

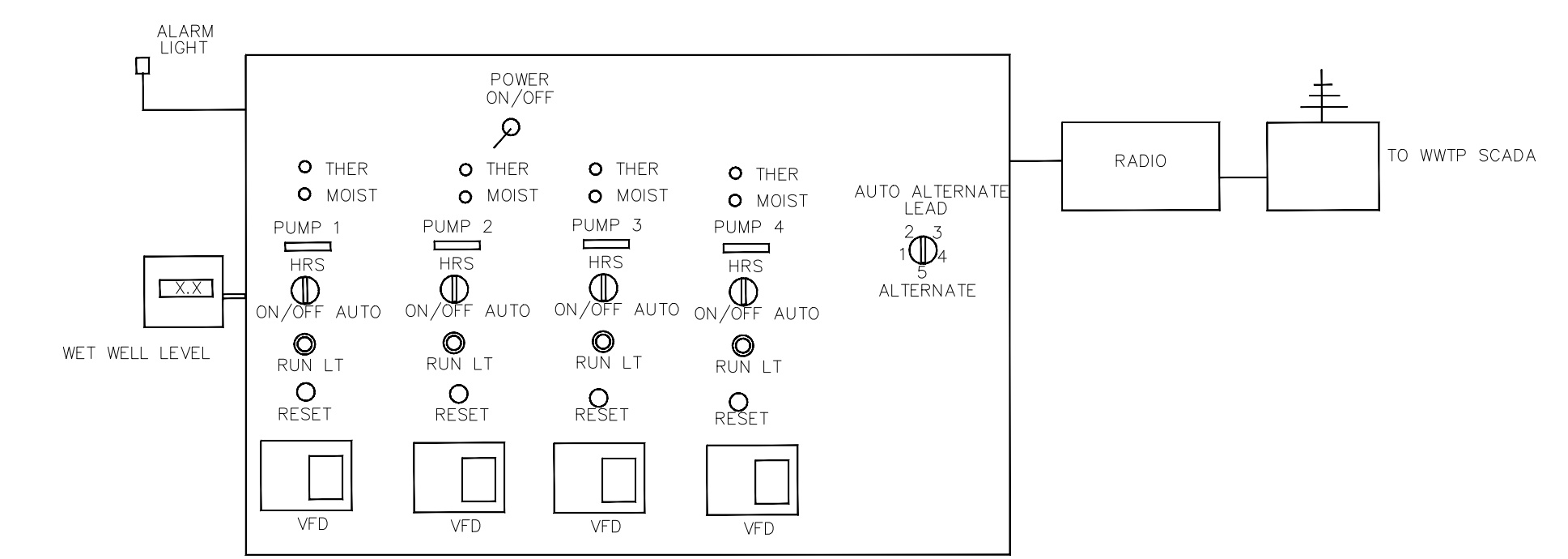
PUMPING STATION DESIGN CRITERIA														
PUMPING STATION	OVERALL DIMENSIONS	WETWELL DIMENSIONS	WETWELL HEIGHT	BOTTOM OF WETWELL	WETWELL CAPACITY	SUBMERSIBLE PUMP DESIGN CRITERIA	F.F.E. @ F.F.E. ELEVATION	GRAVITY SEWER INVERT IN ELEVATION	PS PIPING/VALVE SIZES	PS HEADER SIZE	FORCE MAIN (OUT) R/V ELEVATION	FM TYPE/LENGTH	CALCULATED FM VELOCITY	NOTES
#1	24'-8" x 12'-6"	6'-10" x 10'-4"	12.53 FEET	505.00	3,346 GALLONS	150 GPM @ 116 TDH. HQMA AV 303-775, 3450 RPM, 50 HP, VFD, 2" DISCHARGE, 2" SOLIDS HANDLING, VORTEX IMPELLER	517.53	511.34 FROM S-100	3" SCH 40S CASTING, FLOO VALVES AND CHECK VALVES	8" DUCTILE IRON HEADER	515.20	4" DR 13.5 HDPE	3.7 FT/SEC	MAGNETIC FLOW METER MANHOLE ON FORCE MAIN FROM PS
#2	24'-8" x 12'-6"	6'-10" x 10'-4"	17.29 FEET	514.00	4,122 GALLONS	225 GPM @ 32 TDH. HQMA AV 446-220, 1750 RPM, 140 HP, VFD, 4" DISCHARGE, 2" SOLIDS HANDLING, VORTEX IMPELLER	531.70	521.81 FROM S-200	4" SCH 40S CASTING, FLOO VALVES AND CHECK VALVES	8" DUCTILE IRON HEADER	527.50	6" DR 11 HDPE	3.4 FT/SEC	MAGNETIC FLOW METER MANHOLE ON FORCE MAIN FROM PS
#3	24'-8" x 12'-6"	6'-10" x 10'-4"	12.50 FEET	527.00	4,116 GALLONS	275 GPM @ 132 TDH. HQMA AV 303-200, 3450 RPM, VFD, 50 HP, 2" DISCHARGE, 2" SOLIDS HANDLING, VORTEX IMPELLER	538.50	534.80 FROM S-300	4" SCH 40S CASTING, FLOO VALVES AND CHECK VALVES	8" DUCTILE IRON HEADER	534.40	6" DR 11 HDPE	3.9 FT/SEC	MAGNETIC FLOW METER MANHOLE ON FORCE MAIN FROM PS
#4	24'-8" x 12'-6"	6'-10" x 10'-4"	11.50 FEET	542.00	3,582 GALLONS	360 GPM @ 32 TDH. HQMA AV 444-136, 1750 RPM, VFD, 154 HP, 4" DISCHARGE, 2" SOLIDS HANDLING, CUTTER IMPELLER	553.50	548.75 FROM S-700	4" SCH 40S CASTING, FLOO VALVES AND CHECK VALVES	8" DUCTILE IRON HEADER	549.00	6" DR 9 HDPE	2.3 FT/SEC	MAGNETIC FLOW METER MANHOLE ON FORCE MAIN FROM PS
#5	6'-0" DIAMETER	6'-0" DIAMETER	11.80 FEET	491.00	1,480 GALLONS	26 GPM @ 32 TDH. HQMA GSP 123, 3450 RPM, 2.5 HP, 1.5" DISCHARGE, 0.25" SOLIDS HANDLING, CUTTER IMPELLER	502.60	498.00 FROM S-401	1.5" INCH FLOO VALVES AND CHECK VALVES	1.10" STEEL HEADER	498.70	2" DR 9 HDPE	3.2 FT/SEC	NO FLOW METER DUE TO SMALL SIZE, CONTROLS LOCATED IN BARGAINER CABINET TO BE INSTALLED AT PS
#6	18'-2" x 12'-6"	6'-10" x 6'-0"	19.20 FEET	496.00	3,240 GALLONS	45 GPM @ 121 TDH. HQMA GSP 103, 3450 RPM, 5.0 HP, VFD, 1.5" DISCHARGE, 0.25" SOLIDS HANDLING, CUTTER IMPELLER	515.20	508.60 FROM S-500	1.5" INCH FLOO VALVES AND CHECK VALVES	2" STEEL HEADER	512.20	2" DR 13.5 HDPE	4.6 FT/SEC	NO FLOW METER DUE TO SMALL SIZE, CONTROLS TO BE INSTALLED AT PS

NOTE: SEE DRAWINGS C9.12 AND C9.13 FOR PUMPING STATION SITE LAYOUTS

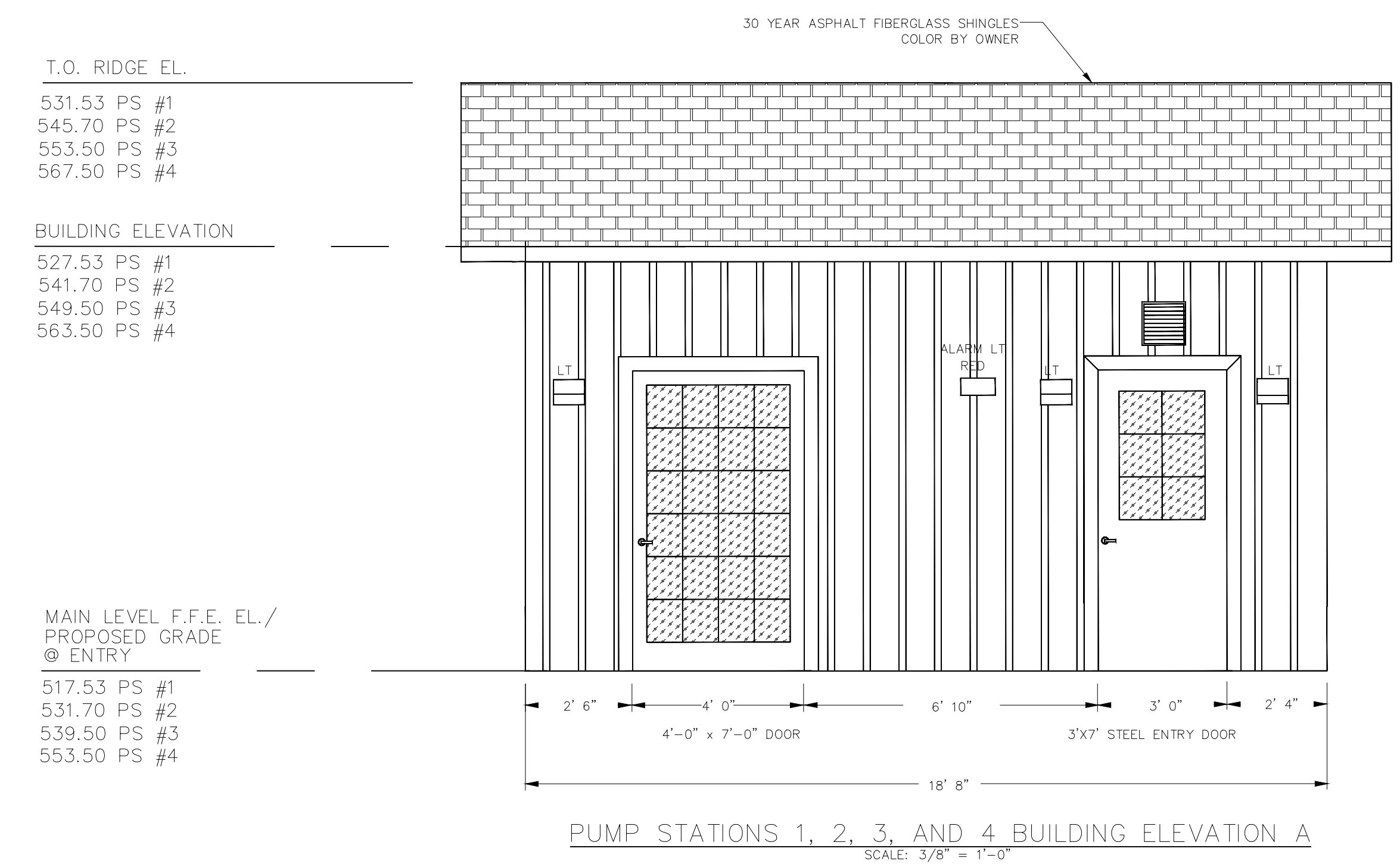
PUMPING STATION PUMP SETPOINTS							
PUMPING STATION	BOTTOM OF WETWELL	LOW LEVEL ALARM	PUMPS OFF	LEAD PUMP ON	LAG PUMP ON	LAG (2) PUMP ON	PRESSURE TRANSDUCER/FLOATS
#1	505.00	508.50	507.50	508.50	508.50	509.50	TRANSDUCER WITH BACKUP FLOATS
#2	514.00	518.50	516.00	517.00	517.50	518.50	TRANSDUCER WITH BACKUP FLOATS
#3	527.00	528.50	529.00	530.00	530.50	531.00	TRANSDUCER WITH BACKUP FLOATS
#4	542.00	543.50	544.00	545.00	545.50	546.00	TRANSDUCER WITH BACKUP FLOATS
#5	491.00	492.00	493.00	494.00	494.50	N/A	FLOATS
#6	496.00	497.50	498.00	499.00	499.50	N/A	TRANSDUCER WITH BACKUP FLOATS

T.O. RIDGE EL.
 531.53 PS #1
 545.70 PS #2
 553.50 PS #3
 567.50 PS #4

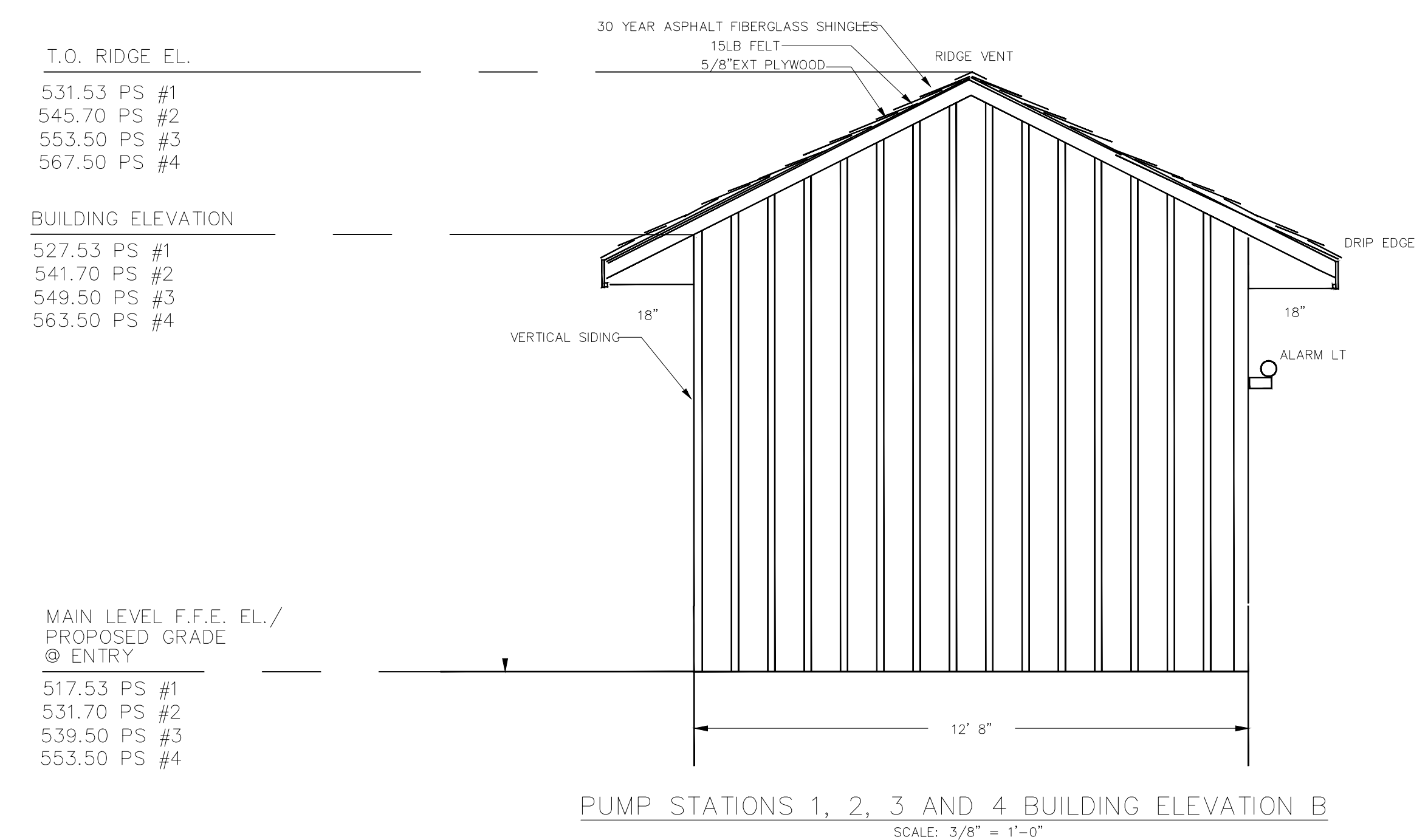
MAIN LEVEL F.F.E. EL./ PROPOSED GRADE @ ENTRY
 517.53 PS #1
 531.70 PS #2
 539.50 PS #3
 553.50 PS #4



TYPICAL PUMP STATION CONTROL PANEL LAYOUT



PUMP STATIONS 1, 2, 3, AND 4 BUILDING ELEVATION A
 SCALE: 3/8" = 1'-0"



PUMP STATIONS 1, 2, 3, AND 4 BUILDING ELEVATION B
 SCALE: 3/8" = 1'-0"

OWNER:
Silo Ridge Ventures, LLC
 9021 Route 44
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 845.373.8020

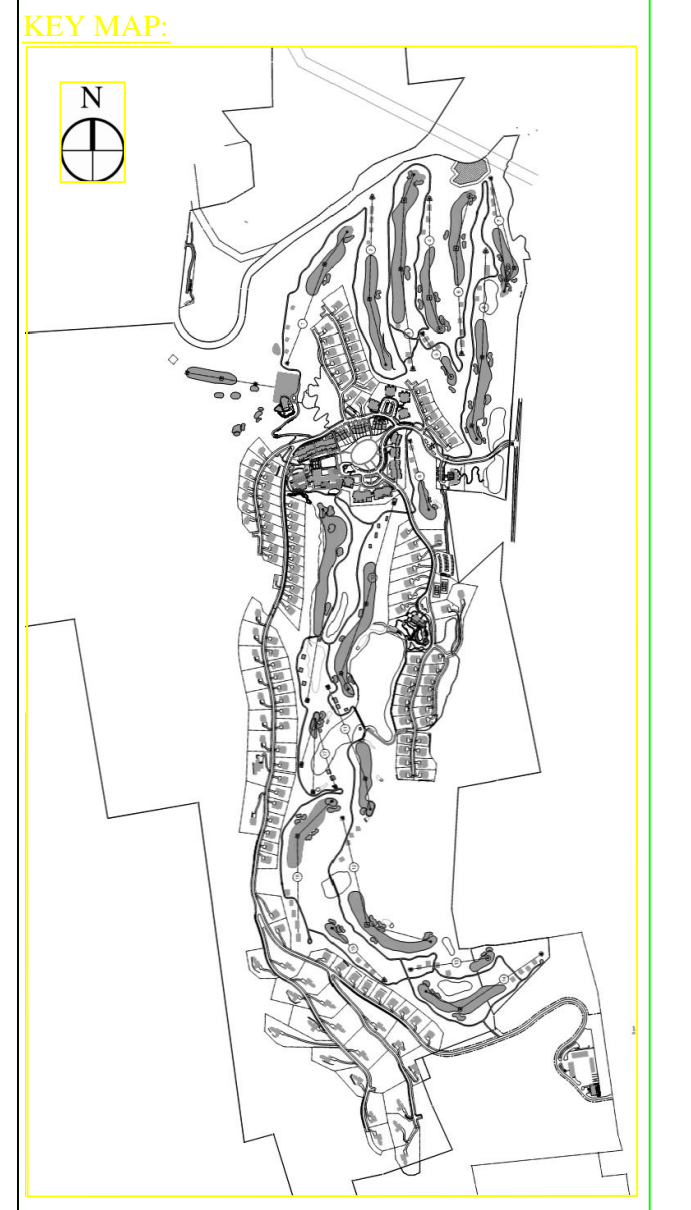
ARCHITECTS, PLANNERS, LANDSCAPE ARCHITECTS:
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PROJECT SURVEYOR:
Kirk K. Horton, Land Surveyor
 NYS License No. 049954
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 845.373.7809



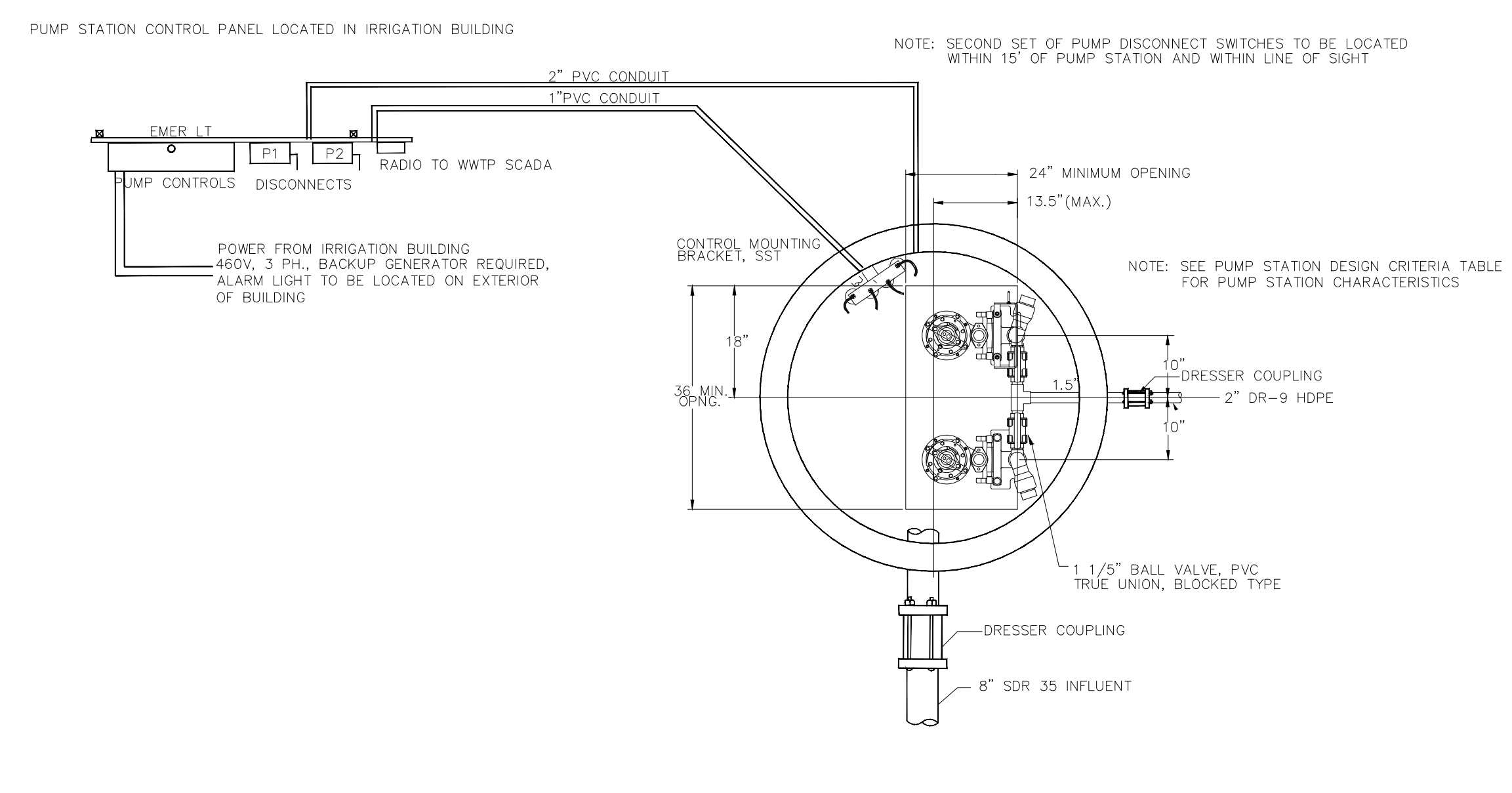
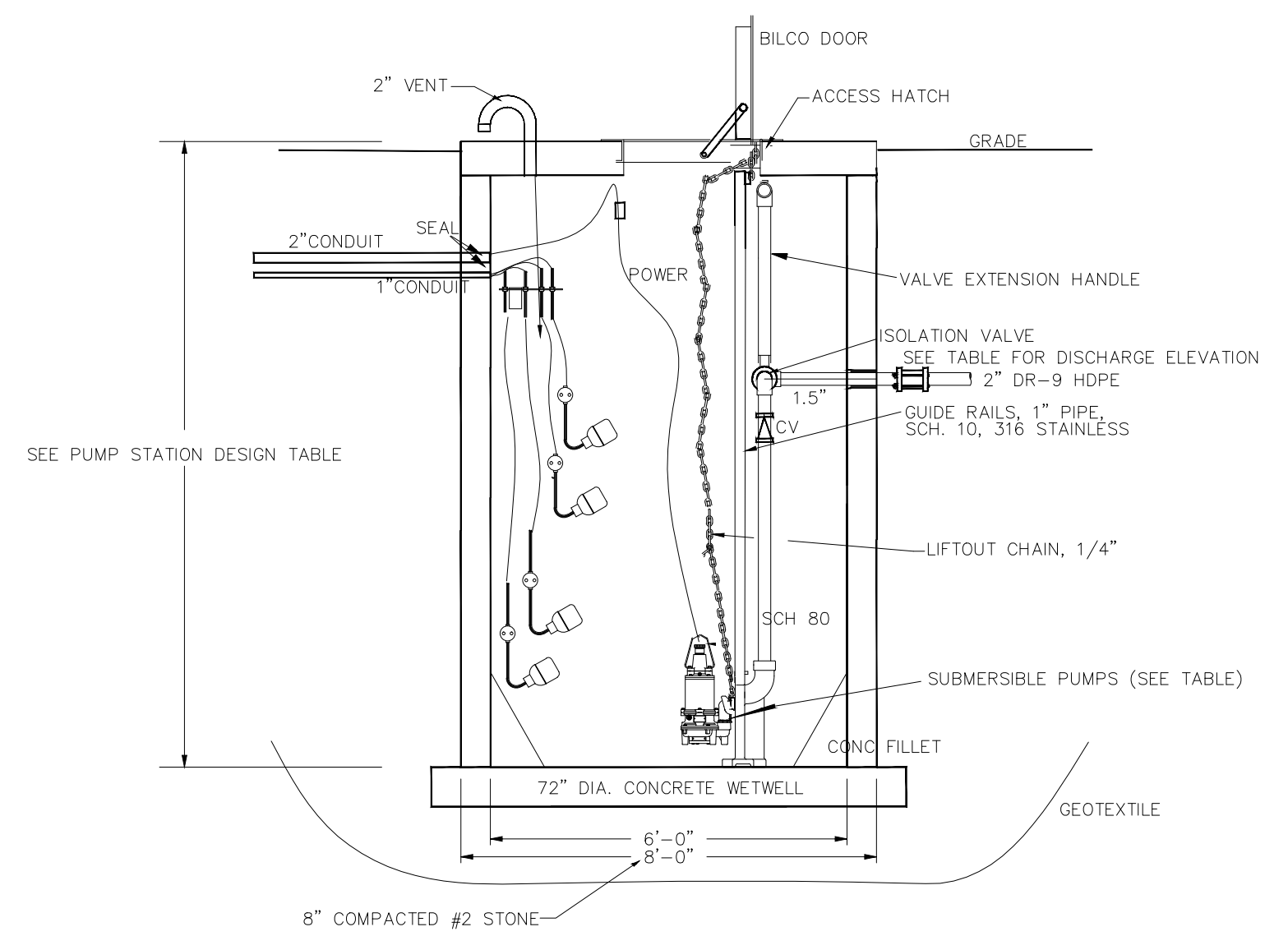
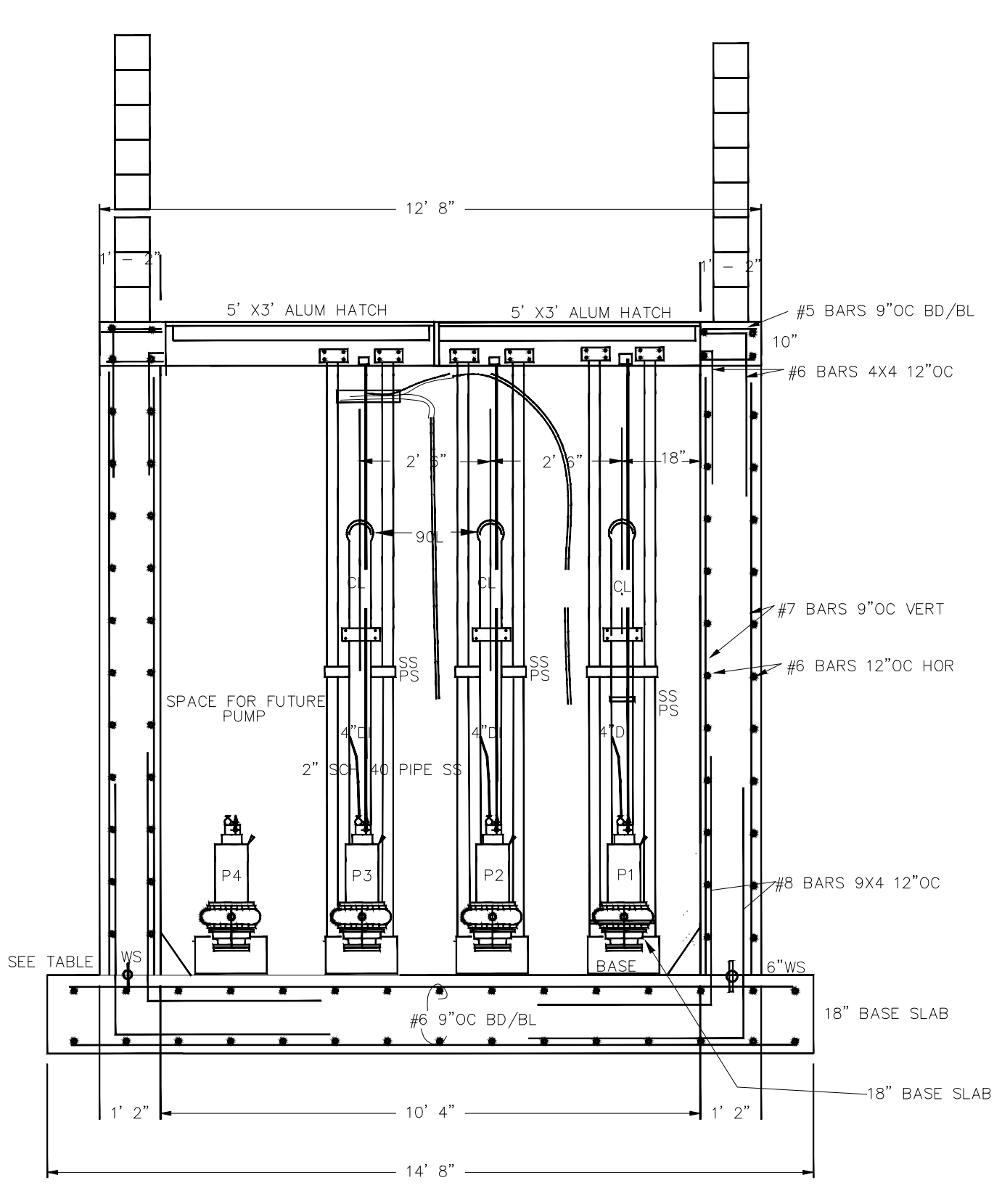
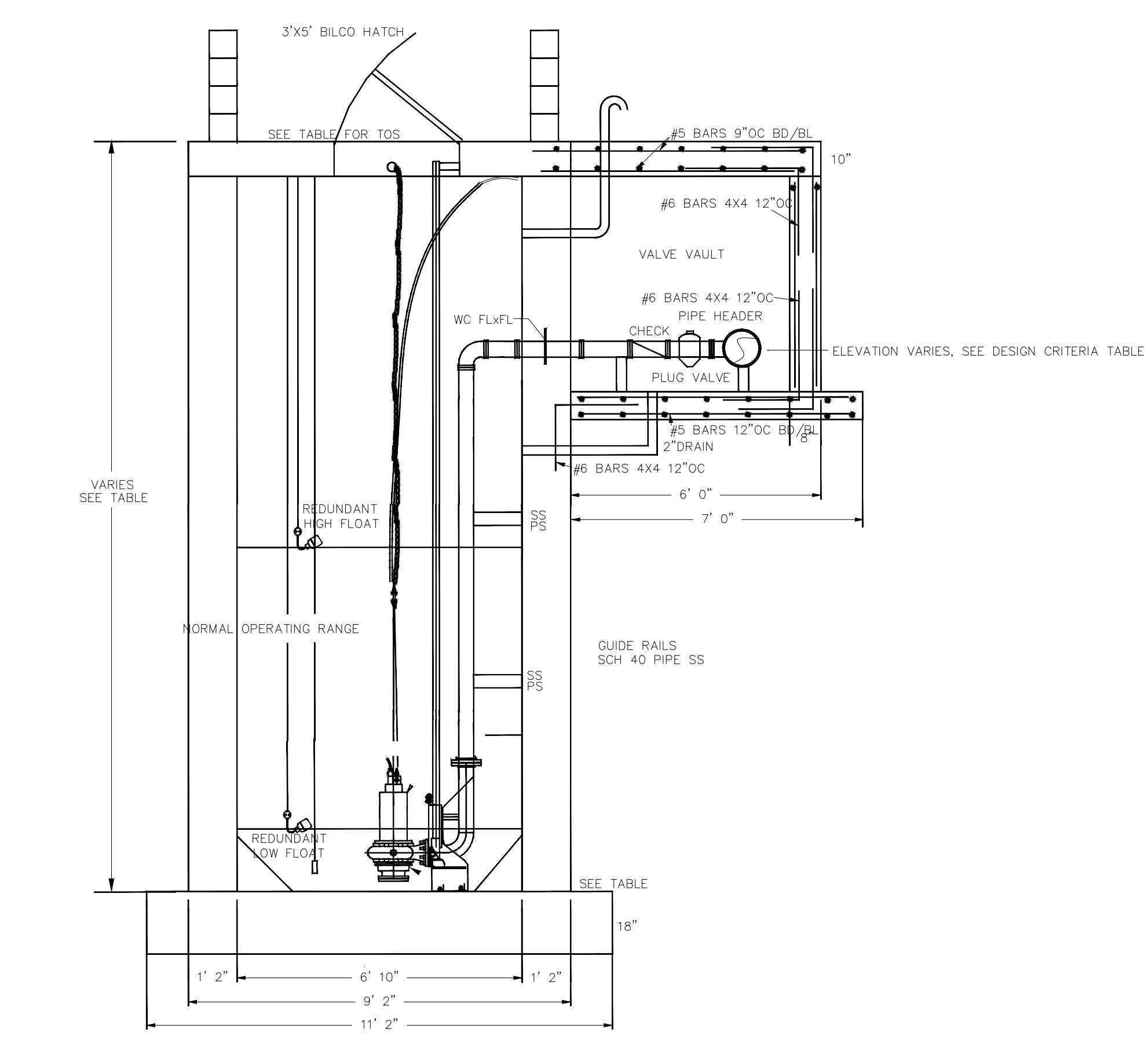
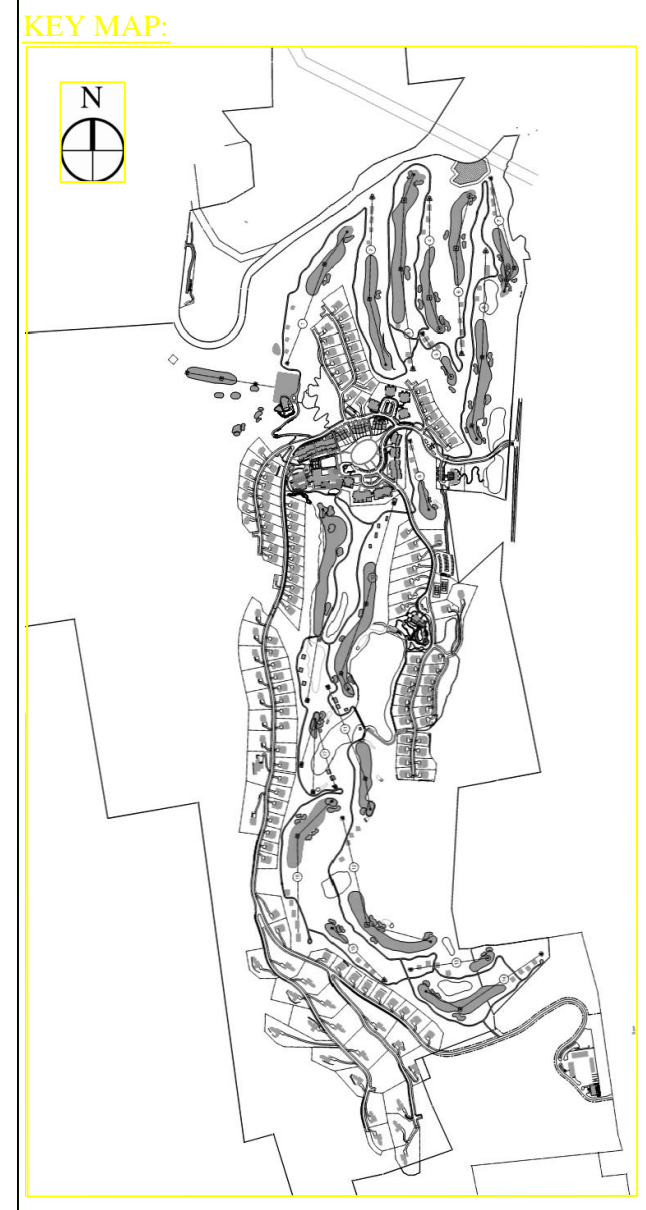
No.	Revision	Date	Appr.

Designed by **GIS** Drawn by **MS** Checked by **JSS**
 CAD checked by **---** Approved by **---**
 Scale: **AS SHOWN** Date: **January 8, 2015**
 Project Title:
Silo Ridge Resort Community
 4651 Route 22, Town of Amenia
 Dutchess County, New York
 Issued for:
Site Plan - Phase 1

Not Issued for Construction
 Drawing Title:
PUMP STATION PLAN & DETAILS 1

Drawing Number:
C10.01
 Sheet of
 Project Number:
 29011.00
 NAME:
 N.Y. Professional Engineer
 NY Lic. No. #####
 SLO_PUMP_STATIONS.DWG

PRELIMINARY PLANS, FOR PLANNING AND PERMITTING ONLY, NOT FOR CONSTRUCTION



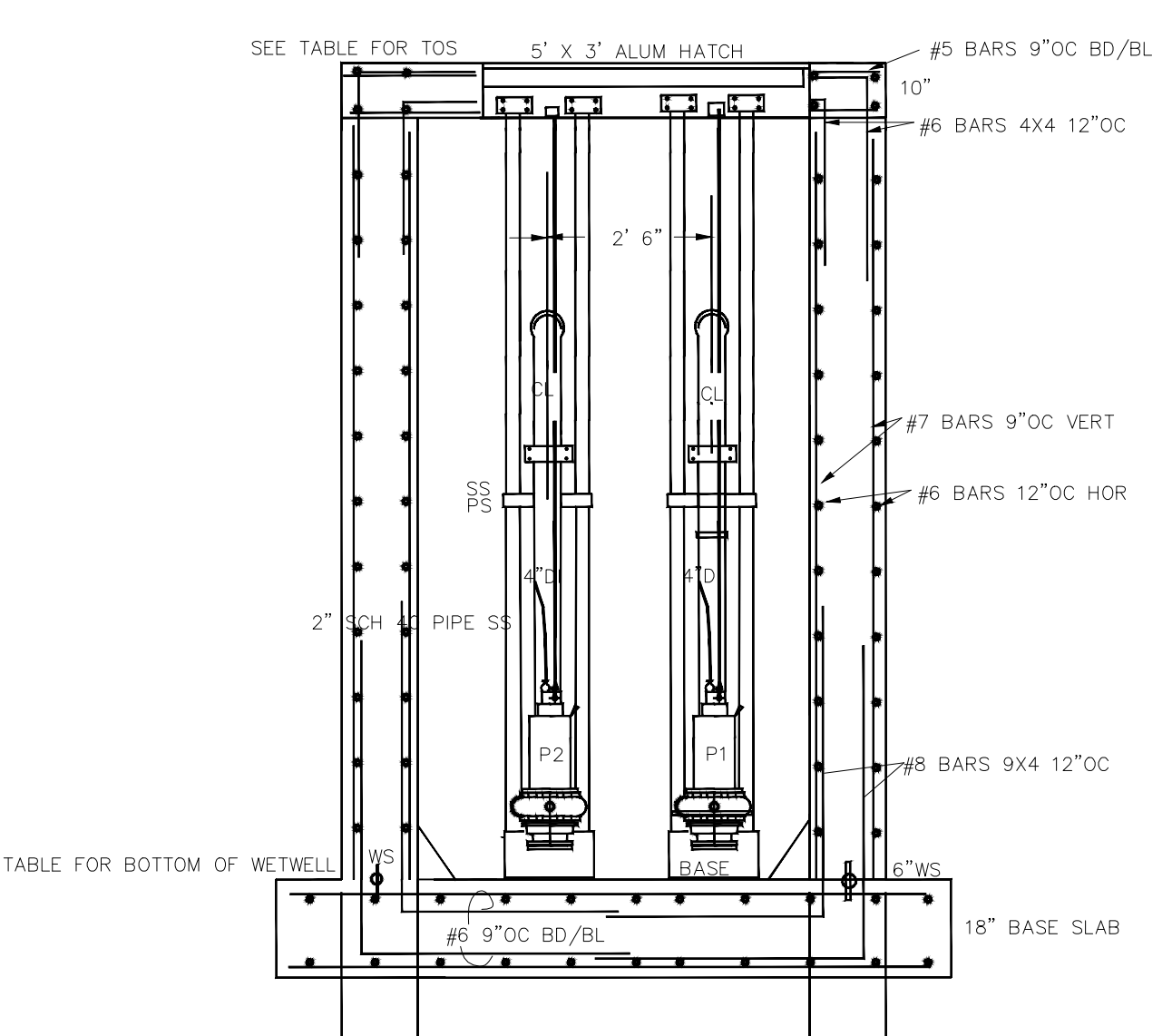
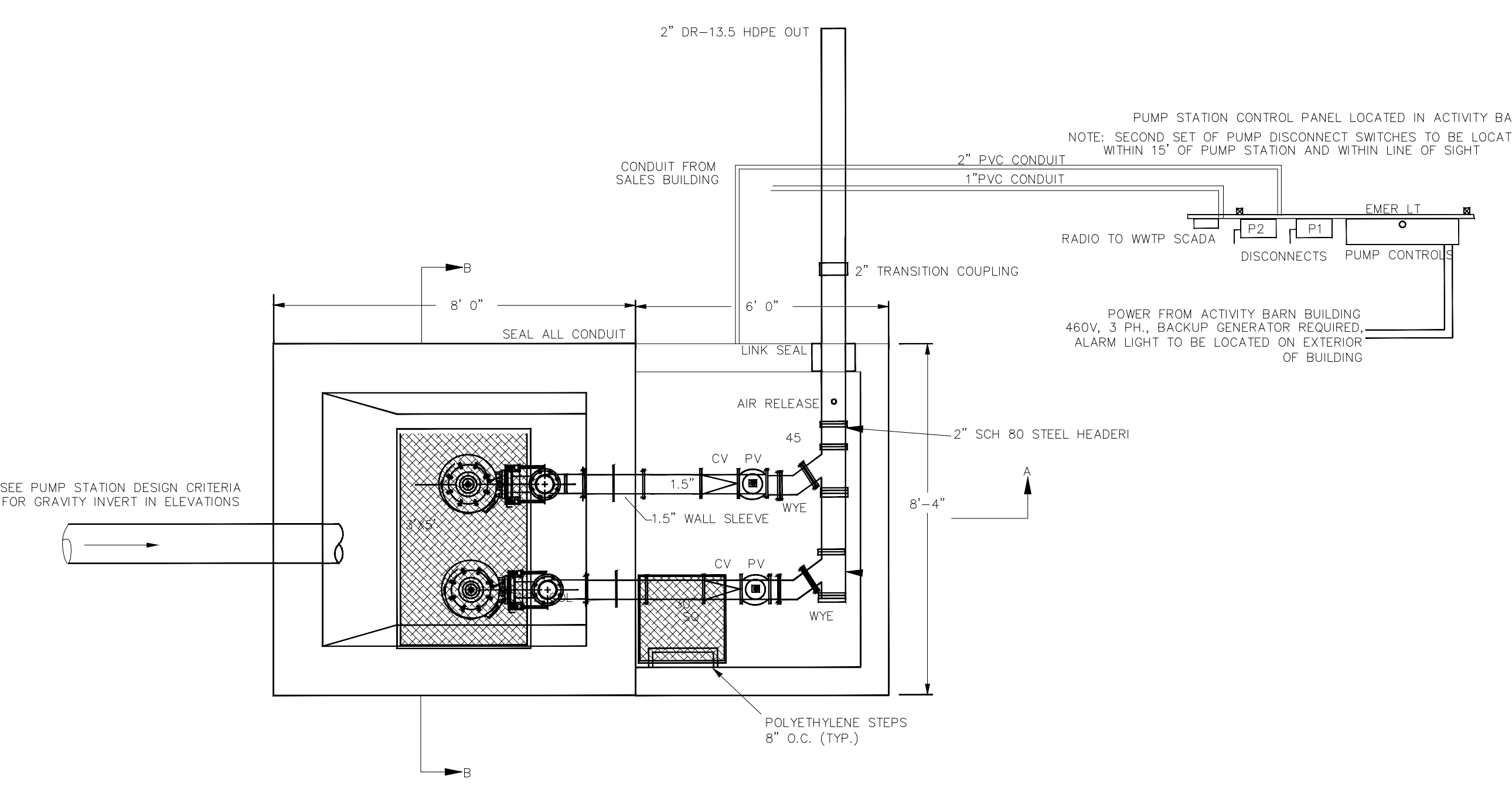
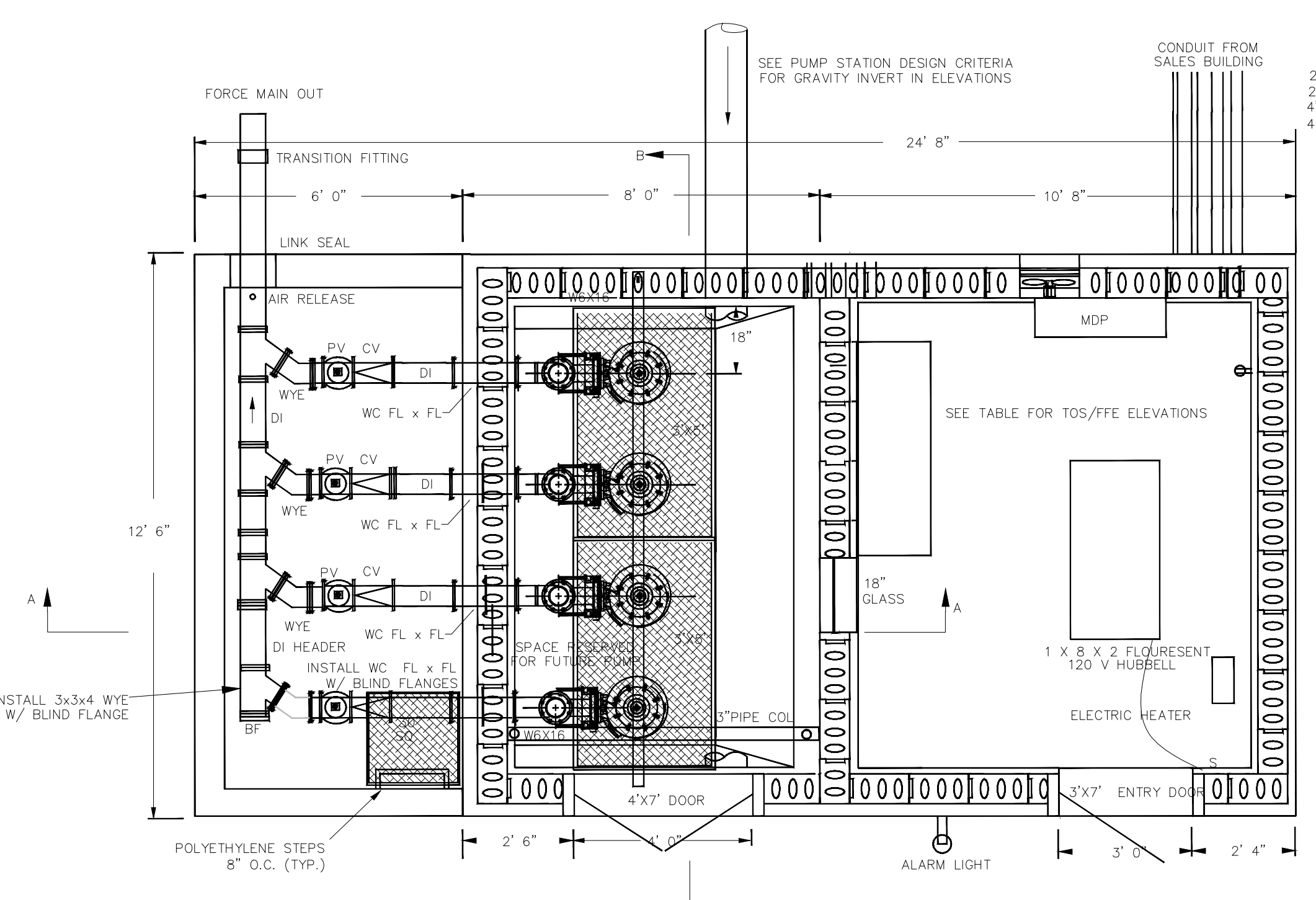
PUMP STATIONS 1, 2, 3, 4, AND 6 SECTION A-A
SCALE 3/8" = 1 FT

PUMP STATIONS 1, 2, 3, AND 4 SECTION B-B
SCALE 3/8" = 1 FT

PUMP STATION 5 - ELEVATION VIEW
SCALE 3/8" = 1 FT

PUMP STATION 5 - PLAN VIEW
SCALE 3/8" = 1 FT

NOTE: SEE DRAWINGS C9.12 AND C9.13 FOR PUMPING STATION SITE LAYOUTS

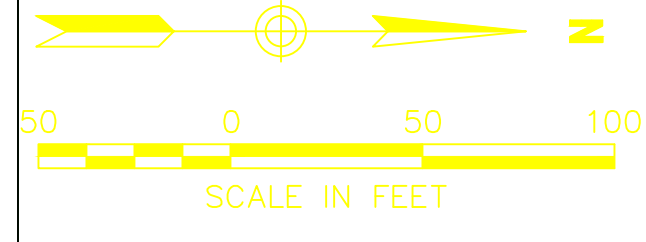


PUMP STATIONS 1, 2, 3, AND 4 - PLAN VIEW
SCALE 3/8" = 1 FT

PUMP STATION 6 - PLAN VIEW
SCALE 3/8" = 1 FT

PUMP STATION 6 SECTION B-B
SCALE 3/8" = 1 FT

PRELIMINARY PLANS, FOR PLANNING AND PERMITTING ONLY, NOT FOR CONSTRUCTION



No.	Revision	Date	Appr.

Designed by GIS Drawn by JMS Checked by JSS
CAD checked by --- Approved by ---
Scale AS SHOWN Date January 8, 2015
Project Title
Silo Ridge Resort Community
4651 Route 22, Town of Amenia
Dutchess County, New York
Issued for
Site Plan - Phase 1

Not Issued for Construction
Drawing Title
PUMP STATION PLAN & DETAILS 2

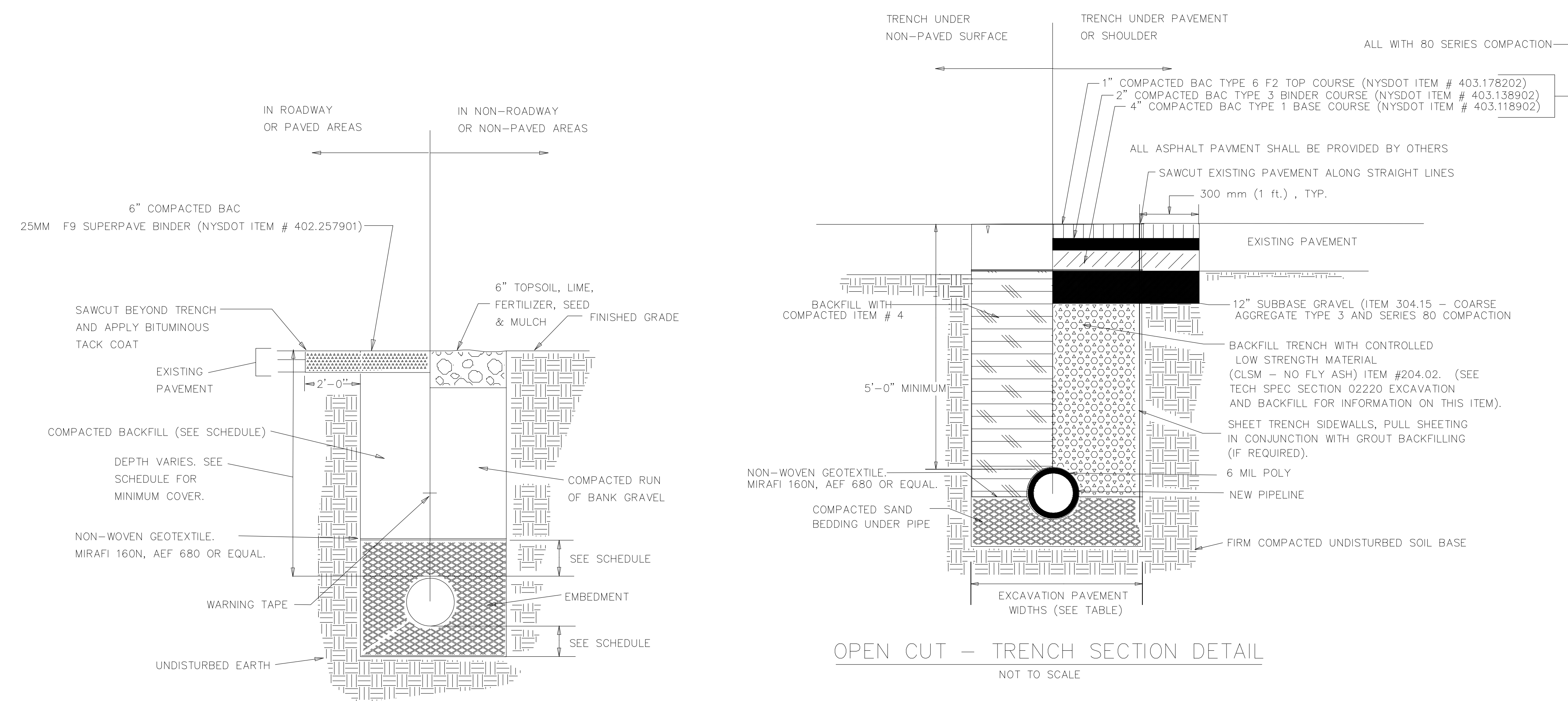
Sheet	of	Drawing Number
		C10.02

NAME
N.Y. Professional Engineer
NY Lic. No. ###

Project Number
29011.00

SILO PUMP STATIONS.DWG

GENERAL NOTES:
ALL WASTEWATER SYSTEM EQUIPMENT NOT SPECIFICALLY INDICATED ON PLANS AND DETAILS MAY BE ACCEPTABLE TO OWNER AND ENGINEER, BUT CAN ONLY BE SUBSTITUTED WITH APPROVED EQUAL IF APPROVED IN WRITING BY ENGINEER AND OWNER.



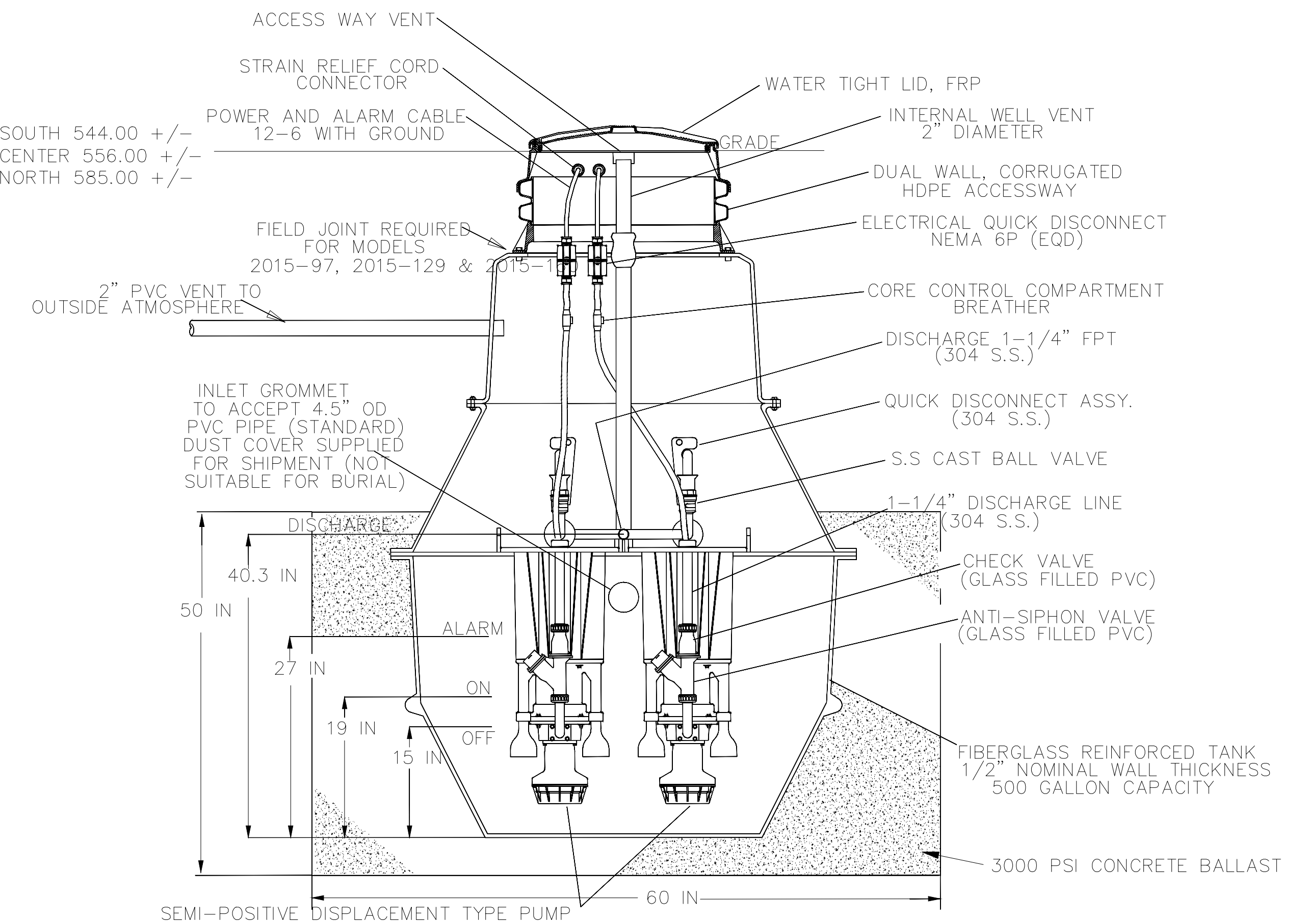
PIPE EMBEDMENT AND BACKFILL SCHEDULE

Application	Pipe Type	EMBEDMENT			MINIMUM TOTAL PIPE COVER		BACKFILL IN NON-NYS DOT ROADWAYS OR PAVED AREAS		Marking Topc
		Bedding Material	Depth Under Pipe (inches)	Depth Over Pipe (inches)	Depth	of Cover	Type of Backfill		
Water Main	HDPE	ROB Sand	4	6	60	All Depths	Item #4	Water *	
Water Service	HDPE	ROB Sand	4	6	60	All Depths	Item #4	Water *	
Water Service Sleeve / Casing	HDPE	ROB Sand	4	6	60	All Depths	Item #4	Water *	
Sanitary Sewer	PVC-SDR 35	#1A Stone	4	6	as required	All Depths	Item #4	Sewer *	
Sanitary Lateral	PVC-SDR 35	#1A Stone	4	6	as required	All Depths	Item #4	Sewer *	
FORCE MAIN	HDPE	ROB Sand	4	6	*36"	All Depths	Item #4	Sewer *	
Structure Drain PE J048 (Black Plastic)		#1A Stone	4	6	as required	All Depths	Item #4		
Electrical Conduit Galvanized Rigid Conduit		ROB Sand	4	6	24"	All Depths	Item #4	Electric *	

- NOTES:
- CONTRACTOR'S OPERATIONS SHALL CONFORM WITH OSHA REGULATIONS.
 - CONTRACTOR SHALL INSTALL NOT GREATER THAN 24 INCHES ABOVE ALL PIPELINES A 2 INCH WIDE WARNING TAPE WITH CONTINUOUS WORDING: "CAUTION: BURIED PIPELINE BELOW" * INDICATES METALIC TAPE ABOVE ALL NON-METALIC PIPE
 - CONTRACTOR SHALL INSTALL 2" THICK X 2' WIDE RIDGED DOW BOARD ABOVE ALL ALL LATERALS LESS THAN 3'-6" IN BURIAL DEPTH

TRENCH DETAIL (IN NON-NYS DOT AREAS)
NOT TO SCALE

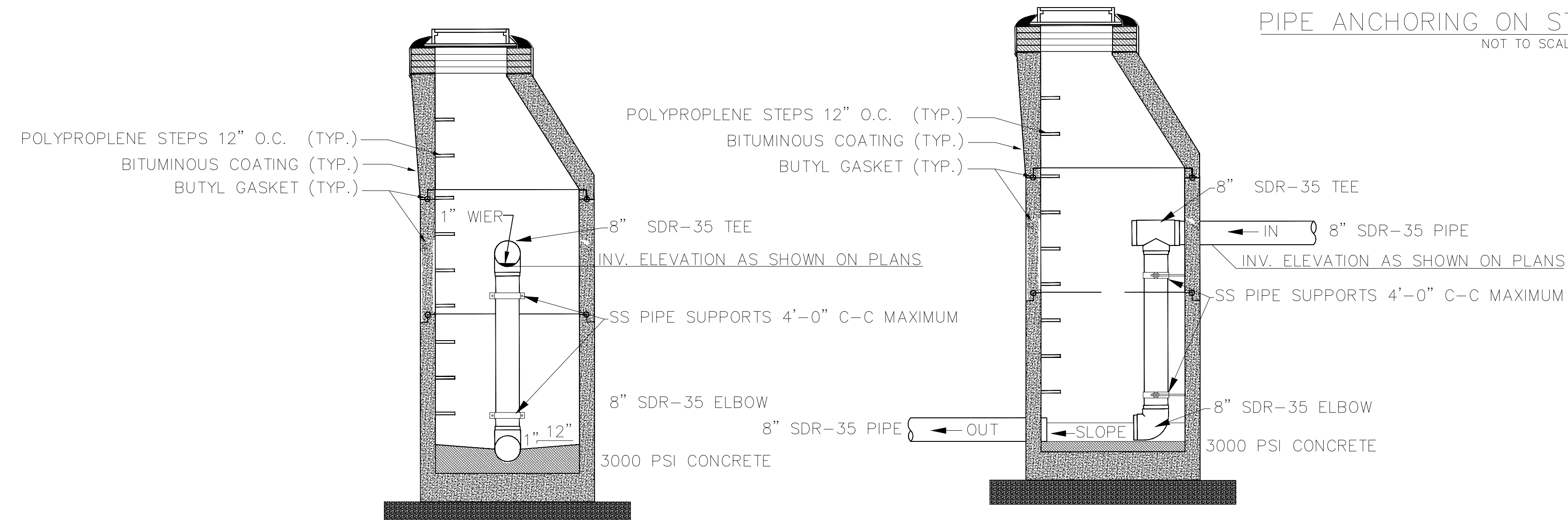
OPEN CUT - TRENCH SECTION DETAIL
NOT TO SCALE



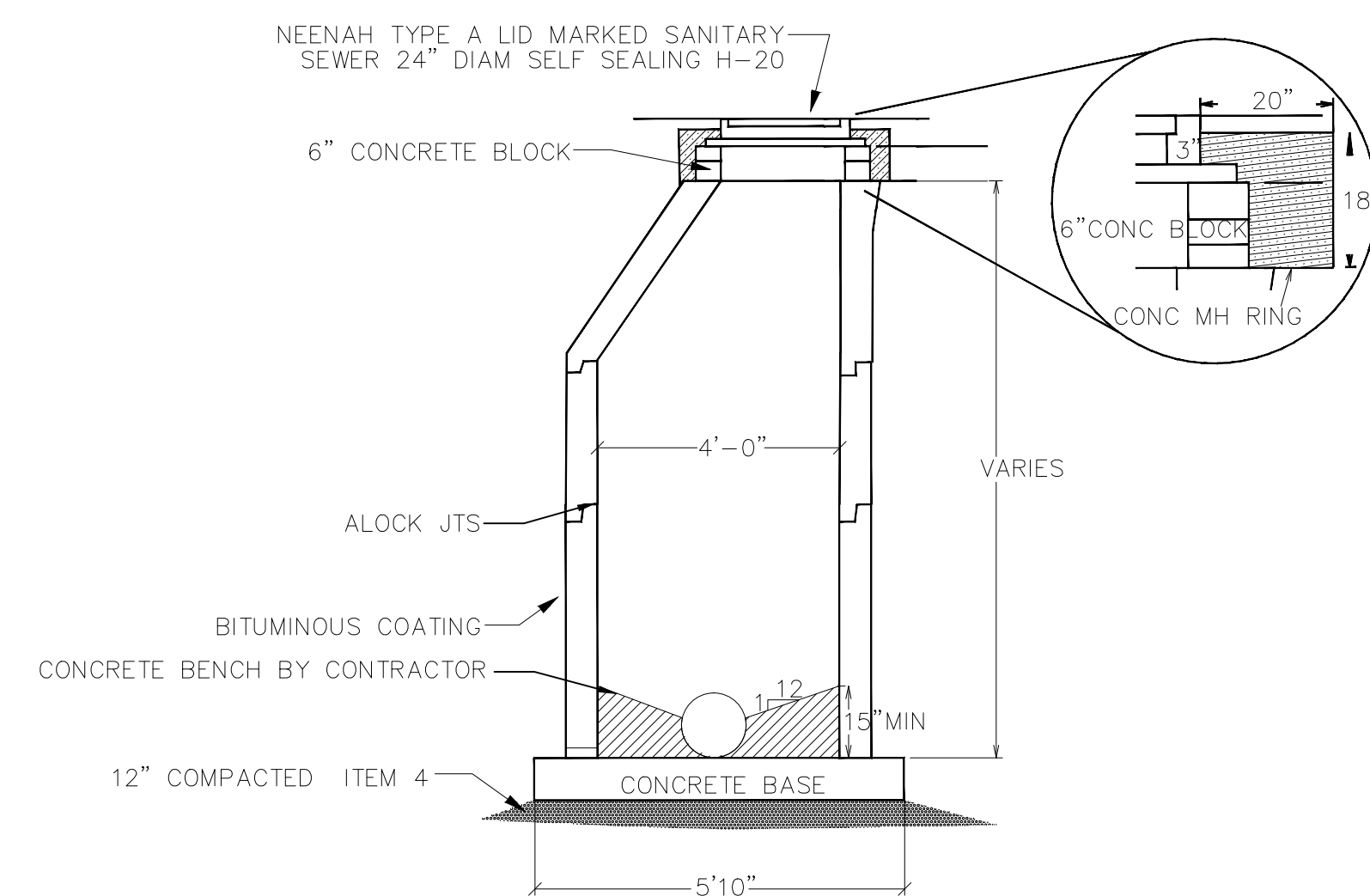
- NOTES:
- PUMP STATION INSTALLED AT THE TWO COMFORT STATION BUILDING DISCHARGE CONNECTED TO 1 1/2" HDPE PIPE WITH DRESSER COUPLING
 - E/ONE PUMP STATION D SERIES - MODEL # DH502 CONTROL PANEL MODEL T-260
 - HIGH WATER LEVEL ALARM CONNECTED TO THE SCADA SYSTEM

- PUMP DUTY POINTS:
- COMFORT STATION SOUTH, 10 GPM @ 20' TDH INSTALL 1 1/2" HDPE DR-7 PIPE TO SMH S-702
 - COMFORT STATION CENTER, 10GPM @ 20' TDH INSTALL 1 1/2" HDPE DR-7 PIPE TO SMH S-315
 - COMFORT STATION NORTH, 10 GPM @ 100' TDH INSTALL 1 1/2" HDPE DR-7 PIPE TO SMH S-124
- PIPE SHALL BE INSTALLED TO PREVENT AIR POCKETS FROM FORMING IN DISCHARGE PIPE. INSTALL AIR RELEASES AS REQUIRED

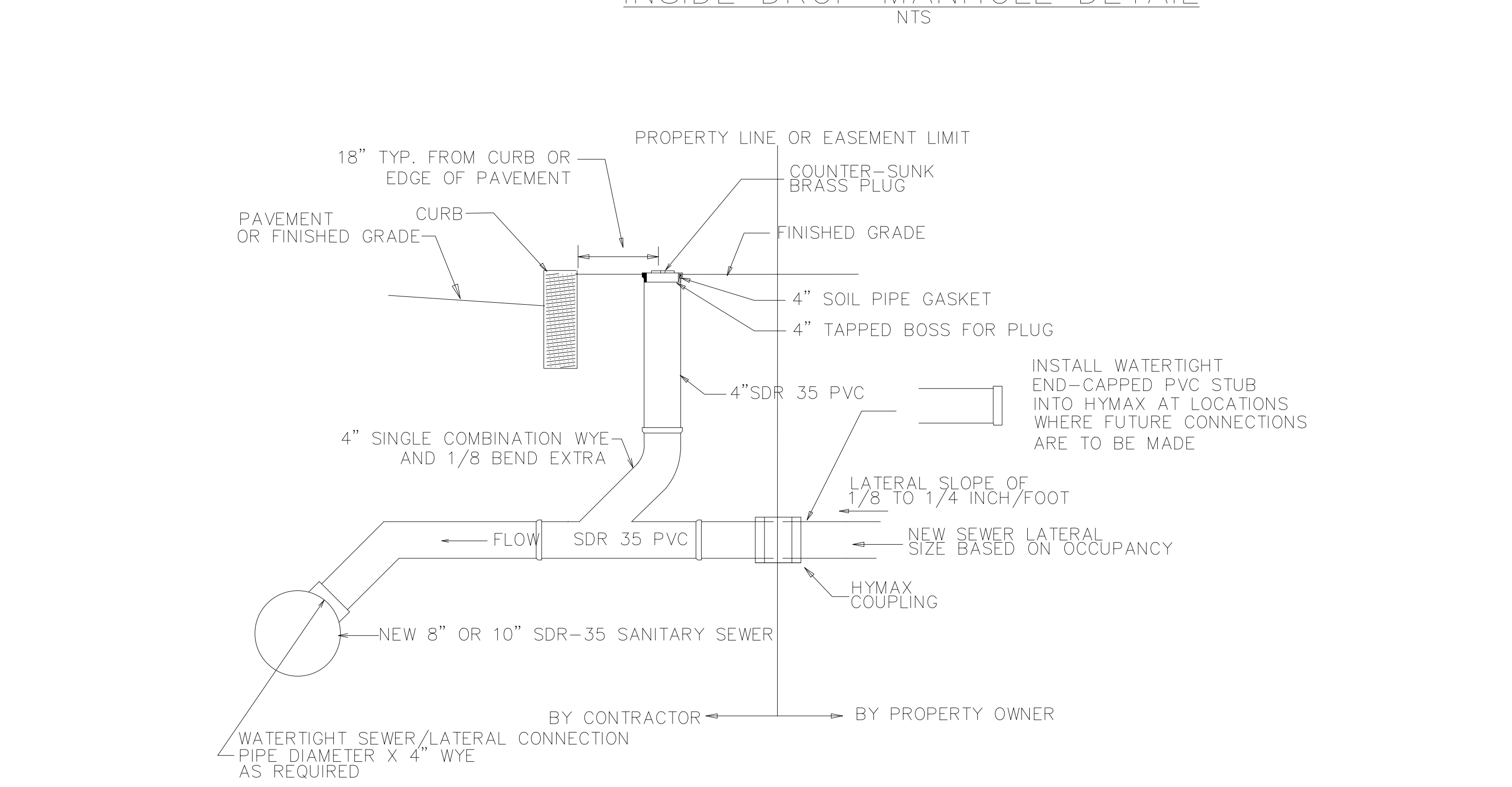
PIPE ANCHORING ON STEEP SLOPE DETAILS
NOT TO SCALE



MANHOLE DETAIL (TYP.)
NOT TO SCALE



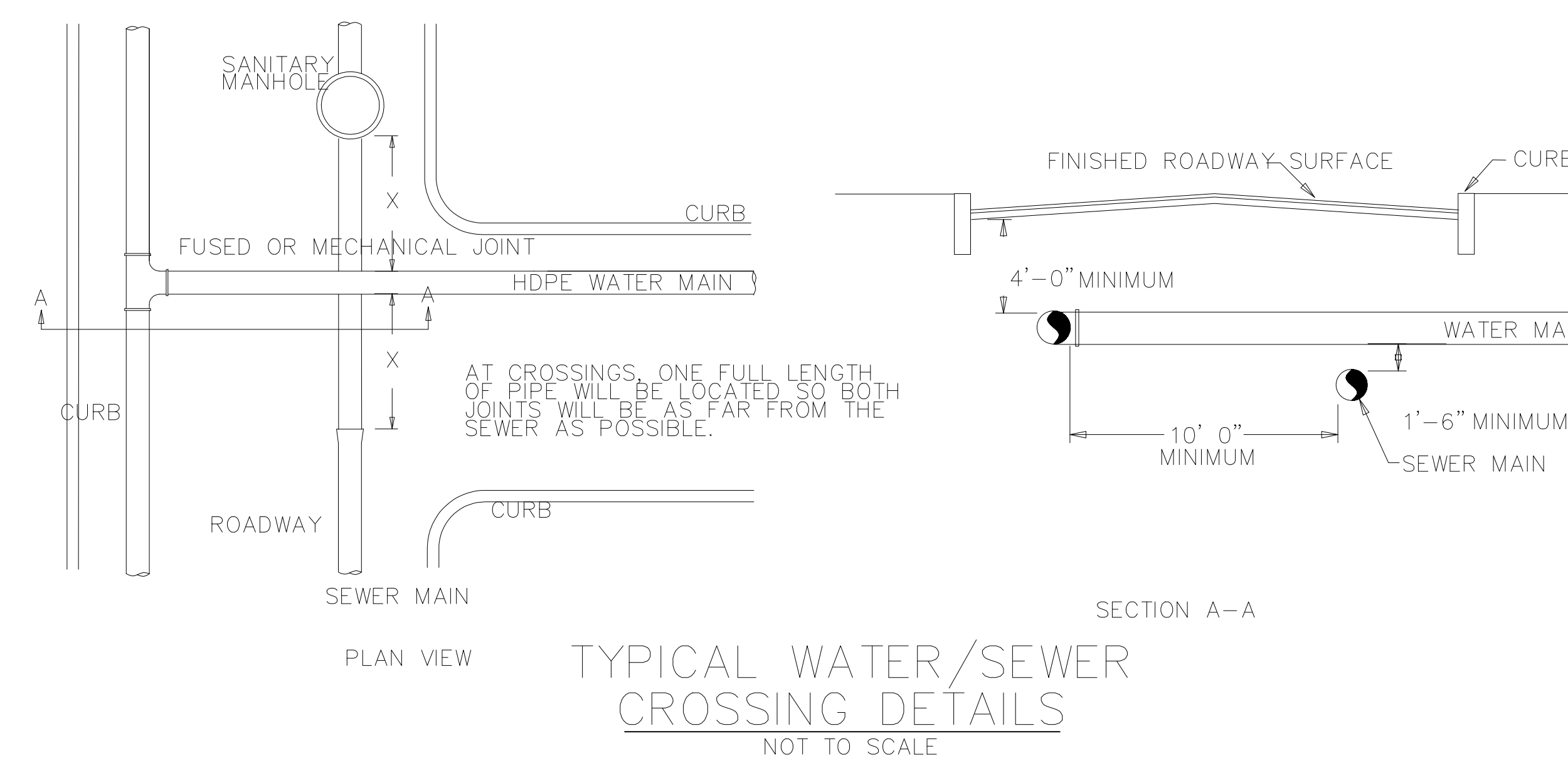
INSIDE DROP MANHOLE DETAIL
NOT TO SCALE



WATER MAIN/SANITARY SEWER CROSSING CLSM/FLOWABLE FILL ENCASEMENT
NOT TO SCALE

- NOTES:
- SEWER MAIN JOINTS SHALL BE ENCASED IN CONTROLLED LOW STRENGTH MATERIAL (NYSDOT ITEM # 204.02 - NO FLY ASH) IN CASES WHERE: (1) THE WATER MAIN IS LOCATED AT A DISTANCE LESS THAN 5 FEET HORIZONTALLY AND LESS THAN 18 INCHES VERTICALLY ABOVE THE TOP OF THE SANITARY AND SEWER AND/OR WHEN (2) THE WATER MAIN IS LOCATED AT A DISTANCE LESS THAN 10 FEET HORIZONTALLY AND VERTICALLY BELOW THE TOP OF THE SANITARY SEWER.
 - PROVIDE ALL NECESSARY PLATING, SIGNAGE, BARRICADES, TRAFFIC CONTROL, ETC., AS REQUIRED TO KEEP TRAFFIC OFF THE TRENCH FOR A PERIOD NOT LESS THAN 24 HOURS FOLLOWING INSTALLATION OF CLSM AND/OR UNTIL THE TRENCH IS RESTORED.

COMFORT STATION PUMP STATION DETAILS
NOT TO SCALE



- NOTES:
- IN CASES WHERE IT IS NOT POSSIBLE TO MAINTAIN THE 5 FOOT SEPARATION (X), THE WATER MAIN SHALL BE LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELF LOCATED ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER.
 - SEWER MATERIALS SHALL BE WATERWORKS GRADE 150 PSI PRESSURE RATED PIPE OR EQUIVALENT AND SHALL BE PRESSURE TESTED IN ACCORDANCE WITH PROTOCOLS SPECIFIED FOR PRESSURE PIPELINES WHERE SEWERS ARE BEING INSTALLED AND SPECIFIED SEPARATION DISTANCES CANNOT BE MET.
 - NO NEW WATER PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF A SEWER MANHOLE.
 - DETAILS ALSO APPLICABLE FOR WATER/GAS LINE CROSSINGS.

SANITARY LATERAL DETAIL
NOT TO SCALE

NOTE: ALL HOUSING UNITS SHALL HAVE A 4" SANITARY SEWER LATERAL INSTALLED FROM PROPERTY OWNER CONNECTION TO HOUSE UNIT. LATERAL SHALL BE INSTALLED WITH SLOPE TO SANITARY COLLECTION SYSTEM NO LESS THAN 1/8" PER FOOT.

GENERAL NOTES:
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OWNER:
Silo Ridge Ventures, LLC
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Amenia, New York 12501
845.373.8020

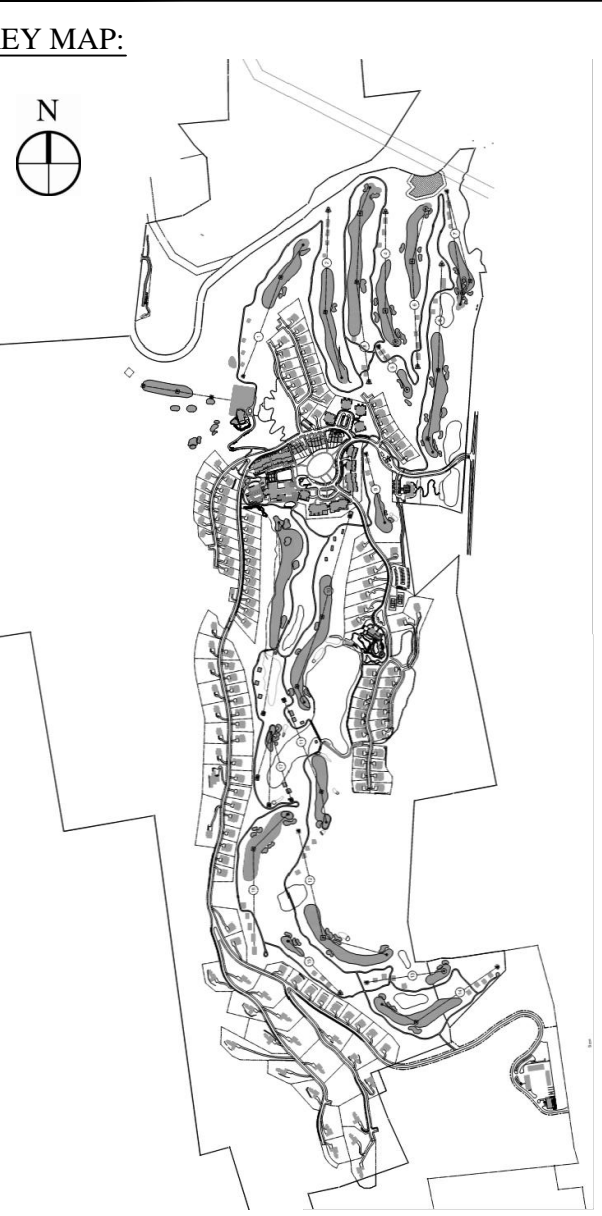
ARCHITECTS, PLANNERS, LANDSCAPE ARCHITECTS:
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10 East 40th Street New York, NY 10016
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PROJECT SURVEYOR:
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845.373.7809



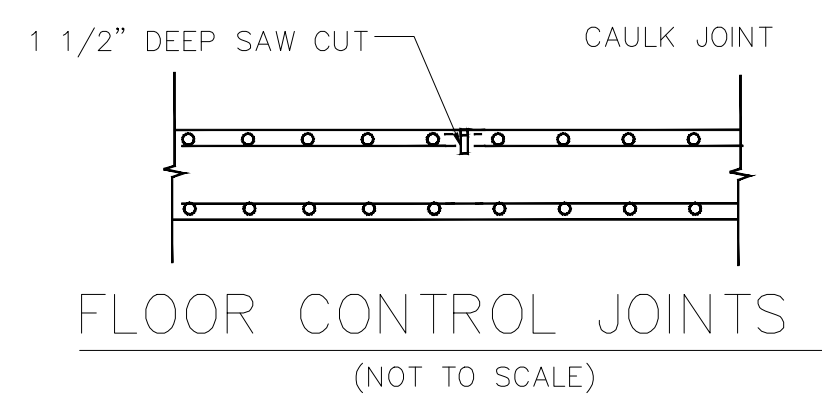
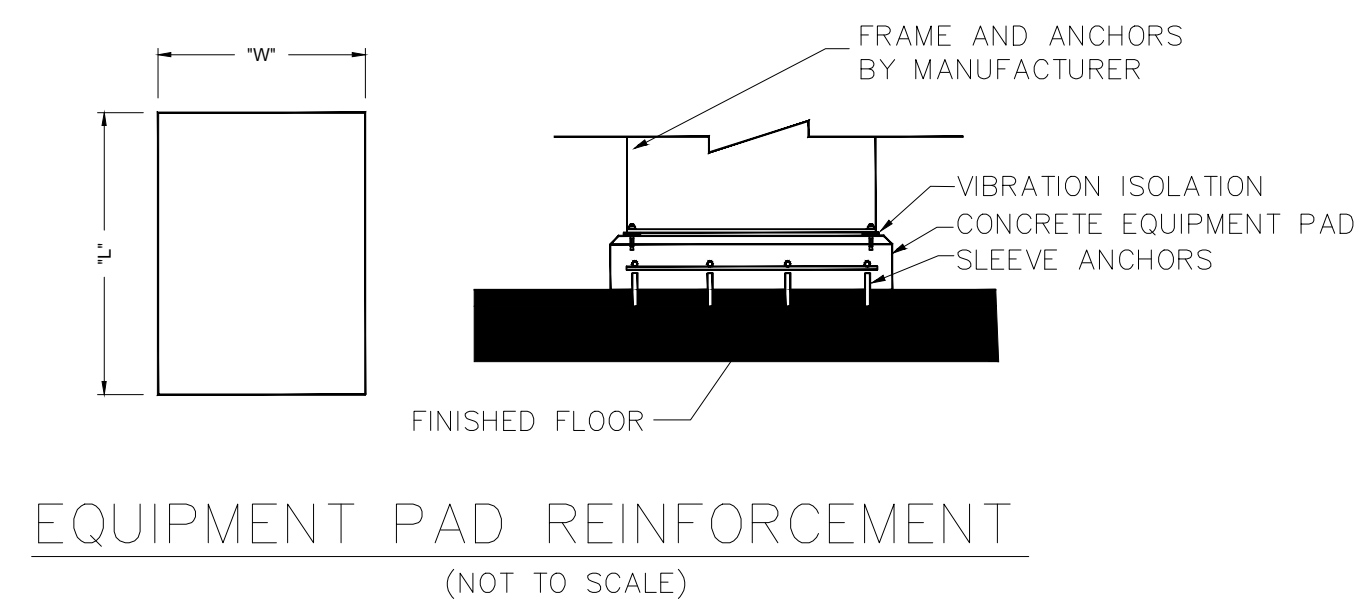
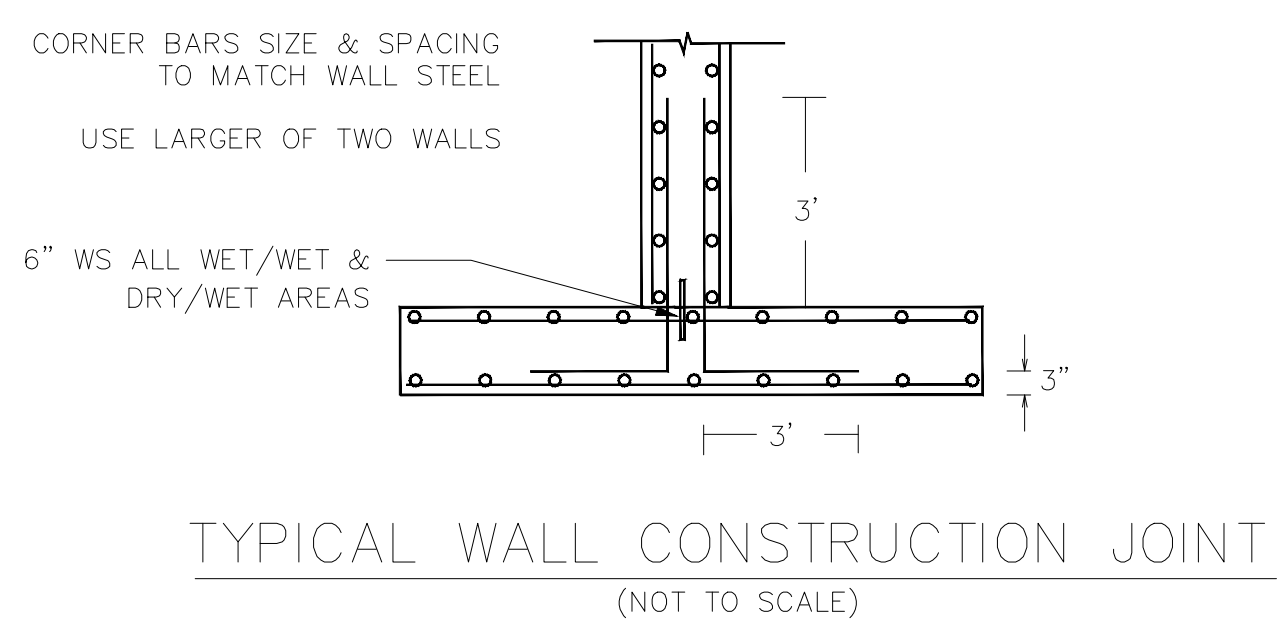
Rev.	Revision	Date	Appr.

Designed by gts Drawn by ms Checked by js
CAD checked by Approved by
Scale: AS SHOWN Date: January 8, 2015
Project Title
Silo Ridge Resort Community
4651 Route 22, Town of Amenia
Dutchess County, New York
Sheet Title
Site Plan - Phase 1

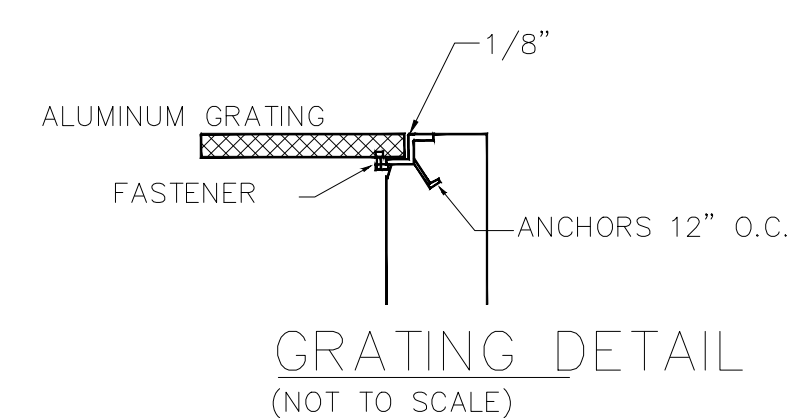
Not Issued for Construction
Drawing Title
GENERAL WASTEWATER DETAILS

Drawing Number
C10.03
Sheet of
NAME: **NY 29011.00** Project Number: **29011.00**
N.Y. Professional Engineer: **NY Lic. No. ##**

PRELIMINARY PLANS. FOR PLANNING AND PERMITTING ONLY. NOT FOR CONSTRUCTION

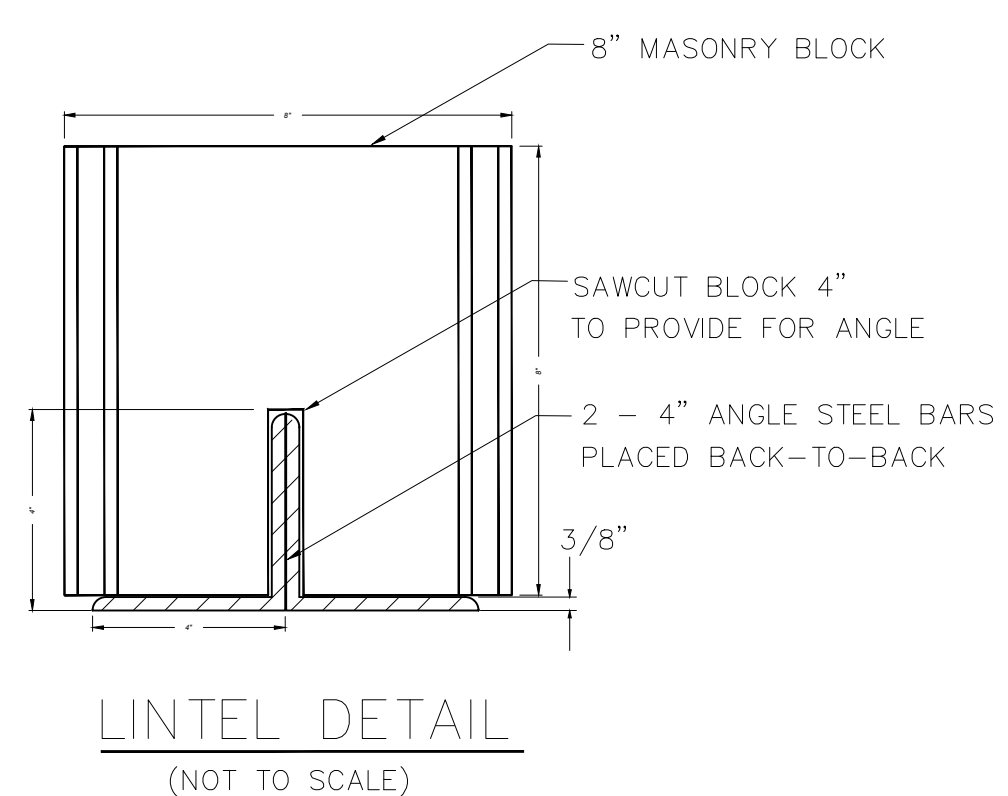
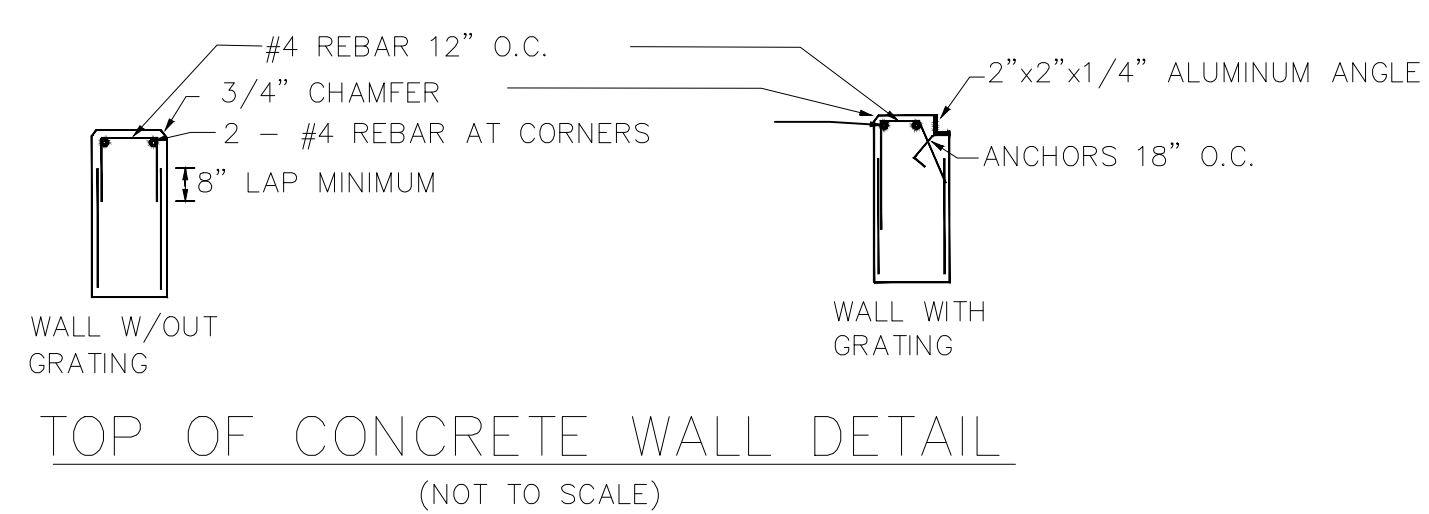
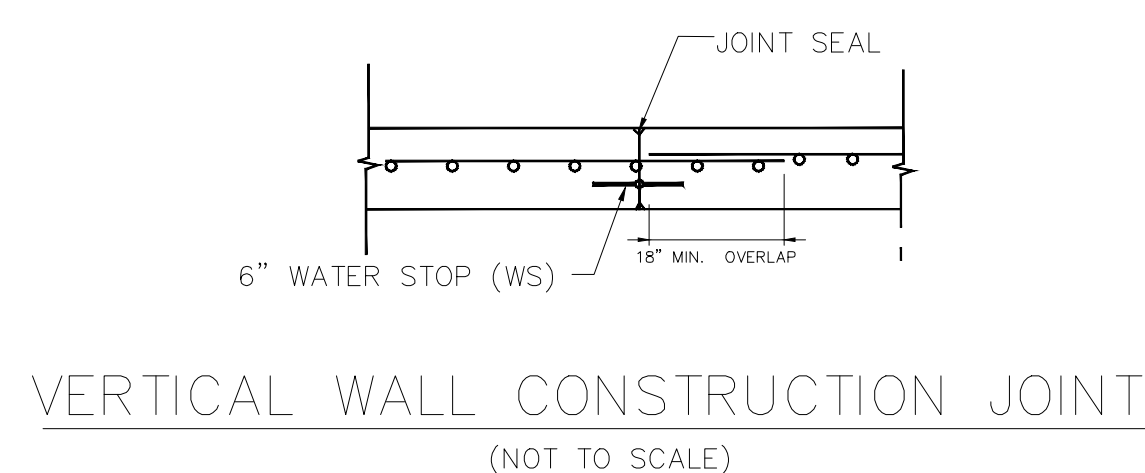
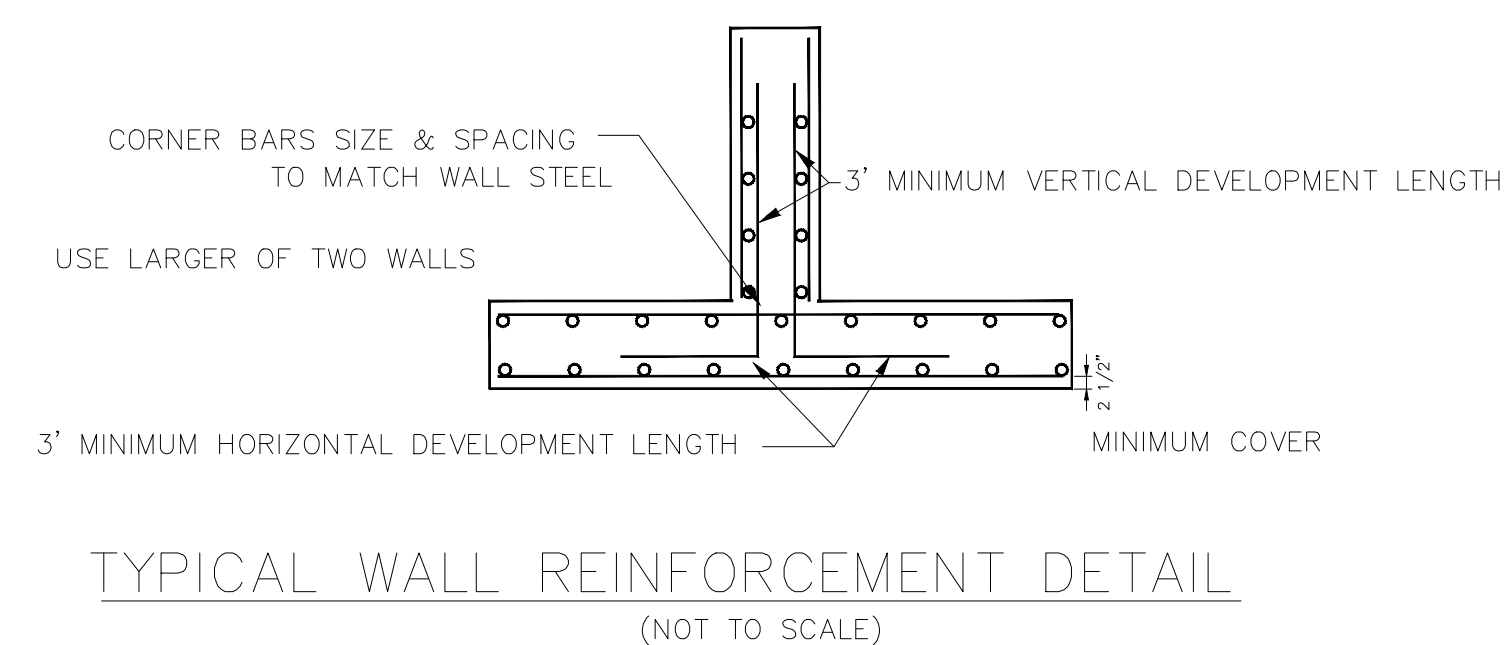
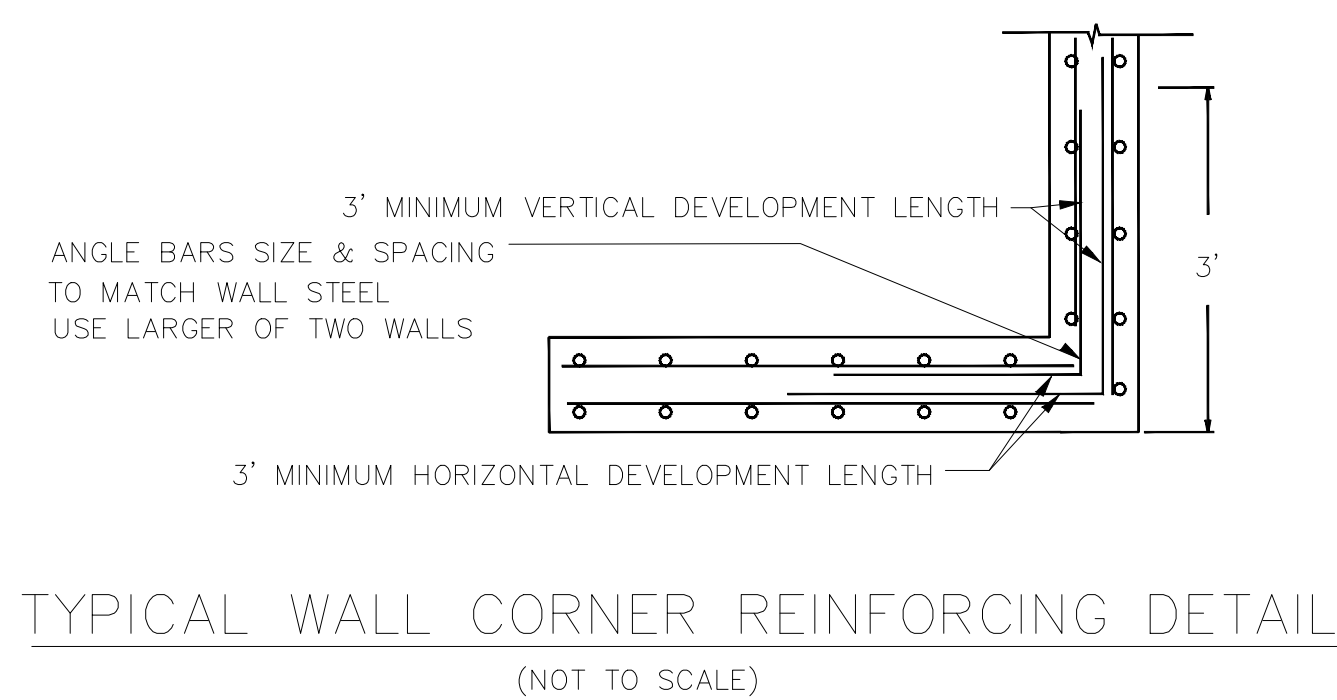
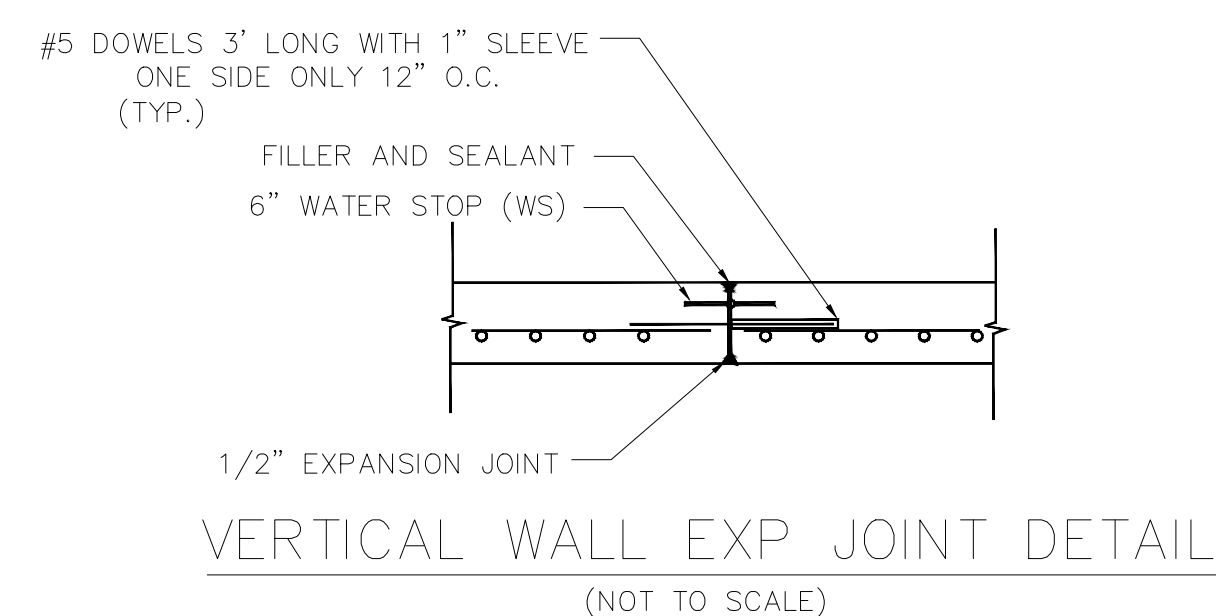
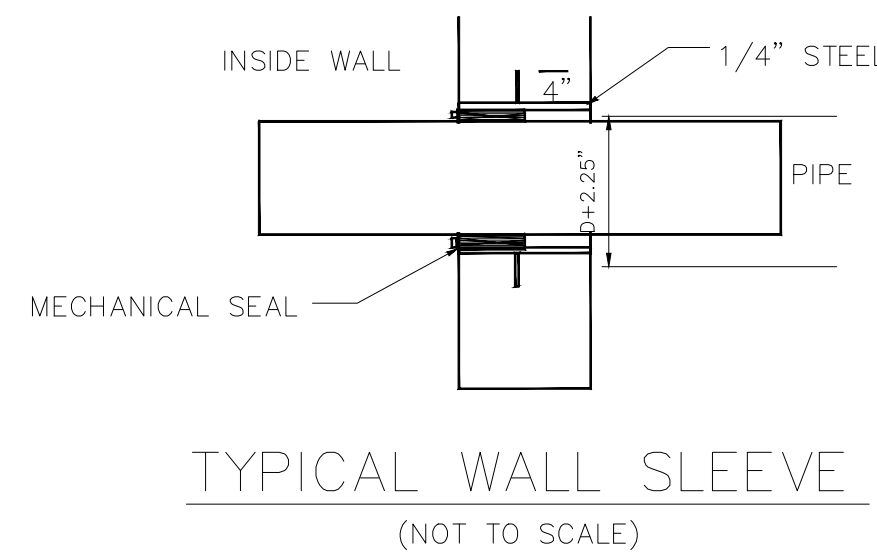
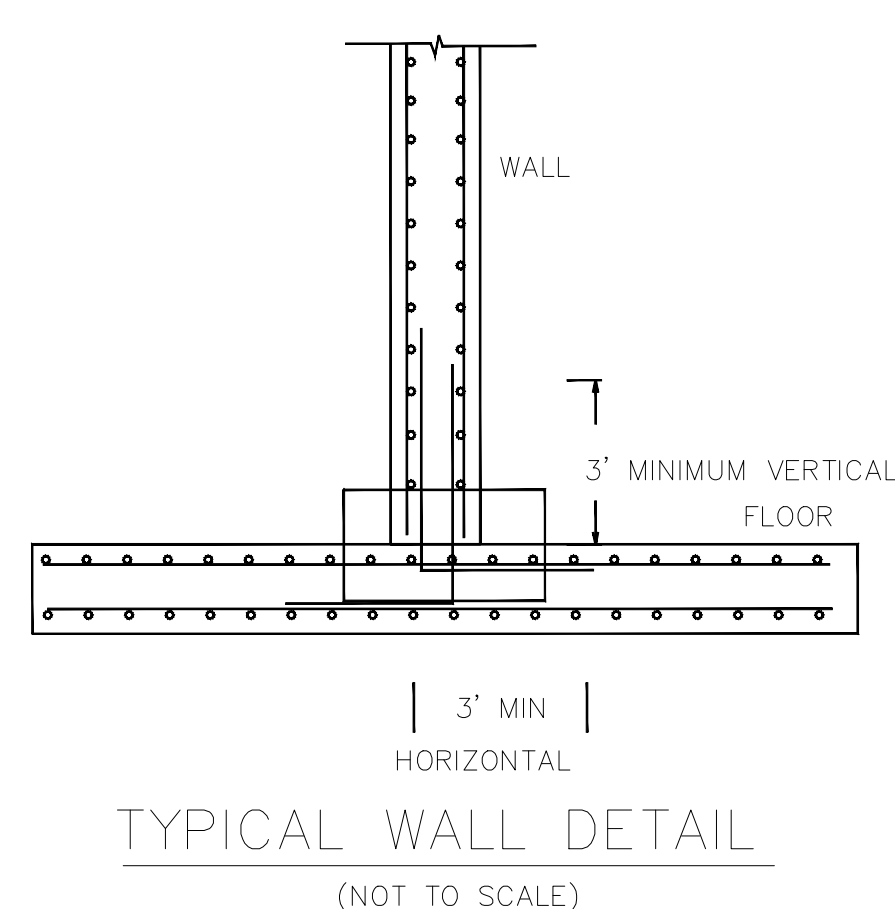


SPAN	DEPTH	SPAN	STIFF SIZE	STIFFENER SPACING
0.5-2'	1"	5-2'	5/8"x3/8"	24"
2-4'	1.25"	2-3'	1.5"x3/8"	18"
4-5'	2.0"	3-4'	1.75"x3/8"	15"
5-6'	2.25"	4-5'	2X3/4"x3/8" T	12"
6-7'	2.5"	5-6'	2X2X3/8" T	12"
7-8'	3.0"	6-7'	2X2X3/8" CH	8"

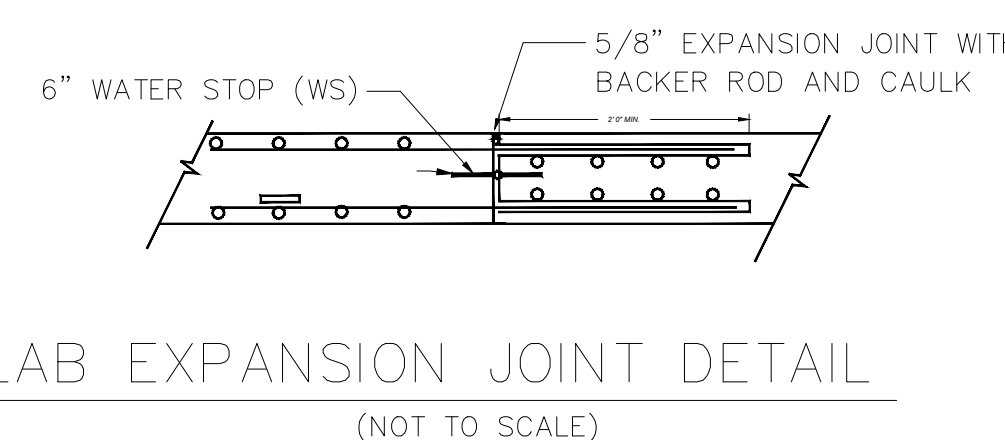


- 1- ALL ALUMINUM 6061-T5 OR 6063-T5
- 2- ALUM IN CONTACT WITH CONCRETE SHALL BE PAINTED
- 3- STIFFENERS SHALL BE LOCATED 4" FROM ENDS OF EACH PLATE
- 4- WELD STIFFENERS TO PLATES W/3/16" 2' LONG BOTH SIDES, 6" OC
- 5- ALL GRATING TO BE NON-SLIP
- 6- ALL GRATINGS OVER 6" SPAN SHALL HAVE A 4"x4"x3/8"ALUM ANG PROVIDED AT MID SPAN AND INSTALLED BY CONTRACTOR

ALUMINUM GRATING
 (NOT TO SCALE)



- NOTES:
 1. PROVIDE LINTELS OVER ALL WALL OPENINGS OVER 16" WIDE OPENING
 2. LINTEL TO OVERLAP ADJOINING BLOCK 12" MINIMUM ON EACH SIDE OF
 3. FOR OPENINGS 6'-0" WIDE AND GREATER PROVIDE 8" WIDE FLANGE BEAM
 4. SEE SPECS FOR FURTHER DETAIL



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OWNER:
Silo Ridge Ventures, LLC
 5021 Route 44
 Amenia, New York 12501
 845.373.8020

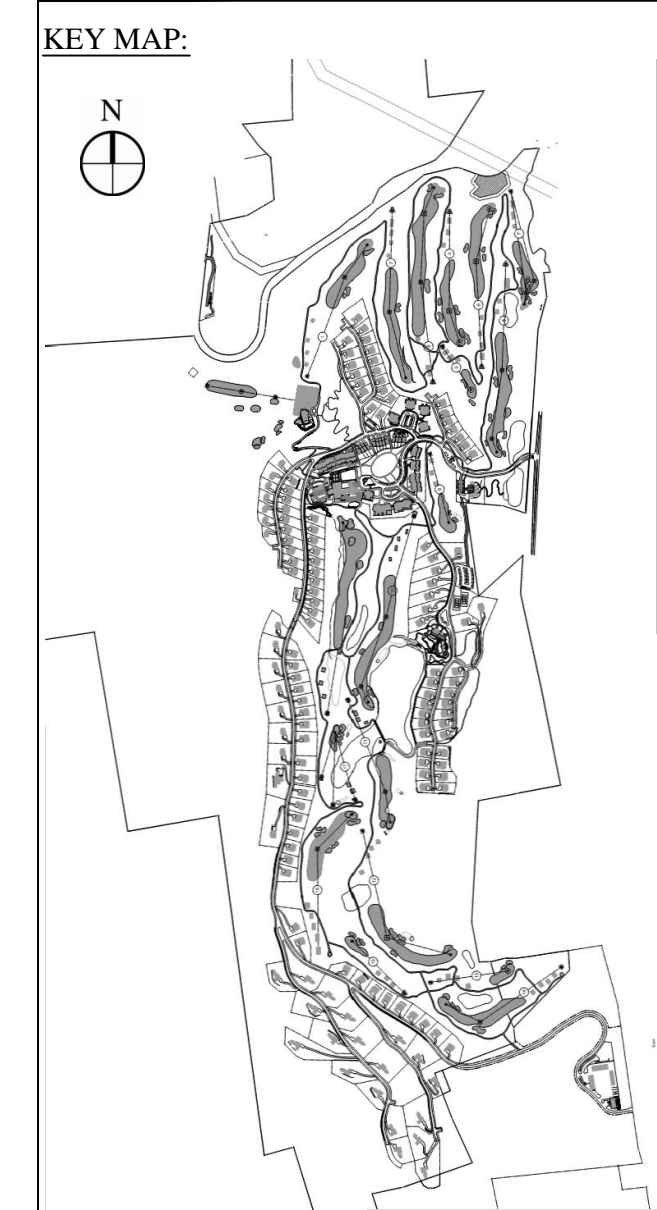
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GOLF COURSE DESIGNERS:
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 8-12 Dietz St., Suite 305
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 North Creek, NY 518.251.5160

PROJECT SURVEYOR:
Kirk K. Horton, Land Surveyor
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PRELIMINARY PLANS, FOR PLANNING AND PERMITTING ONLY, NOT FOR CONSTRUCTION

No.	Revision	Date	Appr.

Designed by **GIS** Drawn by **MS** Checked by **JSS**
 CAD checked by **---** Approved by **---**
 Scale: AS NOTED Date: January 8, 2015
Silo Ridge Resort Community
 4651 Route 22, Town of Amenia
 Dutchess County, New York
 Issued for:
Site Plan - Phase 1
 Not Issued for Construction
 Drawing Title

GENERAL STRUCTURAL DETAILS

Drawing Number
C10.04
 Sheet of
 NAME
 N.Y. Professional Engineer 29011.00
 NY Lic. No. ###
 Project Number
 Project Name

OWNER:
Silo Ridge Ventures, LLC
9021 Route 44
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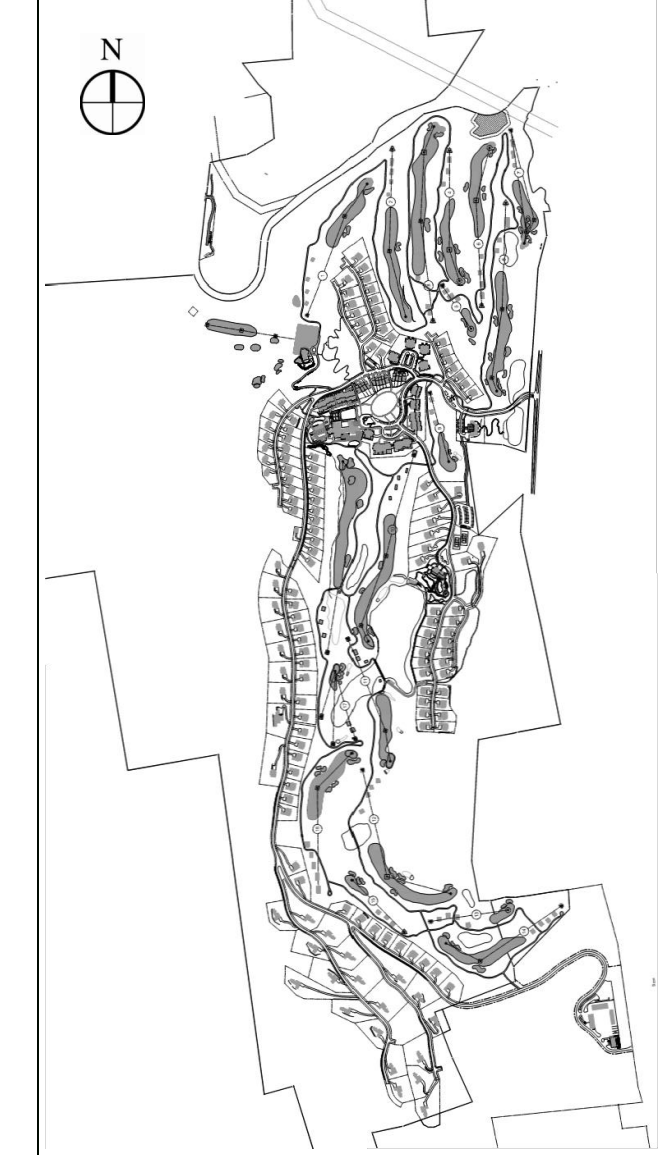
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PROJECT SURVEYOR:
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KEY MAP:



POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

Test pressure method (1 psi or 0.5 psi) shall be determined by the ENGINEER. Standard practice is to use the 1 psi test method.

Air testing for acceptance shall not be performed until the backfilling has been completed.

All sections of pipelines shall be cleaned and flushed prior to testing.

When groundwater is present the average test pressure of 3 psig shall be above any back pressure due to the groundwater level.

The maximum pressure allowed under any condition in air testing shall be 10 psig. The maximum groundwater level for air testing is 13 feet above the top of the pipe.

The equipment required for air testing shall be furnished by the CONTRACTOR and shall include the necessary compressor, valves and gauges to allow for the monitoring of the pressure release of pressure and a separate test gauge.

The test gauge shall be sized to allow for the measuring of the one psig loss allowed during the test period and shall be on a separate line to the test section.

Air shall be supplied slowly to the plugged pipe segment until the internal air pressure reaches 4.0 psi greater than the average back pressure of any groundwater that may submerge the pipe. Pressure shall not exceed 9.0 psi. At least two minutes shall be allowed for temperature stabilization before proceeding further. Once the pressure has been stabilized between 4.0 psi and 3.5 psi timing shall commence.

Deflection tests for 100% of the pipe installed shall be conducted, although for small installations ENGINEER may waive this requirement. Deflection shall be measured by pulling a mandrel or other device through the pipe.

All fittings shall be furnished by the pipe supplier or approved alternate supplier. All fittings shall have a push-on joint, which is compatible with the pipe and conforms to ASTM D3034. Minimum Pipe Stiffness at 5% deflection shall be 46 psi for all sizes when tested in accordance with ASTM D2432.

The pipeline shall be considered acceptable if the time interval for the 1.0-psi pressure drop is not less than the holding time listed in the Air Test Tables on the following pages.

Air testing shall be no sooner than two weeks after the installation of the sewer mains, nor one week prior to pavement restoration over the sewers, except as approved by the ENGINEER in writing.

Areas that are extremely wet (which require wellpointing for the proper installation of sewers) shall be air tested before the dewatering operations are terminated.

POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

The sewers shall be left clean and free from lumps, protruding joint material, etc., and be ready for use. Each section of sewer between manholes shall show, from either end, a full circle of light.

All tests shall be made by the CONTRACTOR, in the presence of the ENGINEER. The expense of the above tests shall be borne by the CONTRACTOR and be included in the unit prices bid for the sewer, under each respective size and depth of cut.

If, after tests have been conducted and accepted, the pipe has been disturbed or broken, or any damage to the pipe is suspected, the ENGINEER may require additional testing to be conducted at the expense of the CONTRACTOR. Consequently, pipe shall be cleaned before the final testing is conducted.

MANHOLE AND CONCRETE STRUCTURE TESTING

A. Vacuum Testing Manholes – The ENGINEER reserves the right to require a vacuum test on all new manholes installed, particularly in areas where the groundwater level is high or where there are questions regarding the integrity of the new barrel sections.

B. All manholes shall be vacuum tested in accordance with ASTM C1244. All lift holes and any pipes entering the manhole shall be plugged prior to a vacuum being drawn and the drop over a specified time determined.

C. The test head shall be placed at the top of the manhole in accordance with the manufacturers' recommendations. A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off.

D. The time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds the values indicated below.

Manhole Depth in Feet:	Manhole Diameter in inches:			
	36	48	60	72
< = 8	14	20	28	33
10	18	25	33	41
12	21	30	39	49
14	25	35	46	57
16	29	40	52	65
18	32	45	59	73
20	35	50	65	81

E. CONTRACTOR is responsible for all the materials and labor required to conduct the testing.

F. ENGINEER must be notified 24 hours prior to scheduled test.

PRESSURE PIPE LEAK TESTING

A. All newly installed pipe and connections shall be hydrostatically pressure tested at 100% of the rated pressure.

B. Conduct pressure test 1 accordance with ASTM F2164, "Standard Practice for Field Leak Testing of Polyethylene (PE).

C. This hydrostatic leak test procedure consists of filling, an initial expansion phase, a test phase, and depressurizing. There are two alternatives for the test phase.

D. Filling – Fill the restrained test section completely with test liquid. WARNING – Ensure that there is no air trapped in the test section. Failure with entrapped air can result in explosive release and result in death or serious bodily injury. Use equipment vents at high points to remove air.

E. Initial Expansion Phase – Gradually pressurize the test section to test pressure, and maintain test pressure for three (3) hours. During the initial expansion phase, polyethylene pipe will expand slightly. Additional test liquid will be required to maintain pressure. It is not necessary to monitor the amount of water added during the initial expansion phase.

F. Test Phase – Alternate 1

- Immediately following the initial expansion phase, reduce test pressure by 10 psi, and stop adding test liquid. If test pressure remains steady (within 5% of the target value) for one (1) hour, no leakage is indicated.

G. Test Phase – Alternate 2

- This alternative is applicable when the test pressure is 150% of the system design pressure.
- Immediately following the initial expansion phase, monitor the amount of make-up water required to maintain test pressure for one (1), or two (2), or three (3) hours. If the amount of make-up water needed to maintain test pressure does not exceed the amount in Table 2, no leakage is indicated.

Pipe Size	Test Duration		
	1-Hour	2-Hour	3-Hour
2	0.07	0.11	0.19
3	0.1	0.15	0.25
4	0.13	0.25	0.4
6	0.3	0.6	0.9
8	0.5	1	1.5
10	0.8	1.3	2.1
12	1.1	2.3	3.4
14	1.4	2.8	4.2
16	1.7	3.3	5
18	2	4.3	6.5

Alternate 2 – Make-Up Water Allowance (Gallons/ 100 ft. of pipe)

END OF SECTION

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No.	Revision	Date	Appr.

Designed by *gjs* Drawn by *MS* Checked by *JSS*
CAD checked by *—* Approved by *—*
Scale *AS SHOWN* Date *January 8, 2015*
Project Title

Silo Ridge Resort Community
4651 Route 22, Town of Amenia
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Issued for
Site Plan - Phase 1

Not Issued for Construction

GRAVITY & PRESSURE PIPE TESTING

Drawing Number
C10.05
Sheet of
JAMES F. SLOZZO
N.Y. Professional Engineer
NY Lic. No. 87185
Project Number
29011.00
SLO GRAVITY AND PRESSURE PIPE TESTING.DWG