

BUOYANCY PROTECTION

PUMP STATION PARAMETERS
 WET WELL INSIDE DIAM. = 8 FEET
 MIN. WALL THICKNESS = 8 INCHES
 TOTAL DEPTH = 19.6 FEET (TOP SLAB TO FINISH BOTTOM ELEV.)
 TOP SLAB DIAMETER = 8 FEET
 TOP SLAB THICKNESS = 10 INCHES
 HEIGHT OF CYLINDER = 18.77 FEET
 BASE MIN. THICKNESS = 18 INCHES
 LIP MIN. THICKNESS = 8 INCHES
 WEIGHT OF WATER = 62.4 #/CF
 WEIGHT OF SOIL = 110 #/CF
 WEIGHT OF CONCRETE = 145 #/CF
 ASSUME LIP = 16 INCHES (MINIMUM OF 6")
 (ASSUME WATER AT GROUND SURFACE)

UPWARD FORCES
 CYLINDER = 58,863 LBS.
 (AREA OF CYLINDER * HEIGHT OF CYLINDER * WEIGHT WATER)
 TOTAL UP = 58,863

DOWNWARD FORCES
 TOP = 1,701 LBS.
 ((TOP SLAB LENGTH * TOP SLAB WIDTH * TOP SLAB THICKNESS) - (VOLUME OF HATCH OPENINGS)) * (WEIGHT CONCRETE - WEIGHT WATER)
 CYLINDER = 28,137 LBS.
 (AREA OF CONCRETE CYLINDER * HEIGHT OF CYLINDER * (WEIGHT CONCRETE - WEIGHT WATER))
 BASE OF PS = 6,477 LBS.
 (AREA OF CYLINDER * BASE THICKNESS * (WEIGHT CONCRETE - WEIGHT WATER))
 BASE OF LIP = 5,459 LBS.
 (AREA OF LIP * BASE THICKNESS * (WEIGHT CONCRETE - WEIGHT WATER))
 BASE OF VALVE VAULT = 12,142 LBS.
 (AREA OF VALVE VAULT * HEIGHT OF VALVE VAULT INCLUDING BASE * (WEIGHT CONCRETE - WEIGHT WATER))
 SOIL = 39,913 LBS.
 (AREA OF SOIL CYLINDER ABOVE LIP * HEIGHT OF CYLINDER * (WEIGHT SOIL - WEIGHT WATER))
 TOTAL DOWN = 83,686 LBS.

FACTOR OF SAFETY
 DESIRED FACTOR OF SAFETY = 1.5 (IF F.O.S. IS DIFFERENT FROM DESIRED VALUE, ADJUST LIP)
 F.O.S. = 1.50
 (TOTAL DOWN / TOTAL UP)

PUMP STATION DESIGN DATA

PUMP STATION
 PER CAPITA FLOW (Q_c): 16,330 GPD (11.34 GPM)
 $Q_c = EDU \times 240$
 PEAK DESIGN FLOW (Q_p): 69,403 GPD (48 GPM)
 $Q_p = (Q_c \times PEAK\ 4.25)$
 WET WELL VOLUME (GALLONS): 119 GALLONS
 $V_{min} = (T_{min} \times Q_p) / 4$
 $T_{min} = 10$

FORCEMAIN SIZING
 FORCEMAIN SIZE: 3-INCH
 FORCEMAIN VELOCITY: 1.93 FPS
 $V = (Q_p \times 0.32) / AREA$
 FORCEMAIN DISCHARGE SIZE: 3-INCH
 FORCEMAIN DISCHARGE VELOCITY: 2.15 FPS

NOTE: CALCULATIONS BASED ON INFORMATION PROVIDED IN ARTESIAN WASTEWATER MANAGEMENT, INC. WASTEWATER STANDARDS AND SPECIFICATIONS

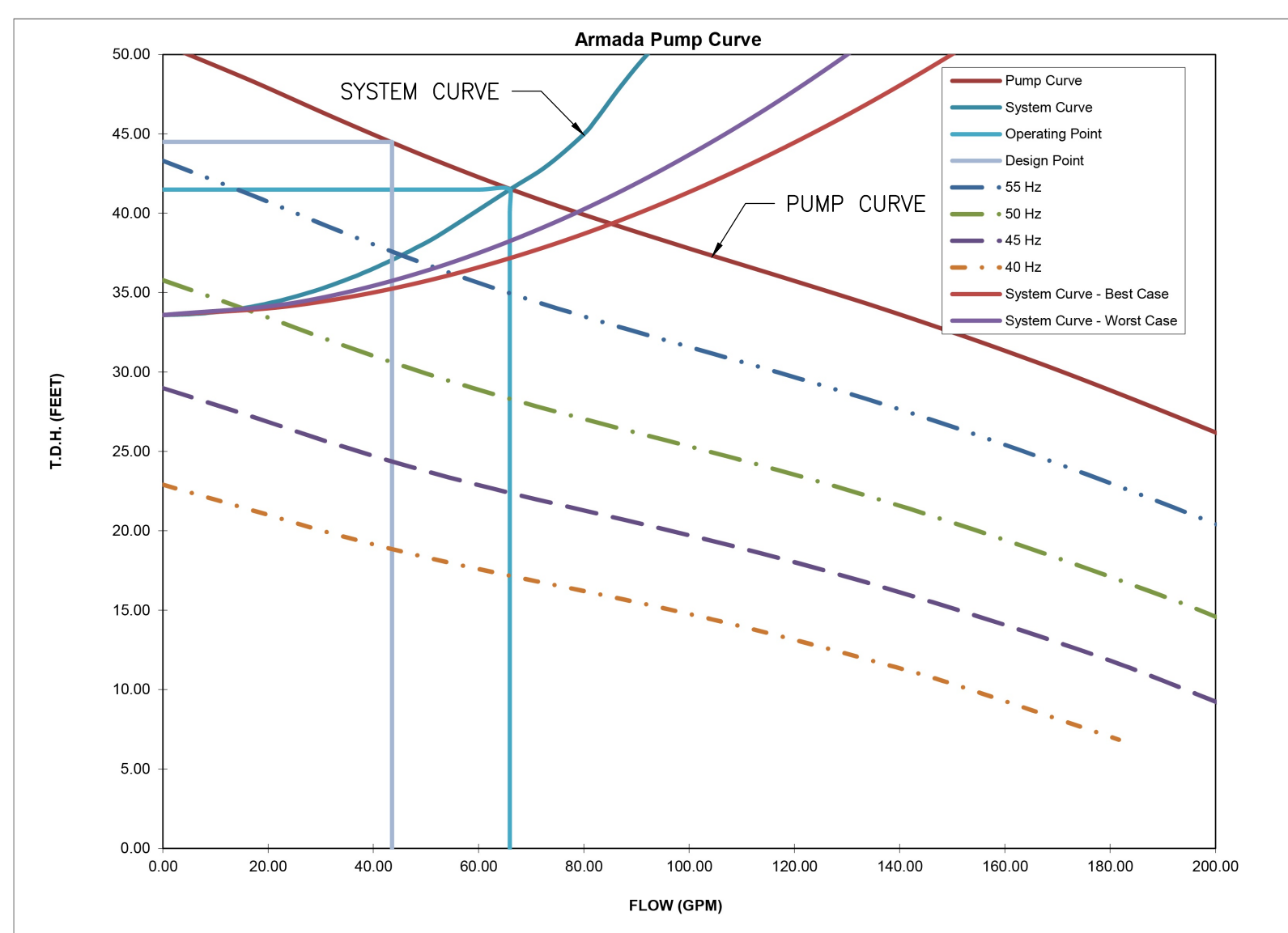
PUMP STATION SCHEDULE

NO.	DESCRIPTION	DETAILS	VALUES
1	PRECAST CONCRETE PUMP STATION	INSIDE DIAMETER	8'-0"
		MINIMUM WALL THICKNESS	0'-8"
2	TOP SLAB, 4000 PSI CONCRETE	TOP OF SLAB ELEVATION	30.54'
		SLAB THICKNESS	10"
		REINFORCEMENT	#5 @ 6" E.W. T.&B
3	TOP SLAB DIMENSIONS	DIAMETER	8'-8"
		BOTTOM SLAB ELEVATION	7.05'
4	BOTTOM SLAB, 3500 PSI CONCRETE	SLAB THICKNESS	12"
		REINFORCEMENT	PER MANUFACTURER
5	TOTAL DEPTH - TOP TO FINISHED BOTTOM ELEV.		23.49'
6	PUMP HATCH WITH FALL PROTECTION GRATE (OPEN CLEAR SPACE DIM.)		41"x60"
7	INFLUENT PIPE	PIPE INSIDE DIAMETER	10"
		INVERT ELEVATION	13.44'
8	PUMP DISCHARGE PIPE & FITTING DIA.	SIZE	3"
		INVERT ELEVATION - OUT	26.29'
9	FORCE MAIN PIPE DIAMETER (4' MINIMUM COVER WITH DETECTION WIRE AND DETECTION TAPE)		3"
10	GRINDER PUMPS: DESIGN: DUPLEX	CAPACITY OF EACH PUMP (GPM)	53.60
		T.D.H. (FT)	47.53
		H.P.	8.5
11	NP VOLUTE		9.87
12	LOW WATER ALARM		9.90'
13	PUMPS "OFF"		10.40'
14	LEAD PUMP "ON"		11.40'
15	LAG PUMP "ON"		11.90'
16	HIGH WATER ALARM		12.40'
17	BASE FLANGE DIMENSION		8"
18	BASE MINIMUM THICKNESS		12"
19	100-YEAR FLOOD ELEVATION		ZONE X

PUMP STATION DESIGN CALCULATIONS

PROPOSED DEVELOPMENT EDUS
 TOTAL ARMADA SUBDIVISION EDUS: 67
 AVERAGE DAILY FLOW: 16,680 GPD (11.67 GPM)
 PEAK FACTOR: 4.25
 PEAK DAILY FLOW: 68,340 GPD (47 GPM)

DESIGN (WITH INFILTRATION)
 ARMADA SUBDIVISION EDUS INCREASED TO ACHIEVE MIN. FLOW IN FORCEMAIN PER PUMP STATION CALCS IN SPECS.
 TOTAL EDUS: 67
 AVERAGE DAILY FLOW: 16,320 GPD (11.34 GPM)
 PEAK FACTOR: 4.25
 PEAK DAILY FLOW: 69,403 GPD (48 GPM)



NP 3127 3H 3 PUMP CURVE

PRINTS ISSUED FOR REVIEW

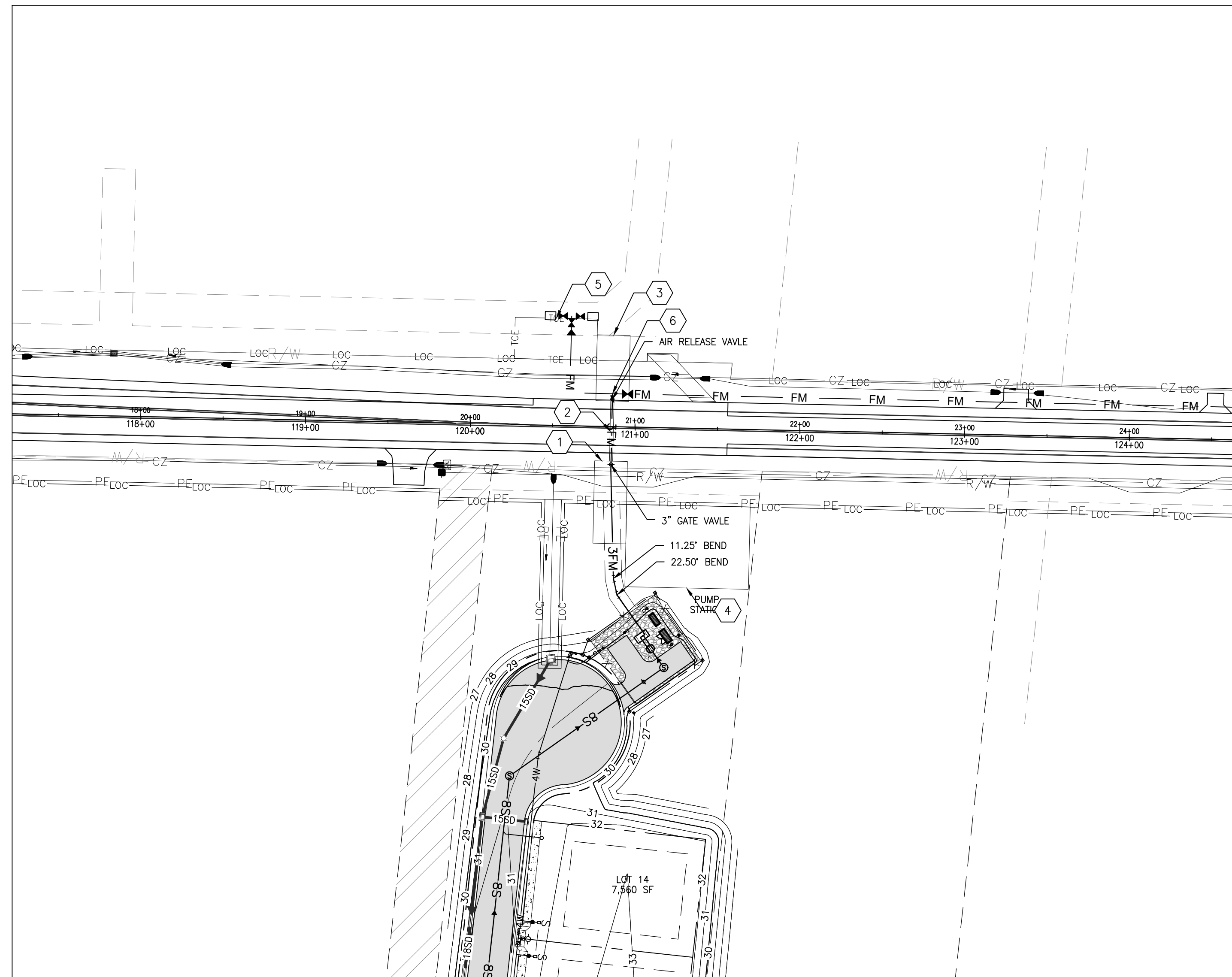
DATE	REVISIONS	NO.

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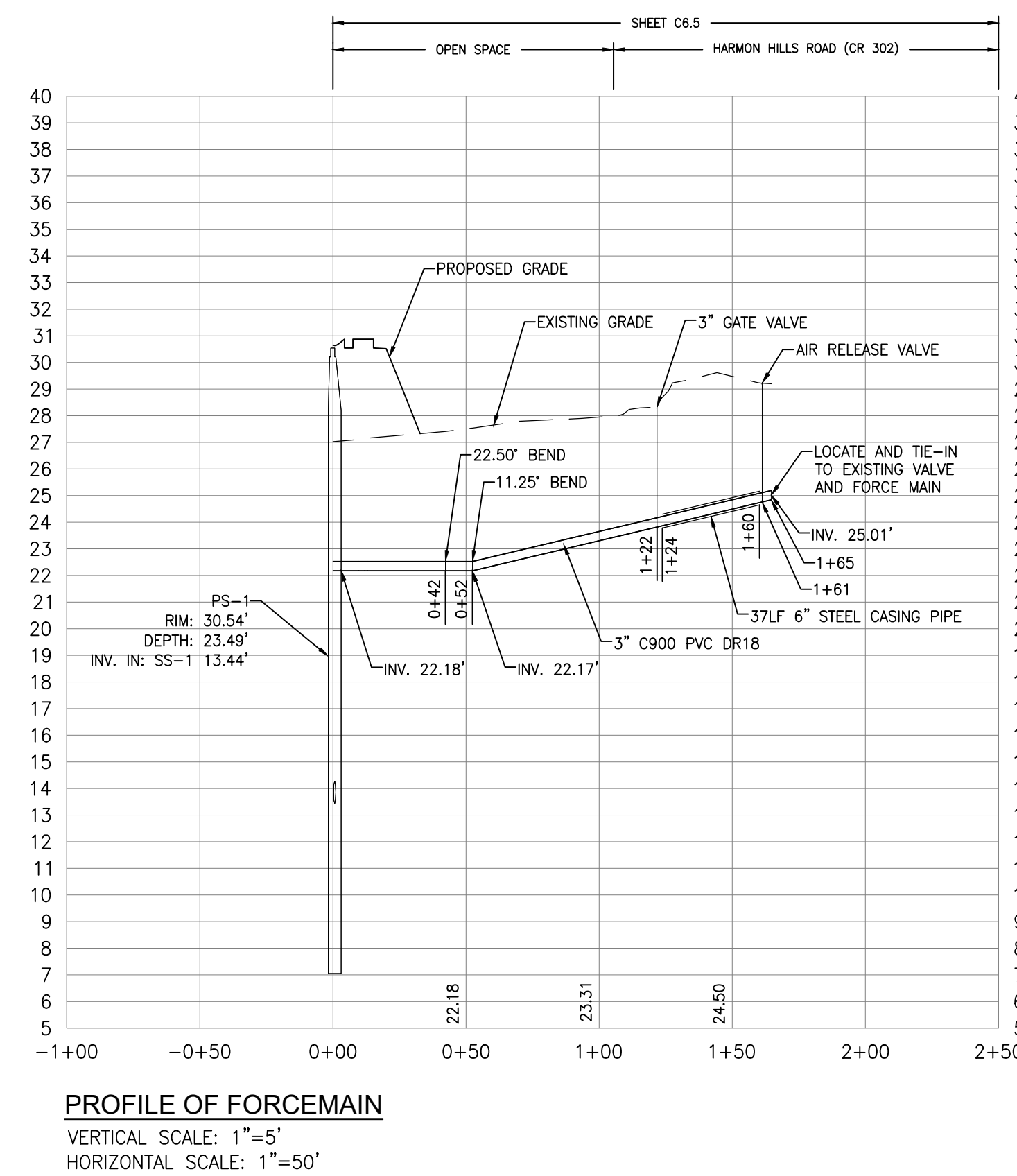
PUMP STATION PLAN AND SECTION

SCALE: NO SCALE SHEET NO. C6.1
 DESIGN BY: JRS
 DRAWN BY: RFT
 CHECKED BY: TMG
 GMB FILE: 220024
 DATE: APR 2024



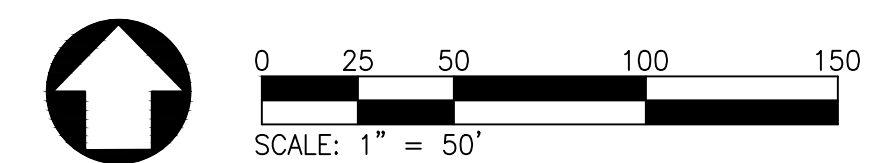
GENERAL NOTES

- ALL EXISTING UTILITY LOCATIONS SHOWN WERE TAKEN FROM THE BEST AVAILABLE RECORDS. THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA (1-800-282-8555) TO VERIFY THEIR EXACT LOCATION PRIOR TO THE START OF CONSTRUCTION. ANY DAMAGE INCURRED TO EXISTING UTILITIES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE. IF THE CONTRACTOR RELIES ON THE UTILITY LOCATIONS SHOWN HEREIN, HE DOES SO AT HIS OWN RISK AND WILL NOT BE ENTITLED TO ADDITIONAL COMPENSATION DUE TO TIME DELAYS FROM SAID RELIANCE.
- CONTRACTOR SHALL SEEK TO MAINTAIN AT LEAST 10- FEET OF HORIZONTAL SEPARATION BETWEEN WATER AND SEWER MAINS. ENCASUREMENT IN CONCRETE OF WATER MAINS IS REQUIRED WITHIN 10- FEET OF CROSSING BETWEEN WATER AND SEWER MAINS WHERE VERTICAL SEPARATION IS LESS THAN 18- INCHES.
- THE BOUNDARY INFORMATION SHOWN ON THESE DRAWINGS ARE BASED ON A SURVEY PERFORMED BY STEVE M. ADKINS LAND SURVEYING LLC, IN DECEMBER OF 2021.
- CONTRACTOR SHALL INSTALL ALL FORCE MAIN IN ACCORDANCE WITH THE TOWN OF SELBYVILLE CONSTRUCTION STANDARDS AND SPECIFICATIONS. WHEN THE FORCE MAIN IS LOCATED WITHIN THE DELDOT RIGHT-OF-WAY, THE CONTRACTOR SHALL INSTALL THE FORCE MAIN IN ACCORDANCE WITH DELDOT CONSTRUCTION STANDARDS AND SPECIFICATIONS.
- ALL DISTURBED AREAS OUTSIDE OF THE PAVEMENT WITHIN THE DELDOT RIGHT-OF-WAY SHALL BE COVERED WITH 6" TOPSOIL, FERTILIZED, SEEDED AND MULCHED PER THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK OR IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.



CONSTRUCTION NOTES

- 20'X50' JACK AND BORE ENTRANCE PIT. ALL EXCAVATIONS SHALL BE A MINIMUM OF 2- FEET FROM THE DELDOT EDGE OF PAVEMENT.
- CONTRACTOR TO JACK AND BORE APPROXIMATELY 37LF OF 3" C900 PVC DR 18 PIPE WITH 6" STEEL CASING PIPE UNDER HARMON HILLS ROAD (CR302). SEE PROFILE FOR DETAILS. CASING PIPE SHALL EXTEND 5- FEET PAST THE EDGE OF PAVEMENT ON BOTH SIDES OF JACK AND BORE. SEE SHEET C6.4 FOR DETAILS.
- 20'X40' JACK AND BORE RECEIVING PIT. ALL EXCAVATIONS SHALL BE A MINIMUM OF 2- FEET FROM THE DELDOT EDGE OF PAVEMENT.
- 50'X75' JACK AND BORE STAGING AREA FOR ENTRANCE PIT.
- 25'X50' JACK AND BORE RECEIVING PIT STAGING AREA.
- PROPOSED CONNECTION TO EXISTING ARTESIAN VALVE AND FORCE MAIN. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF EXISTING FORCE MAIN AND UTILITIES PRIOR TO CONSTRUCTION AND CONNECTION OF PROPOSED 3" FORCE MAIN TO EXISTING PRESSURE SYSTEM.



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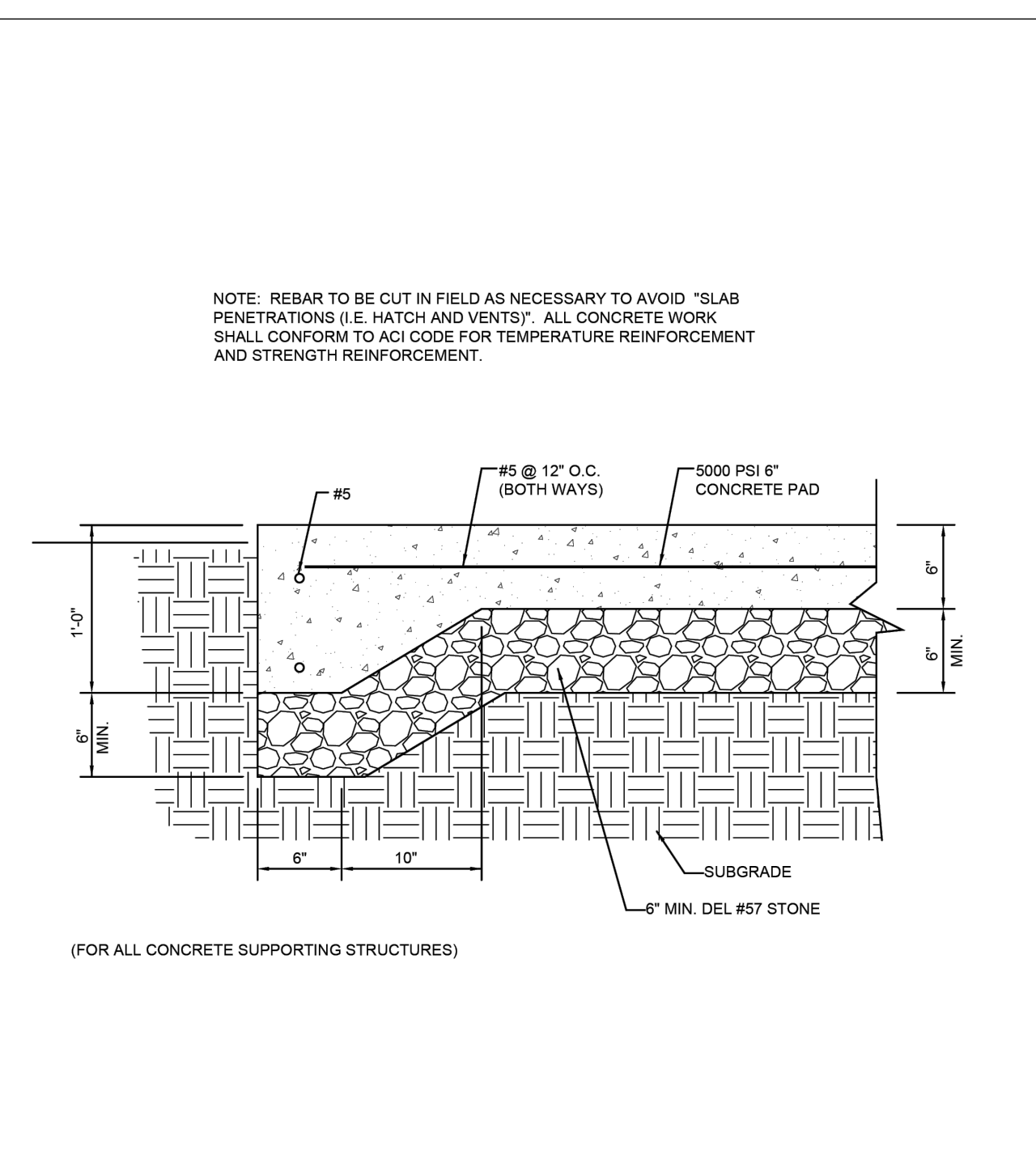
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FORCEMAIN PLAN AND PROFILE

SCALE : 1" = 50'	SHEET NO.
DESIGN BY : DLB	C6.2
DRAWN BY : RFT	
CHECKED BY : TMG	
GMB FILE : 220024	
DATE : APR 2024	

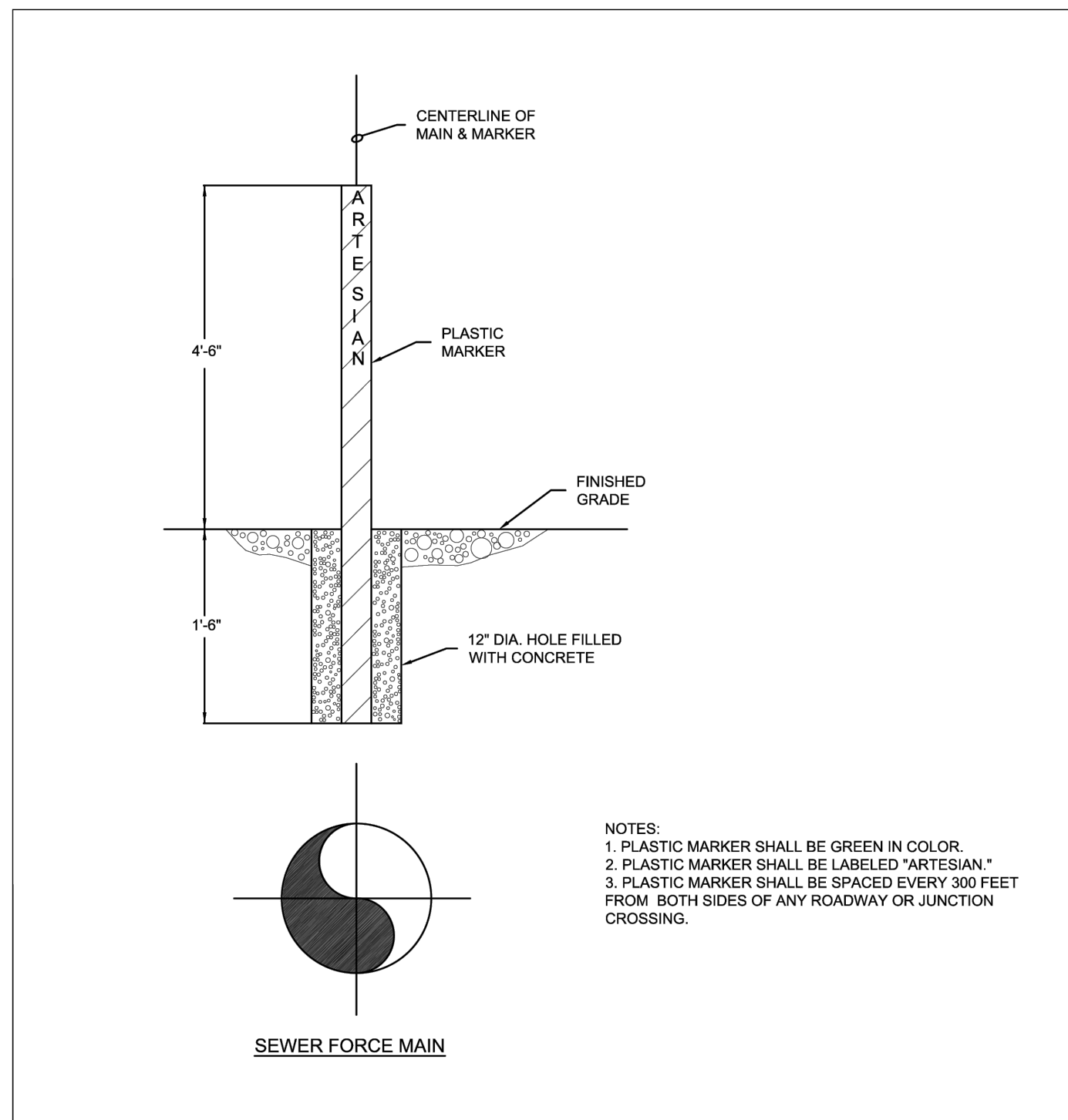
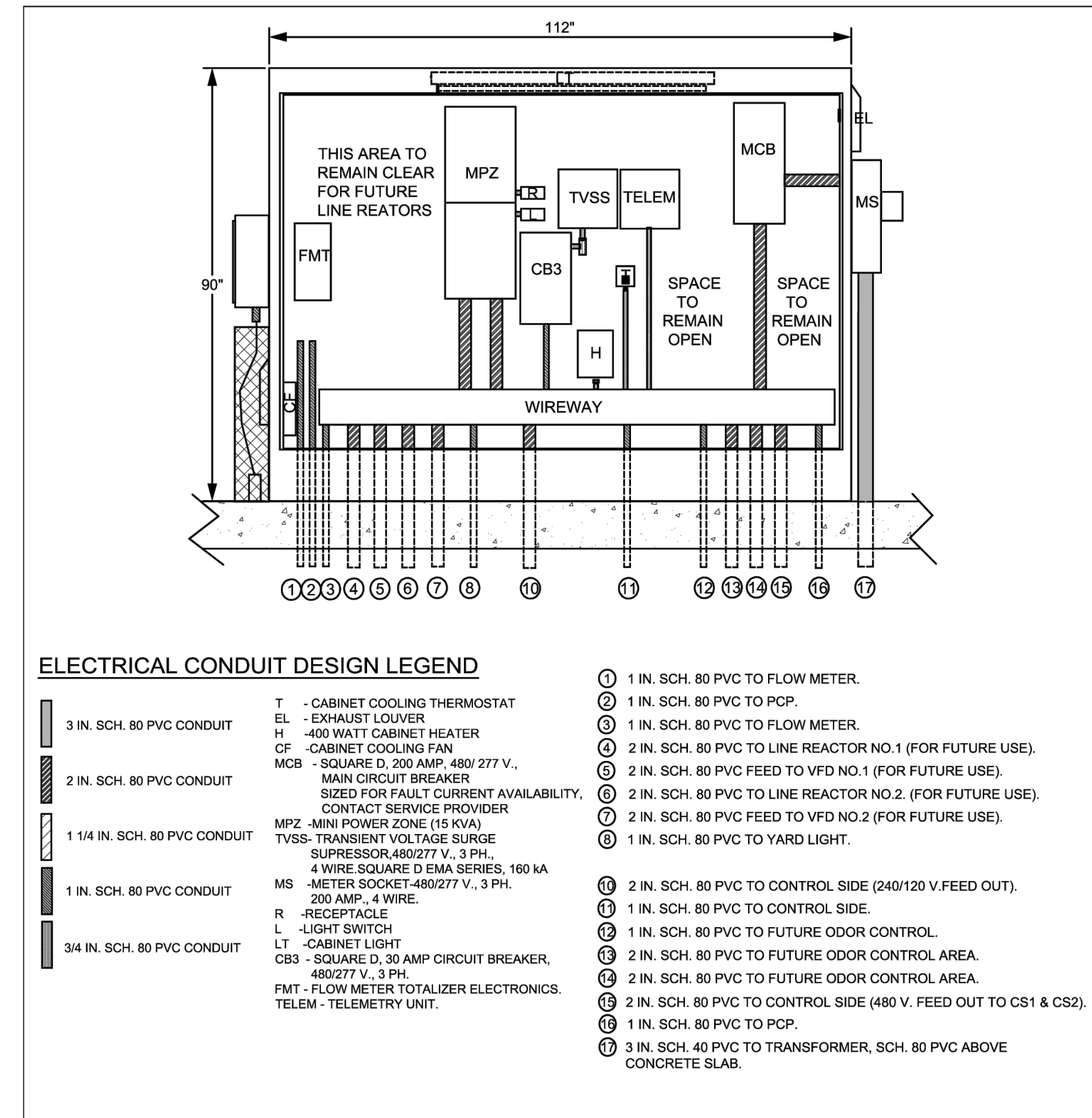
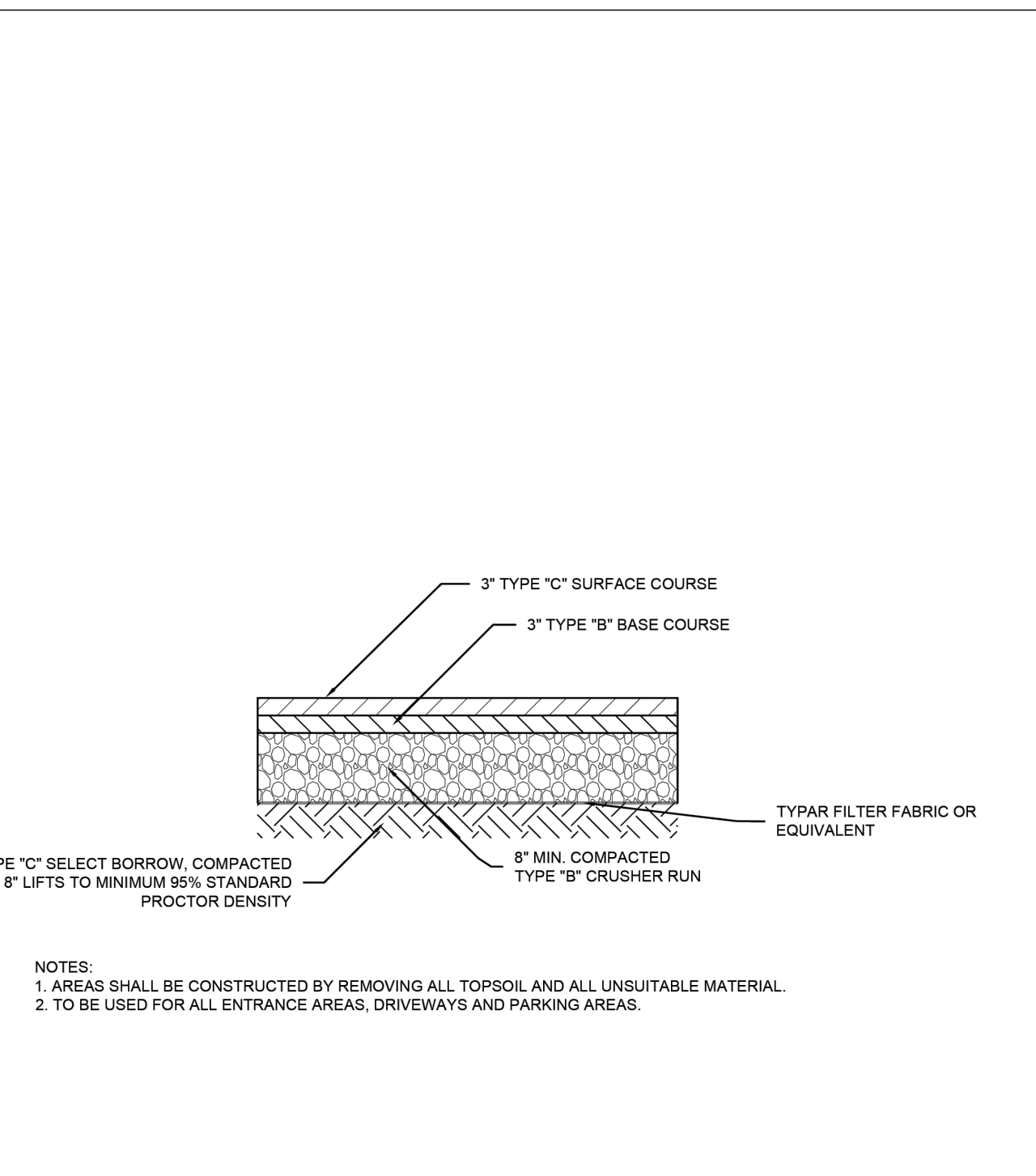
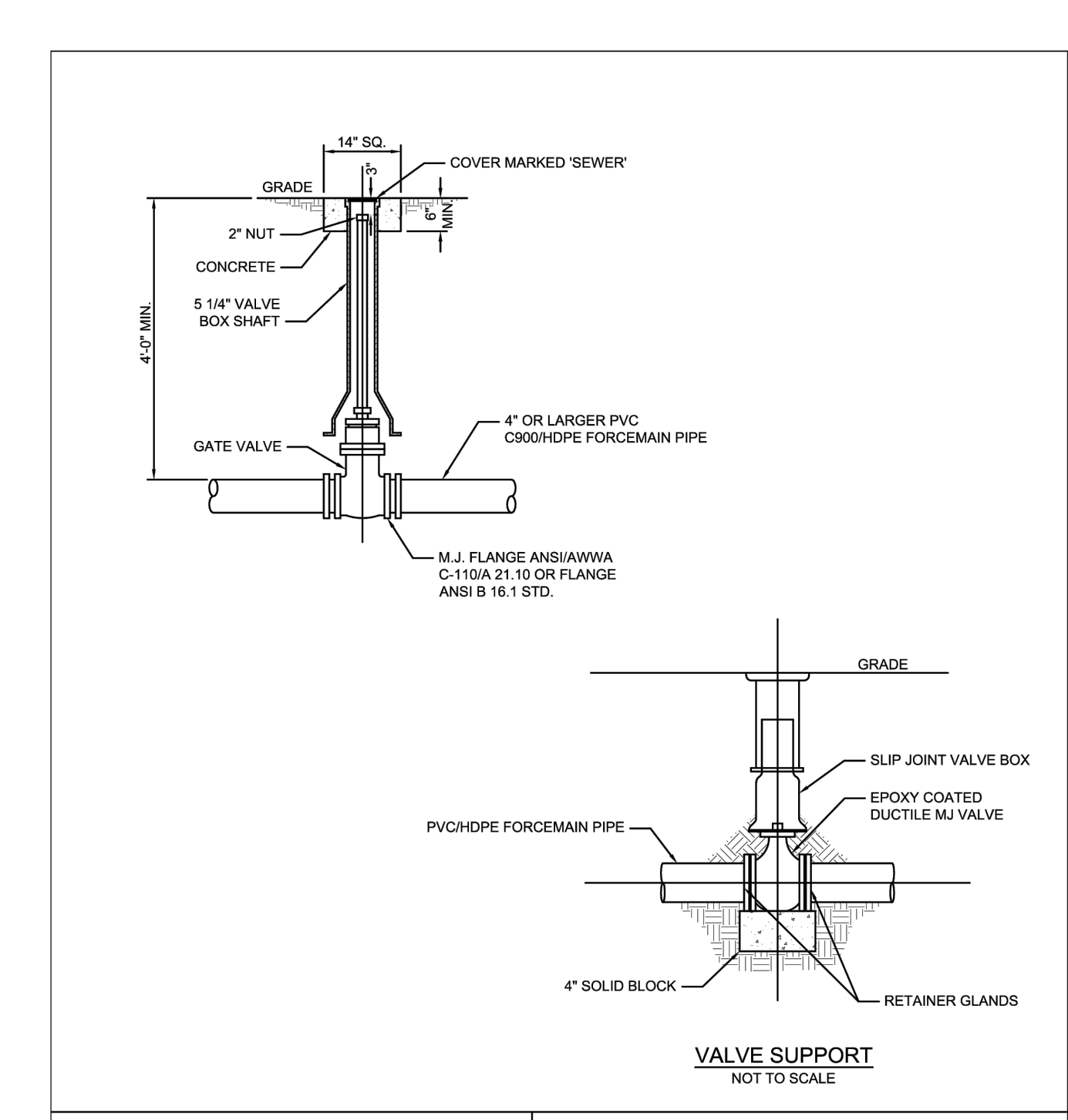
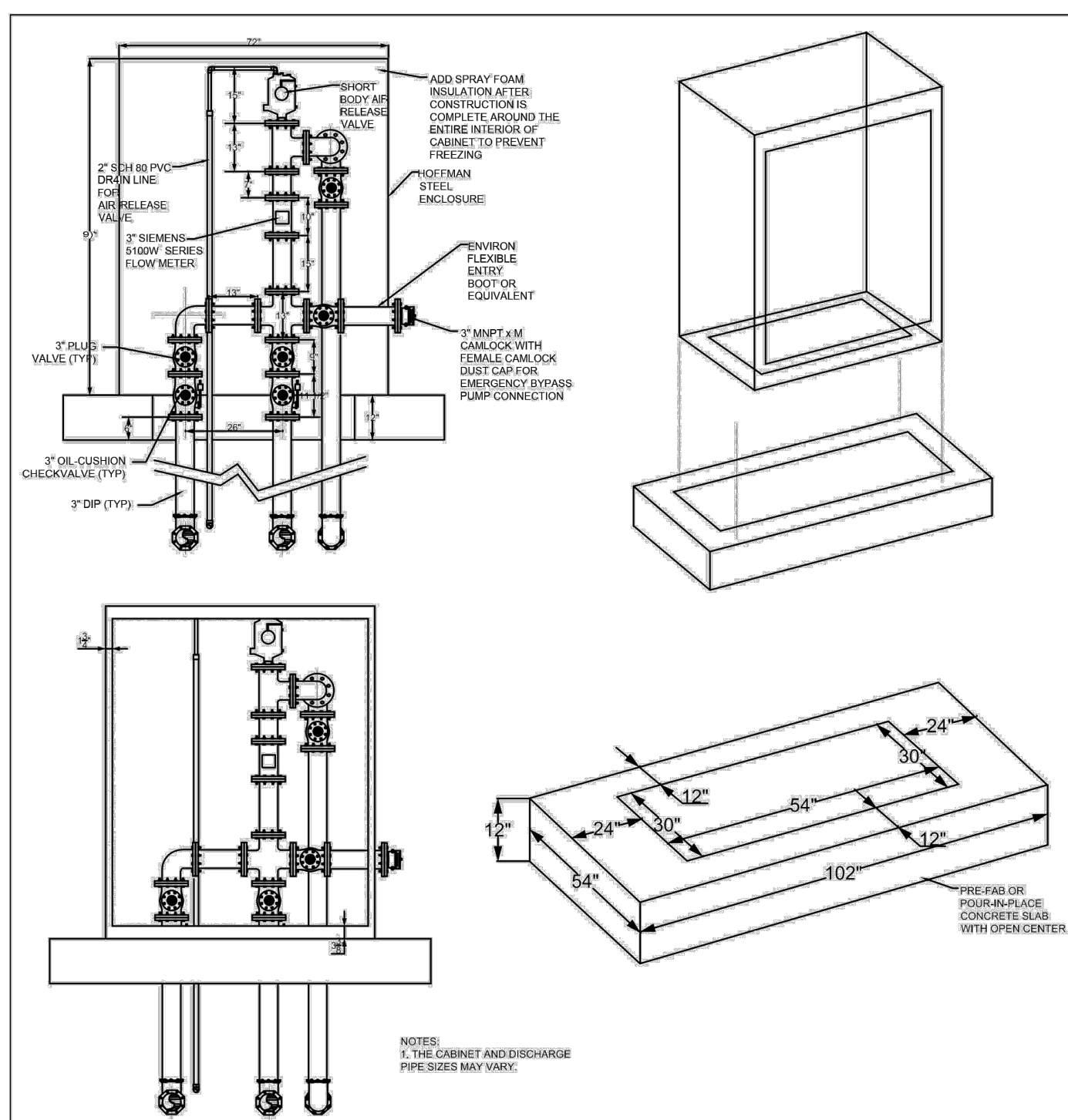
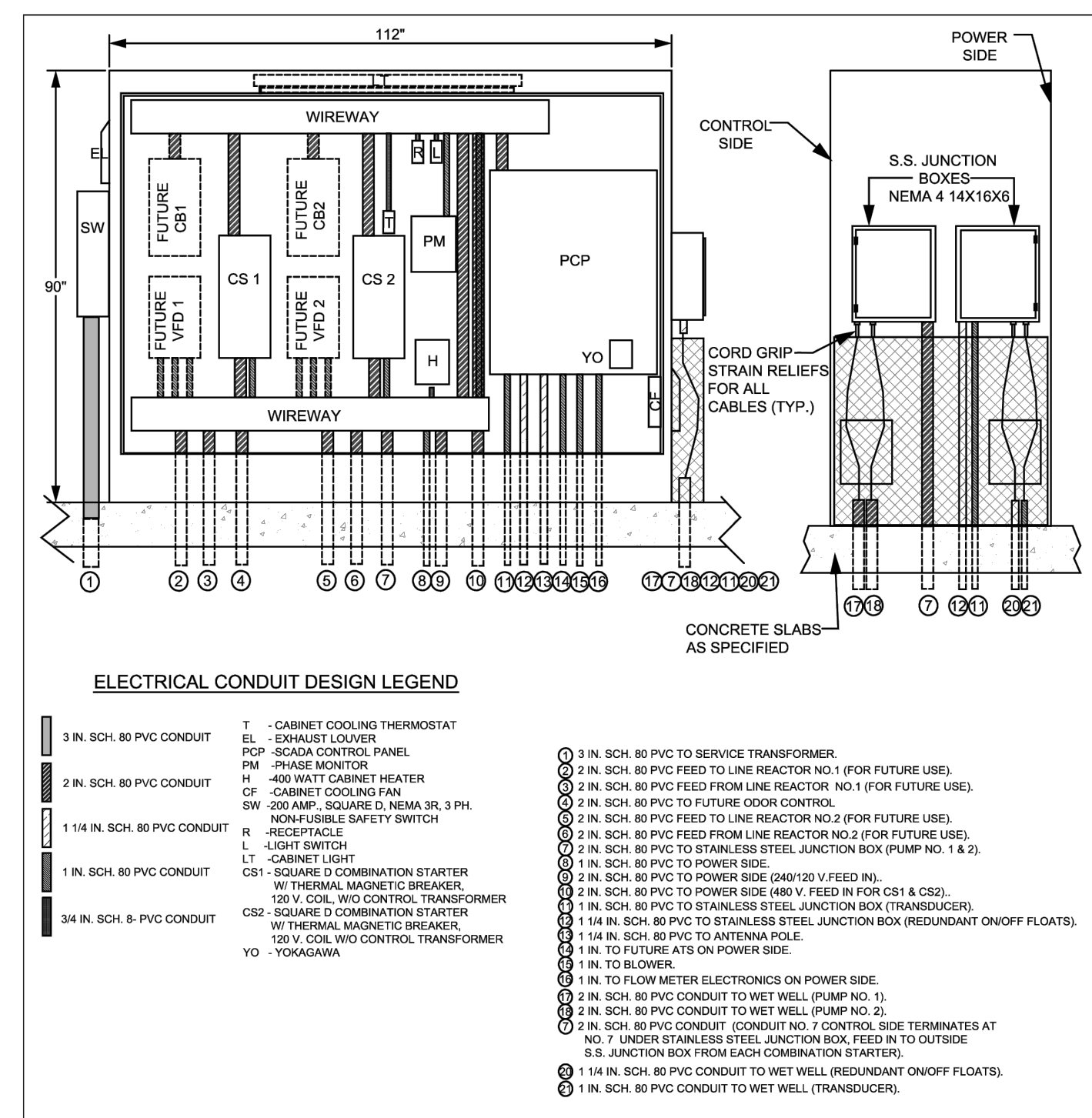
PLOT CODE
 PEN=RED : 0.01 INCHES (0.25mm)
 PEN=BLUE : 0.01 INCHES (0.25mm)
 PEN=GREEN : 0.01 INCHES (0.25mm)
 PEN=BLACK : 0.01 INCHES (0.25mm)
 PEN=WHITE : 0.01 INCHES (0.25mm)

DATE	REVISIONS	NO.



STANDARD DETAILS
PUMP STATION EQUIPMENT CONCRETE PAD TYPICAL SECTION

ISSUED: JUNE 15, 2012 SCALE: NOT TO SCALE
REVISED: FEBRUARY 20, 2014
REVISED: SEPTEMBER 1, 2015 PLATE: PS-02



Access Hatch Solutions Aluminum Access Hatches—Standard Channel Frames

Double Grate, Double Cover Style

Aluminum Channel Frame with SAFE HATCH® Safety Access System

Catalog Number	Description	Unobstructed Clear Opening O x O1	Inside Dimensions A x A1	Outside Dimensions B x B1	Height C	Diagonal D
H24241491	1 Cover Hatch	24 1/2 x 25 3/8	28 x 30	34 x 36	3 1/2	49 9/16
H24301491	1 Cover Hatch	24 1/2 x 31 3/8	28 x 36	34 x 42	3 1/2	54 1/16
H24361491	1 Cover Hatch	24 1/2 x 37 3/8	28 x 42	34 x 48	3 1/2	58 13/16
H30301491	1 Cover Hatch	30 1/2 x 31 3/8	34 x 36	40 x 42	3 1/2	62 1/2
H30361491	1 Cover Hatch	30 1/2 x 36 7/8	34 x 42	40 x 48	3 1/2	66 1/2
H36361491	1 Cover Hatch	36 1/2 x 36 7/8	40 x 42	46 x 48	3 1/2	66 1/2
H42421491	1 Cover Hatch	42 1/2 x 42 3/8	46 x 48	52 x 54	5 1/2	75
H30481491	1 Cover Hatch	30 1/2 x 48 3/4	34 x 54	40 x 60	3 1/2	72 1/8
H36481491	1 Cover Hatch	36 1/2 x 48 3/4	40 x 54	46 x 60	3 1/2	75 5/8
H30481591	2 Cover Hatch	30 5/8 x 48	35 x 48	41 x 54	3 1/2	67 13/16
H30641591	2 Cover Hatch	30 5/8 x 54	35 x 54	41 x 60	3 1/2	72 11/16
H36481591	2 Cover Hatch	36 5/8 x 48	41 x 48	47 x 54	3 1/2	71 5/8
H36601591	2 Cover Hatch	36 5/8 x 60	41 x 60	47 x 66	3 1/2	81 11/16
H42481591	2 Cover Hatch	42 5/8 x 48	47 x 48	53 x 54	3 1/2	75 11/16
H48481591	2 Cover Hatch	49 1/8 x 48	54 x 48	60 x 54	5 1/2	80 3/4
H48541591	2 Cover Hatch	49 1/8 x 54	54 x 54	60 x 60	5 1/2	84 7/8
H48601591	2 Cover Hatch	49 1/8 x 60	54 x 60	60 x 66	5 1/2	89 31/8
H48721591	2 Cover Hatch	48 5/8 x 72	54 x 72	60 x 78	5 1/2	98 7/16
H60601591	2 Cover Hatch	60 5/8 x 60	66 x 60	72 x 66	5 1/2	97 11/16

Note: All dimensions are in inches.

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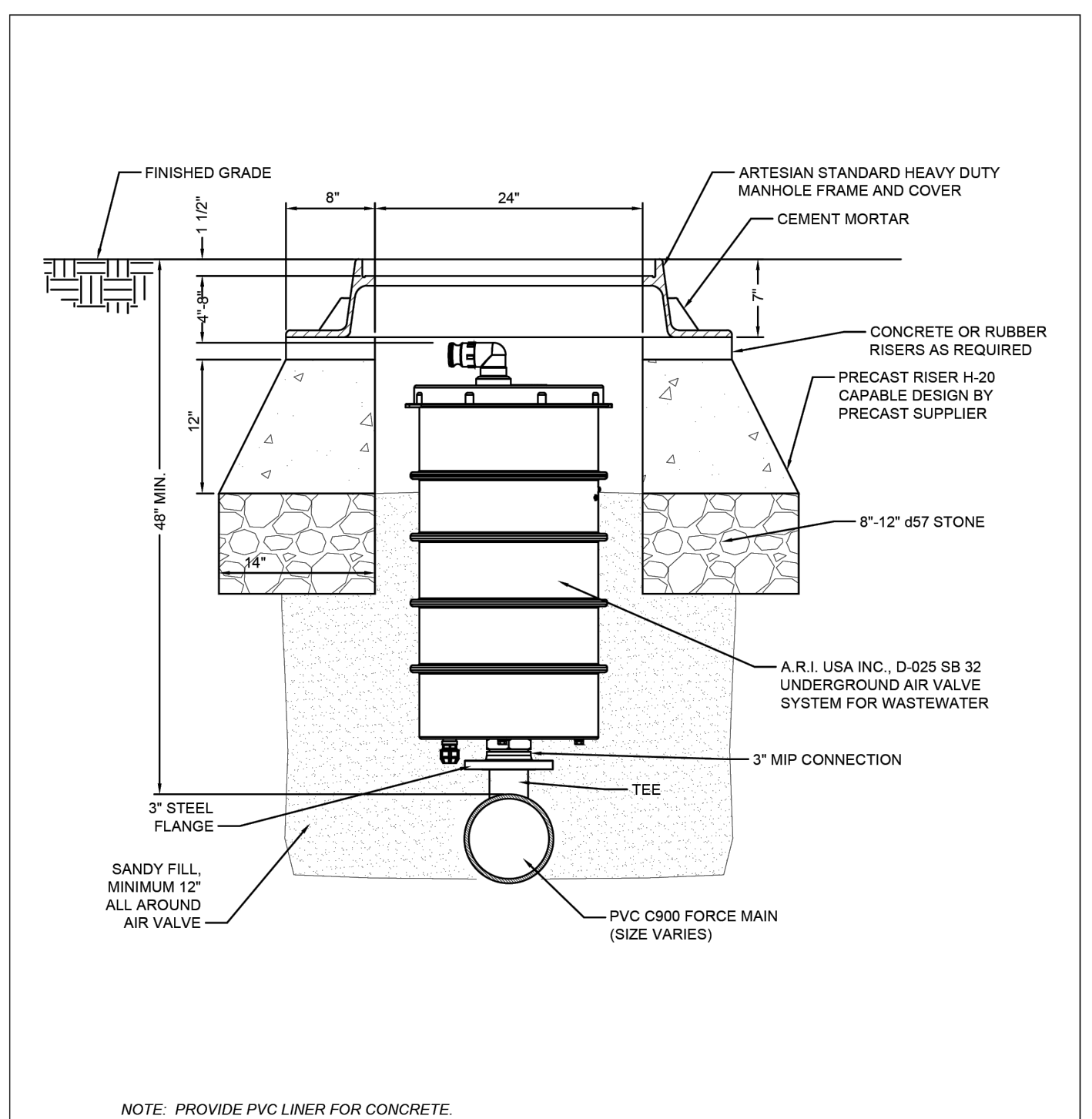
PUMP STATION
DETAILS

SCALE : NO SCALE SHEET NO.
DESIGN BY : JRS
DRAWN BY : RFT
CHECKED BY : TMG
GMB FILE : 220024
DATE : APR 2024

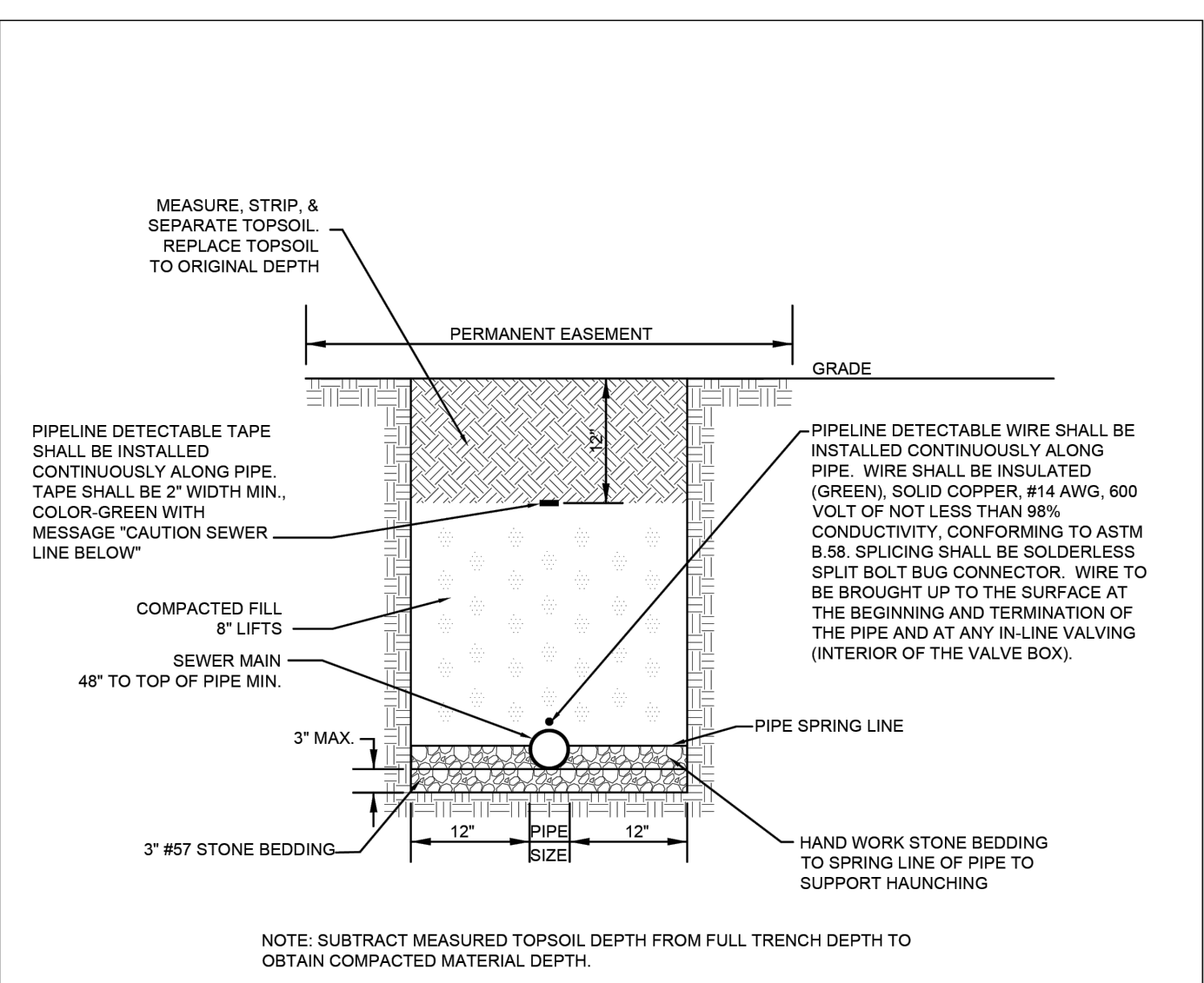
C6.3

PLOT CODE	PLOT DATE	PLOT TIME
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PEN-YELLOW	2024	10:00
PEN-GREEN	2024	10:00
PEN-BLUE	2024	10:00
PEN-WHITE	2024	10:00

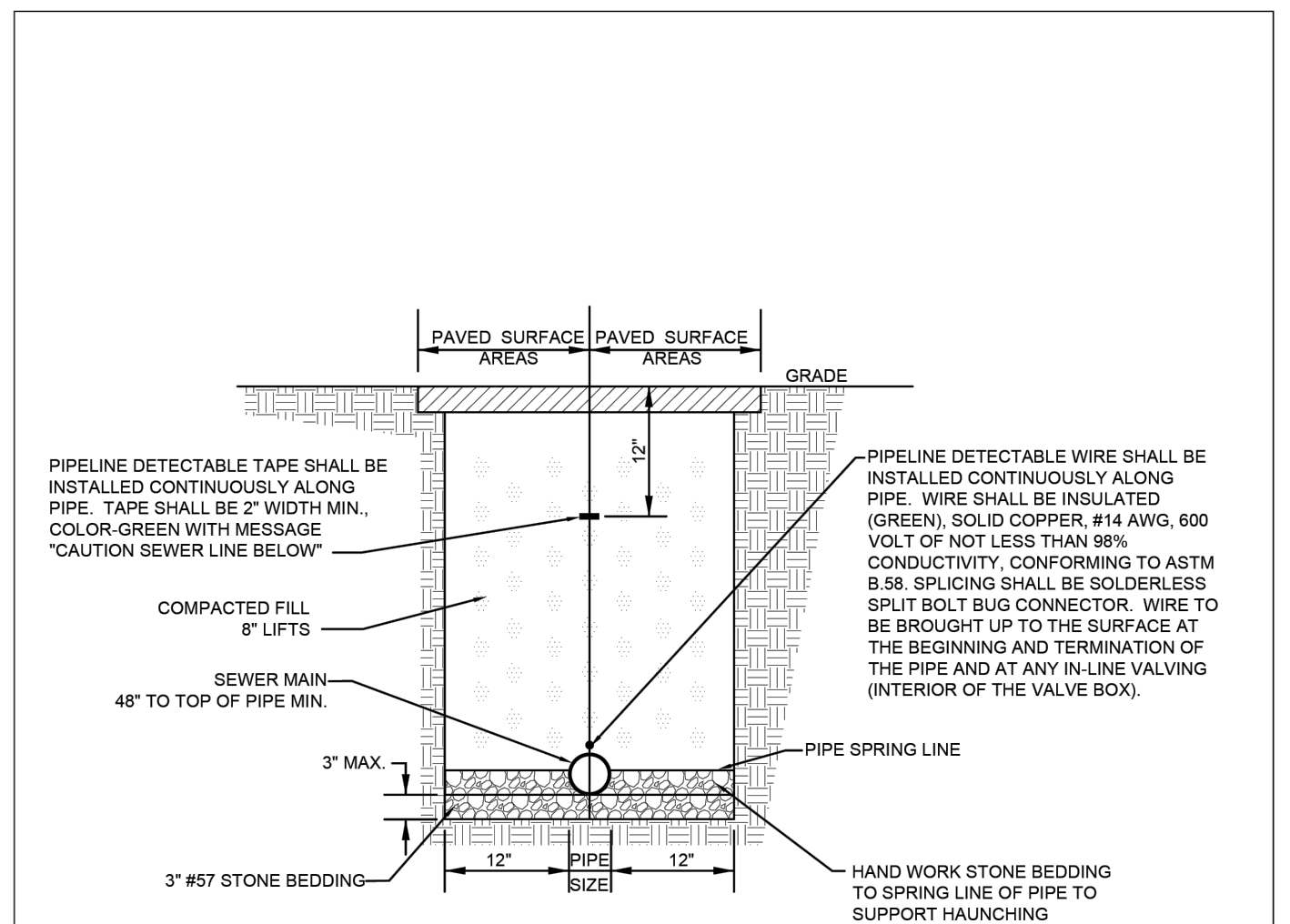
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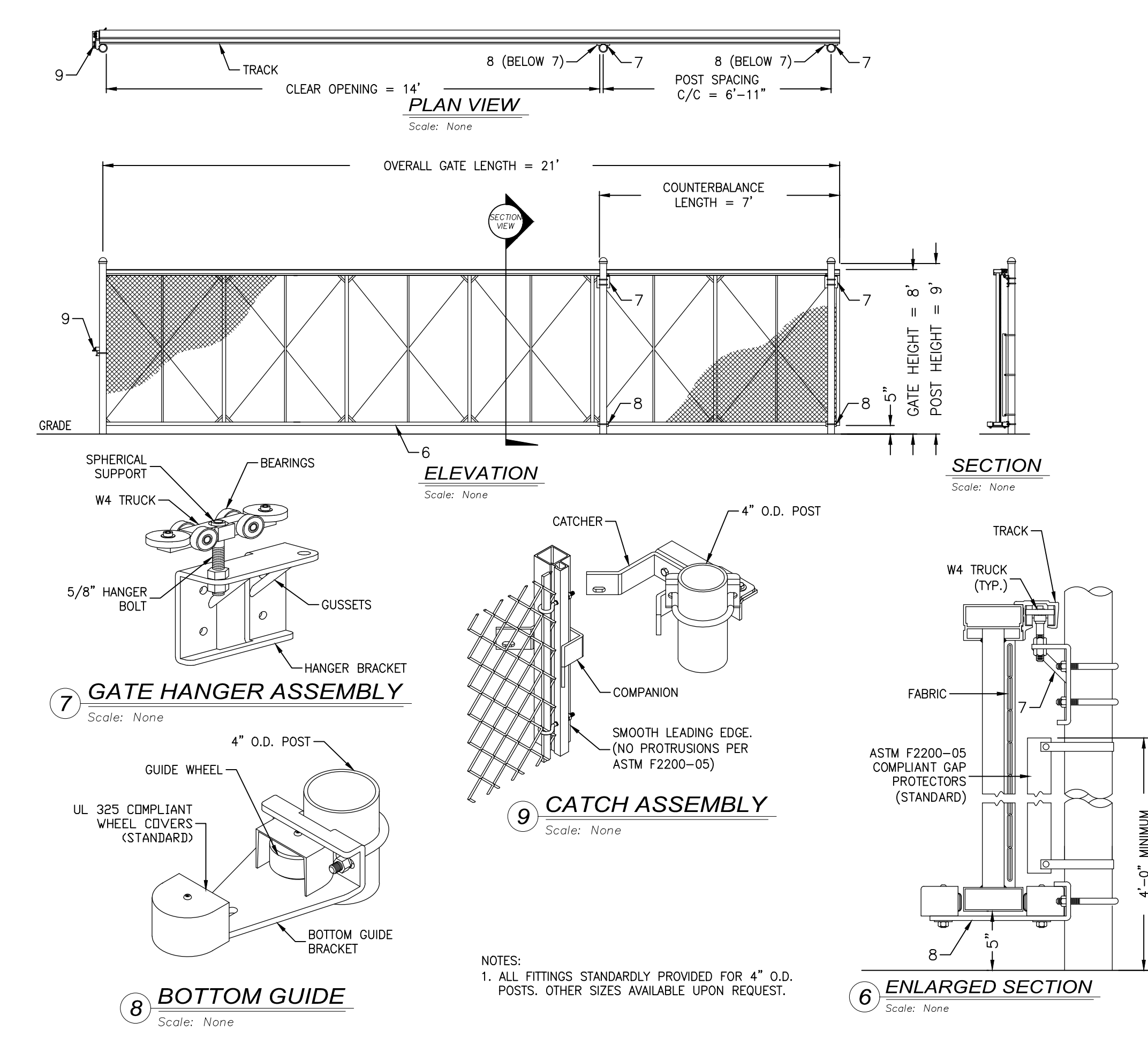
STANDARD DETAILS	
UNDERGROUND AIR VALVE SYSTEM	
ISSUED: MARCH 14, 2014	SCALE: NOT TO SCALE
REVISED: SEPTEMBER 1, 2015	
REVISED: JANUARY 31, 2019	PLATE: MH-08



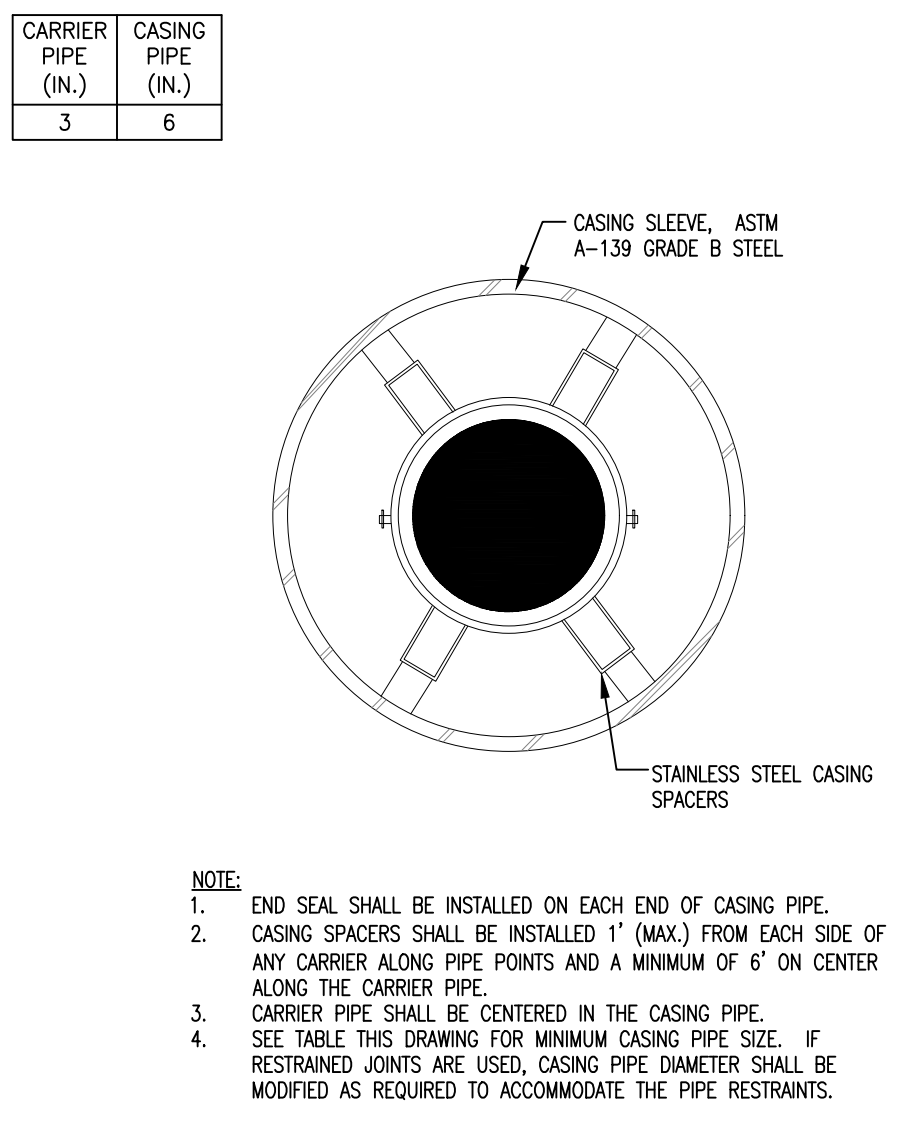
STANDARD DETAILS	
TRENCH DETAILS FOR UNPAVED AREAS	
ISSUED: JUNE 15, 2012	REVISED: SEPTEMBER 1, 2015
REVISED: FEBRUARY 20, 2014	SCALE: NOT TO SCALE
REVISED: MARCH 17, 2015	PLATE: TR-02



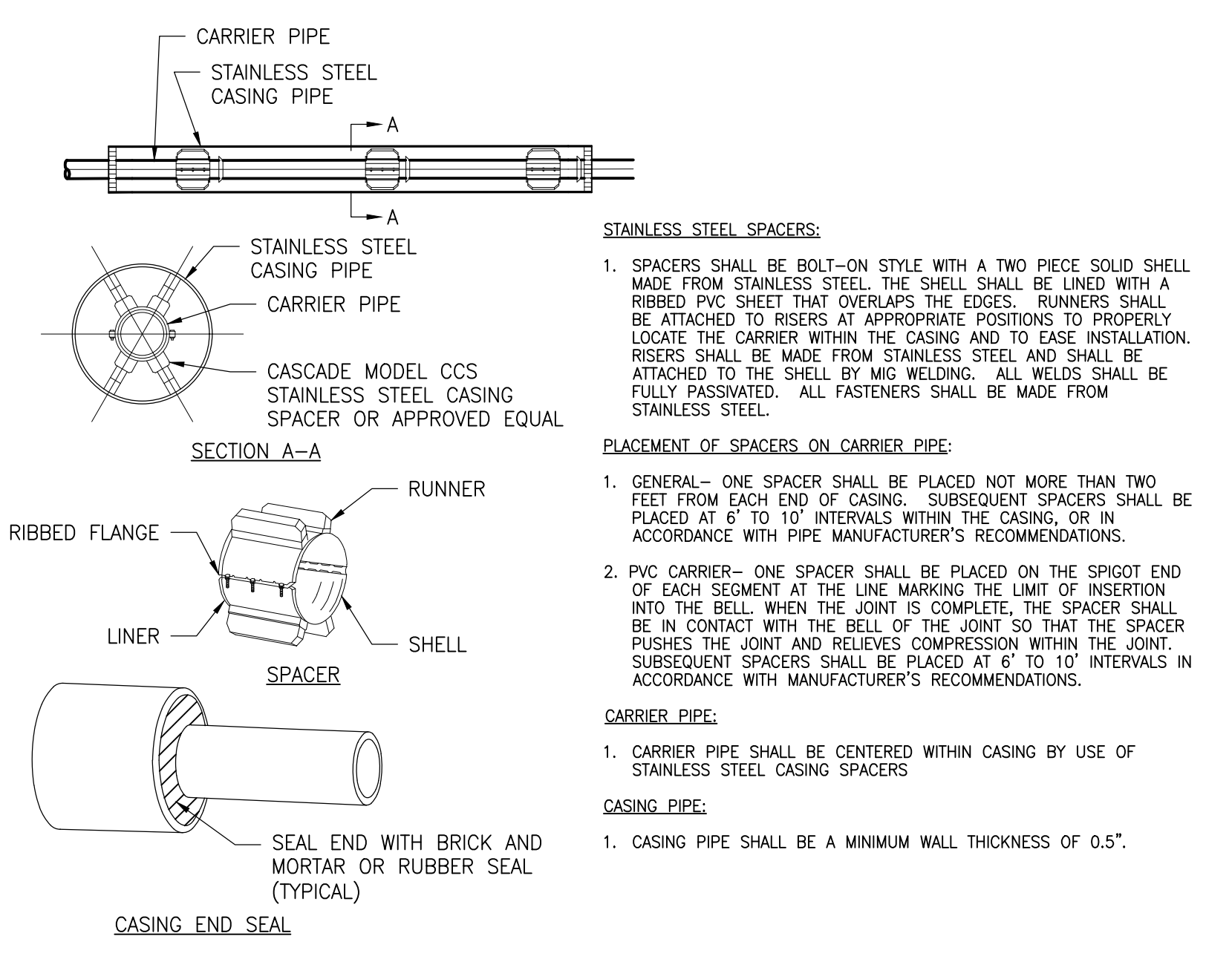
STANDARD DETAILS	
TRENCH DETAIL FOR PAVED AREAS	
ISSUED: JUNE 15, 2012	REVISED: SEPTEMBER 1, 2015
REVISED: FEBRUARY 20, 2014	SCALE: NOT TO SCALE
REVISED: MARCH 17, 2015	PLATE: TR-01



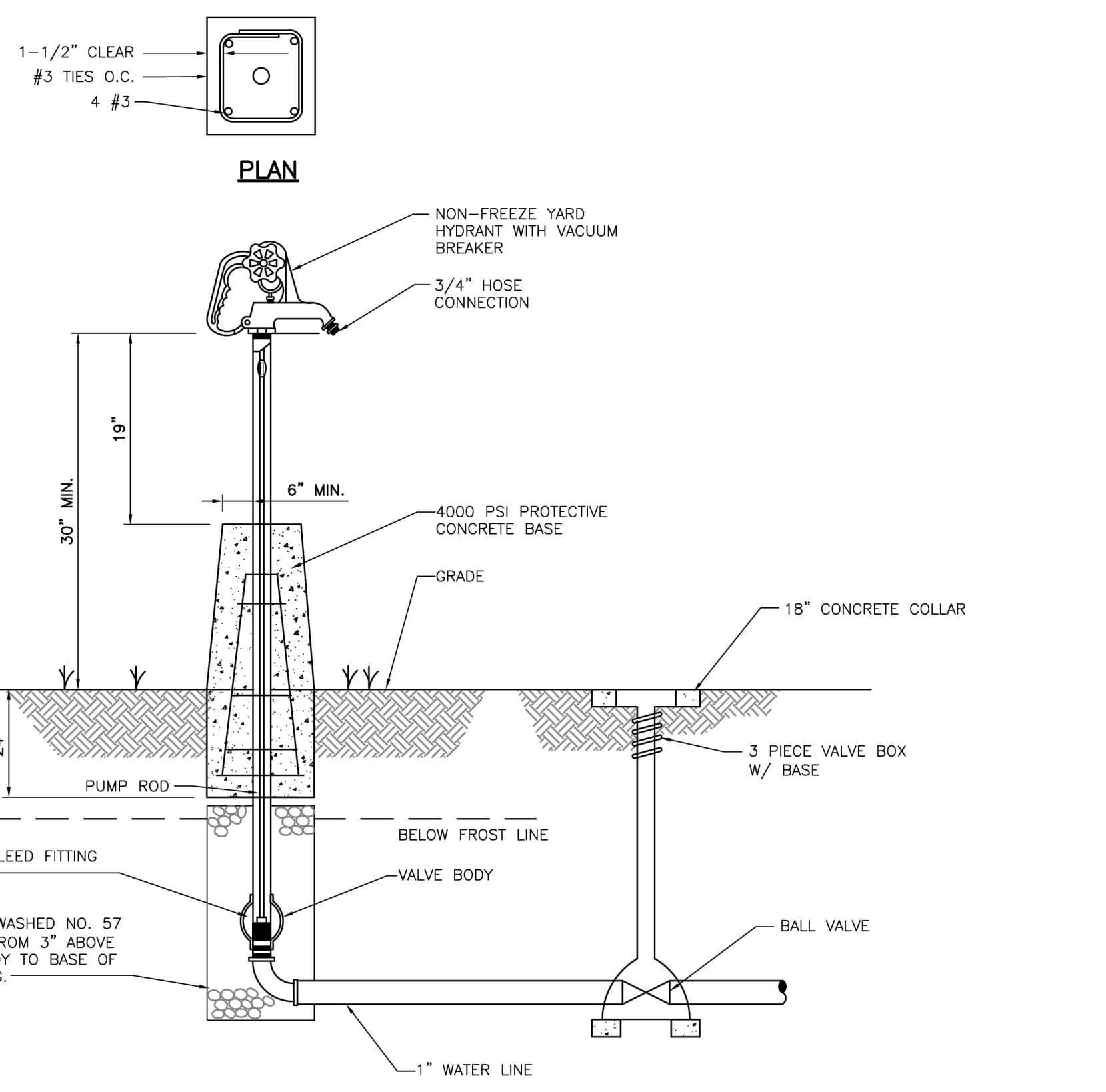
PUMP STATION CANTILEVERED ROLLING GATE DETAIL
NO SCALE



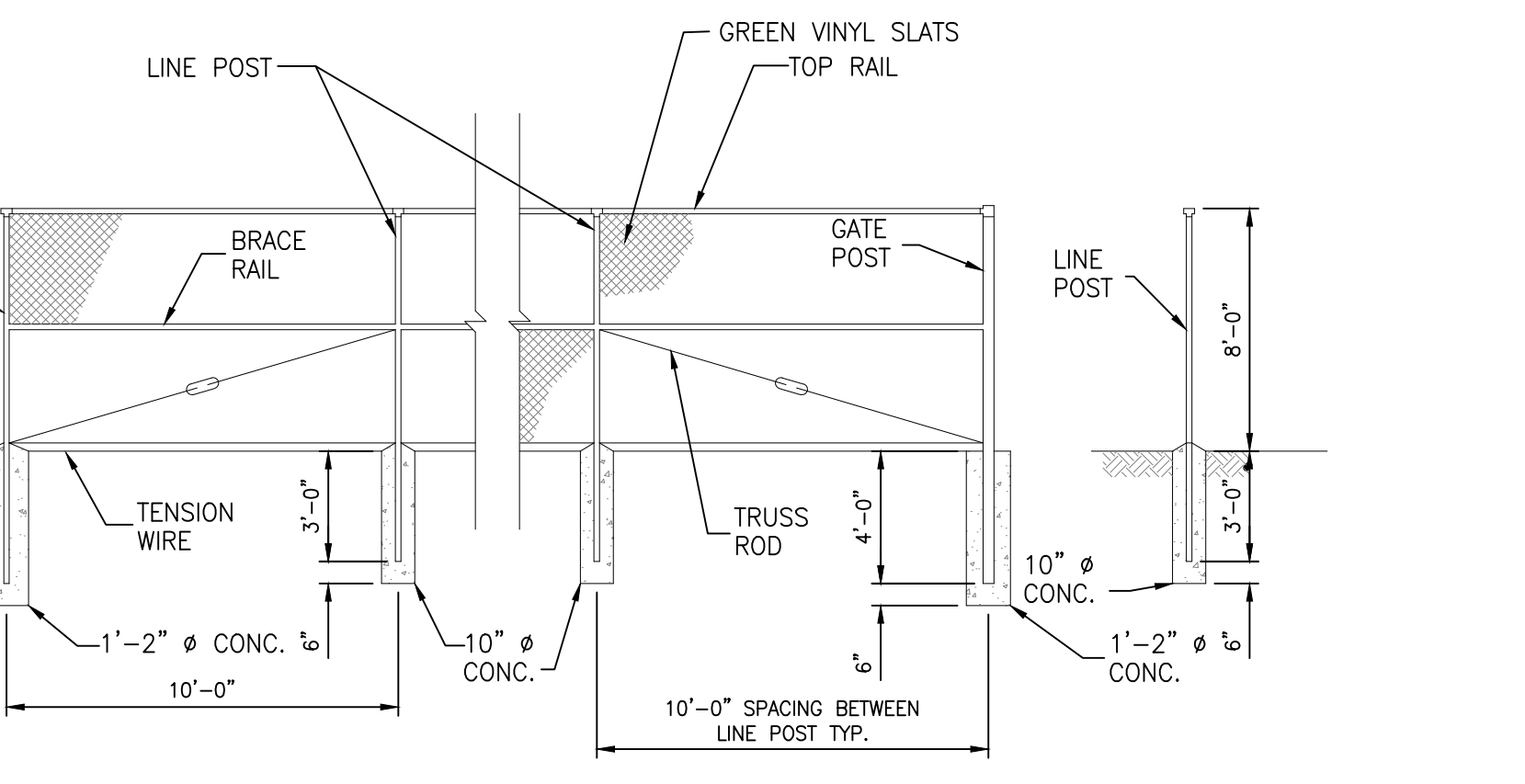
JACK AND BORE CASING SPACER DETAIL
NO SCALE



JACK AND BORE DETAIL
NO SCALE



FROST PROOF YARD HYDRANT DETAIL
NO SCALE



PUMP STATION FENCE DETAIL
NO SCALE

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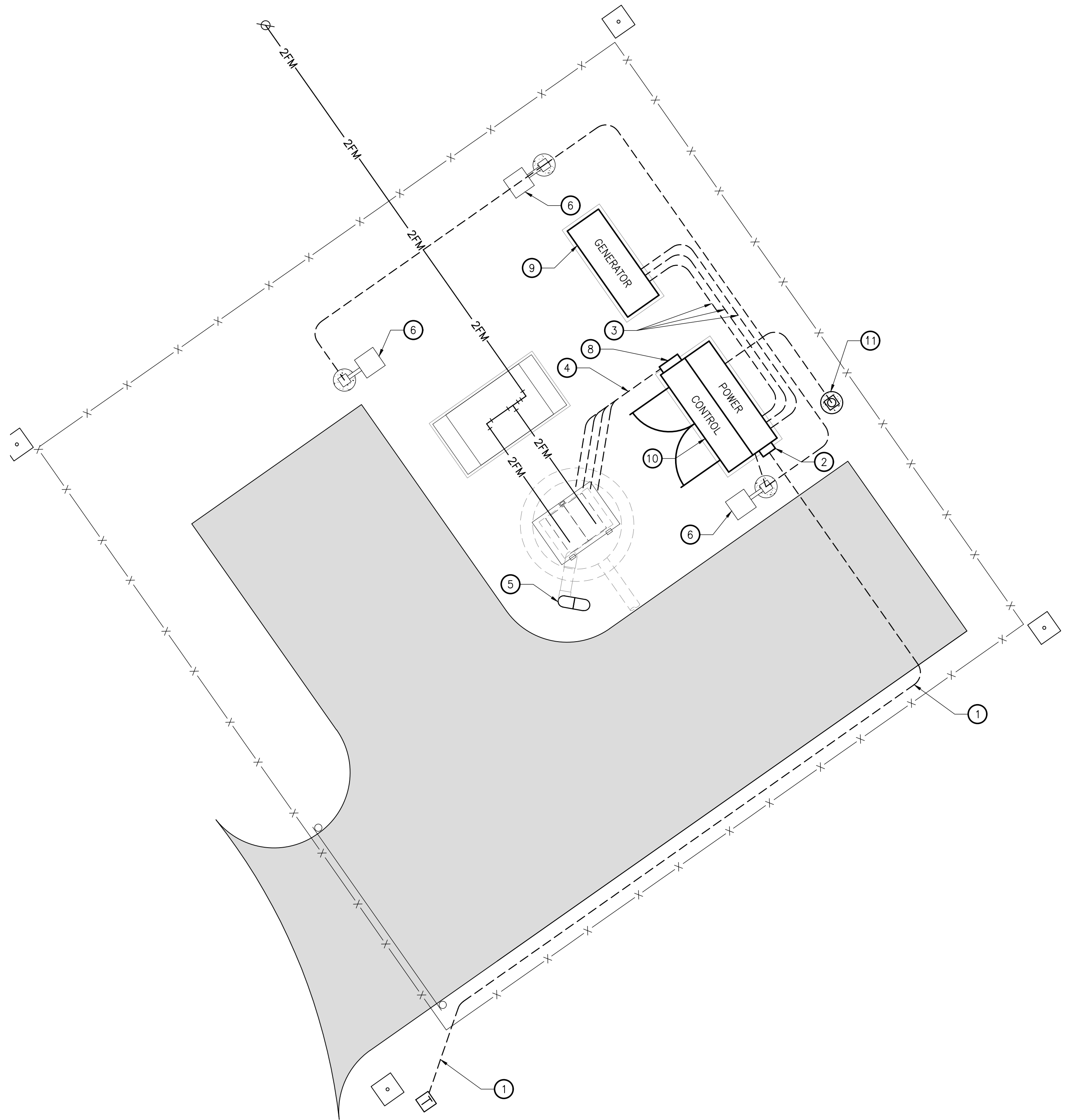
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PUMP STATION DETAILS

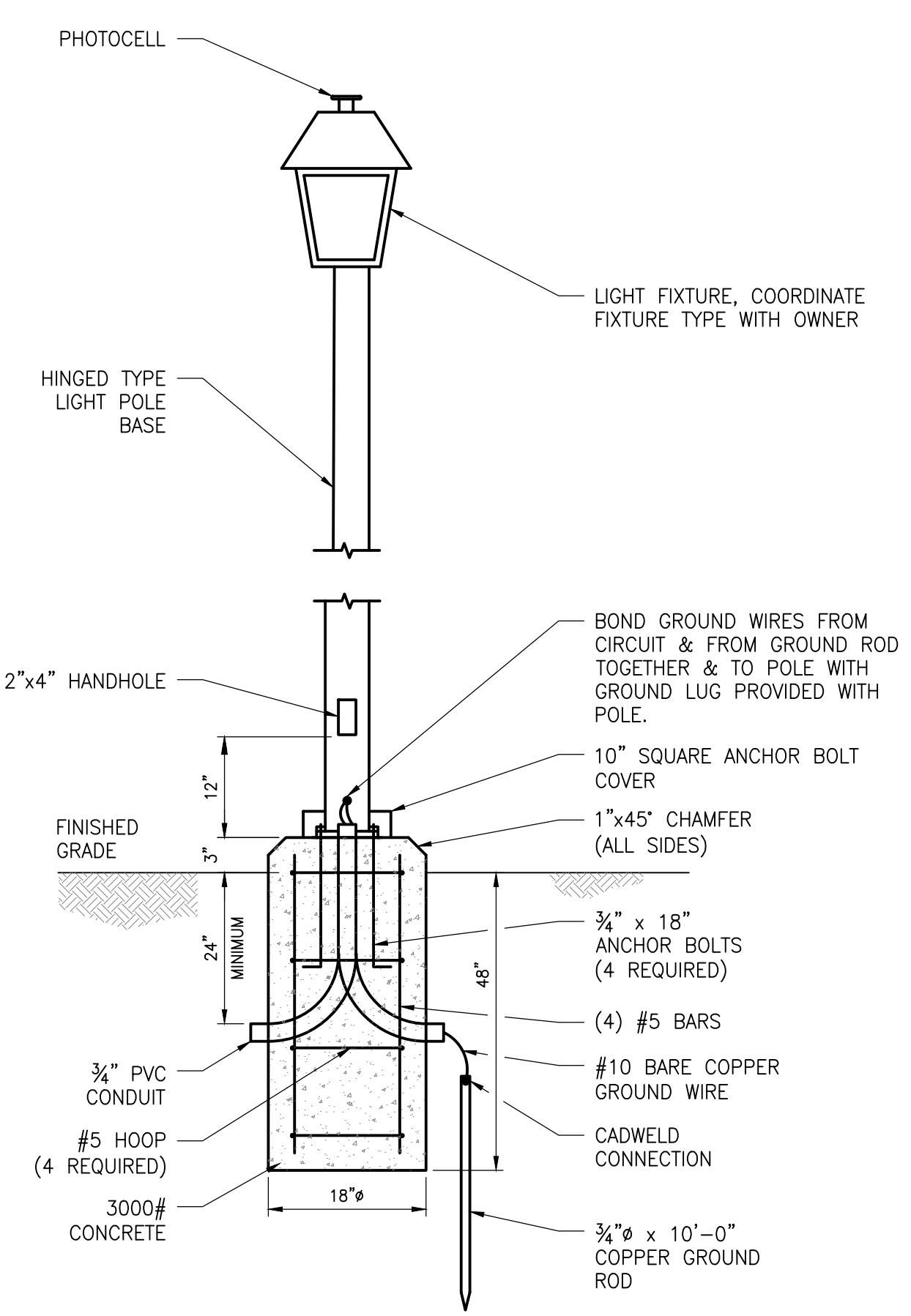
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DESIGN BY : JRS	C6.4
DRAWN BY : RFT	
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PEN-CYAN	0.01 INCHES (0.25mm)
PEN-MAGENTA	0.01 INCHES (0.25mm)
PEN-BLACK	0.01 INCHES (0.25mm)
PLT-CODE	
PLT-NAME	
PLT-DATE	

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PEN-CYAN	0.01 INCHES (0.25mm)	PEN-MAGENTA	0.01 INCHES (0.25mm)
PEN-WHITE	0.01 INCHES (0.25mm)	PEN-BLACK	0.01 INCHES (0.25mm)



PARTIAL SITE PLAN - PUMP STATION
SCALE: 1" = 5'



DETAIL - LIGHT FIXTURE

NO SCALE
NOTE: FOUNDATION SHALL BE POURED ON UNDISTURBED SOIL. CONCRETE SHALL NOT BE POURED BELOW 40°F ON A FALLING TEMPERATURE.

DRAWING NOTES

- 1 COORDINATE INSTALLATION OF CONDUIT WITH UTILITY.
- 2 SERVICE METER SOCKET. MOUNT ON EXTERIOR OF SERVICE EQUIPMENT CABINET. PROVIDE VERTICAL ALUMINUM CHANNEL SUPPORTS (MINIMUM 1/2" SQ. x 12GA) SECURED BY STAINLESS STEEL THRU-BOLTS.
- 3 GENERATOR POWER AND CONTROL CONDUITS TO ELECTRICAL EQUIPMENT CABINET. SEE ONE LINE DIAGRAM SHEET E2.1.
- 4 PUMP MOTOR AND LEVEL SENSING CONDUITS. 2 - 2" PVC COATED RGS CONDUITS WITH POWER CABLE PROVIDED WITH PUMPS AND 2 - 1 1/2" PVC COATED RGS CONDUITS WITH CONTROL CABLES PROVIDED WITH PUMP CONTROL DEVICES (SUBMERSIBLE PRESSURE TRANSDUCER AND FLOATS).
- 5 6" SCH 80 PVC EXHAUST PIPE. SEE DETAIL SHEET E2.3.
- 6 SITE LIGHT. SEE DETAIL THIS SHEET.
- 7 GROUND GRID CONSISTING OF 1/0 BARE COPPER CONDUCTOR - NOT SHOWN FOR CLARITY. GROUND PER NEC TO ACHIEVE 25 OHMS OR LESS RESISTANCE.
- 8 TERMINAL BOX - SEE DETAIL SHEET E2.2.
- 9 EMERGENCY STAND-BY GENERATOR - SEE ONE-LINE DIAGRAM SHEET E2.1. SEE CIVIL FOR PAD DETAILS.
- 10 EQUIPMENT CABINET - SEE DETAIL SHEET E2.1. SEE CIVIL FOR PAD DETAILS.
- 11 ANTENNA POLE LOCATION. EXTEND RG-6 CABLE IN 1". USE LONG RADIUS SWEEPS.

ABBREVIATIONS

M.H.	MOUNTING HEIGHT - TO CENTER OF DEVICE UNLESS OTHERWISE INDICATED.
H.O.A.	HAND OFF AUTOMATIC
G.F.I.	GROUND FAULT INTERRUPTER
GND.	GROUND
WP.	WEATHERPROOF
V.	VOLT OR VOLTS
P.	POLE OR POLES
A.	AMP OR AMPERES
C.	CONDUIT
Ø	PHASE
TYP.	TYPICAL
BRKR.	BREAKER
UG.	UNDERGROUND
K.V.A.	KILOVOLT AMPERES
H.P.S.	HIGH PRESSURE SODIUM
KW.	KILOWATTS
A.F.F.	ABOVE FINISHED FLOOR
PLC	PROGRAMMABLE LOGIC CONTROLLER
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION
HP	HORSEPOWER
PVC	POLYVINYL CHLORIDE
ELEV.	ELEVATION
CFM	CUBIC FEET/MINUTE
S.P.	STATIC PRESSURE
RPM	REVOLUTIONS PER MINUTE
HZ	HERTZ
RGS	RIGID GALVANIZED STEEL
ATS	AUTOMATIC TRANSFER SWITCH
S.N.	SOLID NEUTRAL
NFSS	NON-FUSED SAFETY SWITCH

LEGEND

- POLE TOP MOUNTED LED LUMINAIRE
- RECEPTACLE - 20A, 125V. - SIMPLEX, DUPLEX
- JUNCTION BOX, WALL MOUNTED
- MOTOR - NUMBER DENOTES HORSEPOWER
- CONDUIT-EXPOSED
- CONDUIT-IN OR UNDER FLOOR SLAB OR UNDERGROUND } 2 #12 & 1 #12 GND. - 3/4" C. UNLESS OTHERWISE NOTED
- HOMERUN TO PANEL - NO. OF ARROWS INDICATES NO. OF CIRCUITS AND NO. OF CROSSLINES INDICATES NO. OF #12 CONDUCTORS.
- THERMOSTAT
- THERMAL MANUAL MOTOR STARTER
- GROUND ROD

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<p style="margin: 0;">ARMADA</p> <p style="margin: 0;">SUSSEX COUNTY, DELAWARE</p>									
<p style="margin: 0;">PUMP STATION</p> <p style="margin: 0;">ELECTRICAL PLAN</p>									
<table border="0" style="width: 100%;"> <tr> <td>SCALE : NO SCALE</td> <td>SHEET NO.</td> </tr> <tr> <td>DESIGN BY : JRS</td> <td rowspan="4" style="font-size: 2em; text-align: center;">E1.1</td> </tr> <tr> <td>DRAWN BY : RFT</td> </tr> <tr> <td>CHECKED BY : TMG</td> </tr> <tr> <td>GMB FILE : 220024</td> </tr> <tr> <td>DATE : APR 2024</td> <td></td> </tr> </table>	SCALE : NO SCALE	SHEET NO.	DESIGN BY : JRS	E1.1	DRAWN BY : RFT	CHECKED BY : TMG	GMB FILE : 220024	DATE : APR 2024	
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LEGEND

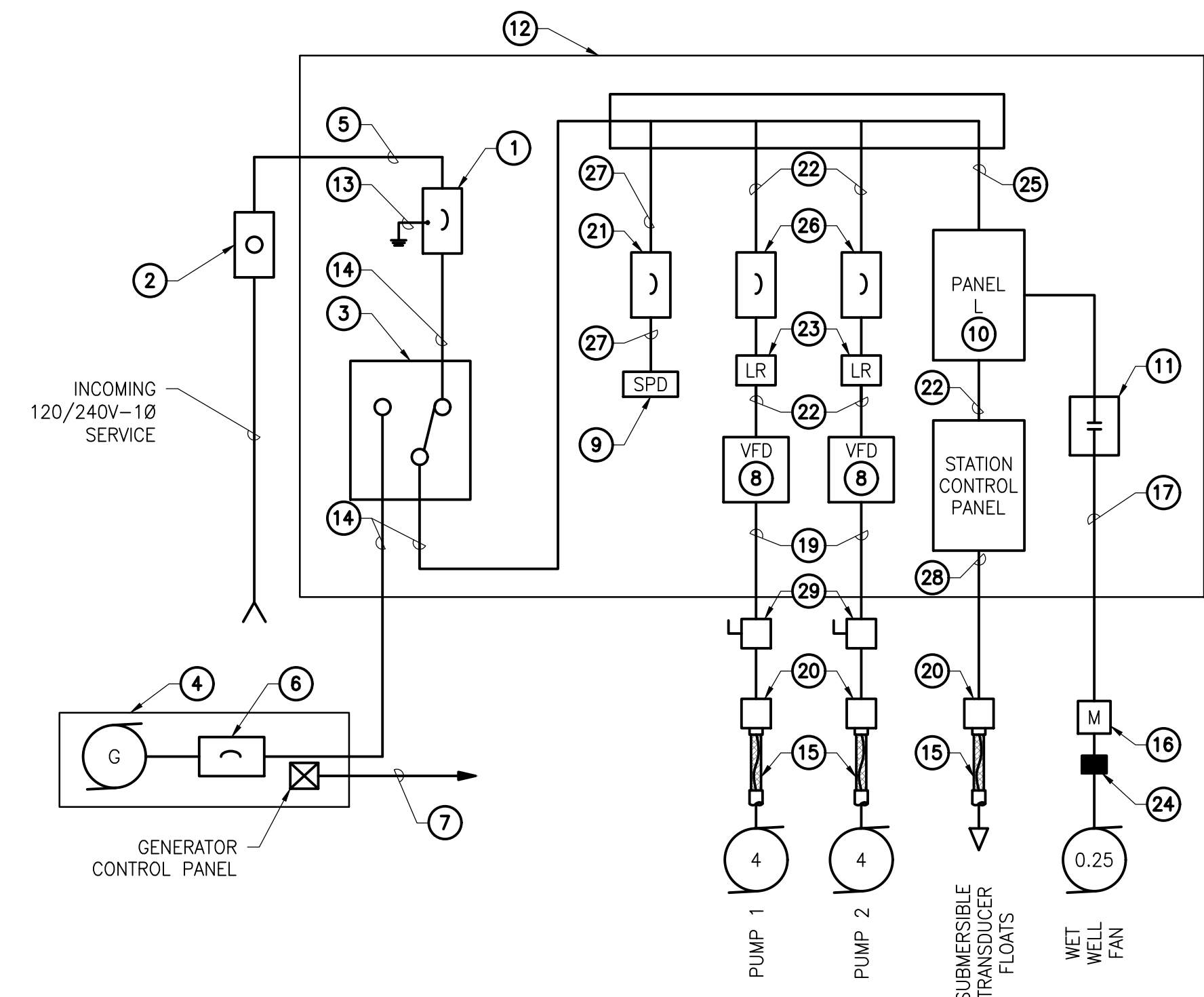
- ① SERVICE MAIN CIRCUIT BREAKER - 240V, 2P, 100A TRIP, NEMA 1. BOND NEUTRAL AND GROUND HERE.
- ② ELECTRICAL SERVICE METER SOCKET - 200A. PROVIDE PER POWER COMPANY SPECIFICATIONS.
- ③ AUTOMATIC TRANSFER SWITCH - 2P, 125A. SOLID NEUTRAL.
- ④ DIESEL ENGINE GENERATOR SET. 25kW/31.25kVA, 120/240V, 1Ø, 3W.
- ⑤ 3 #3 - 1/4" C
- ⑥ GENERATOR ENCLOSED CIRCUIT BREAKER - 2P, 100A. REMOVE BOND BETWEEN NEUTRAL AND GROUND.
- ⑦ EXTEND (3 SETS) 3 #12 - 1" C (GENERATOR BATTERY CHARGER, BLOCK HEATER AND CONTROL PANEL) TO PANEL L AND 4 #14 - 1" C (CONTROL) TO TRANSFER SWITCH.
- ⑧ VARIABLE FREQUENCY DRIVE, 240V-1Ø INPUT/240-3Ø OUTPUT.
- ⑨ SURGE PROTECTION DEVICE (SPD).
- ⑩ PANEL L - 120/240V, 1Ø, 3-WIRE (SEE SCHEDULE, THIS SHEET).
- ⑪ MOTOR-RATED RELAY.
- ⑫ ELECTRICAL SERVICE EQUIPMENT CABINET. SEE DETAILS, THIS SHEET.
- ⑬ #6 GROUND PER NEC.
- ⑭ 3 #3 AND 1 #8 GRD - 1/4" C
- ⑮ CONDUIT AIR GAP WITH EXPANDED METAL COVER - SEE DETAIL ON SHEET E2.2.
- ⑯ MANUAL MOTOR STARTER - NEMA 4 ENCLOSURE.
- ⑰ 2 #12 AND 1 #12 GRD - 3/4" C
- ⑱ STAINLESS STEEL ANCHOR BOLTS PER CABINET MANUFACTURER'S RECOMMENDATION.
- ⑲ 3 #8 AND 1 #10 GRD - 3/4" C
- ⑳ NEMA 4X PULL BOX. SIZED FOR CABLES AND CONDUIT BEING USED. PROVIDE POWER DISTRIBUTION BLOCK FOR TERMINATION OF PUMP CABLES.
- ㉑ SPD ENCLOSED CIRCUIT BREAKER - 2P, 60A.
- ㉒ 2 #8 AND 1 #10 GRD - 3/4" C.
- ㉓ 5% LINE REACTOR.
- ㉔ CONDUIT SEAL FITTING.
- ㉕ 3 #6 AND 1 #6 GRD - 3/4" C.
- ㉖ ENCLOSED CIRCUIT BREAKER - 2P, 40A.
- ㉗ 4 #6 - 1" C
- ㉘ MANUFACTURER'S TRANSDUCER CABLE AND FLOAT CABLE IN SEPARATE 1/2" C MINIMUM.
- ㉙ 3P, 30A DISCONNECT SWITCH, NEMA 4X.

PANEL SCHEDULE: "L" 120/240v - 1 PHASE, 3 WIRE - SOLID NEUTRAL									
CIRC. NO.	CIRCUIT DESIGNATION	BREAKER		kVA	CIRC. NO.	CIRCUIT DESIGNATION	BREAKER		
		POLE	CALIB				POLE	CALIB	
1	SUBMERSIBLE PRESSURE TRANSDUCER	1	20	0.1	2	PUMP STATION CONTROL PANEL	1	30	2.8
3	CABINET LIGHT	1	20	0.1	4	CABINET RECEPTACLE	1	20	0.4
5	WET WELL SUPPLY FAN	1	20	0.5	6	CABINET HEATER	1	20	0.5
7	GENERATOR - BLOCK HEATER	1	20	1.0	8	GENERATOR - CONTROL PANEL	1	20	1.0
9	GENERATOR - BATTERY CHARGER	1	20	1.0	10	SITE LIGHT	1	20	0.1
11	CABINET FAN	1	20	0.5	12	SPARE	1	20	1.0
13	SPARE	1	20	1.0	14	SPARE	1	20	-
15	SPARE AND BUS	1	20	1.0	16	SPARE AND BUS	1	20	-
17	SPACE AND BUS	1	20	-	18	SPACE AND BUS	1	20	-

LOAD	CONN.	%	DEM'D	NOTES:
LIGHTS	0.2	100	0.2	A = (kVAx1000)/V 44.7 AMPS DEM
RECEPTACLES	0.4	100	0.4	MAIN BREAKER: 60A, 2P
MOTORS	1.0	80	0.8000	ENCLOSURE TYPE: NEMA 4X
SPARES	3.0	50	1.5000	ENCLOSURE LOCATION: ELECTRICAL EQUIPMENT CABINET
MISCELLANEOUS	6.4	100	6.4000	*-INDICATES GFI BREAKER
				FED FROM ATS
TOTAL	11.0		9.3	MINIMUM SHORT CIRCUIT INTERRUPTION RATING: 10,000 AIC

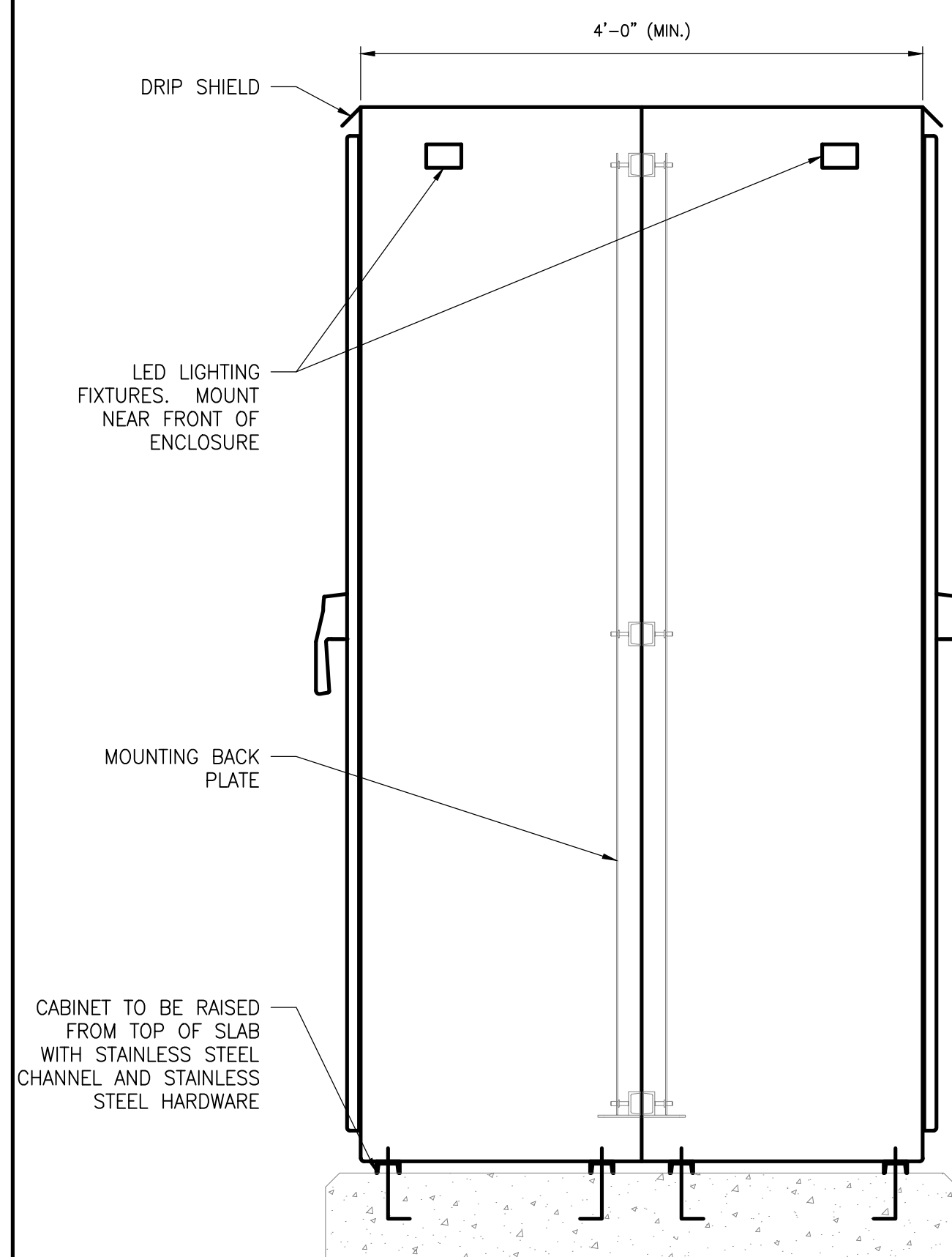
CONDUIT NOTES

- 1. ALL CONDUIT INSIDE WET WELL TO ONE FOOT BEYOND WET WELL WALL EXTERIOR SHALL BE PVC-COATED RGS.
- 2. ALL BURIED CONDUIT TO BE PVC SCH. 40 CONDUIT.
- 3. ALL CONDUIT IN CONTACT WITH CONCRETE OR ON EXTERIOR OF STRUCTURE TO BE PVC-COATED RGS.
- 4. ALL CONDUIT RUN INSIDE EQUIPMENT CABINET TO BE RGS CONDUIT.

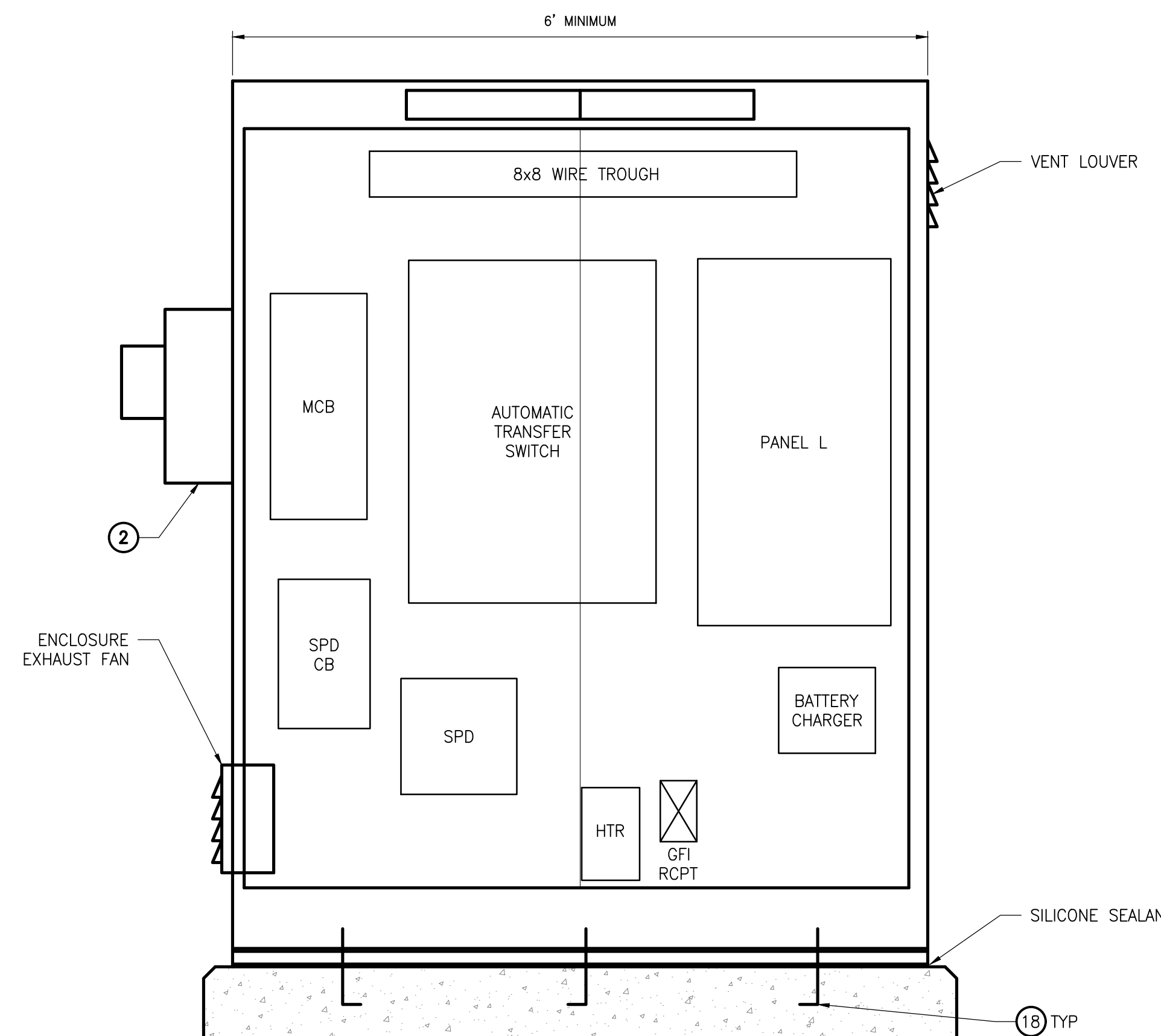


ELECTRICAL ONE-LINE DIAGRAM
SCALE: NO SCALE

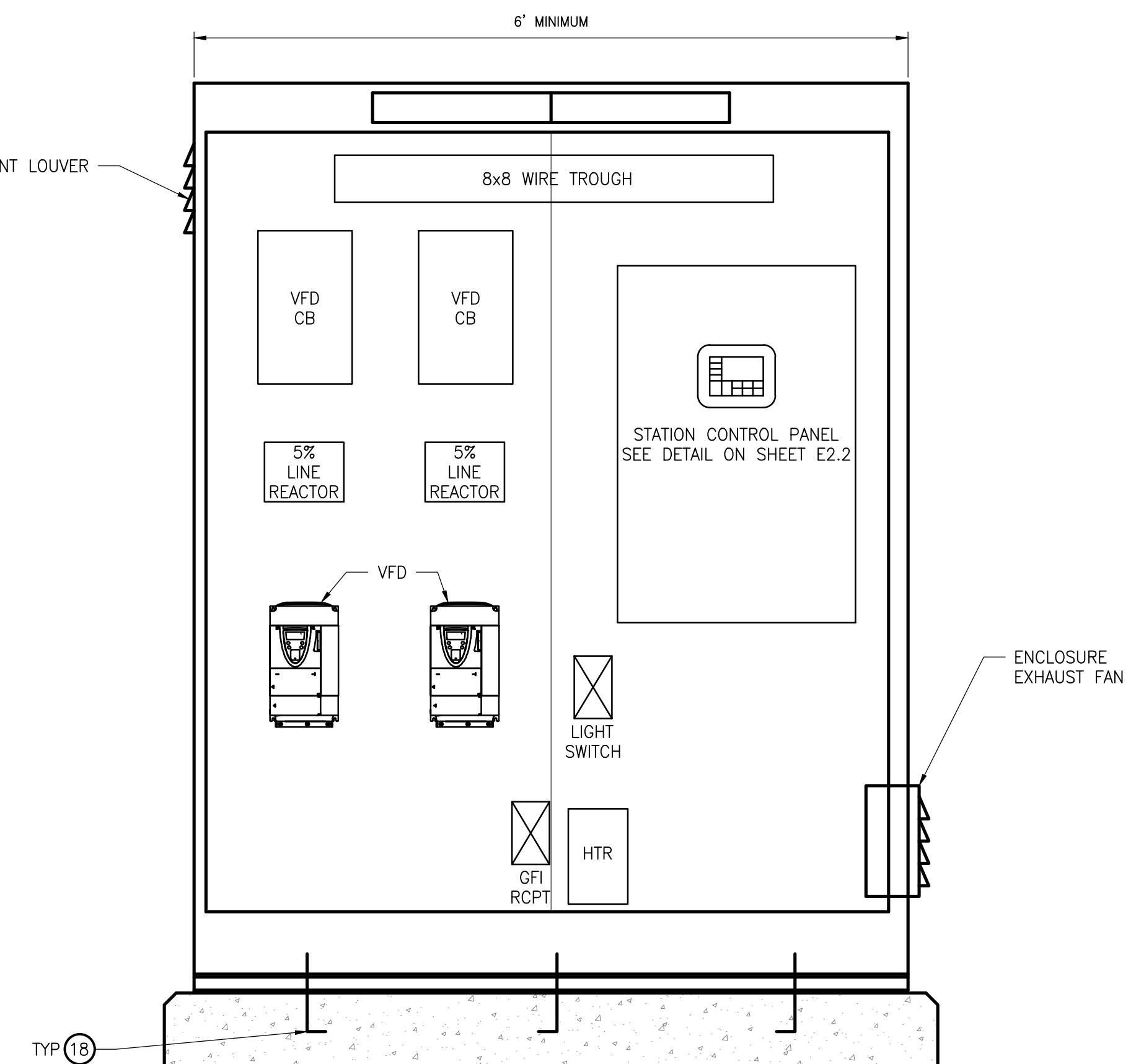
NOTE: CONTRACTOR SHALL PROVIDE POWER SYSTEM STUDY. IT SHALL BE PERFORMED BY A DELAWARE PROFESSIONAL ENGINEER AND INCLUDE SHORT-CIRCUIT STUDY, PROTECTIVE DEVICE COORDINATION STUDY, AND ARC FLASH RISK ASSESSMENT & LABELING FOR ALL EQUIPMENT BEING INSTALLED OR MODIFIED. LABELS SHALL INDICATE HAZARD LEVEL AND PPE REQUIREMENTS AS REQUIRED BY NFPA 70E AND IEEE 1584.



EQUIPMENT CABINET
END VIEW
SCALE: NO SCALE



EQUIPMENT CABINET - POWER SIDE ELEVATION
DOORS OPEN
SCALE: NO SCALE



EQUIPMENT CABINET - CONTROL SIDE ELEVATION
DOORS OPEN
SCALE: NO SCALE

EQUIPMENT CABINET ELEVATIONS

NOTE: INTEGRATOR TO INSURE ALL EQUIPMENT DOORS CAN BE OPENED AROUND REMOVABLE DOOR CENTER SUPPORTS.

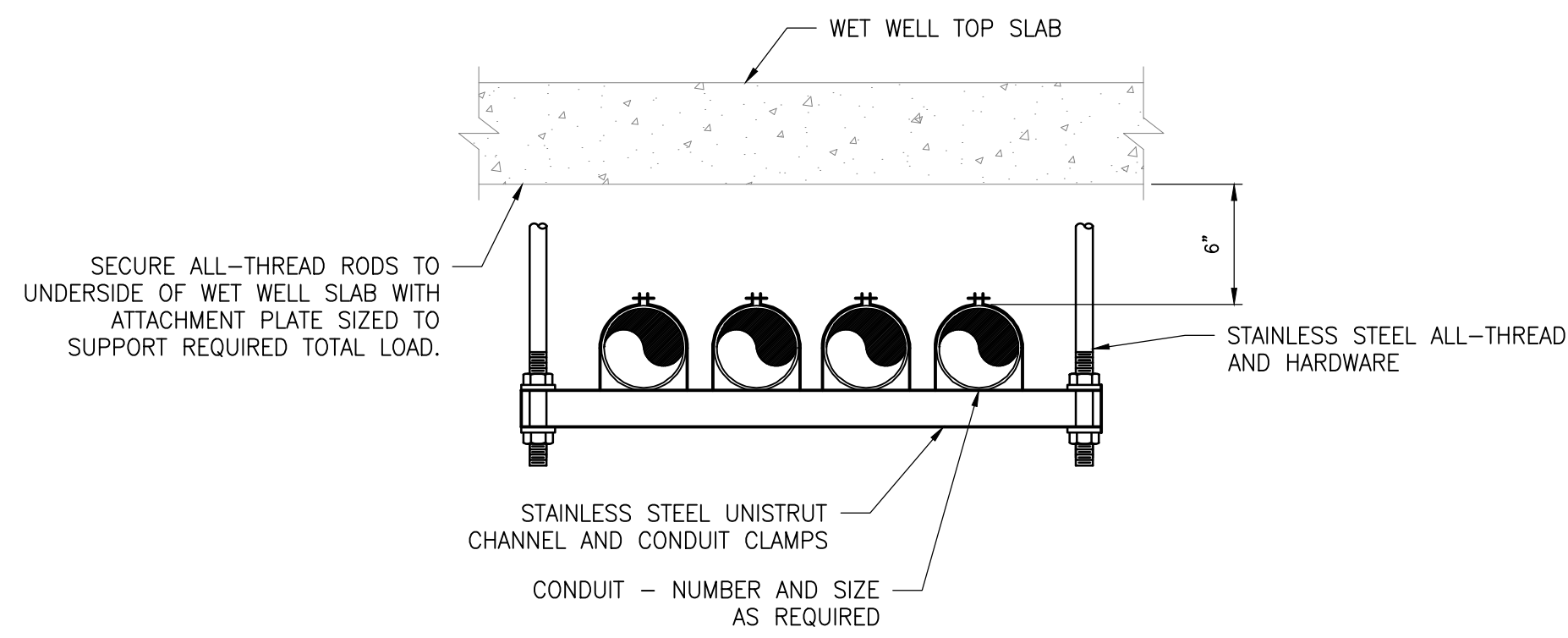
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DATE	
REVISIONS	
NO.	

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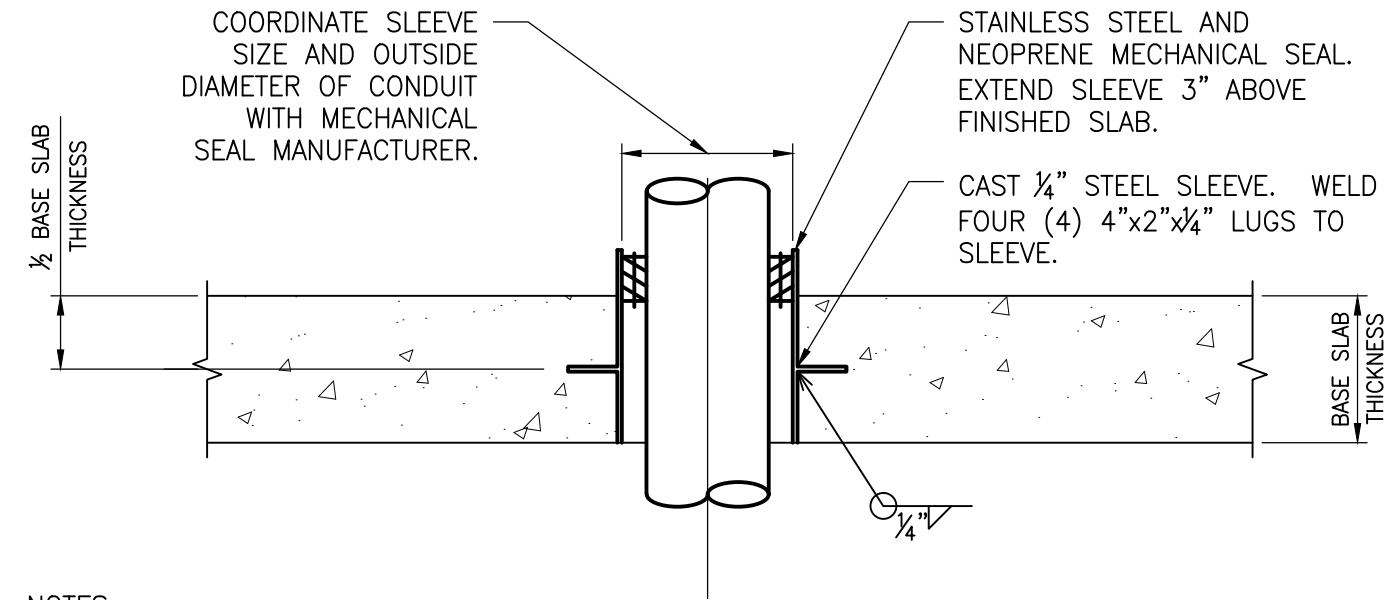
ARMADA
 SUSSEX COUNTY, DELAWARE

PUMP STATION
ELECTRICAL
DETAILS

SCALE : NO SCALE	SHEET NO.
DESIGN BY : JRS	E1.2
DRAWN BY : RFT	
CHECKED BY : TMG	
GMB FILE : 220024	
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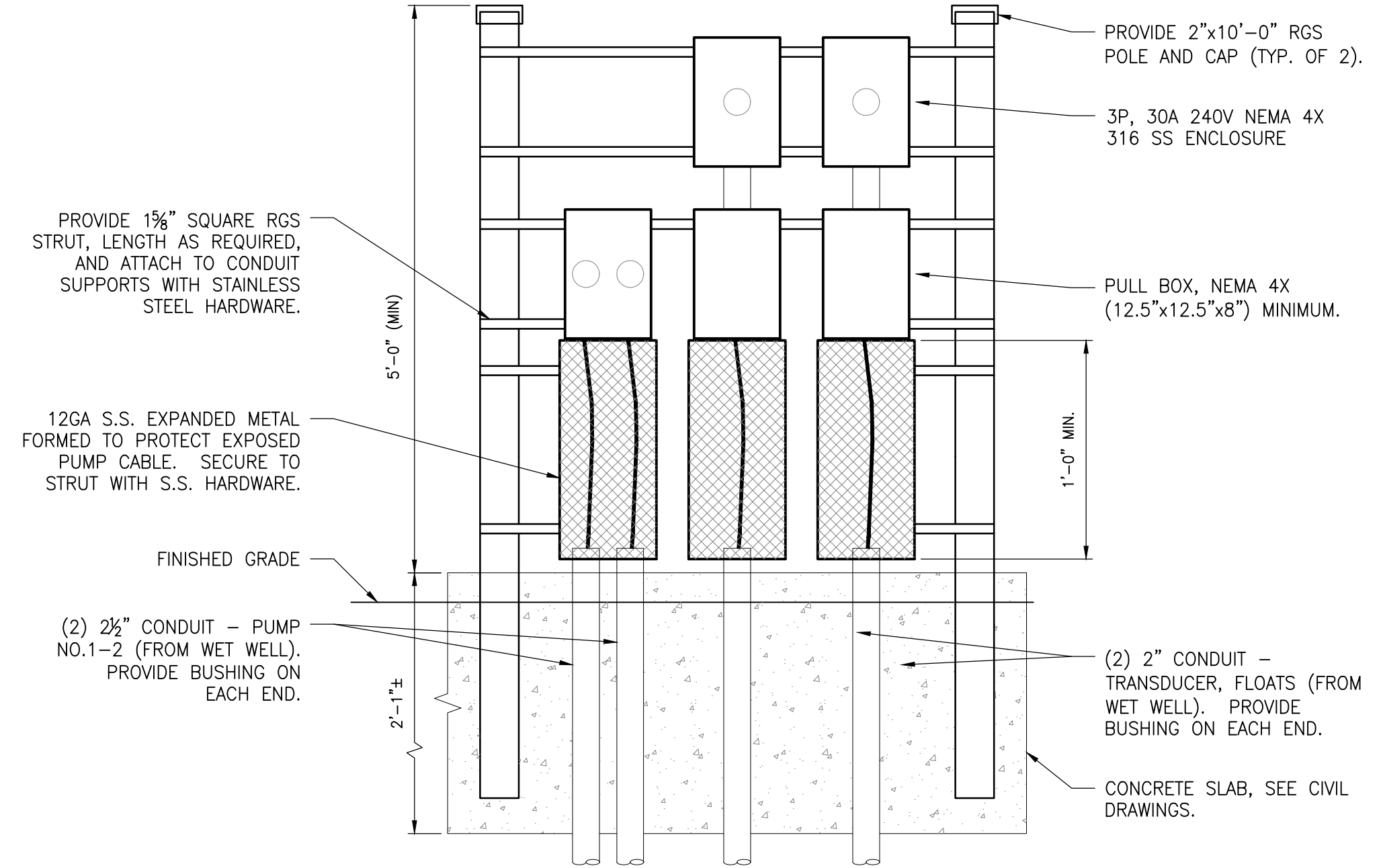
INTERIOR CONDUIT SUPPORT RACK DETAIL
SCALE: NO SCALE



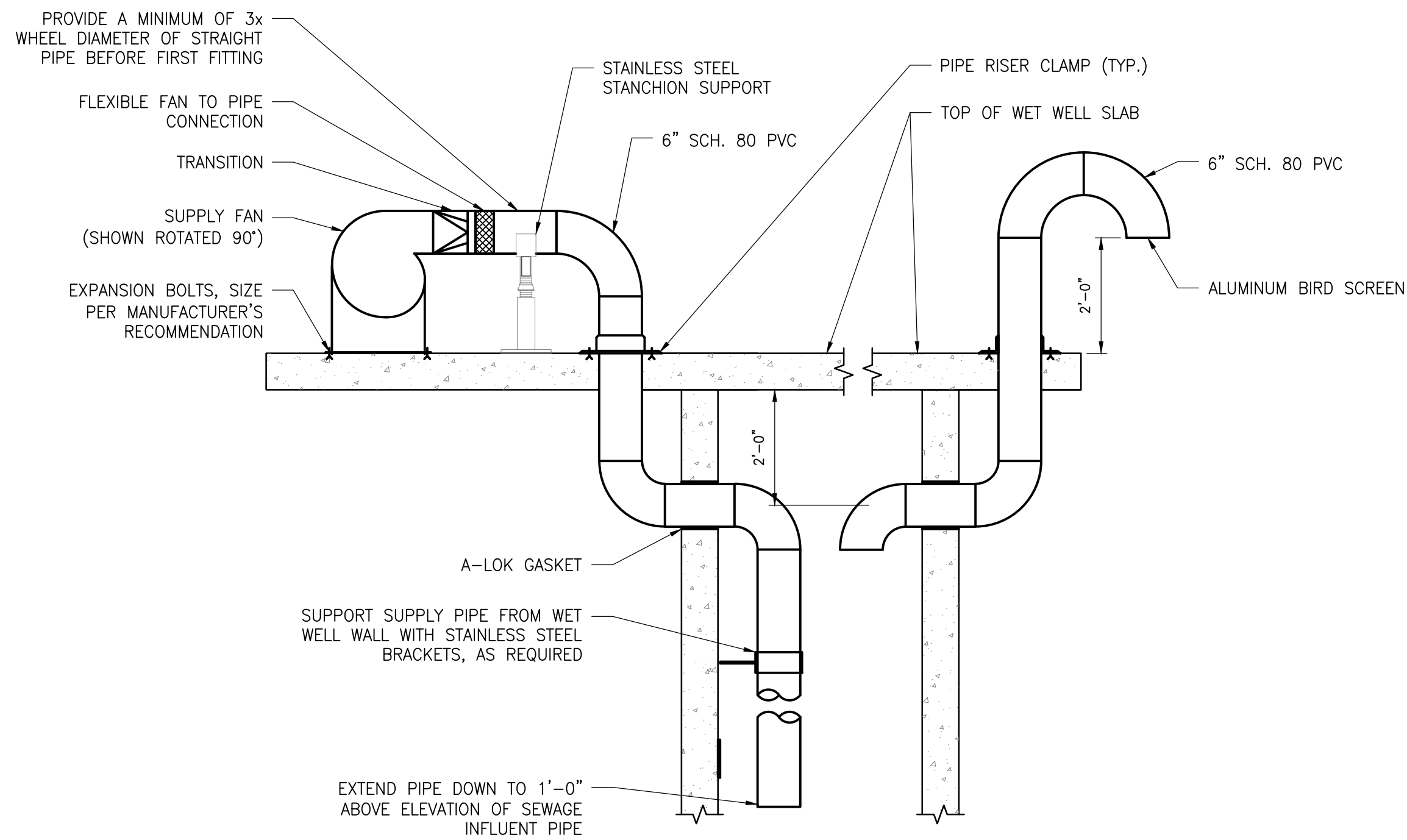
NOTES

1. INSTALL SEALS ON BOTH SIDES OF SLAB WHEN THICKNESS EXCEEDS 15 INCHES.
2. GROUT/CAST STEEL FRAME WITH COMPRESSIBLE, ELASTOTHERMIC SECTIONS INTO FLOOR WHERE MORE THAN THREE (3) CONDUITS PENETRATE THE SLAB. CROUSE-HINDS THRU-WALL-BARRIER OR EQUAL.

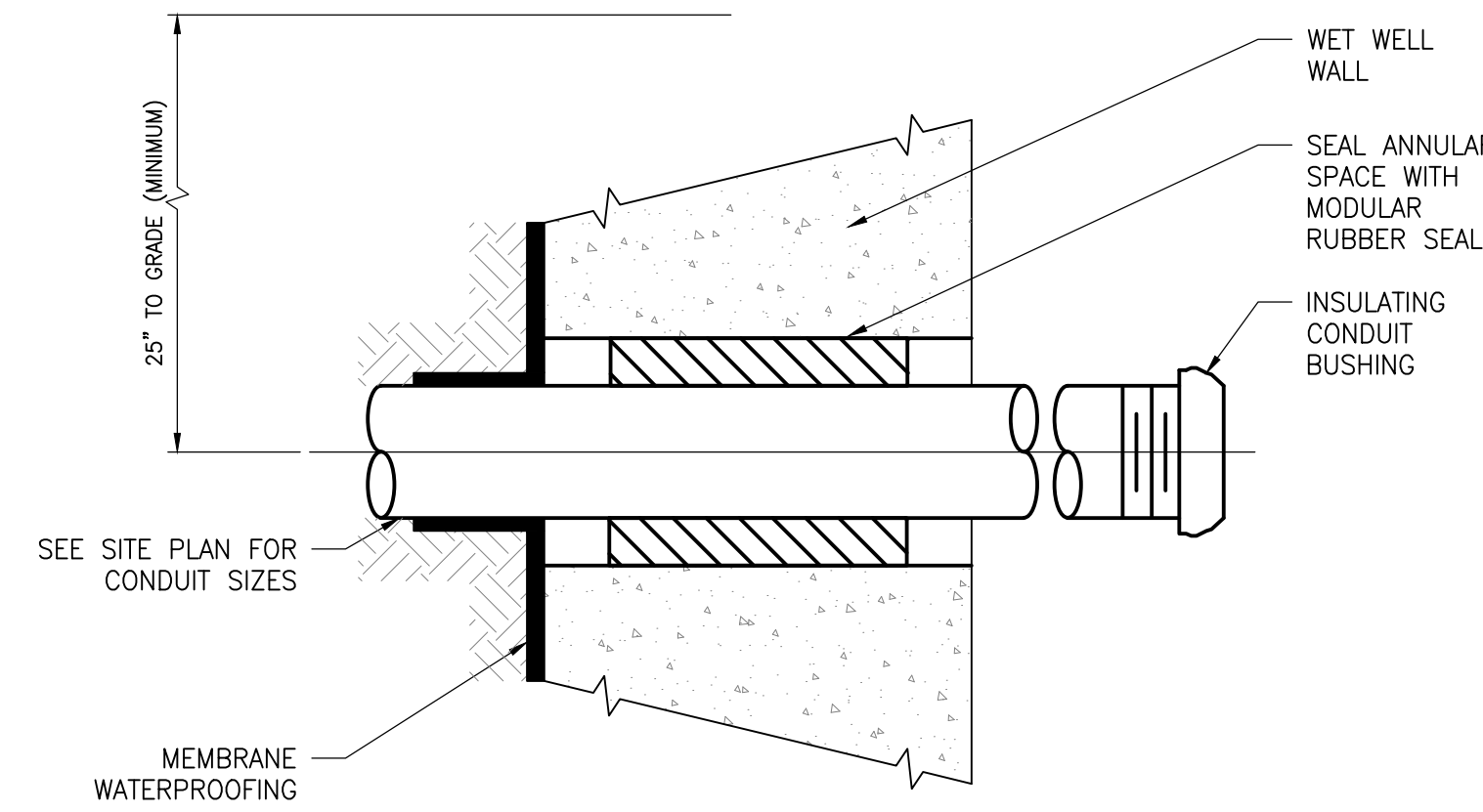
CONDUIT PENETRATION THRU CONCRETE SLAB
SCALE: NO SCALE



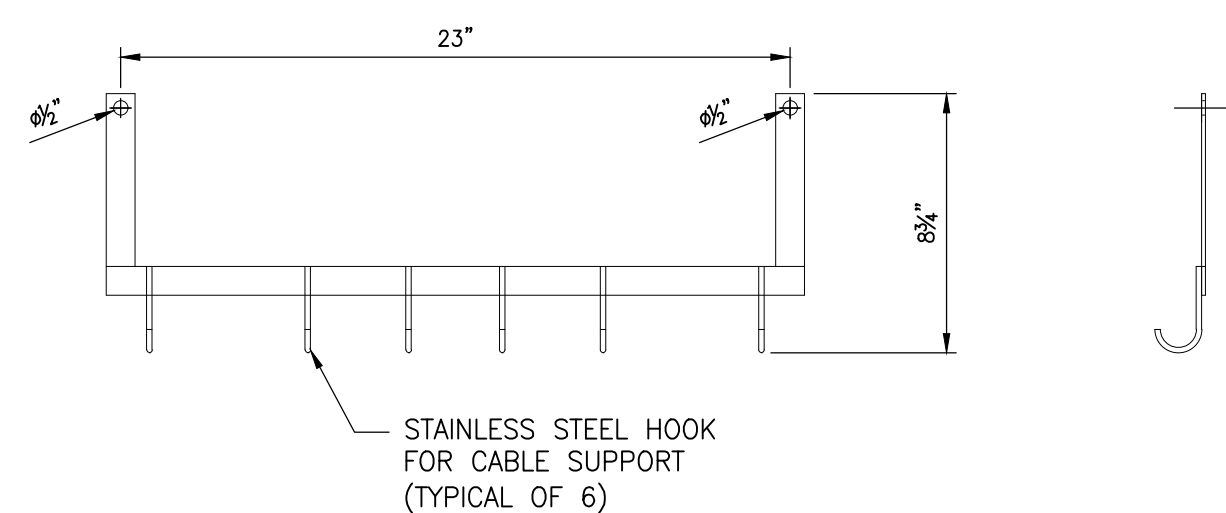
DETAIL - CONDUIT AIR GAP
SCALE: NO SCALE



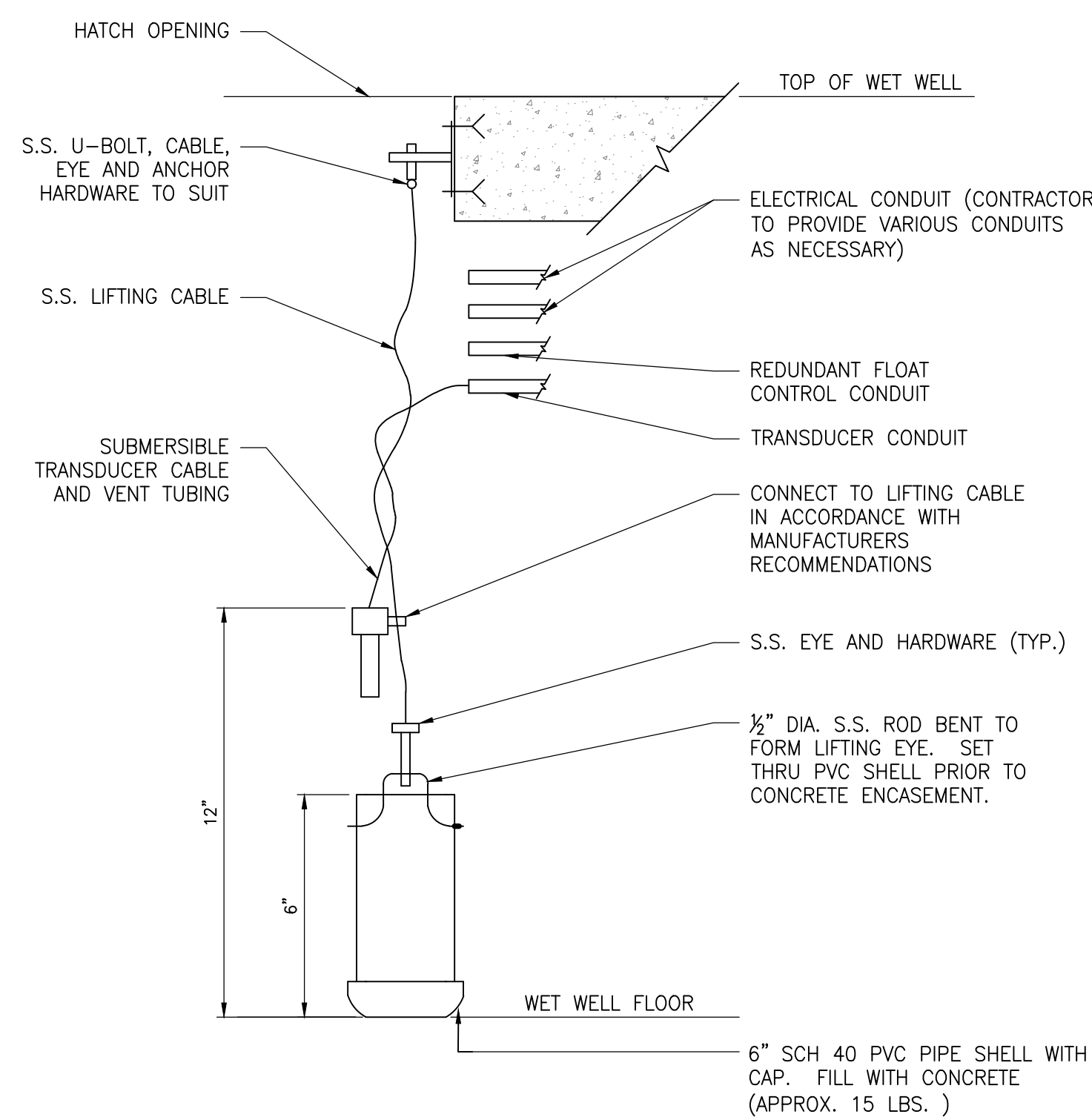
WET WELL VENTILATION DETAIL
SCALE: NO SCALE



DETAIL - CONDUIT ENTRY THRU WALL
SCALE: NO SCALE



CABLE HOLDER DETAIL
SCALE: NO SCALE



SUBMERSIBLE PRESSURE TRANSDUCER DETAIL
SCALE: NO SCALE

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**PUMP STATION
 ELECTRICAL
 DETAILS**

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DESIGN BY : JRS	E1.3
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PEN-RED	0.01 INCHES (0.25mm)
PEN-YELLOW	0.01 INCHES (0.25mm)
PEN-GREEN	0.01 INCHES (0.25mm)
PEN-BLUE	0.01 INCHES (0.25mm)
PEN-CYAN	0.01 INCHES (0.25mm)
PEN-MAGENTA	0.01 INCHES (0.25mm)
PLT-CODE	0.01 INCHES (0.25mm)
PLT-NAME	0.01 INCHES (0.25mm)
PLT-DATE	0.01 INCHES (0.25mm)