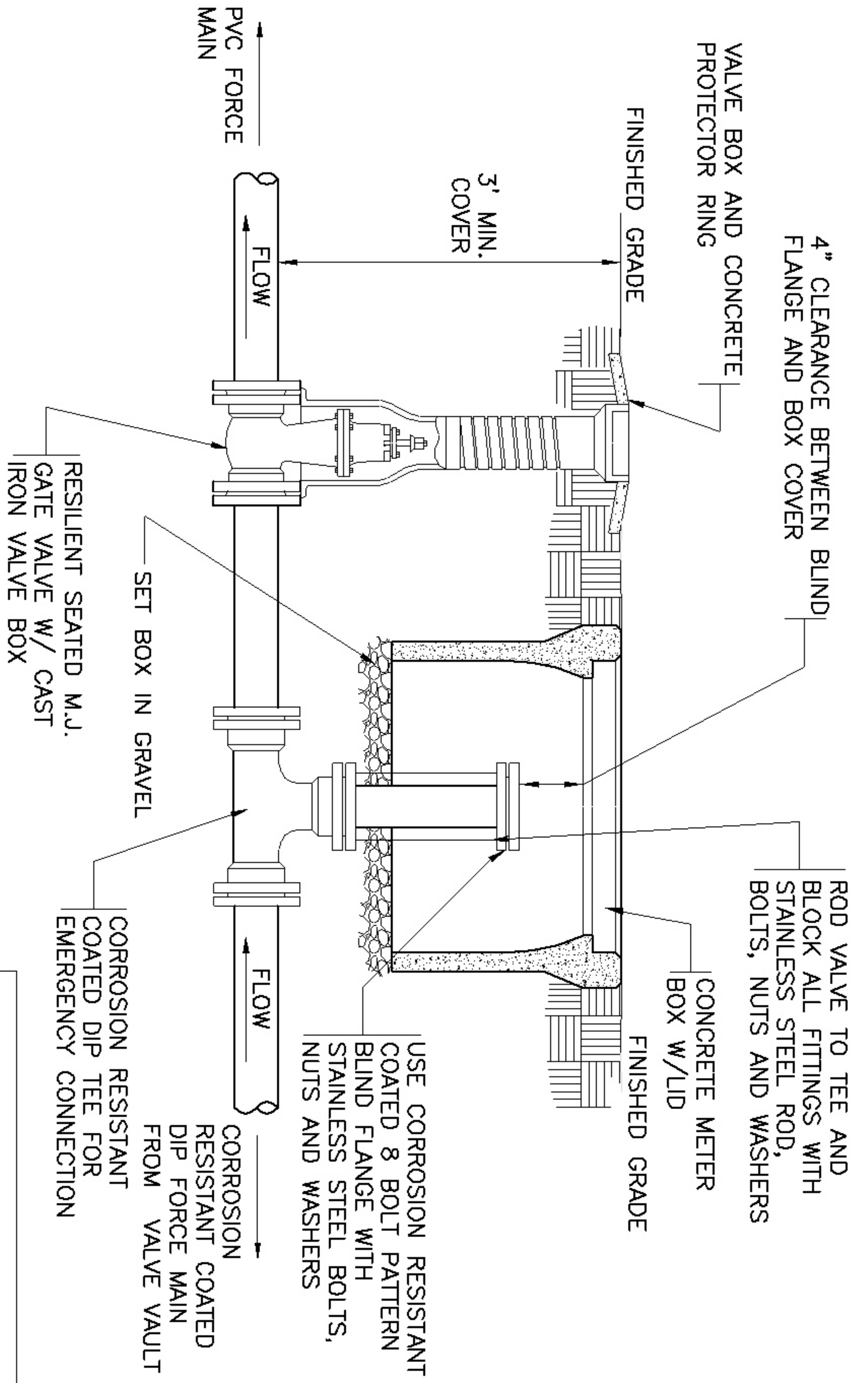


- NOTE:
1. COATED DIP TEE SHALL BE THE SAME AS THE FORCE MAIN
 2. EMERGENCY CONNECTION TO BE SAME SIZE AS WET WELL PIPING.



EMERGENCY CONNECTION
N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE: EMERGENCY CONNECTION	
DETAIL	
CATEGORY: SEWER	SCALE: NONE
DATE: 01/06	SHEET: S5
DETAIL SHORTNAME: EMCON	

FROSTPROOF YARD HYDRANT WITH 3/4" DOUBLE CHECK VALVE ASS. BACKFLOW PREVENTION IN CONCRETE METER BOX (SEE SHEET S6) EMERGENCY CONNECTION (SEE SHEET S5)

PUMP STATION WETWELL AND VALVE BOX (SEE SHEETS S2 & S3)

NEMA 4X JUNCTION BOX (STAINLESS OF FRP) W/ FALSE BACK AND TERMINAL STRIPS MOUNTED ON 2 TREATED 4X4 POSTS

PUMP STATION PROPERTY LINE

GENERATOR BUILDING (SEE SHEET S4)

EFFLUENT PVC FORCE MAIN

CONTROL PANEL

THRUST RESTRAINT (AS REQUIRED)

GENERATOR TO BE KOHLER OR CATERPILLAR ONLY. GENERATOR TO HAVE AUTO TRANSFER SWITCH WITH TRICKLE BATTERY CHARGER, BLOCK HEATER, AND EXTERIOR FUEL TANK MIN. 250 GAL. DOUBLE-WALLED (SCDHEC REQ.) GENERATOR FUEL TANK SITTING ON CEMENT BLOCKS EXTERIOR LIGHT (TYP. OF 2)

3/4" WATER SERVICE 16' DOUBLE SWING GATE

CHAIN LINK FENCE LOCATED 1' INSIDE PROPERTY LINE

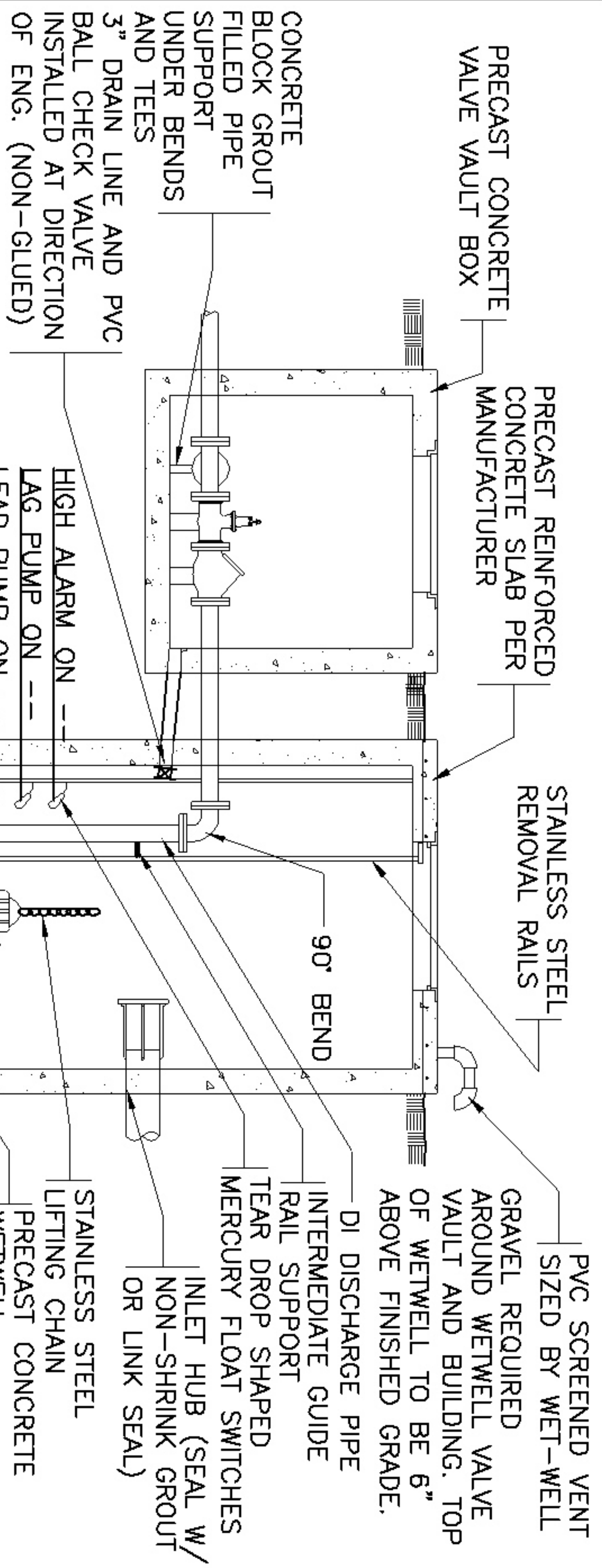
INFLUENT LINES (TYP.) GATE VALVE COLLECTION MANHOLE (TYP.)

- NOTES:
1. SIZE OF PROPERTY DETERMINED BY LCW&SD WITH 15' WIDE ACCESS ROAD (8" THICK SABC MIN. OR ASPHALT AS REQUIRED PER LCW&SD)
 2. LOCATION OF GATES AND ACCESS DRIVE TO BE DETERMINED BY LCW&SD
 3. ENGINEER SHALL ADAPT THIS SITE PLAN AS NECESSARY
 4. DIRECT ACCESS TO WETWELL SHALL BE REQUIRED FOR VACUUM TRUCK.

PUMP STATION OVERALL SITE PLAN

N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE: PUMP STATION OVERALL SITE PLAN (TYPICAL)	
CATEGORY: SEWER	SCALE: NONE
DATE: 01/06	SHEET: S1
DETAIL SHORTNAME: PSSITE	



NOTES:

1. ALL INTERNAL WETWELL PIPING AND VALVE VAULT PIPING SHALL BE CLASS 50 DIP. ALL PUMP GUIDE RAILS, GUIDE RAILS (MID-SECTION) AND TOP RAIL GUIDES ARE TO BE STAINLESS STEEL. ALL DUCTILE IRON PIPE TO BE SEWPER COATED. ALL NUTS, BOLTS AND WASHERS TO BE 316 STAINLESS STEEL.
2. CONTRACTOR SHALL INSTALL PUMP DISCHARGE PIPING PUMP GUIDE RAILS PLUMB AND LEVEL FOR EASE OF PUMP REMOVAL. HOIST AND EACH PUMP SHALL BE REMOVED AND REINSTALLED IN THE PRESENCE OF THE ENGINEER, OWNER AND DISTRICT INSPECTOR TO DEMONSTRATE PERFORMANCE.
3. WETWELL TO BE SEALED AT ALL JOINTS INSIDE AND OUTSIDE. WETWELL SHALL BE TESTED FOR LEAKAGE AND SHALL NOT EXCEED 1" OF WETWELL DEPTH IN 24 HOURS.
4. AT CONTRACTOR'S EXPENSE, PUMP DRAWDOWN TEST SHALL BE CONDUCTED FOR EACH PUMP IN THE PRESENCE OF THE ENGINEER, OWNER AND THE DISTRICT INSPECTOR. AT CONTRACTOR'S EXPENSE, OPERATION OF ALL ELECTRICAL CONTROLS, INCLUDING STAND-BY GENERATOR, SHALL BE DEMONSTRATED IN THE PRESENCE OF THE ENGINEER, OWNER AND THE DISTRICT INSPECTOR.

VIEW: SUBMERSIBLE PUMP STATION ILLUSTRATIVE N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT

LAYOUT TITLE: PUMP STATION OVERALL SECTION VIEW (TYPICAL)

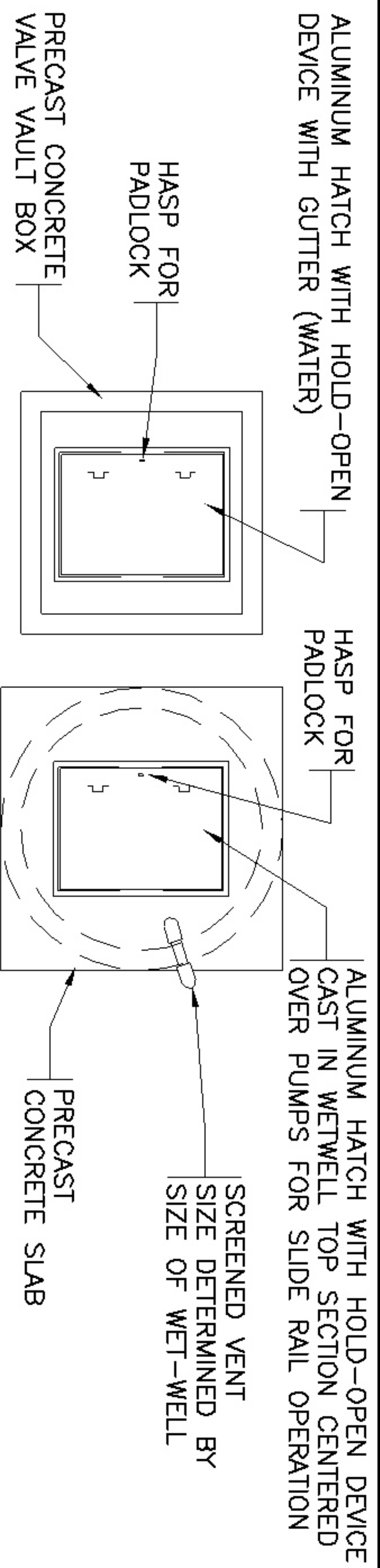
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DATE: 01/06

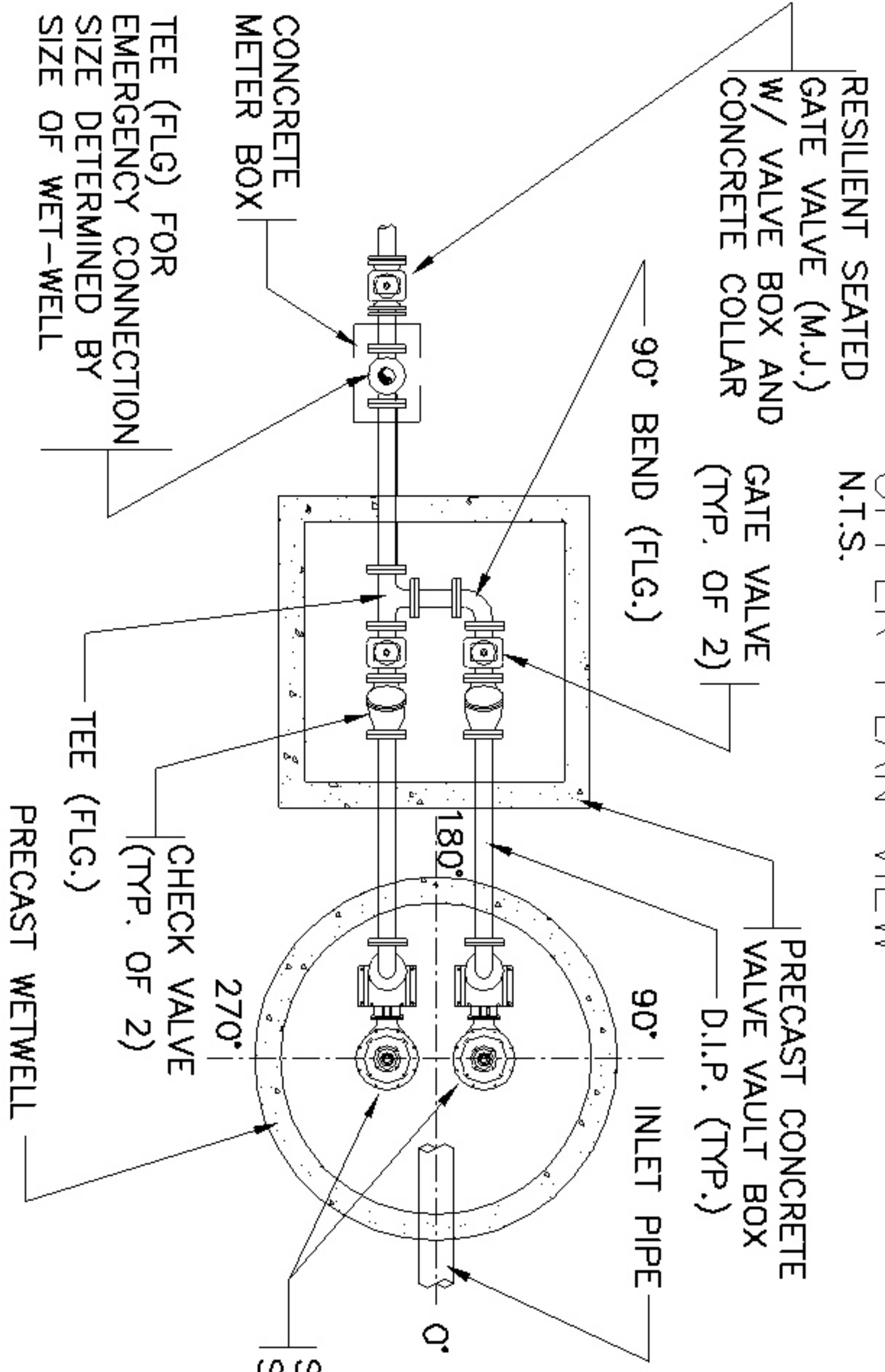
SCALE: NONE

DETAIL SHORTNAME: PSSEC

SHEET: S2



SUBMERSIBLE PUMP STATION
UPPER PLAN VIEW
N.T.S.



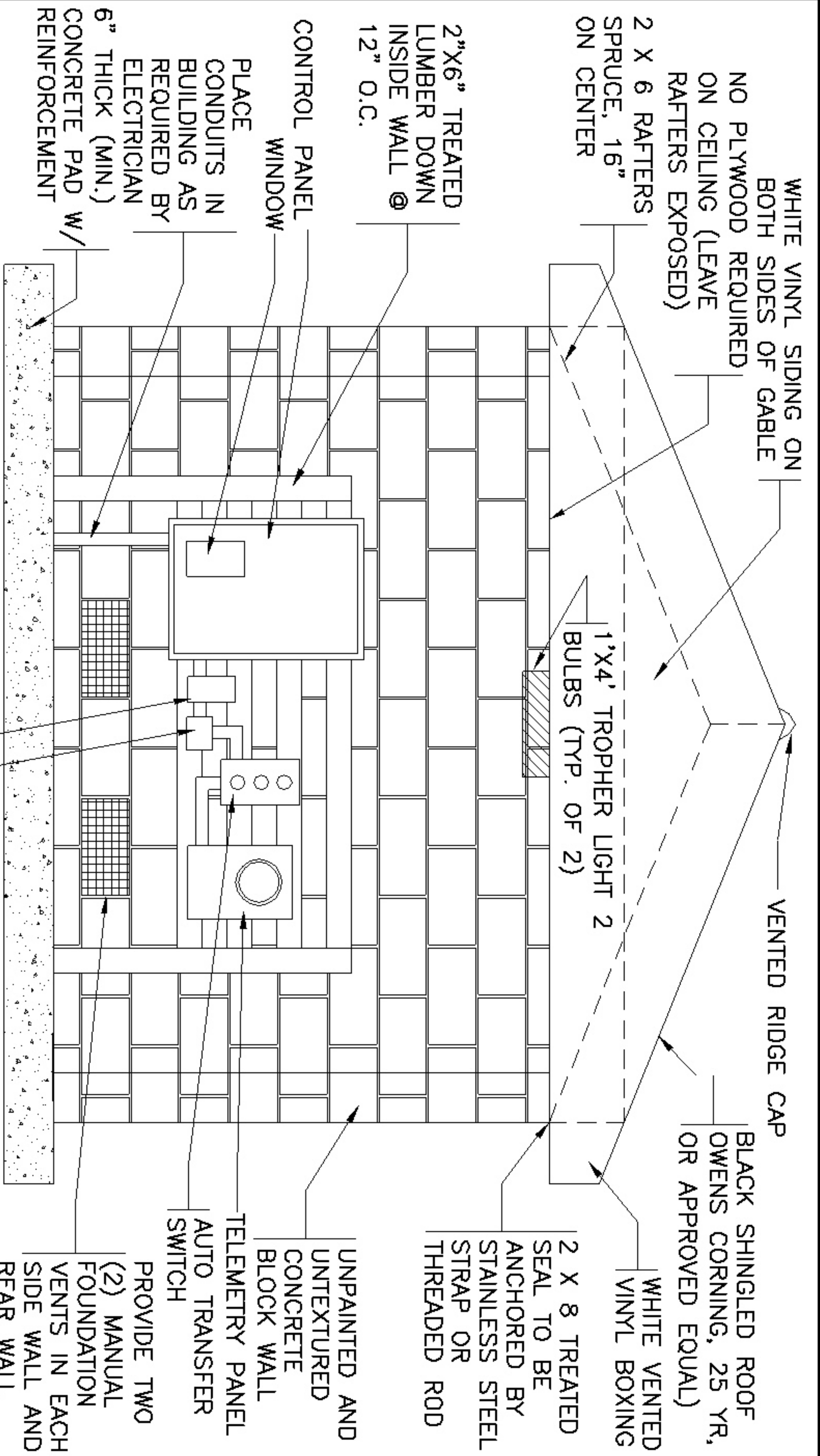
SUBMERSIBLE PUMP STATION
BOTTOM PLAN VIEW
N.T.S.

- NOTES:**
1. ALL PIPES, VALVES, BENDS AND TEES WILL BE SIZED ACCORDING TO THE SIZE OF THE PUMPS
 2. SIZES FOR THE ALUMINUM HATCHES WILL BE DETERMINED BY PUMP SIZES
 3. CHECK VALVE WILL BE MUELLER SWING CHECK VALVE WITH EXTERNAL LEVEL AND WEIGHT FOR SEWAGE SERVICE. TAP C/V UDS 1/4" NPT WITH 1/4" PETCOCK VALVE

LANCASTER COUNTY WATER & SEWER DISTRICT

LAYOUT TITLE:
PUMP STATION
PLAN VIEW (TYPICAL)

CATEGORY:	SEWER
DATE:	01/06
SCALE:	NONE
DETAIL SHORTNAME:	PSPLAN
SHEET:	S3



- NOTE:
1. BUILDING SIZE AND CONTROL PANEL SIZE TO BE DETERMINED BY GENERATOR SIZE AND ELECTRICAL CODE REQUIREMENTS (NOT TO EXCEED 400 SQ FT).
 2. DOUBLE DOORS TO BE 3' METAL, 6' TOTAL OPENING W/ 2 ALUMINUM LOUVERS IN EACH DOOR.
 3. INSIDE OF BUILDING TO HAVE 2 SETS OF 8" FLOOD LIGHTS AND ONE 110 RECEPTACLE ON EACH WALL (TYP. OF 2).
 4. ELECTRICAL CONTRACTOR TO DUCT SEAL INSIDE THE JUNCTION BOX TO PREVENT GASES FROM ENTERING THE CONTROL PANEL AND JUNCTION BOX.
 5. LIGHT PACK SHALL BE INSTALLED OVER ENTRANCE DOORS AND ONE INSTALLED TO ILLUMINATE OVER WETWELL AND VALVE VAULT.
 6. SOIL COMPACTION TESTS REQUIRED FOR BUILDING PAD.

GENERATOR BUILDING

N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT

LAYOUT TITLE:
PUMP STATION GENERATOR BUILDING (TYPICAL)

CATEGORY:
SEWER

DATE:
01/06

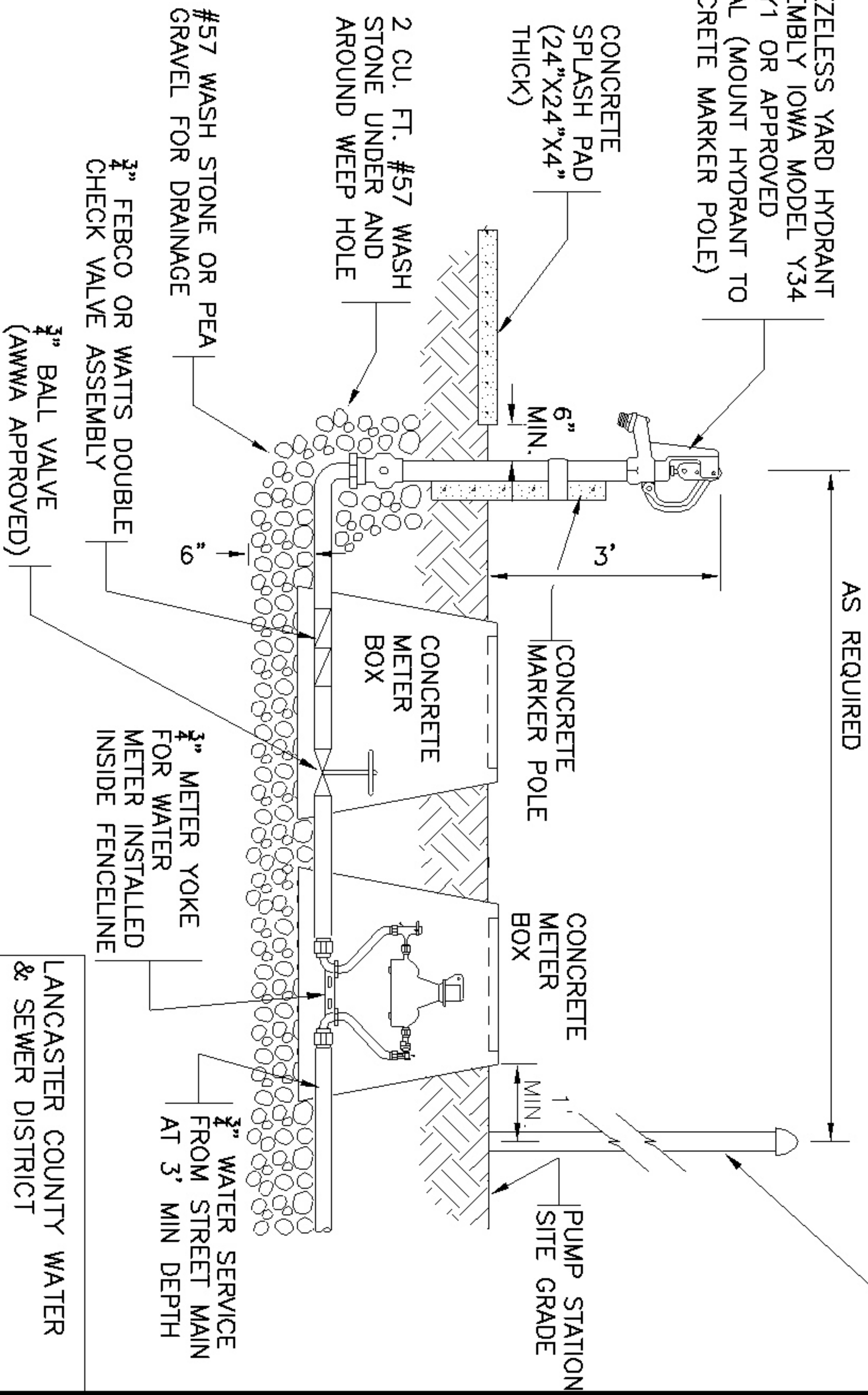
DETAIL SHORTNAME:
PSBLDG

SCALE:
NONE

SHEET
S4

PUMP STATION YARD
HYDRANT DETAIL
N.T.S.

FREEZELESS YARD HYDRANT
ASSEMBLY IOWA MODEL Y34
OR Y1 OR APPROVED
EQUAL (MOUNT HYDRANT TO
CONCRETE MARKER POLE)



AS REQUIRED

TYP. PUMP STATION
FENCE POST AND
FENCING

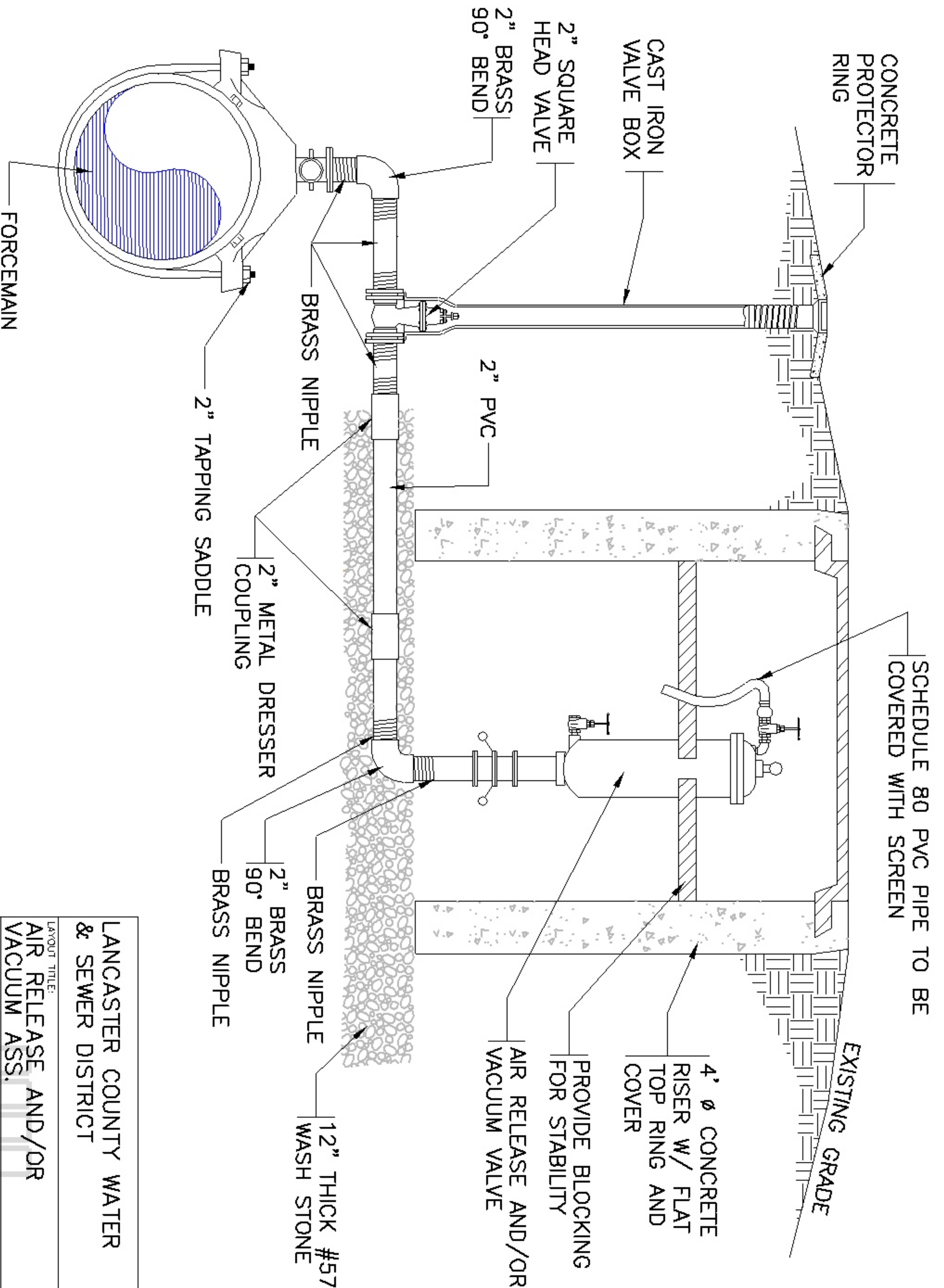
- NOTE:
1. DOUBLE CHECK VALVE TO BE INSPECTED BY A SC LICENSED CERTIFIED TESTER AT CONTRACTOR'S EXPENSE.
 2. WATTS OR FEBCO DOUBLE CHECK VALVE ASSEMBLY SHALL HAVE TEST PORTS FOR ALL FUTURE TESTING.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE: PUMP STATION YARD HYDRANT DETAIL	
CATEGORY: SEWER	SCALE: NONE
DATE: 01/06	SHEET S6
DETAIL SHORTNAME: YDHYD	

1. SCADA TELEMETRY SYSTEM TO BE INSTALLED BY LCW&SD AT THE CONTRACTOR'S EXPENSE. ENTIRE SYSTEM TO BE SUPPLIED AND CONSTRUCTED BY LANCASTER COUNTY WATER & SEWER DISTRICT (LCW&SD). ELECTRICIAN TO SUPPLY LCW&SD WITH 1-20 AMP BREAKER IN BREAKER BOX LABELED SOLELY FOR SCADA SYSTEM. CONTRACTOR TO INSTALL FIRST 10' SECTION OF TOWER SECTION BY LCW&SD'S SPECIFICATIONS. THIS INSTALLATION IS TO BE MADE A PART OF THE CONSTRUCTION PROCESS FOR THE STATION.
2. DESIGN SHOWN IS INTENDED AS A TYPICAL LAYOUT. ACTUAL LAYOUT MAY VARY IN DIMENSION BUT SHALL REMAIN OTHERWISE SIMILAR. ACTUAL SITE PLAN SHALL BE SUBMITTED TO LANCASTER COUNTY WATER AND SEWER FOR APPROVAL.
3. ALL FITTINGS IN WET WELL AND VALVE VAULT SHALL BE INTERIORLY COATED FOR HYDROGEN SULFIDE PROTECTION AND SHALL BE FLANGED AND SECURED WITH STAINLESS BOLTS, NUTS, & WASHERS.
4. PUMP STATION SHALL MEET ALL LCW&SD SPECS.
5. CONTRACTOR TO SUPPLY MANUFACTURER WITH ALL LCW&SD SPECS FOR ORDERING.
6. OUTSIDE LIGHT(S) SHALL BE INSTALLED ACCORDING TO LCW&SD SPECS.
7. STAND BY GENERATOR SHALL MEET LANCASTER COUNTY STANDARDS.
8. THE ELECTRICAL SERVICE SHALL BE IN ACCORDANCE WITH LCW&SD STANDARD SPECIFICATIONS. SHOP DRAWINGS SHALL BE PROPERLY SUBMITTED FOR APPROVAL.
9. THE ACCESS DRIVE TO THE PUMP STATION SHALL BE ALL WEATHER AND ACCESSIBLE BY THE LCW&SD CRANE TRUCK. THE EASEMENT FOR DRIVEWAY TO BE A MINIMUM OF 25' IN WIDTH. THE ACCESS DRIVE MAY BE REQUIRED TO BE ASPHALT PER LCW&SD DUE TO PROPOSED CONDITIONS
10. 2" CONDUIT SHALL EXTEND FROM WET WELL TO JUNCTION BOX AND CONTROL PANEL FOR ALL PUMPS AND FLOAT SWITCHES.
11. ALL EXTERIOR CONDUIT AND CONNECTORS/HARDWARE TO BE RIGID PVC COATED.
12. ALL CONCRETE ANCHORS SHALL BE 316 STAINLESS STEEL.
13. CONTROL PANEL TO BE BOUGHT FROM PUMP SUPPLIER.
14. LCW&SD USES AN S FLOAT SYSTEM. THE LOW FLOAT SHALL TURN OFF ALL PUMPS IN AUTOMATIC ONCE ACTIVATED. THERE SHALL BE A LOW AND HIGH CONTACT FOR THE SCADA SYSTEM TO BE ABLE TO MONITOR FOR EACH.
15. PROVIDE CONTROL PANEL WIRING DETAILS FOR REVIEW INCLUDING INTER-CONNECTION DIAGRAM OF ELECTRICAL DRAWINGS.
16. WET WELL AND VALVE VAULT SHALL HAVE SOLID ALUMINUM DIAMOND PLATE LIDS WITH SPRING ASSIST IF MORE THAN 50 LBS. LIFTING WEIGHT. LIDS SHALL INCLUDE RECESSED LIFTING HANDLE AND SECURITY LATCH/LOCK AND FACTORY INSTALLED SAFETY SLIDE BARS TO HOLD LIDS VERTICALLY OPEN, LIDS TO BE COMPLETE WITH ALUMINUM FRAME TO BE MOUNTED IN CONCRETE TOP SLABS OF WET WELL AND VALVE VAULT.
17. ALL SETS OF LIDS ARE TO BE LARGE ENOUGH TO PULL PUMPS STRAIGHT OUT OF WET WELL AND HAVE FULL VERTICAL ACCESS TO CHECK AND GATE VALVES.
18. TOP SLABS OF WET WELL AND VAULT TO BE 6 INCHES ABOVE GRADE.
19. CHECK VALVES ARE TO BE ARM WITH WEIGHT TYPE. THE TEE IN VALVE VAULT IS TO BE 12 X 12 X 12 INCH WITH THE 12 INCH AT THE DISCHARGE POINT OF THE TEE TO CONNECT TO THE FORCE MAIN.
20. THE VALVE VAULT IS TO BE ONE PIECE (WALLS AND FLOOR) PREFABRICATED OR POURED IN PLACE. THE VAULT IS TO BE LARGE ENOUGH TO PROVIDE 12 INCH MINIMUM CLEARANCE BETWEEN THE VALVES AND WALLS AND 30 INCH CLEARANCE BETWEEN VALVES.
21. THE DISCHARGE PIPES ARE TO BE SOLID (ONE PIECE) FROM THE 90 DEGREE ELBOW IN THE WET WELL TO INSIDE OF VALVE (6 FOOT FLANGED SPOOL SHOULD BE LONG ENOUGH). USE A MEG-A-FLANGE CONNECTOR IN THE VALVE VAULT TO CONNECT THE PIPE END OF THE SPOOL TO THE CHECK VALVES. PIPES INSIDE AND OUTSIDE OF THE WET WELL AND VAULT SHALL BE SEALED WITH NON-SHRINK GROUT OR LINK SEAL.
22. LIGHT PACKS SHALL BE INSTALLED AT OUTSIDE DOOR AND AT WET WELL AND WIRED TO ONE PHOTOCCELL.
23. PROVIDE 2" WATERLINE GUARD VALVE WITH SQUARE HEAD FITTINGS AT TAP. REDUCE LINE TO 3/4" AT BACKSIDE OF VALVE. (FOR YARD HYDRANT SUPPLY). ALL YARD HYDRANTS SHALL BE METERED WITH A STANDARD LCW&SD METER SERVICE AS A NORMAL RESIDENTIAL CUSTOMER AT CONTRACTOR'S EXPENSE.

(NOTE FOR ENGINEER) - TYPICAL PUMP PERFORMANCE CURVE SHALL BE SHOWN ON THE DRAWINGS AND SHALL INCLUDE PROPOSED GPM, TDH, AND HP.

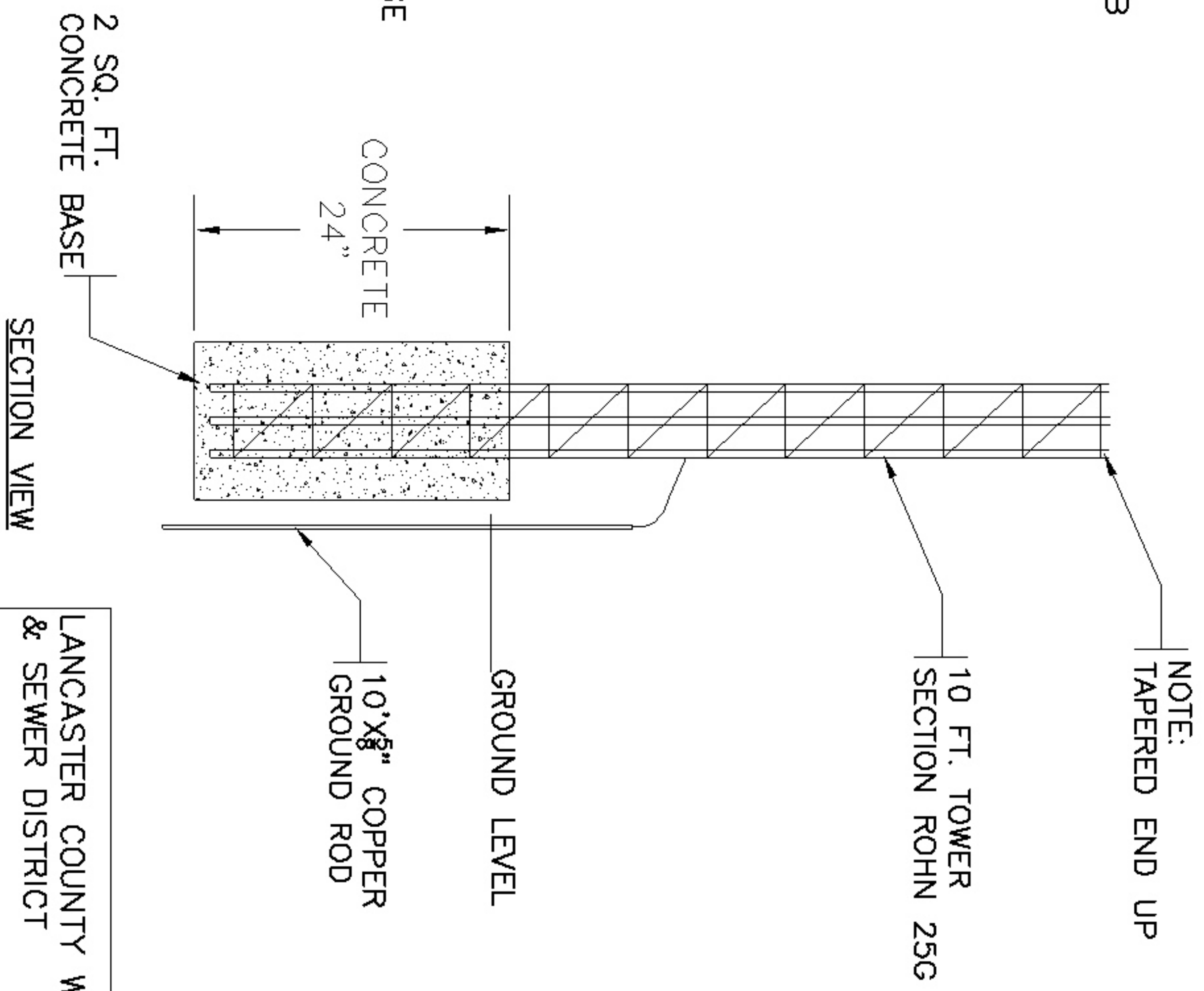
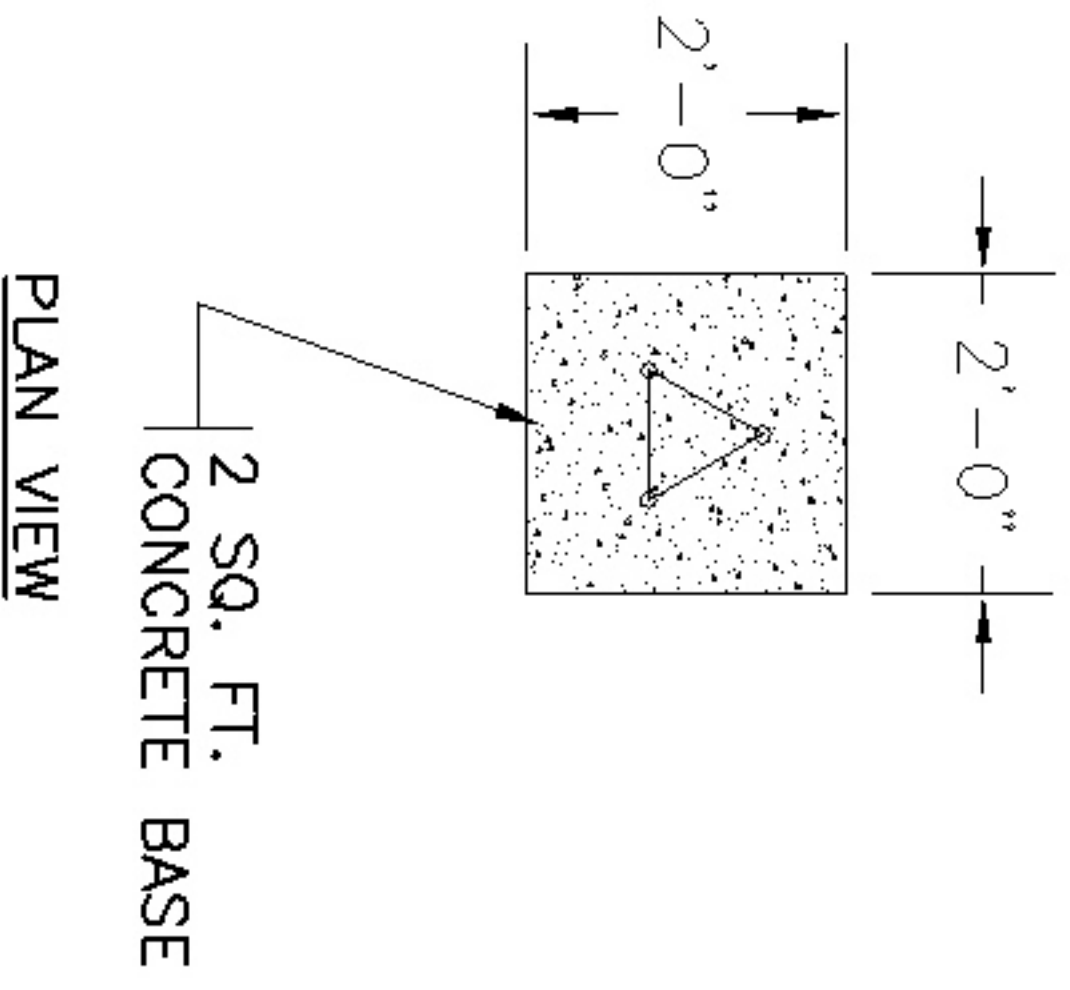
LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	
PUMP STATION NOTES	
CATEGORY:	SEWER
DATE:	01/06
SCALE:	NONE
DETAIL SHORTNAME:	PSNOTES
SHEET	S7



AIR RELEASE AND/OR
 VACUUM VALVE ASSEMBLY
 N.T.S.

LANCASTER COUNTY WATER & SEWER DISTRICT	
LAYOUT TITLE:	AIR RELEASE AND/OR VACUUM ASS.
CATEGORY:	SEWER
DATE:	01/06
SCALE:	NONE
DETAIL SHORTNAME:	ARVASS
SHEET	S10

- NOTE:
1. THIS SECTION MUST BE PLUMB
 2. BURY TOWER 24" DEEP IN CONCRETE



LANCASTER COUNTY WATER & SEWER DISTRICT

LAYOUT TITLE:
SCADA SYSTEM TOWER

CATEGORY:
SEWER

DATE:
01/06

SCALE:
NONE

DETAIL SHORTNAME:
SCADA

SHEET
S11

SCADA SYSTEM TOWER
N.T.S.