

Date: June 26, 2024

Subject: Attachment for Application for Essential Public Services
Coldwater Lake Sewer Project

In accordance with Section 3.13 of the Isabella County Zoning Ordinance, Nottawa Township offers the following statements in regard to the proposed project:

1. How the proposed development conforms harmoniously with the general architecture and plan of the district.
 - The proposed Pump Station project site is just to the South of Beal City Road on Littlefield Road in the Northwest corner of a 40-acre parcel owned by the Township. The parcel is vacant and is wooded for the most part. The opposite side of the road has single family homes fronting on Littlefield Road. The proposed site improvements consist primarily of constructing a gravel driveway and a sanitary sewer pump station with an above ground fiberglass enclosure (22'x12') for the pumps with provisions for a future 24'x30' building.
 - The future building is proposed to be a stick framed building with corrugated steel siding and a shingled roof. A lot of the single family homes in the area have accessory buildings. This building will look similar to an accessory building you would expect to find for a single-family home in this setting and will be harmonious with the architecture in the area.
 - The Township is proposing to store sanitary sewer related parts/equipment in the building (pumps, spare parts, etc.). The building could also house pumps and a tank for an odor control system, if necessary, in the future. Maintenance technicians will be performing periodic inspections, maintenance and repairs on the site. None of the proposed activities will constitute a public health, safety, or welfare concern and can be performed harmoniously with the current and anticipated long term residential use in the area.
2. How the advantage of the proposed locations is not outweighed by the detriment to the locality.
 - This site was selected due to its location with respect to the proposed sewer project around Coldwater Lake. A low-pressure sewer system is proposed around the lake with the eventual outlet being the sewer system recently installed in Beal City. The proposed location for the pump station is on the route from Coldwater Lake to Beal City, making it an ideal location based on economics and ease of construction. It is also an ideal location since it is located on a large vacant parcel already owned by the Township. The proposed use will be harmonious with the surrounding area and is not seen as a potential detriment to the area.
3. How a different suitable location is not readily available.
 - For the reasons stated above, the proposed location is ideal. A different location would likely result in unnecessarily higher costs for the users in the district in addition to potentially being in an area less desirable for residents. There are many areas around the lake where the lots are very small with dense single-family housing. For these reasons, a different location should not be considered.

COLDWATER LAKE PUMP STATION

S:\Projects\2017\17-0040-B_C3D\DWGs\C2-PS2 PUMP STATION COLD WATER LAKE.dwg, Wednesday, July 10, 2024 9:10:01 AM, Trent Powers

W. BEAL CITY ROAD

SECTION CORN
C. S. T1EN. RE

N. LITTLEFIELD ROAD

A graphic scale diagram. At the top, a horizontal line with a break in the middle is shown. On the left end of the line is a black arrow pointing right. On the right end is a black rectangle. Below the line, the word "GRAPHIC SCALE" is written in capital letters. Below that, a horizontal line has numerical markings: "10" on the far left, "5" in the middle, "0" in the center, and "10" on the far right. The "0" is positioned directly below the break in the top line. Below the scale line, the text "1 inch = 10 ft." is written.

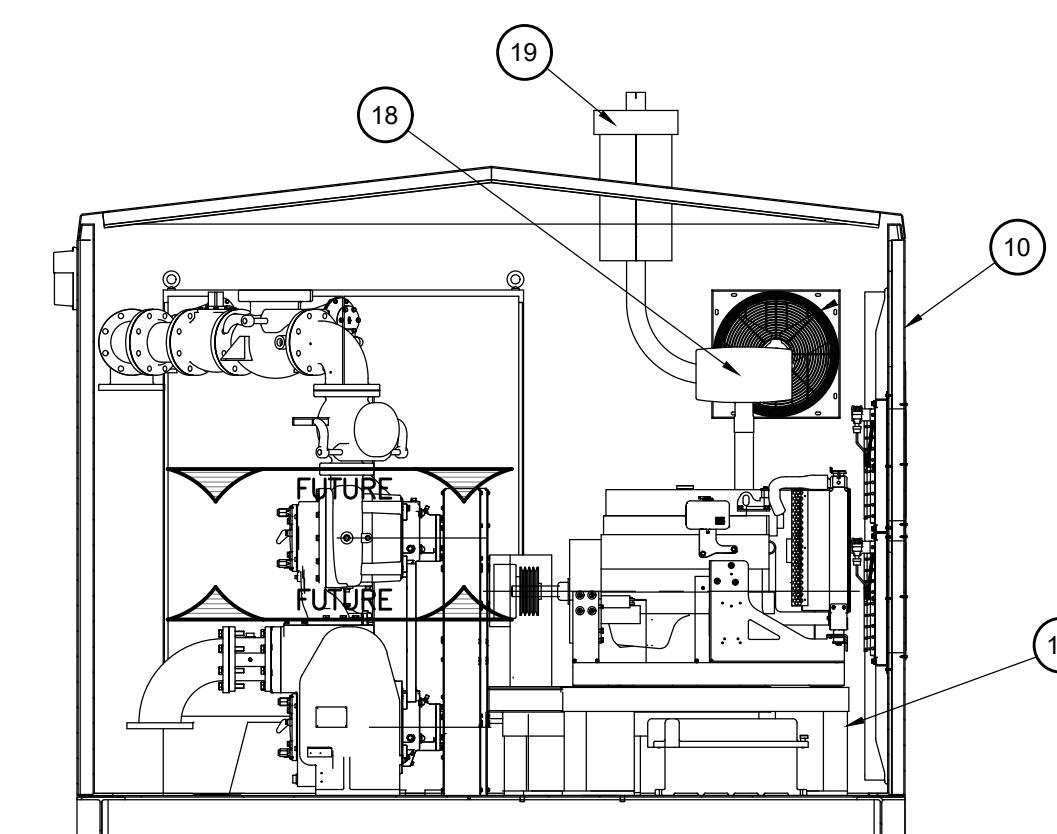
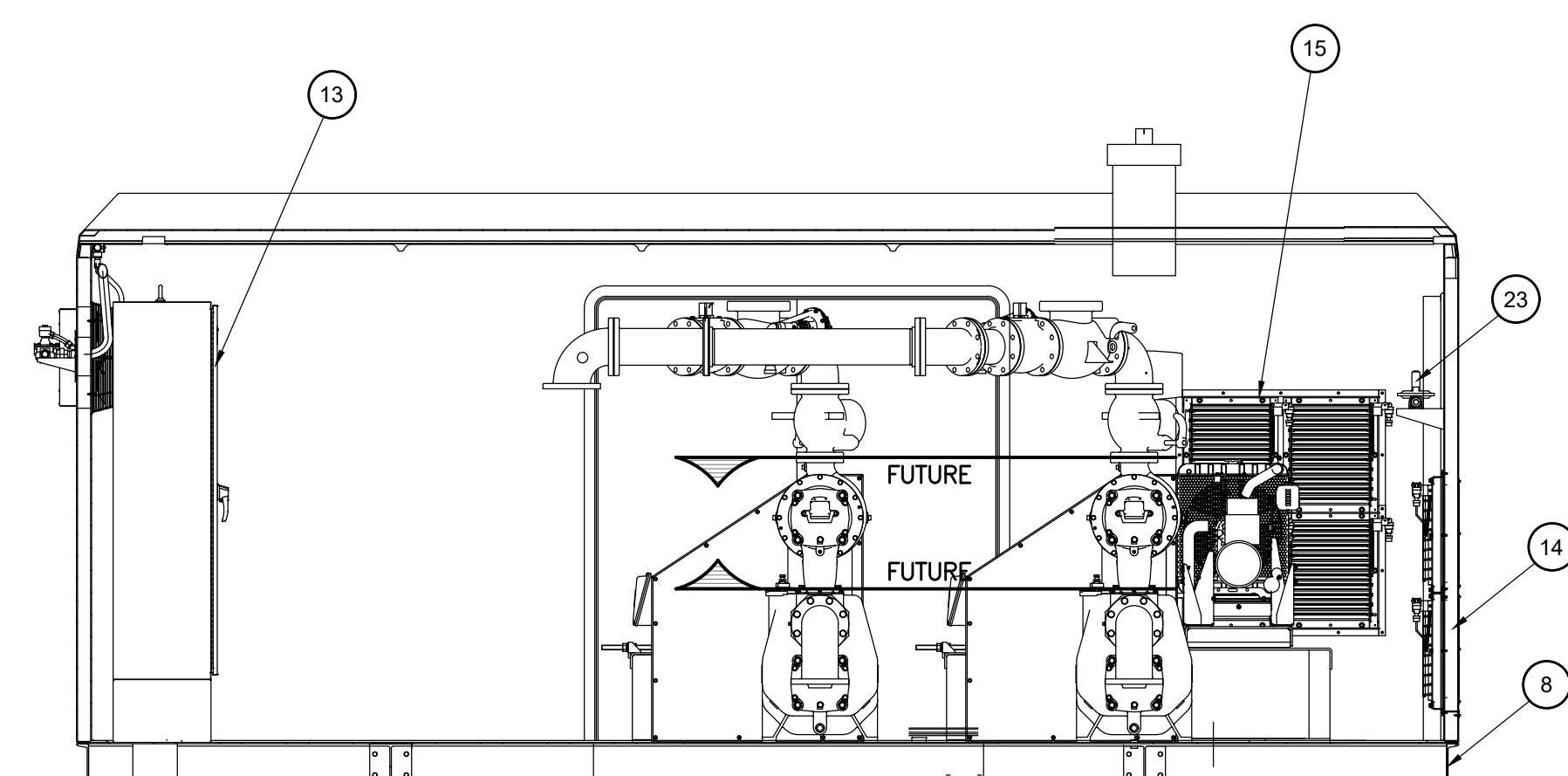
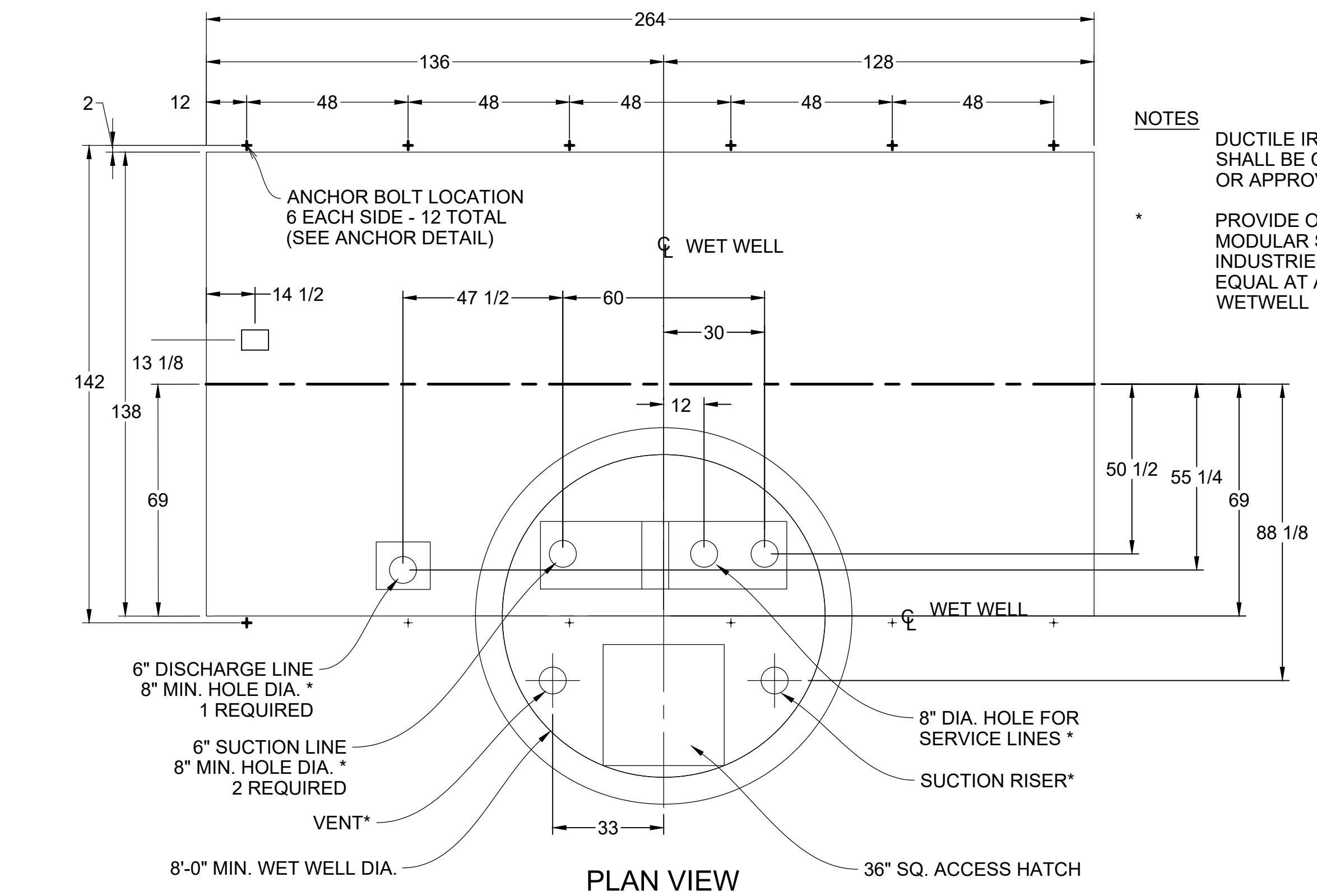
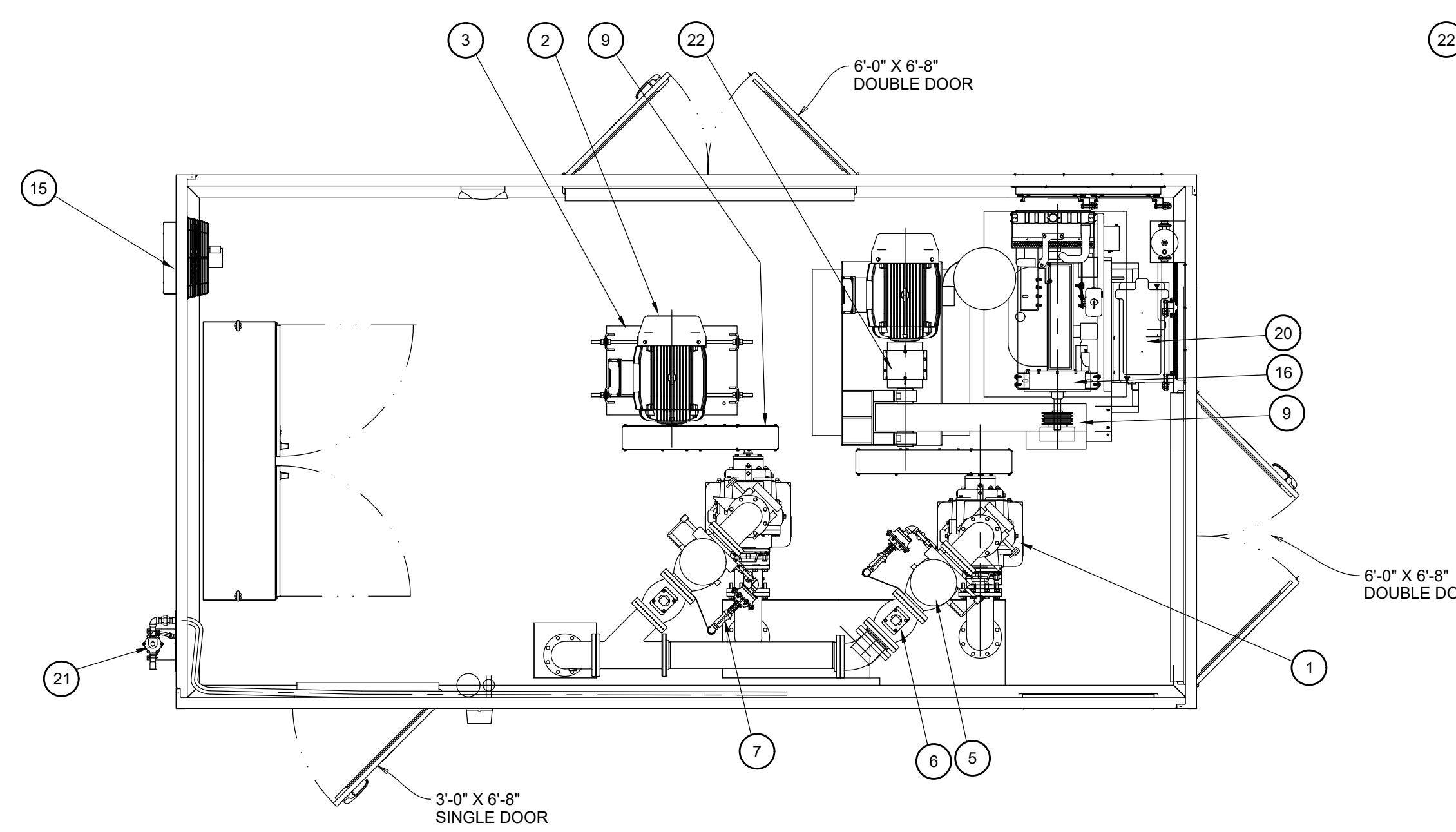
LAKE LOW PRESSURE SYSTEM—PUMP STATION—FORCE MAIN
TOWNSHIP OF NOTTAWA
ISABELLA COUNTY, MICHIGAN

COLDWATER LAKE PUMP STATION SITE PLAN

REVISION	DATE	DRAWN	DESCRIPTION
1	3/14/2024	TAP	REVISIONS FOR EGLE RESUBMITTAL

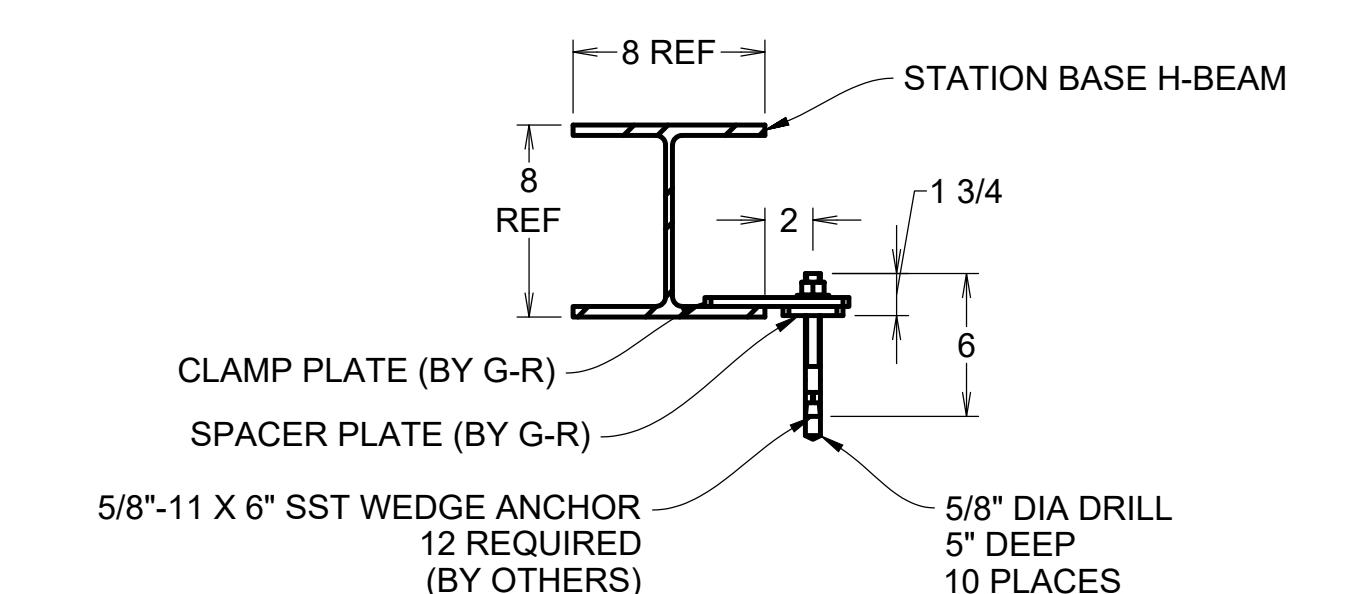
DESCRIPTION	REVISIONS FOR EGGLE RESUBMITTAL

PREFECT COLD	SHEET TITLE
JCW	
CHECKED	
JCW	
DRAWN	
TAP	
JOB NO.	
17-0040-B	
DATE	
7/10/2024	
SCALE	
1" = 10'	
SHEET NO.	
C2-PS2	



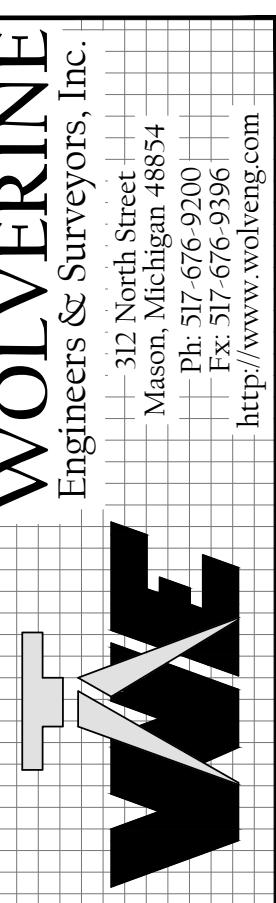
ITEM	DESCRIPTION	MATERIAL & SIZE
1	PUMP	CAST IRON VS4-B
2	MOTOR	CAST IRON
3	MOTOR STAND ASSEMBLY	STEEL
4	PRIMARY DISCH CHECK VALVE	CAST IRON 4" X 6"
5	SECONDARY DISCH CHECK VALVE	CAST IRON 6"
6	DISCHARGE PLUG VALVE	CAST IRON 6" 2-WAY
7	AIR RELEASE VALVE	CAST IRON 1"
8	STATION BASE ASSEMBLY	STEEL 11'-6" X 22'-0"
9	BELT GUARD ASSEMBLY	ALUMINUM
10	STATION ENCLOSURE ASSY	FRP 11'-6" X 20'-0"
11	EXHAUST FAN	STEEL 1600 CFM
12	LED LIGHT FIXTURE	FRP
13	MOTOR CONTROL PANEL	STAINLESS
14	INTAKE VENT ASSEMBLY	ALUMINUM
15	EXHAUST VENT ASSEMBLY	ALUMINUM
16	ENGINE	LIQUID COOLED
17	ENGINE STAND	STEEL
18	EXHAUST SILENCER	STAINLESS
19	EXHAUST THIMBLE	STEEL (SHIPPED LOOSE)
20	BATTERY	12 VDC
21	SOLENOID VALVE	12 VDC 1"
22	COUPLING GUARD	STEEL
23	FUEL REGULATOR	ALUMINUM 1-1/2"

DUPLEX VS4-B
6X6X6 AS SHOWN
RIGHT HAND DISCHARGE



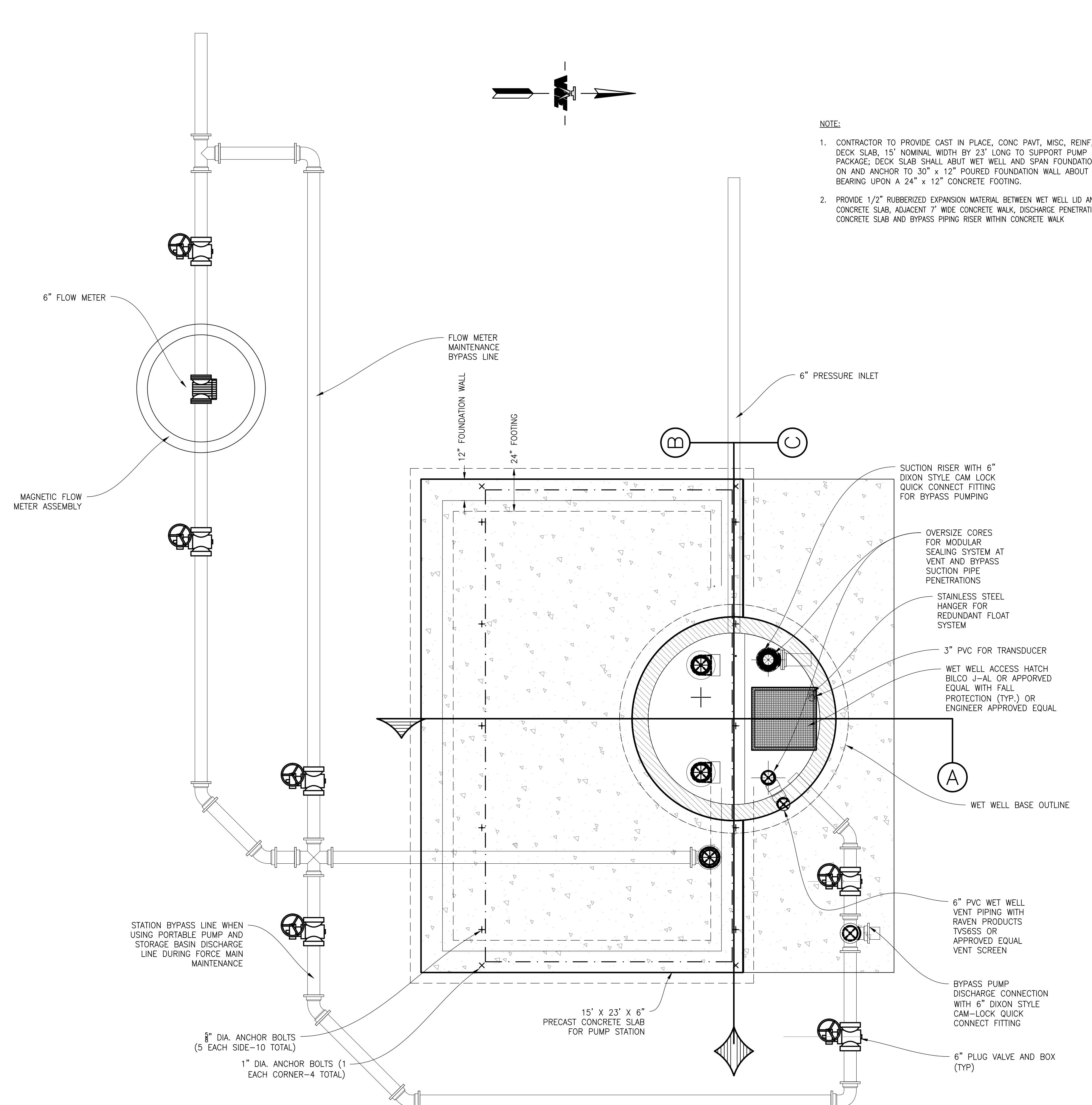
ANCHOR DETAIL

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COLDWATER LAKE LOW PRESSURE SYSTEM-PUMP STATION-FORCE MAIN
TOWNSHIP OF NOTTAWA
ISABELLA COUNTY, MICHIGAN
SELF-PRIMING PUMP STATION DETAIL SHEET

APPROVED
JCW
CHECKED
JCW
DRAWN
TAP
JOB NO.
17-0040-B
DATE
12/20/2023
SCALE
3/8" = 1'
SHEET NO.
C2-PS3



NOTE:

1. CONTRACTOR TO PROVIDE CAST IN PLACE, CONC PAVT, MISC, REINF, 6 INCH (W:2.9) DECK SLAB, 15' NOMINAL WIDTH BY 23' LONG TO SUPPORT PUMP EQUIPMENT PACKAGE; DECK SLAB SHALL ABUT WET WELL AND SPAN FOUNDATION WALLS. PLACE ON AND ANCHOR TO 30" x 12" Poured FOUNDATION WALL ABOUT ITS PERIMETER BEARING UPON A 24" x 12" CONCRETE FOOTING.
2. PROVIDE 1/2" RUBBERIZED EXPANSION MATERIAL BETWEEN WET WELL LID AND ADJACENT CONCRETE SLAB, ADJACENT 7' WIDE CONCRETE WALK, DISCHARGE PENETRATION THROUGH CONCRETE SLAB AND BYPASS PIPING RISER WITHIN CONCRETE WALK

Basic Dimensions

Inside Diameter of Manhole (D)	8.00	(feet)
Lid Thickness (L)	12.00	(inches)
Height of Manhole From Top of Base to Top of Lid - This value includes the height of the lid plus the barrel section, but excludes the height of the base.	13.00	(feet)
Height of Manhole Barrel Section From Top of Base to Bottom of Lid (C) - This value is the height of the barrel section.	12.00	(feet)
Depth of Bury (Y) - This measurement extends from the ground level to the top of the lid.	0.00	(feet)
Wall Thickness (T)	9.00	(inches)
Base Thickness (E)	12.00	(inches)
Lid Diameter - This value is the sum of D and 2*T.	9.50	(feet)
Lid Hole Diameter (H4)	48.00	(inches)
Distance to Groundwater (GW)	0.00	(feet)

Customizations

Create Lip:	
Extend the base horizontally to create a lip?	
If yes, how much? (P) If no, enter a value of 0.	12.00 (inches)
Thickness of lip (E) - This measurement is determined by the value entered for the base thickness. The lip thickness is equal to that of the base.	12.00 (inches)
Add Penetrations:	
Diameter of Penetration #1 (H1) - Enter a value of 0 if there is no Penetration #1.	6.00 (inches)
Diameter of Penetration #2 (H2) - Enter a value of 0 if there is no Penetration #2.	6.00 (inches)
Diameter of Penetration #3 (H3) - Enter a value of 0 if there is no Penetration #3.	0.00 (inches)

Unit Weights

Unit Weight of Water	62.40	(lb/cf)
Unit Weight of Soil	95.00	(lb/cf)
Unit Weight of Submerged Soil	32.60	(lb/cf)
Unit Weight of Concrete	145.00	(lb/cf)
Unit Weight of Saturated Soil	120.00	(lb/cf)

Changes in Total Concrete Weight Due to Customizations

Weight of extra concrete due to lip (Weight of extra concrete due to P)	4783.07	(lb)
Total weight removed due to penetrations in barrel section	56.94	(lb)
Weight of concrete removed due to lid hole	1822.12	(lb)

Soil and Concrete Weights

Weight of Soil on Lid	0.00	(lb)
Weight of Soil on Lip	13979.77	(lb)
Weight of Lid Alone	8455.79	(lb)
Weight of Manhole (Weight of Barrel Section, Lip, and Lid)	59332.90	(lb)

Weight of System Components

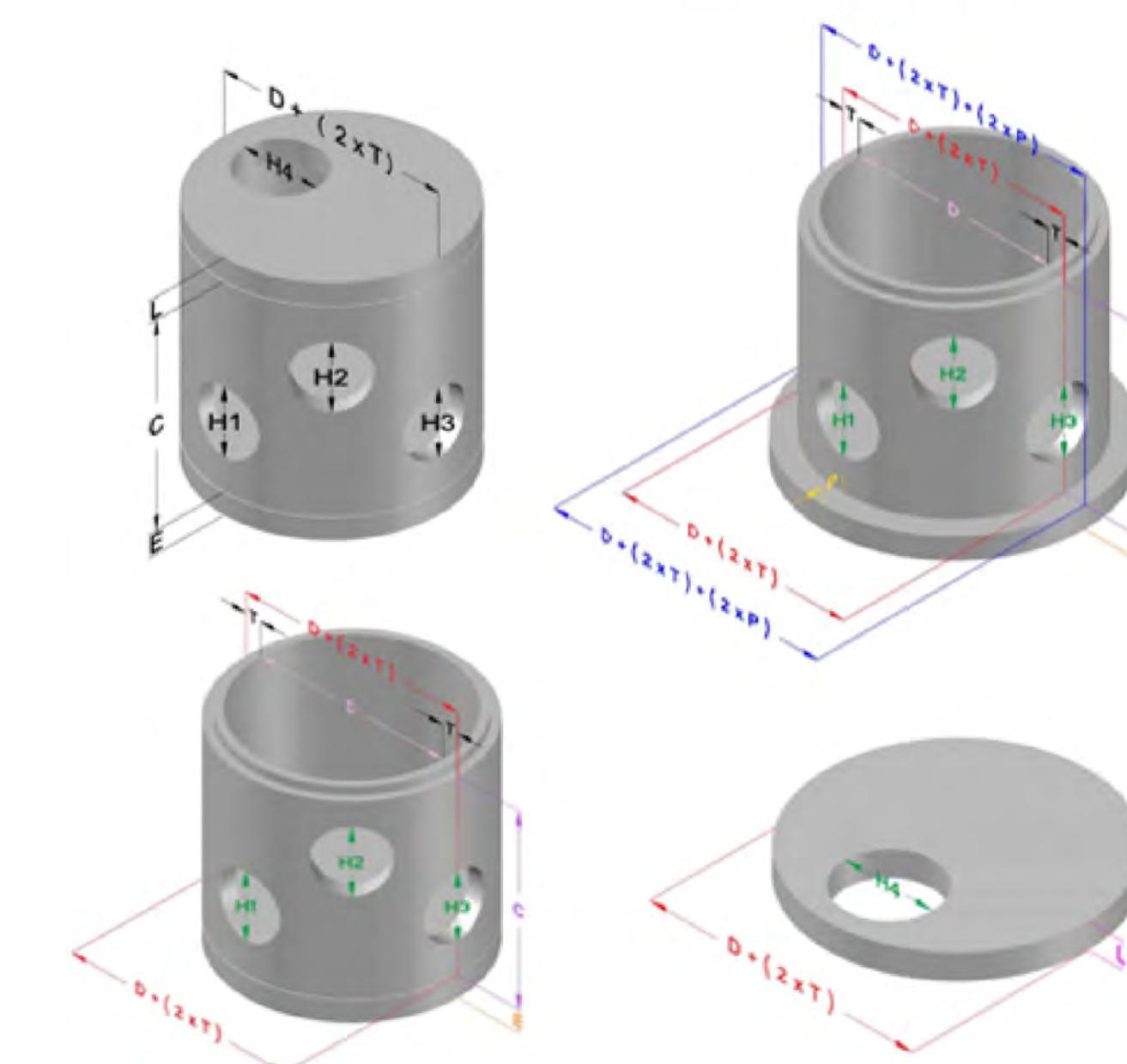
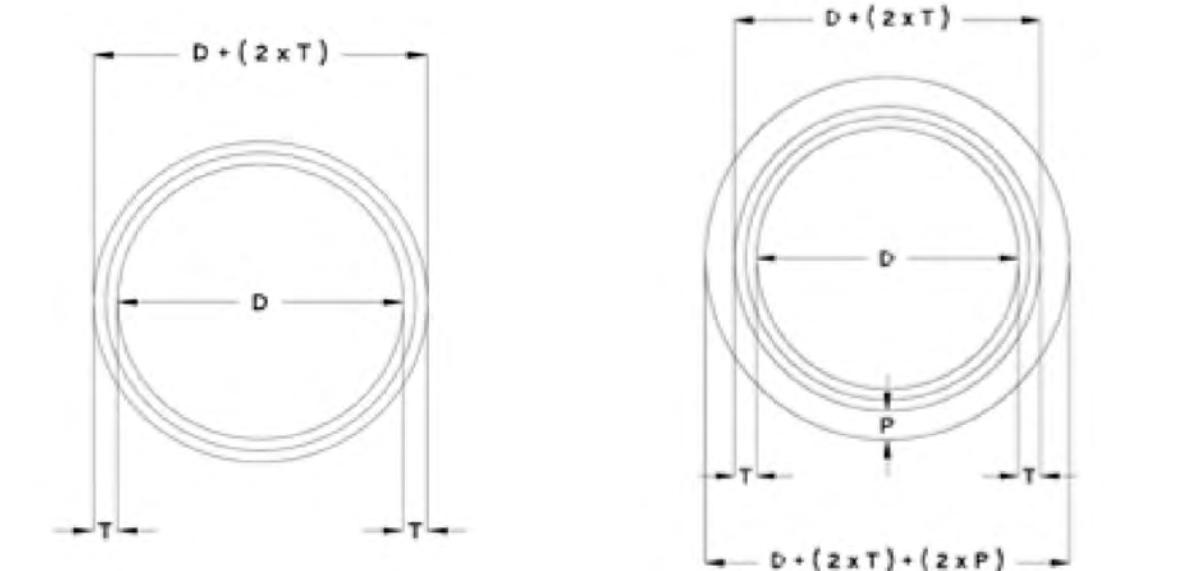
Total Weight of Soil	13979.77	(lb)
Total Weight of Concrete	59332.90	(lb)
Total Weight (Manhole and Soil)	73312.68	(lb)

Uplift Force

Uplift Force	63981.05	(lb)
Safety Factor	1.50	
Uplift Force with Safety Factor	95971.57	(lb)

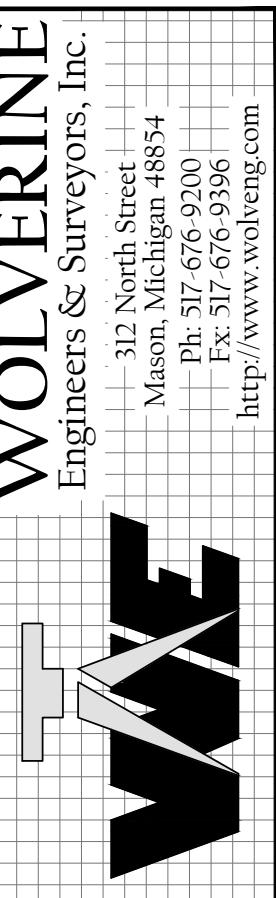
Additional Ballast Required

Additional Ballast Required	22658.89	(lb)
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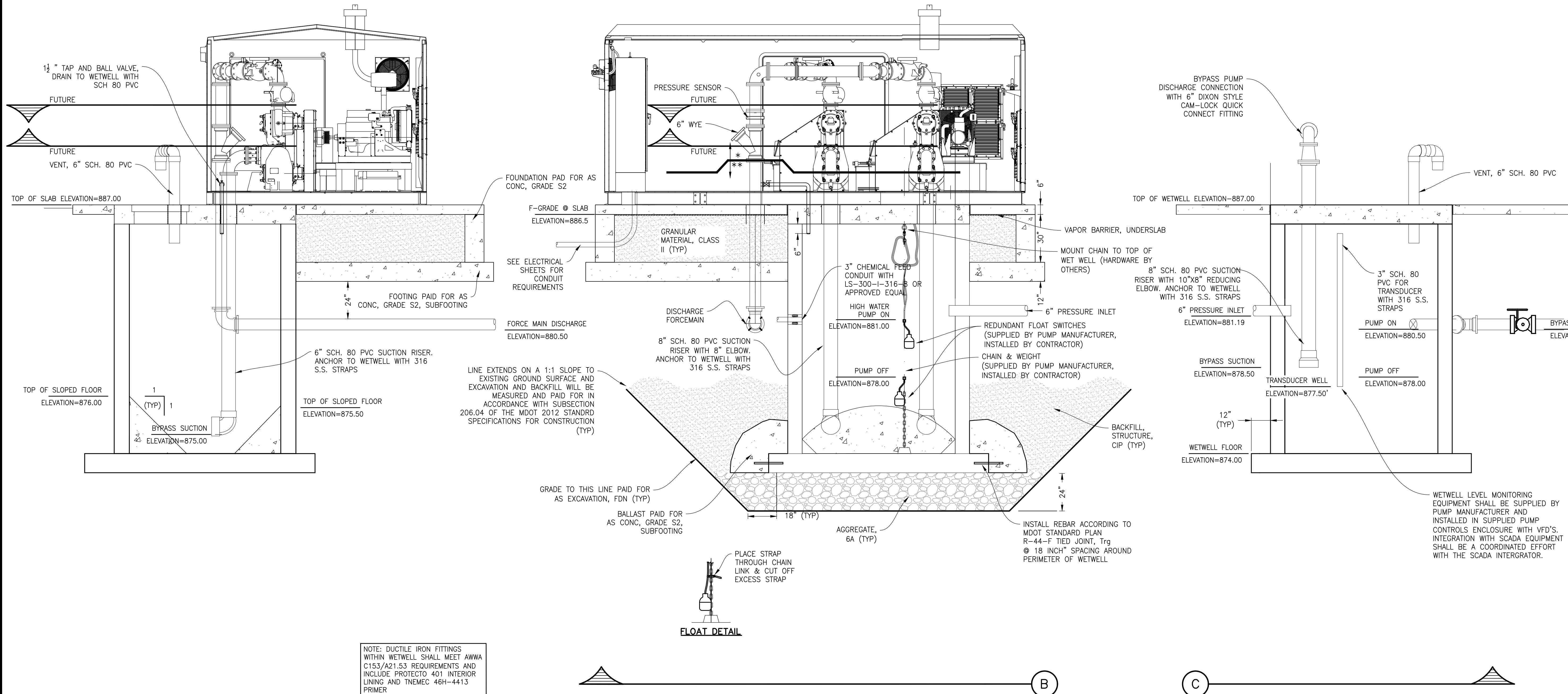
REVISION	DATE	DRAWN	DESCRIPTION



COLDWATER LAKE LOW PRESSURE SYSTEM-PUMP STATION-FORCE MAIN
TOWNSHIP OF NOTTAWA
ISABELLA COUNTY, MICHIGAN

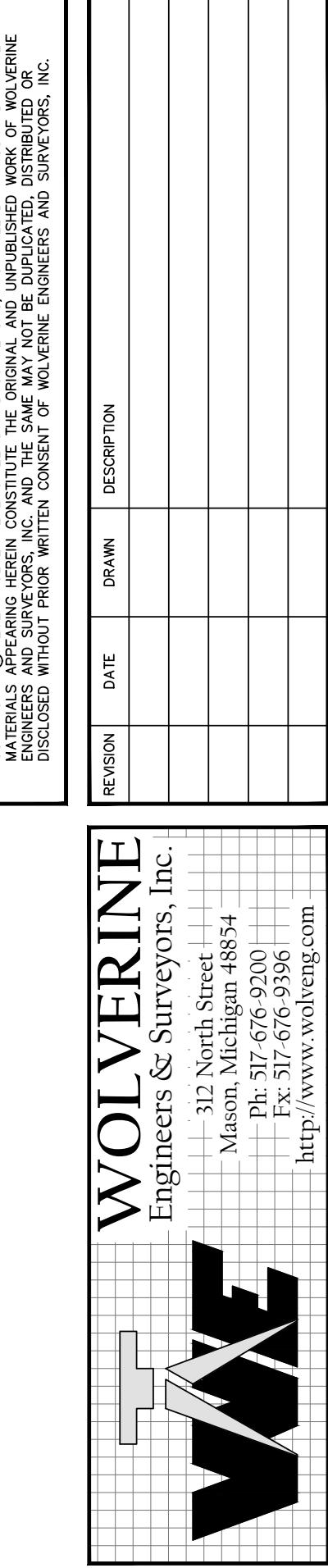
PUMP STATION DETAIL SHEET

APPROVED
JCW
CHECKED
JCW
DRAWN
TAP
JOB NO.
17-0040-B
DATE
12/20/2023
SCALE
3/8" = 1'
SHEET NO.
C2-PS4



COLDWATER LAKE LOW PRESSURE SYSTEM-PUMP STATION-FORCE MAIN
TOWNSHIP OF NOTTAWA
ISABELLA COUNTY, MICHIGAN

SELF-PRIMING PUMP STATION DETAIL SHEET



APPROVED
JCW
CHECKED
JCW
DRAWN
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JOB NO.
17-0040-B
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12/20/2023
SCALE
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