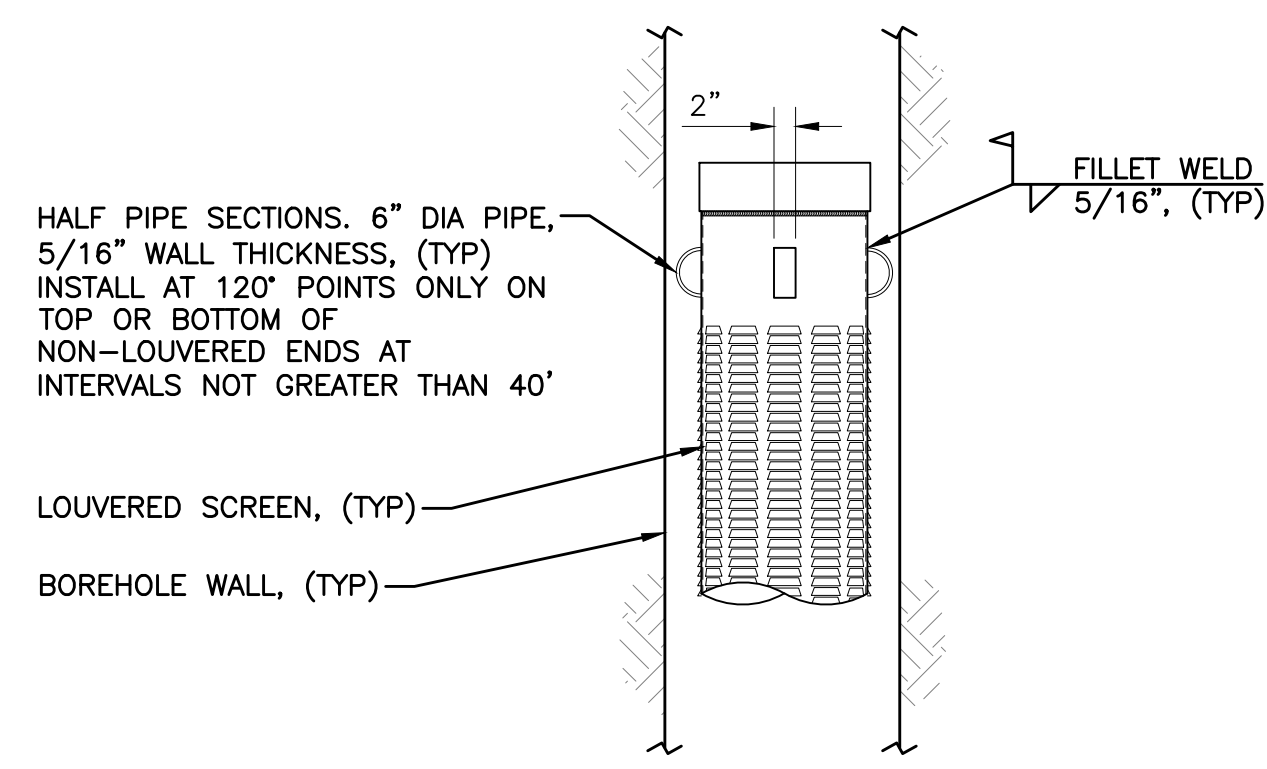
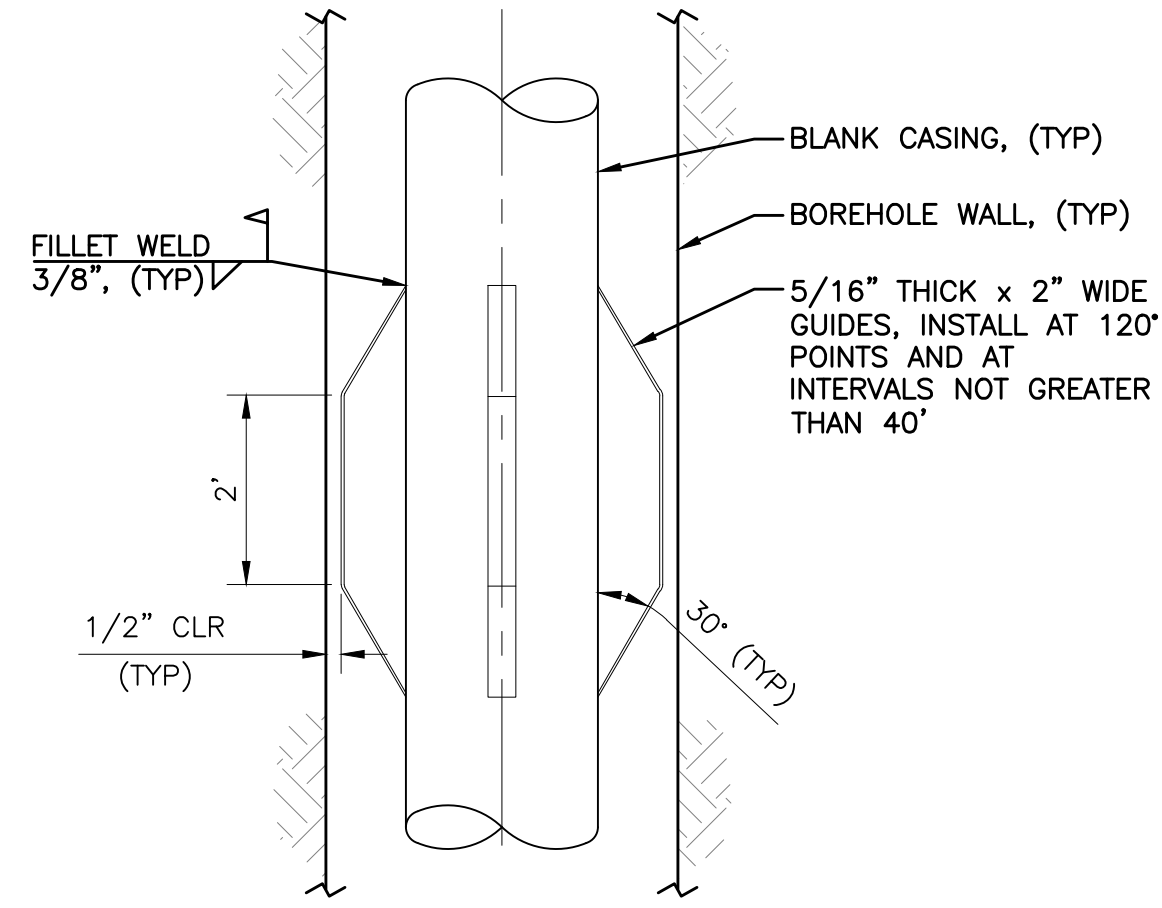


PLAN
WELL CASING AND TUBE LAYOUT
NTS



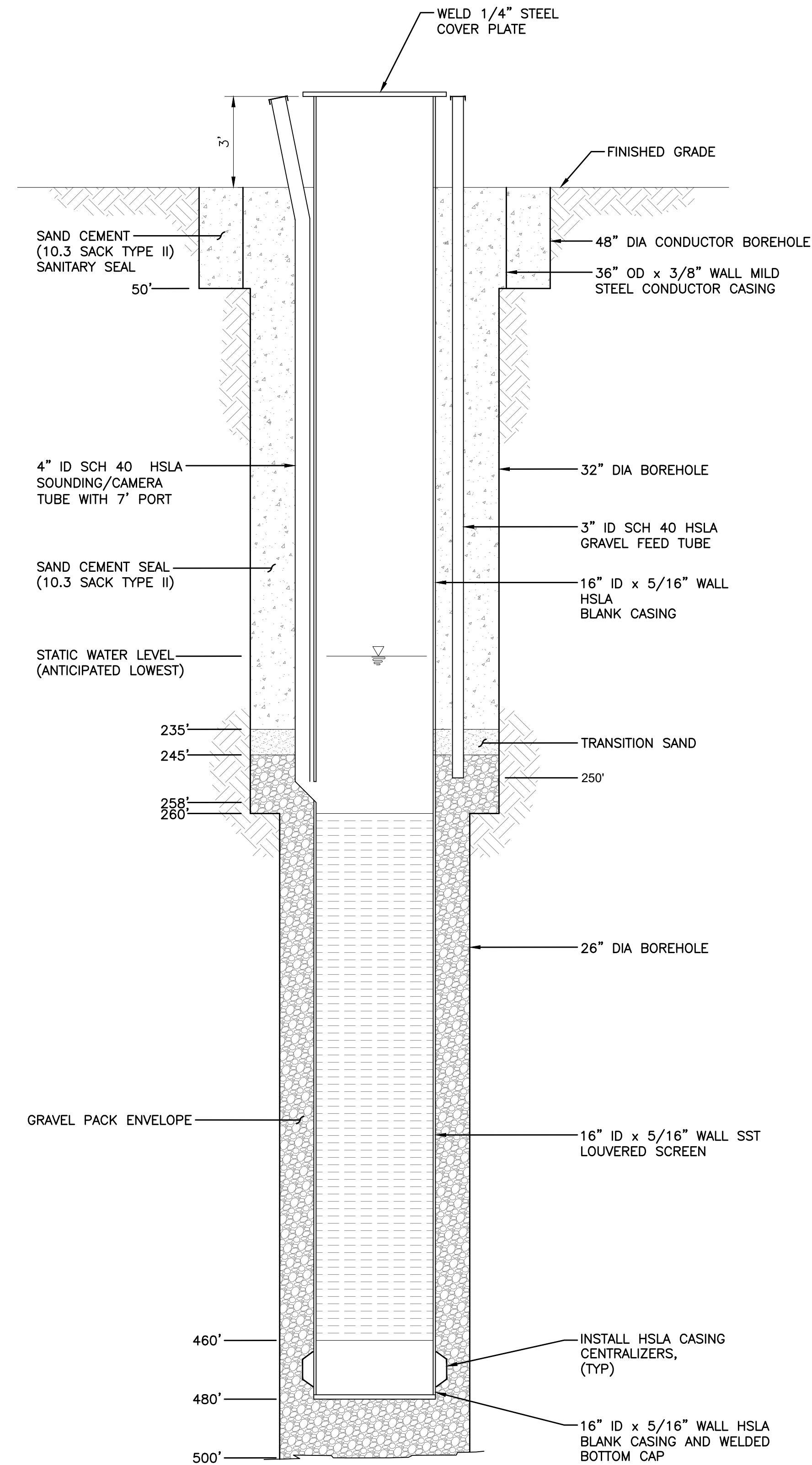
LOUVERED CASING



BLANK CASING

NOTE:
ALL CENTRALIZER AND WELDING MATERIALS TO BE THE SAME TYPE AS THE CASING MATERIAL.

CASING CENTRALIZERS
NTS



WELL SECTION
PRODUCTION WELL
NTS

NOTES:

1. WELL CASING AND GRAVEL FEED TUBE SHALL EXTEND 3' ABOVE GROUND SURFACE OR AS DETERMINED BY THE OWNER'S REPRESENTATIVE.
2. FINAL DEPTH OF BOREHOLE AND WELL CASING TO BE DETERMINED BASED ON RESULTS OF PILOT BOREHOLE DRILLING.
3. FINAL SIZE AND INTERVAL OF FILTER PACK AND WELL CASING PERFORMANCE WILL BE DETERMINED BASED ON RESULTS OF PILOT BOREHOLE DRILLING.
4. CONDUCTOR CASING DEPTH TO BE DETERMINED BASED ON SITE CONDITIONS ENCOUNTERED.
5. SOUNDING/CAMERA ACCESS TUBE PORT TO BE MANUFACTURED BY ROSCOE MOSS OR EQUIVALENT.

ABBREVIATIONS:

BGS	BELOW GROUND SURFACE
CLR	CLEAR
DIA	DIAMETER
HSLA	HIGH-STRENGTH LOW-ALLOY (STEEL)
ID	INSIDE DIAMETER
MIN	MINIMUM
OD	OUTSIDE DIAMETER
SCH	SCHEDULE
(TYP)	TYPICAL



Know what's below.
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DESIGNED J. KINGSBURY
DRAWN M. HARRINGTON
CHECKED J. REYNOLDS
SCALE AS NOTED



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SAN MIGUEL COMMUNITY SERVICES DISTRICT

1765 BONITA PLACE
SAN MIGUEL, CA 93451

STANDARD DESIGN

PRODUCTION WELL

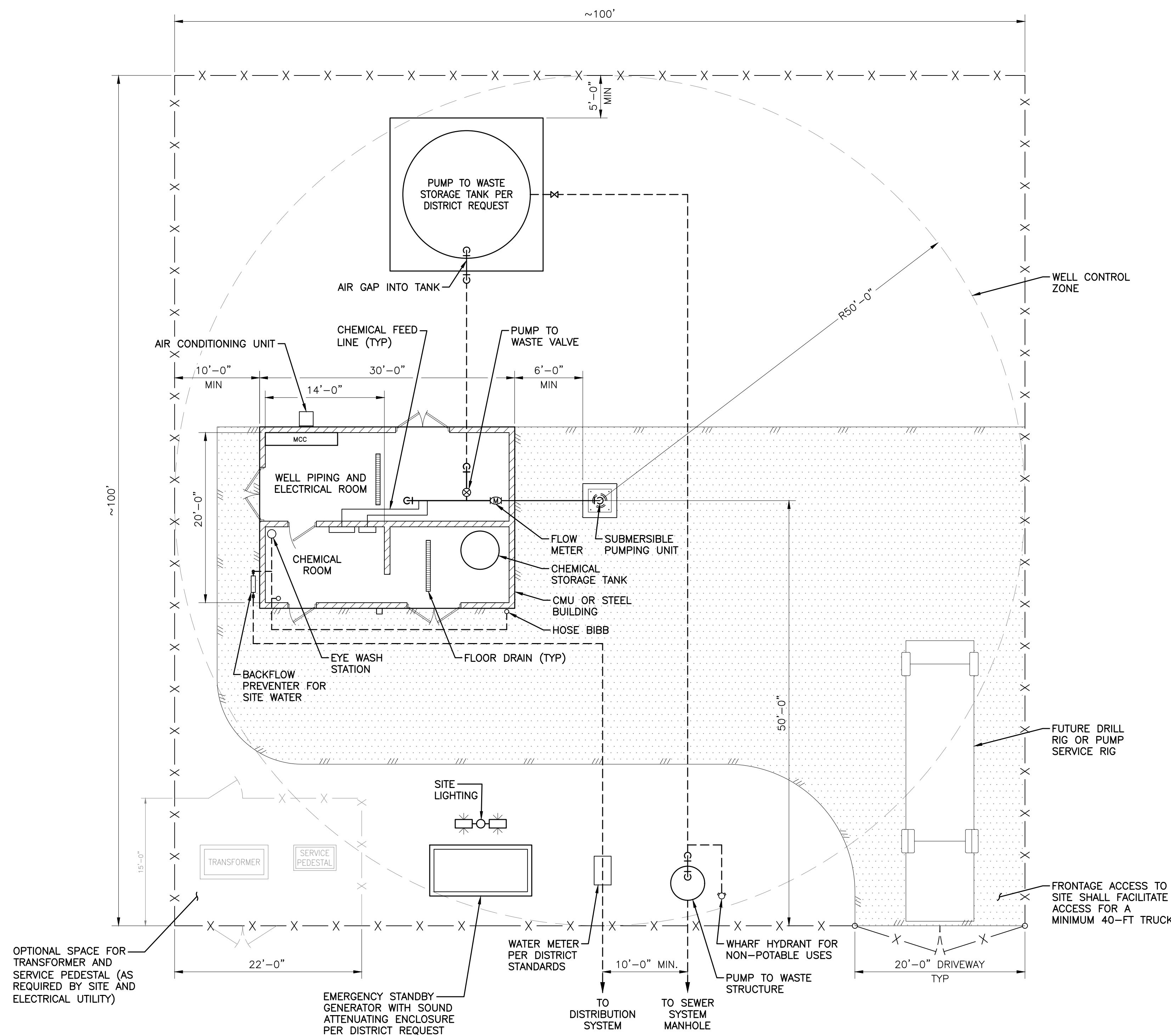
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SHEET 1 OF 1

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PLAN
1"=8'

CHEMICAL ROOM COMPONENTS

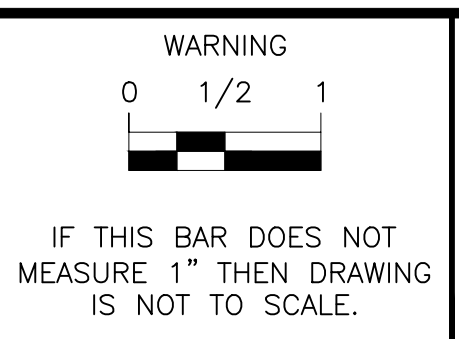
- 1 10'x10' ROLL UP DOOR
- 2 SINGLE DOORS
- 3 FRP TRENCH DRAIN WITH DOUBLE CONTAINMENT
- 4 EXHAUST FAN
- 5 FREE CHLORINE ANALYZER
- 6 METERING PUMP
- 7 SODIUM HYPOCHLORITE STORAGE TANK DOUBLE WALLED
- 8 EMERGENCY EYE WASH AND SHOWER WITH HEATER FOR TEPID WATER
- 9 TURBIDITY METER

WELL PIPING AND ELECTRICAL ROOM COMPONENTS

- 1 DISMANTLING JOINT
- 2 FLOW METER
- 3 PUMP CONTROL VALVE - START OPEN (PUMP TO WASTE LINE)
- 4 CHECK VALVE
- 5 ANCILLARY VALVES AND APPURTENANCES
- 6 DOUBLE DOOR
- 7 SCADA PANEL WITH BUILDING MOUNTED ANTENNA
- 8 MOTOR CONTROL CENTER

DESIGN REQUIREMENTS:

1. DEVELOPER SHALL DEMONSTRATE SITE IS ADEQUATELY SIZED FOR ALL COMPONENTS SHOWN BELOW AND ANY PROJECT-SPECIFIC COMPONENTS (e.g., TREATMENT).
2. CENTER OF WELL CASING SHALL BE 50' MIN FROM PROPERTY EDGE AND SHALL BE PLACED IN ACCORDANCE WITH CA BULLETIN 74-90'S MIN HORIZONTAL SEPARATION DISTANCE REQUIREMENT.
3. WELL PUMP FLOW SHALL BE DETERMINED FROM THE WELL DEVELOPMENT REPORT WITH TESTED WELL FLOW CAPACITY. WELL PUMP SHALL NOT BE SIZED BASED ON ANTICIPATED WELL FLOW BEFORE WELL IS DRILLED AND TESTED. COLUMN PIPING SHALL BE SIZED WITH A MAX ALLOWABLE HEAD LOSS OF 5-FIT/100-FIT. WELL PUMP TOTAL DYNAMIC HEAD SHALL BE DETERMINED THROUGH HYDRAULIC MODELING AT A HIGH HEAD AND LOW HEAD CONDITION. THE DISTRICT SHALL PROVIDE THE DEVELOPER'S ENGINEER WITH THE REQUIRED HIGH HEAD AND LOW HEAD CONDITIONS BASED ON DISTRIBUTION SYSTEM PRESSURE ZONE REQUIREMENTS.
4. WELL PEDESTAL SHALL BE PLACED A MIN OF 1-FOOT HIGHER THAN A 100 YEAR FLOOD ELEVATION.
5. PROVIDE ADEQUATE SITE SPACE TO ALLOW FOR PUMP RIG AND FLAT BED TRUCK ACCESS TO PULL SUBMERSIBLE PUMPING UNIT AND LAY DOWN COLUMN PIPE DURING WELL MAINTENANCE. DEVELOPER SHALL DEMONSTRATE ACCESSIBILITY TO WELL WITH A 30'x8' TRUCK.
6. ENTIRE SITE SHALL BE PAVED WITH ASPHALT CONCRETE PAVEMENT OR CONCRETE. DEVELOPER MAY ELECT TO INSTALL DECOMPOSED GRANITE IN NON-DRIVABLE AREAS IF APPROVED BY DISTRICT.
7. SITE SECURITY AND PERIMETER SHALL BE CHAIN LINK FENCE, CMU WALL, OR ROD IRON AS APPROVED BY DISTRICT.
8. BUILDING SHALL BE CMU OR STEEL. BUILDING ROOF SHALL BE STANDING SEAM STEEL ROOF.
9. MOTOR CONTROL CENTER (MCC) SHALL HAVE MIN 3'-6" CLEARANCE IN FRONT OF MCC.
10. CHEMICAL ROOM EXHAUST FAN SHALL BE LOCATED LOW WITH A LOUVER HIGH TO DRAW FREE AIR THROUGH THE ROOM AND DISPLACE CHLORINE OFF-GAS (HEAVIER THAN AIR). EXHAUST FAN SHALL BE SIZED FOR 6 AIR CHANGES PER HOUR.
11. DOUBLE CONTAINMENT VAULT NEAR SODIUM HYPOCHLORITE TANK SHALL BE SIZED TO 110% OF STORAGE TANK SIZE.
12. SUPPLY METAL SIGN WITH SITE ADDRESS. CHARACTERS SHALL BE BLACK AND 6" HIGH. FINAL PLACEMENT OF SIGN PER DISTRICT.
13. GUARD POSTS SHALL BE PROVIDED AROUND PUMP TO WASTE PIPING, STANDBY GENERATOR, OR PUMP TO WASTE TANK, AS REQUESTED BY DISTRICT STAFF.
14. PROVIDE PERMANENT STANDBY GENERATOR AS REQUESTED BY DISTRICT. STANDBY GENERATOR SHALL BE NATURE GAS OR LIQUID PROPANE GAS. GENERATOR SHALL BE EQUIPPED WITH SOUND ATTENUATING ENCLOSURE AS REQUIRED. PERMANENT GENERATOR SHALL BE SIZED TO INCLUDE WELL AND WELL BUILDING LOADS AND FUTURE TREATMENT FACILITIES DEEMED ACCEPTABLE BY THE DISTRICT.
15. DISCHARGE PIPE AND PUMP TO WASTE PIPE SHALL BE WITHIN BUILDING.
16. DEVELOPER SHALL PROVIDE PUMP TO WASTE TANK WITH OVERFLOW FOR WATER REUSE SIZED FOR 30 MINUTES OF WELL PUMPING CAPACITY. DISTRICT MAY ELECT TO REMOVE PUMP TO WASTE TANK.
17. ABOVE GRADE PIPING SHALL BE SPECIAL CLASS 53 DUCTILE IRON PIPE. BELOW GRADE PIPE SHALL BE PVC, HDPE, OR STEEL PER DISTRICT APPROVAL.
18. ELECTRICAL SERVICE SHALL BE PROVIDED WITH SEPARATE ACCESS.
19. OUTSIDE LIGHTING SHALL BE IN ACCORDANCE WITH LOCAL LIGHT ORDINANCE (MITIGATE LIGHT POLLUTION).
20. DESIGN ENGINEER SHALL BE A PROFESSIONAL CIVIL ENGINEER REGISTERED IN THE STATE OF CALIFORNIA AND RESPONSIBLE FOR ALL PROJECT SPECIFIC REQUIREMENTS AND DATA.



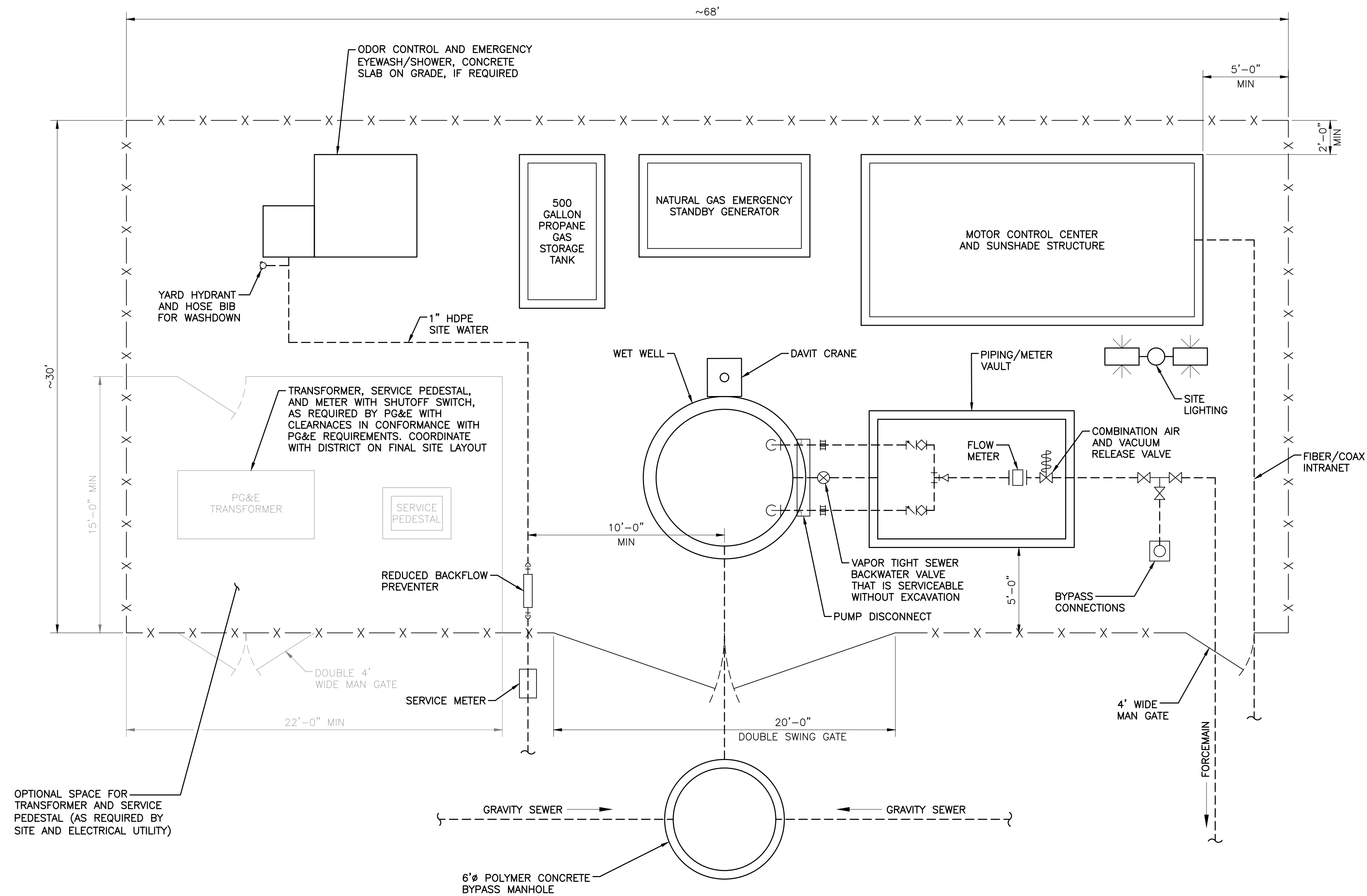
DESIGNED M GOYMERAC
DRAWN M HARRINGTON
CHECKED J REYNOLDS
SCALE 1"=8'

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SAN MIGUEL COMMUNITY SERVICES DISTRICT
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SAN MIGUEL, CA 93451

STANDARD DESIGN		DRAWING
TYPICAL WELL SITE LAYOUT		SHEET 1 OF 1

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PLAN
1"=4'

DESIGN REQUIREMENTS:

- LIFT STATIONS SHALL BE AVOIDED. DEVELOPER'S ENGINEER SHALL PROVIDE A TECHNICAL MEMORANDUM DEMONSTRATING THAT A LIFT STATION IS REQUIRED AND IS IN THE DISTRICT'S BEST INTEREST. THE TECHNICAL MEMORANDUM SHALL INCLUDE DEVELOPERS PLANS, TRIBUTARY GRAVITY SEWER PLANS, FORCE MAIN PLANS, DOWNSTREAM SEWER PLANS AND SEWER FACILITY SIZING CALCULATIONS.
- LIFT STATIONS SHALL OPERATE WITH A MINIMUM OF ONE DUTY AND ONE STANDBY PUMPING UNITS. SUBMERSIBLE PUMPING UNIT SHALL BE CAPABLE OF PASSING A MIN OF A 3-INCH SOLID AND BE SIZED FOR PEAK HOUR. DISTRICT SHALL INDICATE IF THE PUMPS WILL BE CONSTANT SPEED OR VARIABLE SPEED.
- LIFT STATION WET WELL HATCH AND VALVE VAULT HATCHES SHALL BE PLACED AT A MIN OF 1-FT HIGHER THAN A 100 YEAR FLOOD ELEVATION AND SHALL BE H-20 TRAFFIC RATED.
- A GEOTECHNICAL REPORT SHALL BE PREPARED TO DETERMINE THE PRESENCE OF GROUNDWATER AT THE LIFT STATION SITE. IF GROUNDWATER IS PRESENT, THE DEVELOPER'S ENGINEER SHALL CONSIDER BUOYANCY OF THE WET WELL AND PROVIDE ADEQUATE PROVISIONS TO PROTECT THE WET WELL FROM FLOATING.
- DEVELOPER'S ENGINEER SHALL PROVIDE HYDRAULIC CALCULATIONS USED TO SIZE THE SUBMERSIBLE PUMPING WITH A HAZEN-WILLIAMS C VALUE OF 120 AND 140 (TWO SYSTEM CURVES). PUMP SELECTION WITH SYSTEM CURVES SHALL BE PROVIDED TO THE DISTRICT.
- LIFT STATION WET WELL VOLUME SHALL BE SIZED ASSUMING 10 MIN CYCLE TIMES (6 CYCLES PER HOUR) $V=T*Q/4$, T IS CYCLE TIME, Q IS PUMP RATED CAPACITY, AND V IS WORKING VOLUME OF WET WELL BETWEEN LEAD PUMP ON AND LEAD PUMP OFF. WET WELL CALCULATIONS SHALL BE PROVIDED TO DISTRICT FOR REVIEW.
- LIFT STATION SHALL BE CONTROLLED BY LEVEL TRANSDUCER AND SHALL PROVIDE REDUNDANT FLOAT LEVEL SWITCHES FOR HIGH HIGH, HIGH, AND LOW WATER AND PUMP CALL ALARMS. INSTRUMENTATION LOCATED WITHIN HAZARDOUS AREAS SHALL BE NEC CLASS 1, DIVISION 1, GROUP D RATED (EXPLOSION PROOF).
- MIN FORCE MAIN VELOCITY SHALL BE 3 FPS OR 2.5 FPS WITH 2 DAILY FLUSH PURGES. STATION VELOCITY SHALL NOT EXCEED 8 FPS.
- MIN FORCEMAIN SIZE SHALL BE 6-INCH, UNLESS APPROVED BY THE DISTRICT.
- SMALL LIFT STATION FLOW RATE SHALL NOT EXCEED 500 GPM WITHOUT DISTRICT APPROVAL.
- FORCE MAIN LENGTHS OVER 6,000 FEET AT FLOWS LARGER THAN 400 GPM SHALL BE ANALYZED FOR SURGE.
- HIGH POINTS WITHIN FORCE MAINS SHALL BE AVOIDED IF FEASIBLE.
- ENTIRE SITE SHALL BE PAVED WITH ASPHALT CONCRETE PAVEMENT OR CONCRETE. DEVELOPER MAY ELECT TO INSTALL DECOMPOSED GRANITE IN NON-DRIVABLE AREAS IF APPROVED BY DISTRICT.
- SITE SECURITY AND PERIMETER SHALL BE CHAIN LINK FENCE, CMU WALL, OR ROD IRON AS APPROVED BY DISTRICT.
- SUPPLY METAL SIGN WITH SITE ADDRESS. CHARACTERS SHALL BE BLACK AND 6" HIGH. FINAL PLACEMENT OF SIGN PER DISTRICT.
- PROVIDE PERMANENT STANDBY GENERATOR. STANDBY GENERATOR SHALL BE NATURAL GAS OR LIQUID PROPANE GAS.
- ABOVE GRADE PIPING SHALL BE SPECIAL CLASS 53 DUCTILE IRON PIPE. BELOW GRADE PIPE SHALL BE PVC, HDPE, OR STEEL PER DISTRICT APPROVAL.
- ELECTRICAL SERVICE SHALL BE PROVIDED WITH SEPARATE ACCESS.



Know what's below.
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WARNING

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DESIGNED M GOYMERAC
DRAWN M HARRINGTON
CHECKED J REYNOLDS
SCALE 1"=4'

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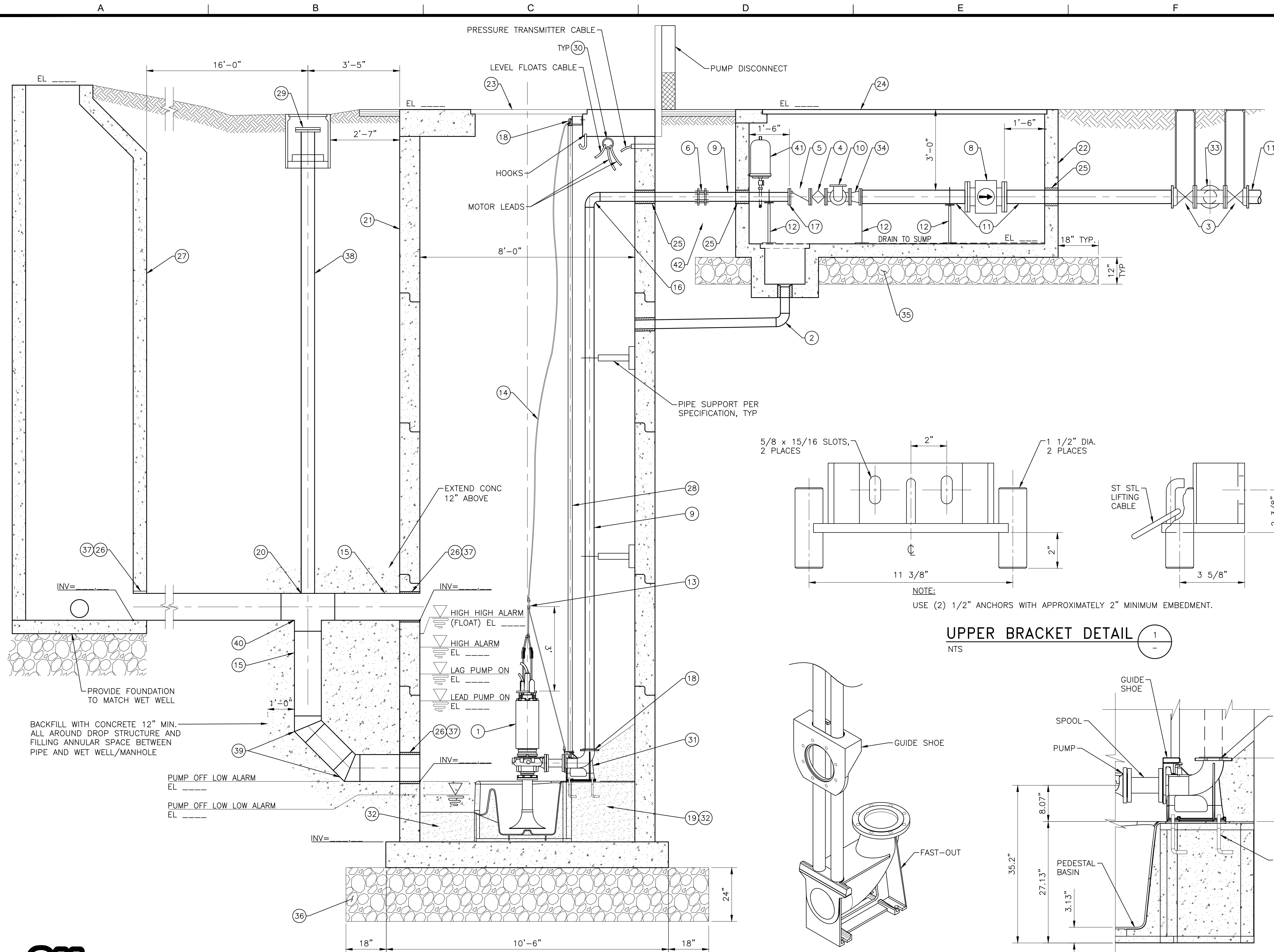


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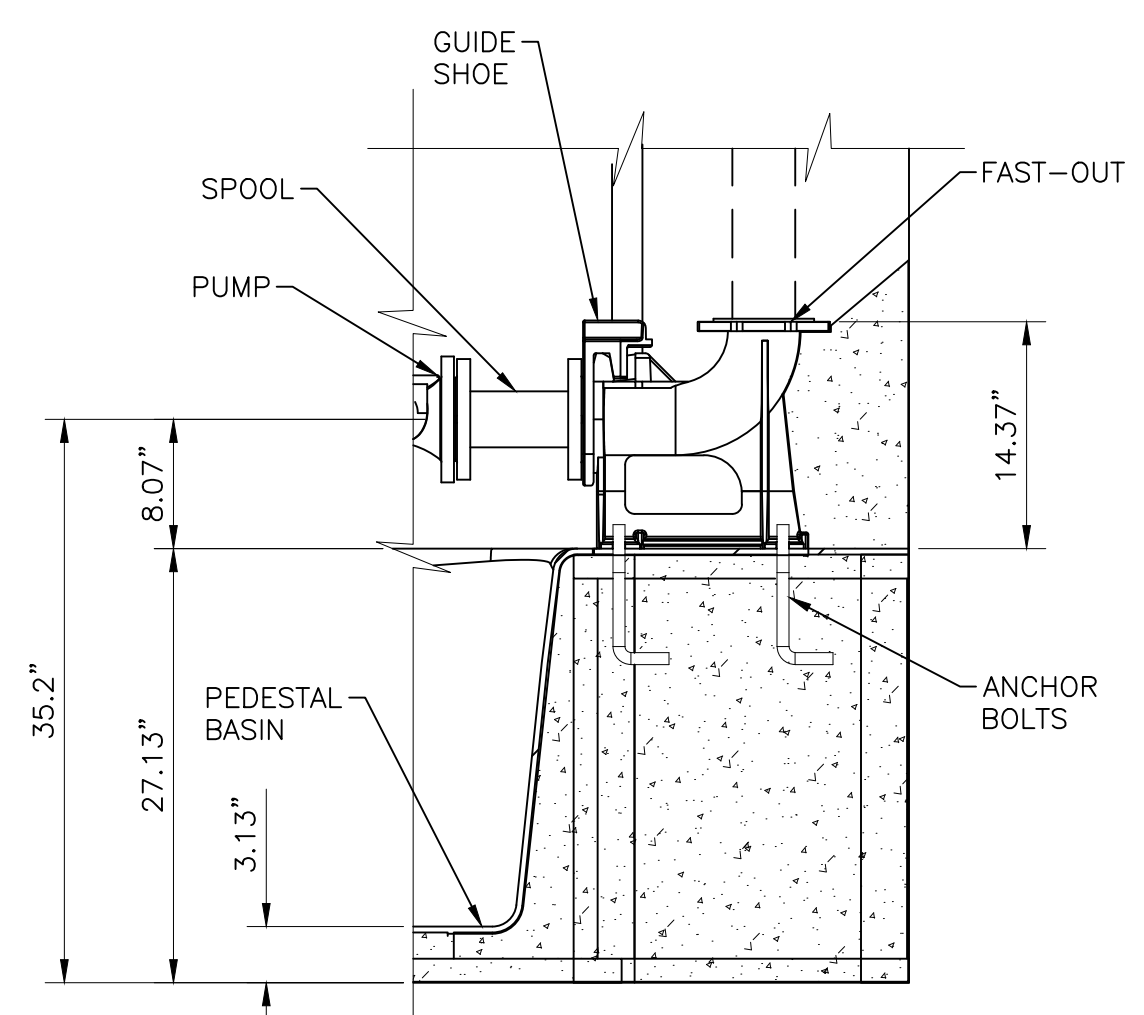
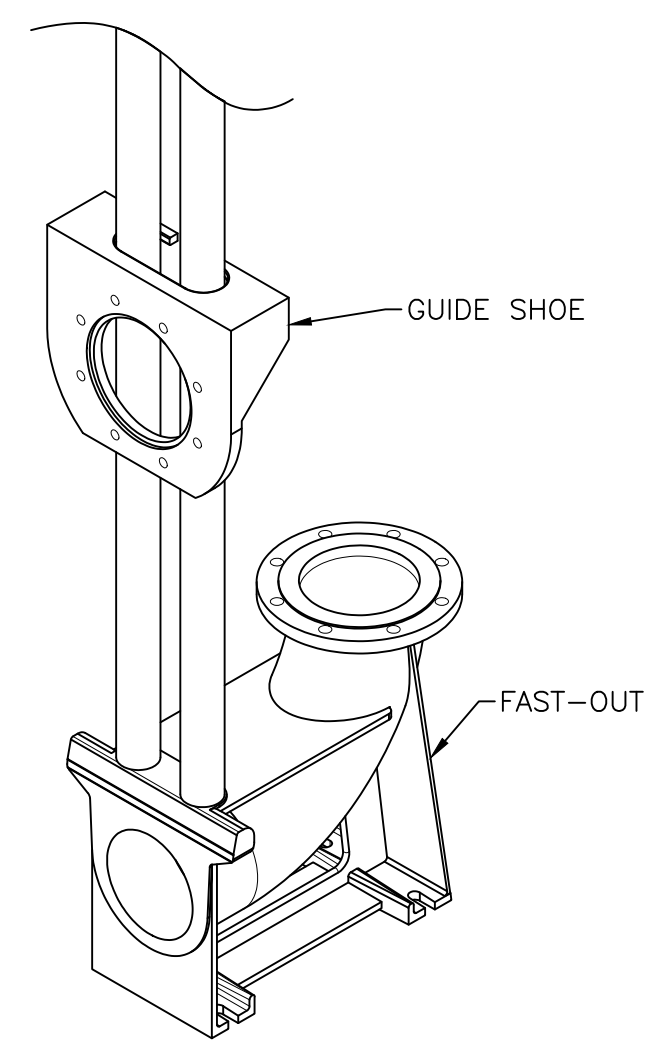
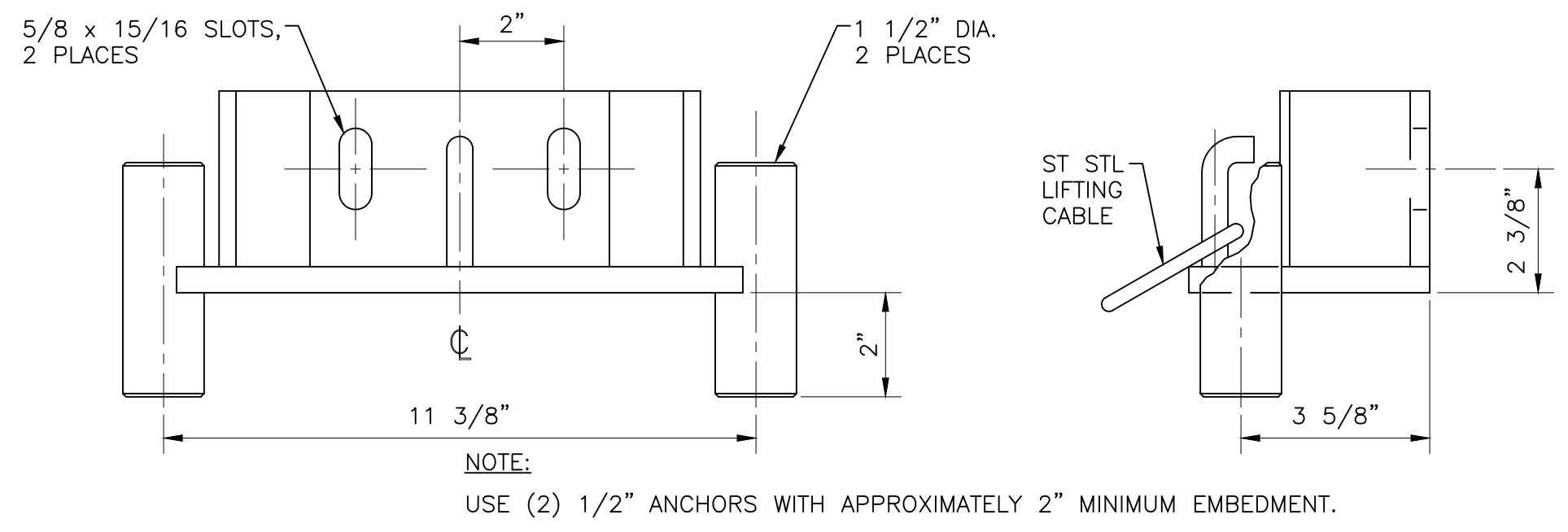
STANDARD DESIGN
TYPICAL LIFT STATION SITE LAYOUT

DRAWING
SHEET 1 OF 1

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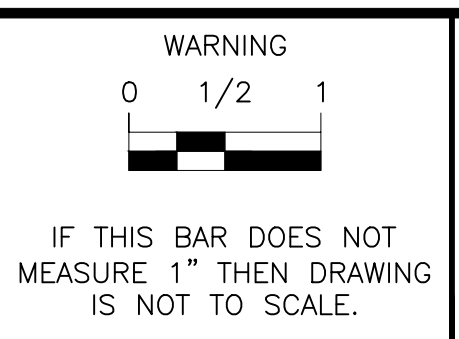
- SHEET KEY NOTES**
- ① HIDROSTAL _____ PUMP AND MOTOR (____ gpm, ____-FT TDH, ____ HP) W/PREROTAL BASINS
 - ② 1'-6" SQUARE X 1'-6" DEEP CONCRETE DRAINAGE SUMP WITH GALVANIZED REMOVABLE FLOOR GRATE. DRAIN BACK TO WET WELL
 - ③ GATE VALVE, FLG X MJ
 - ④ PLUG VALVE, FLG X FLG
 - ⑤ CHECK VALVE, FLG X FLG
 - ⑥ RESTRAINED COUPLING, STAINLESS STEEL
 - ⑦ RESTRAINED COUPLING
 - ⑧ MAGNETIC FLOW METER
 - ⑨ STAINLESS STEEL PIPE
 - ⑩ 90° DUCTILE IRON ELBOW, FLG x FLG
 - ⑪ DIP
 - ⑫ PIPE SUPPORT
 - ⑬ PROVIDE 3' OF STAINLESS STEEL CHAIN AT THE BOTTOM OF LIFTING CABLE
 - ⑭ STAINLESS STEEL LIFTING CABLE
 - ⑮ SANITITE HP SEWER
 - ⑯ 90° STAINLESS STEEL LONG RADIUS ELBOW, WELDED
 - ⑰ CONNECT DUCTILE IRON OR CAST IRON TO STAINLESS STEEL USING FLANGE INSULATION KIT
 - ⑱ UPPER BRACKET PER DETAIL 1
 - ⑲ INSTALL AND GROUT PREROTATION BASIN
 - ⑳ 6" INSERTATEE
 - ㉑ 8" ID PRECAST POLYMER CONCRETE WET WELL
 - ㉒ 7'x 11'x 5' ID PRECAST CONCRETE VALVE AND METER VAULT
 - ㉓ WET WELL LID
 - ㉔ VALVE AND METER VAULT LID
 - ㉕ WALL PENETRATION TYPE-1
 - ㉖ WALL PENETRATION TYPE-2
 - ㉗ SSMH PER CITY STANDARD
 - ㉘ STAINLESS STEEL GUIDERAILS
 - ㉙ CLEANOUT
 - ㉚ ELECTRICAL PENETRATIONS, PER ELECTRICAL
 - ㉛ PROVIDE FAST-OUT/GUIDE SHOE PER DETAIL 2
 - ㉜ CAST PREROTATION BASIN IN BOTTOM OF WET WELL USING POLYMER CONCRETE OR BY USING EPOXY DEEP POUR PRECISION GROUT PER SECTION 03 60 00. IF USING POLYMER CONCRETE, CONTRACTOR SHALL SEND PUMP AND PREROTATION BASIN TO POLYMER CONCRETE WET WELL MANUFACTURER TO BE CAST USING THE SAME POLYMER CONCRETE AS IS USED IN THE MANUFACTURE OF THE WET WELL
 - ㉝ DIP TEE, FLG x FLG
 - ㉞ DI REDUCER, FLG x FLG
 - ㉟ VALVE VAULT SUB BASE SHALL BE 1' OF TYPE A-1 CRUSHED ROCK, WRAP WITH GEOTEXTILE FABRIC
 - ㊱ WET WELL SUB BASE SHALL BE 2' OF TYPE A-2 CRUSHED ROCK, WRAP WITH GEOTEXTILE. IF DRY CONDITIONS ARE ENCOUNTERED, SUB BASE SHALL BE 1" AGGREGATE BASE
 - ㊲ SANITITE HP MANHOLE ADAPTER
 - ㊳ SDR35 PVC RISER CLEANOUT
 - ㊴ 45° MITERED SANITITE HP FITTING
 - ㊵ SANITITE HP TEE
 - ㊶ PROVIDE AIR-VAC RELEASE VALVE
 - ㊷ SCHEDULE 80 PVC FOR CONNECTION TO AIR-VAC RELEASE VALVE



LIFT STATION SECTION A
NTS

FAST-OUT/GUIDE SHOE ARRANGEMENT DETAIL 2
NTS

PRE-ROTATION DETAIL 3
NTS



DESIGNED P MEDLOCK
DRAWN M HARRINGTON
CHECKED J REYNOLDS
SCALE AS NOTED

WSC

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STANDARD DESIGN

TYPICAL LIFT STATION SECTION

DRAWING

SHEET 1 OF 1