steel, featuring a 21% IACS conductivity and an AISI 1065 high-carbon steel core, with a minimum break load of 2,785 lbs or 215,000 psi (to meet the required break load). The conductor will be extruded with a 45 mil high-density, high-molecular-weight

- polyethylene (HMW-HDPE) coating in accordance with ASTM D1248. The tracer wire shall be rated for direct burial and is required for both open-cut and horizontal directional drilling (HDD) applications.
- a. Install two strands of high-strength tracer wire alongside the pipeline for all horizontal directional drilling (HDD) applications, ensuring the wire is specifically rated for use in HDD operations.
  - b. All mainline tracer wires shall be interconnected at intersections, tees, and crosses using lockable connectors. The use of non-locking, friction-fit, twist-on, or taped connectors is strictly prohibited.
  - c. For all HDD operations, provide tracer wire test stations at both ends of the HDD installation.
4. Locator Station: Furnish as specified in the Contract Drawings. Provide a heavy-duty construction box designed to withstand highway loads and traffic conditions. The cover shall be designed to prevent dislodging under traffic and be clearly marked with the word "Sewer." The box shall offer an adjustable depth setting ranging from 10" to 18". Additionally, the roadway boxes shall be coated with two (2) layers of coal tar epoxy for added durability.
5. Discharge Manhole:
- a. PVC Waterstop: Provide a gasket-type waterstop made of virgin polyvinyl chloride (PVC), such as those manufactured by Fernco Joint Sealer Co. or CMA Concrete Manhole Adapter (CMA Waterstop, distributed by The General Engineering Company, Frederick, Maryland), or an approved equal, for connection to the existing manhole.

- b. Apply a protective coating system to the discharge manhole and the next two downstream manholes. The system shall include a spray application of a cementitious profile mix (including any manufacturer-recommended underlayment) followed by a topcoat of polyurethane or epoxy resin. This coating should cover the walls, ceiling, and bench surfaces of the manhole, whether constructed from concrete, brick, or other masonry materials.
  - i. Prior to any sealing work, thoroughly clean and inspect newly installed precast manholes. Address any deficiencies in the precast structure before proceeding with the application of the coating system.

***PAINTING***

The following is a general coating schedule. Any work not explicitly mentioned but clearly required by the intent of these specifications to be painted must be treated in accordance with similar items. All coats listed in this schedule are in addition to any shop coating specified elsewhere. The coating system applied to the items listed must be sourced from a single supplier and be compatible with the surface it is applied to. In cases where dry film thickness (DFT) is not specified, it should be provided in accordance with the manufacturer's recommendations.

1. Interior Masonry:

Manufacturer	Tnemec	PPG Paints	Sherwin Williams
First Coat	Primer (Series 130 Envirofill)	Amercoat 965	Heavy Duty Block Filler
Second Coat	Intermediate (Series 113 Tufcoat)	Aquapon WB EP	Pro Industrial WB Epoxy
Third Coat	Topcoat (Series 114 Tufcoat)	Aquapon WB EP	Pro Industrial WB Epoxy

2. Inside Piping and Equipment (Underground Vaults):

(a) Coated Ductile Iron Piping

- 1) Surface Preparation: Remove all bituminous or acrylic black coatings in accordance with NAPF-500-03 ‘Surface Preparation Standard for Ductile Iron Pipe and Cast Ductile Iron Fittings’

Solvent Cleaning	NAPF 500-03-01
Abrasive Blast Cleaning for Ductile Iron Pipe	NAPF 500-03-04
Abrasive Blast Cleaning for Cast Iron Pipe	NAPF 500-03-05

2) Coatings

Manufacturer	Tnemec	PPG Paints	Sherwin Williams
Primer Coat 3.0-4.0 mils DFT	One (1) Series 1 Omnithane mio- zinc MCU	Amercoat 68HS	Corothane I Mio-Zinc
Final Coats Two (2) Coats 6.0-8.0 mils DFT, each	Two (2) Tnemec Series 446 Perma- Shield MCU hydrophobic aromatic MCU	Amercoat 240	Sher-Glass FF



3. Interior and Exterior non-immersion primed or unprimed ductile iron piping, valves and misc. metal surfaces.

- (a) Surface Preparation: Remove all bituminous or acrylic black coatings in accordance with NAPF-500-03 ‘Surface Preparation Standard for Ductile Iron Pipe and Cast Ductile Iron Fittings’.

Solvent Cleaning	NAPF 500-03-01
Abrasive Blast Cleaning for Ductile Iron Pipe	NAPF 500-03-04
Abrasive Blast Cleaning for Cast Iron Pipe	NAPF 500-03-05

- (b) Coatings

Manufacturer	Tnemec	PPG Paints	Sherwin Williams
Primer Coat 3.0-4.0 mils DFT	Series 1 Omnithane mio-zinc MCU	Amercoat 68HS	Corothane I Mio-Zinc
Second Coat 2.0-3.0 mils DFT, Color to Contrast Finish Coat	Series 27 Typoxy polyamide epoxy	Amercoat 385	Macropoxy 646 FC
Third Coat 2.0-3.0 mils DFT	Series 73 Endura- Shield aliphatic acrylic urethane	Pitthane Ultra	Acrolon 218HS (spray) or Hi-Solids Polyurethane (brush/roll)

(c) Metal Surface where high performance is required (i.e. wet well and miscellaneous immersed piping and metals, except stainless steel).

1) Surface preparation in accordance with painting manufacturer recommendations.

Manufacturer	Tnemec	PPG Paints	Sherwin Williams
Primer Coat One (1) Coat 2.5-3.5 mils DFT	Series 1 Omnithane mio-zinc MCU	Amercoat 68HS	Corothane I Mio-Zinc
Final Coats Two (2) Coats 6.0-10.0 mils DFT each	Series 446 Permashield MCU	Amercoat 240	Sher-Glass FF

4. Interior and Exterior Ferrous Metals: Interior and exterior ferrous metals surfaces (including roof trusses, piping, equipment, enclosures, doors, miscellaneous metals, etc.):

Manufacturer	Tnemec	PPG Paints	Sherwin Williams
Surface Preparation	SSPC-SP7	SSPC-SP7	
First Coat	N140-1211 Pota-Pox Plus	Amerlock 2	Macropoxy 5500LT
Second Coat	N140-1211 Pota-Pox Plus	Amerlock 2	Macropoxy 5500LT
Third Coat	Series 73 Endurashield	Pitthane Ultra	Acrolon 218HS (spray) or Hi-Solids Polyurethane (brush/roll)
Fourth Coat	Series 73 Endurashield	Pitthane Ultra	Acrolon 218HS (spray) or Hi-Solids Polyurethane (brush/roll)

**BRIGHTON TOWNSHIP SEWAGE AUTHORITY - LIFT STATION SPECIFICATIONS**

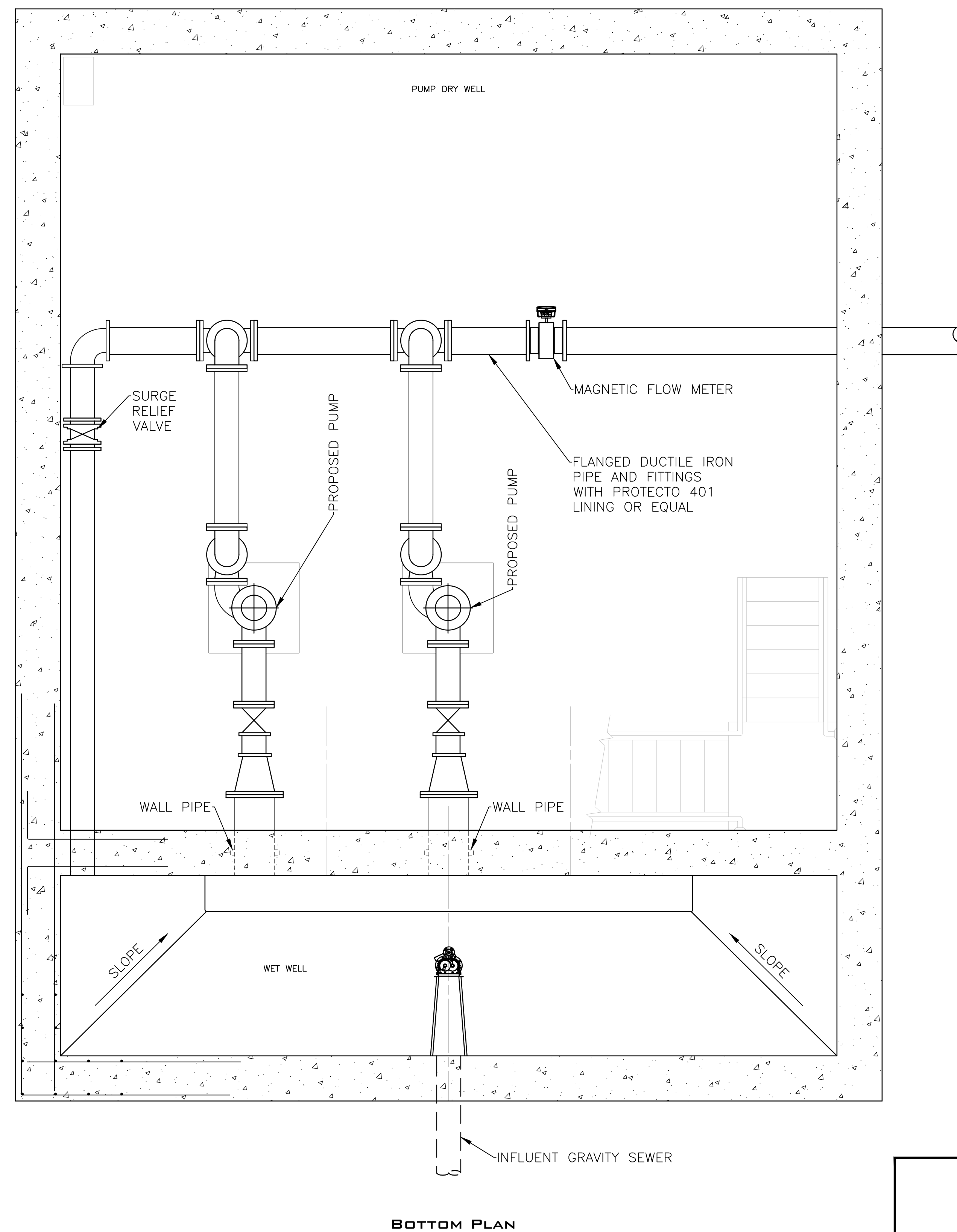
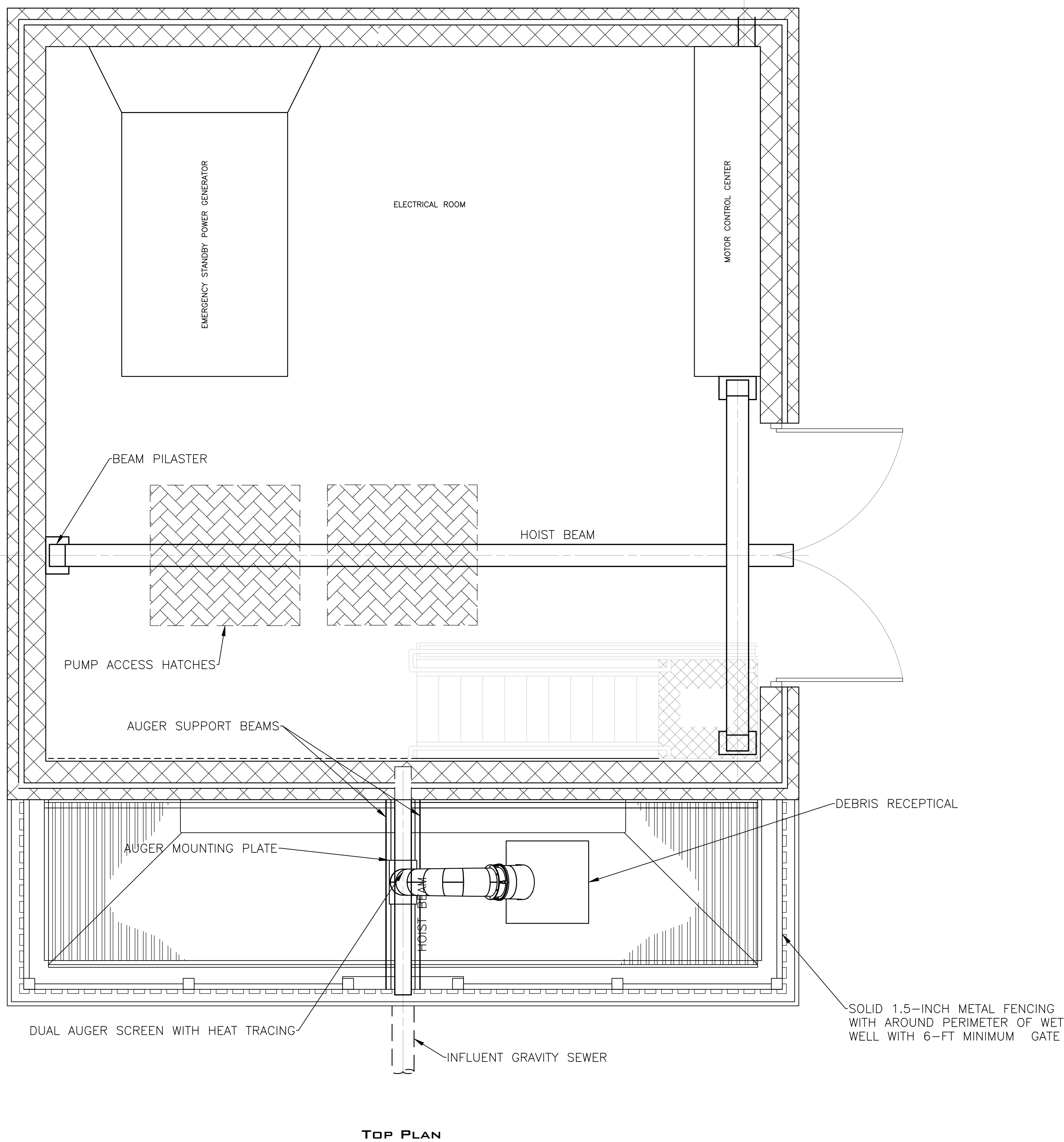
LIFT STATIONS TO BE IN CONFORMANCE WITH BRIGHTON TOWNSHIP SEWAGE AUTHORITY SEWAGE LIFT STATION DESIGN REQUIREMENTS AND WITH THE STANDARD DETAIL DRAWINGS HEREIN SUBJECT TO REVIEW AND APPROVAL BY THE BRIGHTON TOWNSHIP SEWAGE AUTHORITY. THESE DRAWINGS ARE GENERAL ONLY AND ARE INTENDED TO ILLUSTRATE THE DESIGN CONCEPT.

**LIFT STATION PERMITTED TYPE**

1. LIFT STATIONS TO BE WET PIT/DRY PIT TYPE CONSTRUCTION AS SHOWN ON THE STANDARD DETAIL DRAWINGS.
2. BELOW GRADE STRUCTURE TO BE CAST-IN-PLACE REINFORCED CONCRETE DESIGN IN ACCORDANCE WITH ACI 350 (LATEST EDITION) WITH WATERPROOFING (XYPEX) CONCRETE ADMIXTURE.
3. DRY PIT ABOVE GRADE STRUCTURE TO BE CONCRETE MASONRY UNIT WALLS AND WOOD TRUSS ENGINEERED ROOF IN ACCORDANCE WITH STANDARD DETAIL DRAWINGS.
4. DRY WELLS, INCLUDING THEIR SUPERSTRUCTURE, SHALL BE COMPLETELY SEPARATED FROM THE WET WELL. COMMON WALL BETWEEN WET WELL AND DRY WELL SHALL BE GAS AND LIQUID TIGHT.

**LIFT STATION LOCATION/SITE REQUIREMENTS**

1. LOCATION OF LIFT STATION TO BE AT AN ELEVATION/LOCATION WHERE LIFT STATION STRUCTURES AND ELECTRICAL AND MECHANICAL EQUIPMENT WILL BE PROTECTED FROM PHYSICAL DAMAGE AND BE ACCESSIBLE DURING THE 100 YEAR FLOOD.
2. LIFT STATION SHALL BE READILY ACCESSIBLE BY MAINTENANCE VEHICLES DURING ALL WEATHER CONDITIONS. THE FACILITY SHOULD BE LOCATED OFF THE TRAFFIC WAY OF STREETS AND ALLEYS.
3. PROVIDE WASHDOWN HOSE BIBS ON EXTERIOR OF BUILDING. PROVIDE PUBLIC WATER SERVICE WHERE AVAILABLE, PROVIDE/CONSTRUCT A WATER WELL WHERE NOT AVAILABLE.
4. CIVIL/SITE DESIGN TO BE IN ACCORDANCE WITH BRIGHTON TOWNSHIP LAND DEVELOPMENT CODE REQUIREMENTS.

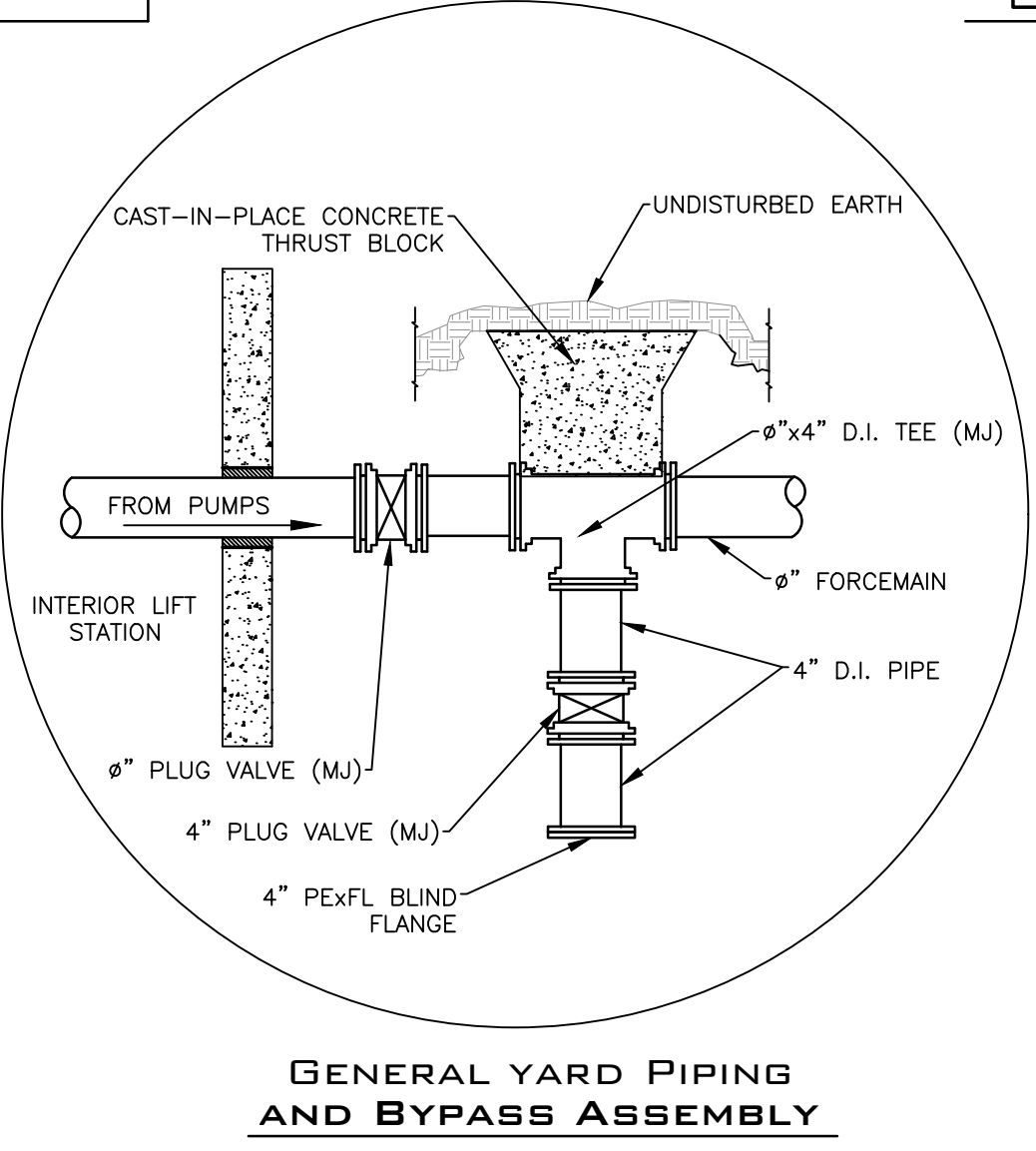
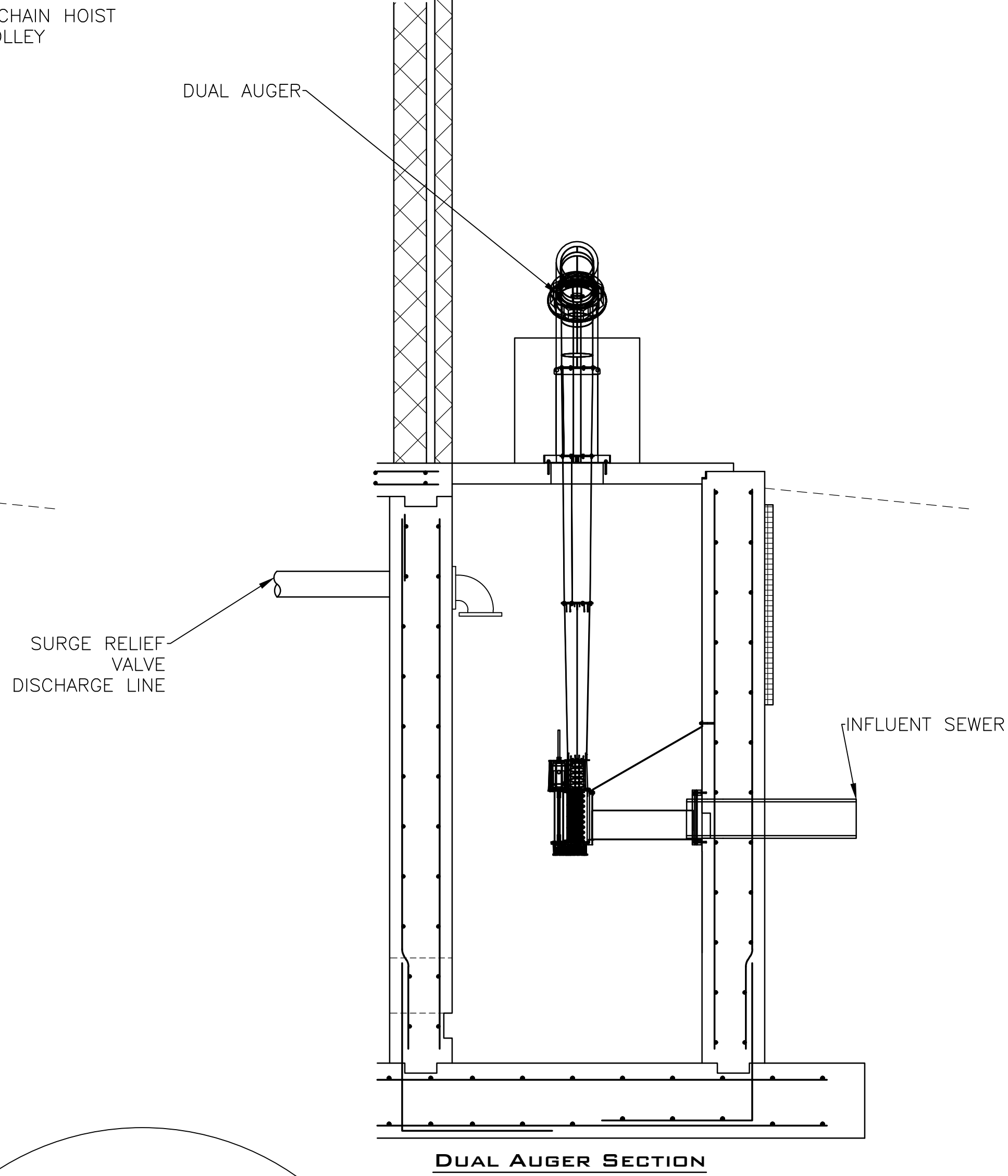
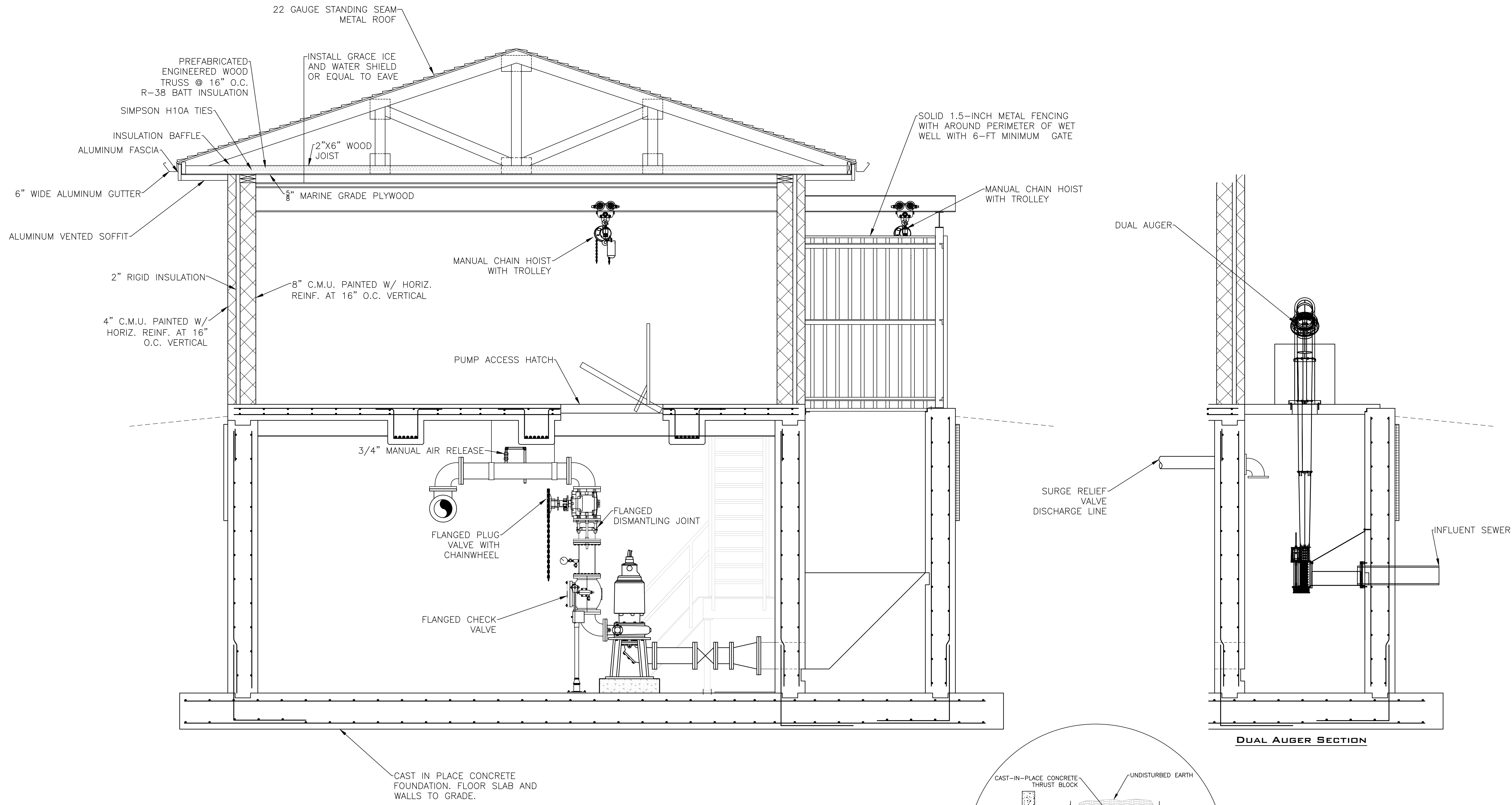


**TOP PLAN**

**BOTTOM PLAN**

Scale: N.T.S.		No.	Date	Description	By	No.	Date	Description	By	No.	Date	Description	By	<b>LSSE</b> Civil Engineers and Surveyors 846 4th Avenue Coraopolis, Pennsylvania 15108 412-264-4400 Email: info@lsse.com		Filename: Lift Station Plans.dwg Date: October, 2024	Brighton Township Sewage Authority 1300 Brighton Road Beaver, PA 15009	Sanitary Sewage Lift Station Standard Details Situate In Brighton Township, Beaver County, Pennsylvania	Sheet Title: Lift Station Interior Plan Views
Drawn By	Checked By	Approved By	1	10/21/24	Issued for Adoption	GJG								Drawing No.	717-03-LS1	Sheet No.	LS1 of LS2		
			2	1/17/25	Revision No. 1	WDD													

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- LIFT STATION INTERIOR GENERAL SPECIFICATIONS**
- PROVISIONS SHALL BE MADE TO FACILITATE REMOVING PUMPS, MOTORS, DUAL AUGER SCREEN, AND OTHER MECHANICAL AND ELECTRICAL EQUIPMENT. PROVIDE CRANE RAILS WITH HOISTS AND ACCESS HATCHES FOR EQUIPMENT INSTALLATION/REMOVAL. PUMP REMOVAL MAINTENANCE SHALL NOT INTERFERE WITH THE CONTINUED OPERATION OF REMAINING PUMPS.
  - PROVIDE STEPS AND SAFETY LANDINGS IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. PROVIDE WITH REST LANDINGS AT VERTICAL INTERVALS NOT TO EXCEED 12 FEET (3.7 M) OR LESS IF REQUIRED BY CURRENT OSHA REGULATIONS.
  - PROVIDE GEOTECHNICAL ENGINEERING REPORT INCLUDING FOUNDATION AND BUOYANCY DESIGN FOR LIFT STATION. WHERE HIGH GROUNDWATER CONDITIONS ARE ANTICIPATED, BUOYANCY OF THE WASTEWATER PUMPING STATION STRUCTURES SHALL BE CONSIDERED AND, IF NECESSARY, ADEQUATE PROVISIONS SHALL BE MADE FOR PROTECTION FROM UPLIFT.
  - PROVIDE CLEAR SPACE/CLEARANCES FROM ALL ELECTRICAL EQUIPMENT IN ACCORDANCE WITH NATIONAL ELECTRIC CODE (LATEST EDITION).
  - PROVIDE ELECTRIC POWERED VENTILATION AND HEATING IN ACCORDANCE WITH PADEP AND NATIONAL ELECTRIC CODE REQUIREMENTS.
  - CAST-IN-PLACE CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI UNLESS OTHERWISE DESIGNED BY THE STRUCTURAL ENGINEER. REINFORCEMENT SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE ACI. PROVIDE XYPEX ADMIXTURE CRYSTALLINE WATERPROOFING FOR ALL CONCRETE REQUIRED TO RESIST WATER PERMEABILITY.

Scale: N.T.S.		No.	Date	Description	By	No.	Date	Description	By	No.	Date	Description	By	<b>LSSE</b> Civil Engineers and Surveyors 846 4th Avenue Coraopolis, Pennsylvania 15108 412-264-4400 Email: info@lsse.com		Filename: Lift Station Plans.dwg Date: October, 2024	Brighton Township Sewage Authority 1300 Brighton Road Beaver, PA 15009	Sanitary Sewage Lift Station Standard Details Situate In Brighton Township, Beaver County, Pennsylvania	Sheet Title: Lift Station Sections	Drawing No.: 717-03-LS2	Sheet No.: LS2 of LS2
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