

# AVATAR EQUITIES

## RIVER BEND CROSSING LIFT STATION

### COLORADO SPRINGS, COLORADO

MARCH 2021

PLAN SET INFORMATION:  
100% COMPLETION

# PRELIMINARY

### LEGEND

---	PROPERTY LINE	⊗	PP FENCE
---	SETBACK	⊕	PP FITTING
====	PP SANITARY SEWER LINE ALIGNMENT	⊕	PP VALVE
—5540—	PP CONTOURS—MAJOR	⊗	PP SPOT ELEVATION
—	PP CONTOURS—MINOR		
—SS—	PP SEWER LINE		
—FM—	PP FORCE MAIN		
—GAS—	PP GAS LINE		
—UGE—	PP U.G. ELECTRIC LINE		
—W—	PP WATER LINE		

**PRE-EXCAVATION CHECKLIST**

- Gas and Other Utility Lines Shown on Construction Plans
- Utility Notification Center of Colorado (UNCC)—Call at Least Two (2) Business Days Ahead—1-800-922-1987
- Utilities Located & Marked on the Ground
- Employees Briefed on Marking and Color Codes\*
- Employees Trained on Excavation and Safety Procedures for Natural Gas Lines
- When Excavation Approaches Gas Lines, Employees Must Expose Lines by Careful Probing and Hand-Digging

**COLOR CODE FOR MARKING UNDERGROUND UTILITY LINES**

⬜	PROPOSED EXCAVATION
⬜	TEMPORARY SURVEY MARKINGS
⬜	ELECTRIC
⬜	GAS, OIL, STEAM
⬜	COMMUNICATION, CATV
⬜	POTABLE WATER
⬜	IRRIGATION, RECLAIMED WATER, SLURRY LINES
⬜	SEWER

**COLORADO 811**  
Always Call Before You Dig 811 or (800) 922-1987

### CODE STATEMENT

I. APPLICABLE CODES INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- A. PIKES PEAK REGIONAL BUILDING CODE (2017)
- B. INTERNATIONAL BUILDING CODE (2015)
- C. INTERNATIONAL PLUMBING CODE (2015)
- D. INTERNATIONAL MECHANICAL CODE (2015)
- E. INTERNATIONAL FUEL GAS CODE (2015)
- F. INTERNATIONAL ENERGY CONSERVATION CODE (2015)
- G. NATIONAL ELECTRICAL CODE (2017)
- H. ICC/ANSI A117.1 ACCESSIBILITY STANDARD (2009)

II. CODE ABSTRACT:

- A. **SCOPE**  
THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT A PUMP STATION FOR A FUTURE SUBDIVISION. THE BUILDING WILL HOUSE A GENERATOR, ELECTRICAL COMPONENTS, AND CONTROLS EQUIPMENT. ASSOCIATED APPURTENANCES INCLUDE UNDERGROUND SERVICE PIPING, A WET WELL, A TANK, AND MANHOLES.

GENERAL INFORMATION:

LOCATION: ±1750 FEET FROM HWY 85/87 AND MAIN ST.  
 ADDRESS: TBD  
 OWNER: AVATAR EQUITIES  
 EPC PARCEL SCHEDULE #: 6514100034 (TBD)

BUILDING CONSTRUCTION

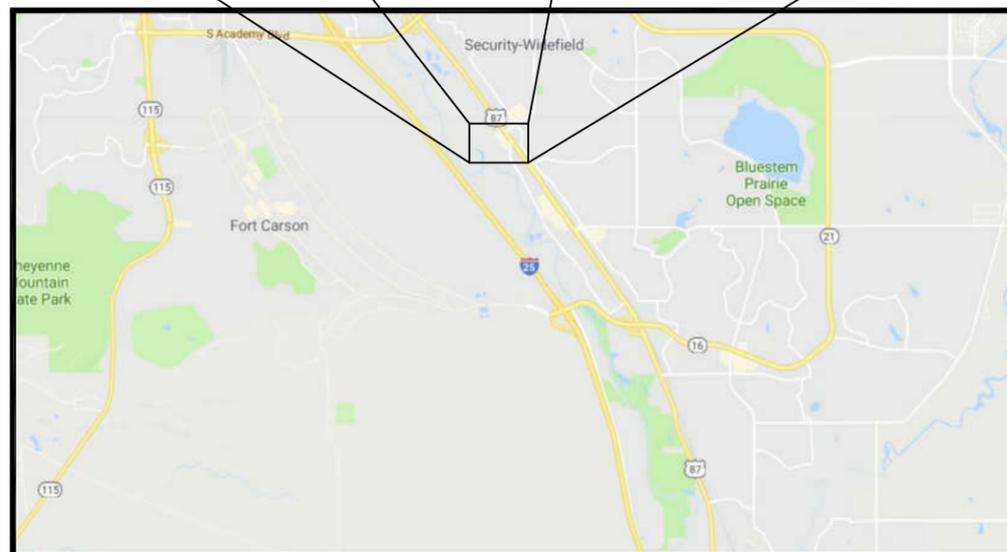
TOTAL BUILDING AREA: 339  
 BUILDING CONSTRUCTION TYPE: III-B  
 OCCUPANCY TYPE: UTILITY/S-1  
 OCCUPANCY USE: MUNICIPAL LIFT STATION

### SURVEY DATA

TOPOGRAPHY SURVEY DATA SHOWN HEREIN IS PROVIDED BY CATAMOUNT ENGINEERING.



**VICINITY MAP**  
N.T.S.



**LOCATION MAP**  
N.T.S.

**JDS-HYDRO CONSULTANTS, INC.**  
 5540 TECH CENTER DR., SUITE 100  
 COLORADO SPRINGS, COLORADO 80919  
 (719) 227-0072

THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATION AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY THE CITY OF FOUNTAIN DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

### SHEET INDEX

SHEET NAME	DESCRIPTION	SHEET NAME	DESCRIPTION
	COVER SHEET		
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G1	GENERAL NOTES	P1	PROCESS PLAN
G2	HYDRAULIC PROFILE	P2	PROCESS SECTION
G3	FEMA FLOOD PLAIN MAP	P3	PROCESS SECTION
<b>CIVIL</b>		<b>MECHANICAL</b>	
C1	OVERALL SITE PLAN	M1	MECHANICAL FLOOR PLAN AND DETAILS
C2	LIFT STATION SITE PLAN	M2	MECHANICAL SECTIONS
C3	SEWER LINE INFLUENT PLAN AND PROFILE	M3	MECHANICAL SECTIONS
C4	SEWER LINE EFFLUENT PLAN AND PROFILE		
C5	FORCE MAIN PLAN AND PROFILE	<b>PLUMBING</b>	
C6	WET WELL AND DETAILS	PL1	1-INCH METER DETAIL
C7	CIVIL DETAILS		
C8	CIVIL DETAILS	<b>PROCESS AND INSTRUMENTATION</b>	
C9	CIVIL DETAILS	I1	PROCESS AND INSTRUMENTATION NOTES AND LEGEND
<b>STRUCTURAL</b>		I2	PROCESS AND INSTRUMENTATION CONTROL DIAGRAM 1
S1	STRUCTURAL NOTES	I3	PROCESS AND INSTRUMENTATION CONTROL DIAGRAM 2
S2	STRUCTURAL FOUNDATION AND FLOOR PLAN	I4	PROCESS AND INSTRUMENTATION CONTROL SCHEDULE
S3	STRUCTURAL ROOF FRAMING PLAN		
S4	STRUCTURAL SECTION	<b>ELECTRICAL</b>	
S5	STRUCTURAL SECTIONS	E1	ELECTRICAL LEGEND AND SPECIFICATIONS
S6	STRUCTURAL DETAILS	E2	ELECTRICAL SITE PLAN
S7	STRUCTURAL DETAILS	E3	LIGHTING AND POWER PLANS
S8	STRUCTURAL DETAILS		
S9	STRUCTURAL ROOF FRAMING DETAILS		
S10	ACCESS HATCH ASSEMBLY		
<b>ARCHITECTURAL</b>			
A1	ARCHITECTURAL FLOOR PLAN AND SCHEDULE/DETAILS		
A2	ARCHITECTURAL ROOF PLAN AND SECTION		
A3	ARCHITECTURAL ELEVATIONS		
A4	ARCHITECTURAL DETAILS		
A5	LIFE SAFETY PLAN		

Add county signature block.

### SIGNATURE BLOCKS

THE UNDERSIGNED OWNER/DEVELOPER AGREES THAT THE INSTALLATION OF THESE PROPOSED SEWER FACILITIES WILL BE MADE IN ACCORDANCE WITH SECURITY SANITATION DISTRICT SPECIFICATIONS. ANY CHANGES REQUIRED TO MEET THE ABOVE STIPULATIONS SHALL BE AT THE EXPENSE OF THE OWNER/DEVELOPER.

ANY SEWER MAIN, SERVICE LINE, OR APPURTENANCE TO EITHER, THAT IS TO BE RELOCATED OR ADJUSTED BECAUSE OF CONSTRUCTION OR DEVELOPMENT SHALL BE ACCOMPLISHED BY THE DEVELOPER, BUILDER, CONTRACTOR, OR PERSON(S) REQUIRING THE MOVEMENT, RELOCATION, OR ADJUSTMENT. THIS SHALL BE AT NO EXPENSE TO THE SECURITY SANITATION DISTRICT.

SIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 OWNER/DEVELOPER

**SECURITY SANITATION PLAN APPROVAL**  
 SIGNED \_\_\_\_\_ DATE \_\_\_\_\_  
 SECURITY SANITATION DISTRICT

**OWNER/DEVELOPER APPROVALS**  
 AVATAR EQUITIES RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. AVATAR EQUITIES HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

AVATAR EQUITIES DESIGN APPROVAL  
 BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 PROJECT NO. 296.01

**ENGINEER'S STATEMENT:**

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE APPLICABLE GOVERNING AGENCIES.

\_\_\_\_\_  
 JAMES P. STARNES, P.E. #52530 PROJECT ENGINEER DATE

GENERAL NOTES

1. REFER TO RIVERBEND CROSSING CONSTRUCTION DRAWINGS FILING NO.1 & FILING NO.2 FOR UTILITY CONNECTIONS OUTSIDE OF THE LOT.
2. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT SECURITY SANITATION DISTRICT (SSD, THE DISTRICT) SPECIFICATIONS.
3. ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE DISTRICT AND THE DISTRICT'S ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED NOT VALID.
4. ALL STATIONING IS CENTER LINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE INVERTS UNLESS OTHERWISE NOTED.
5. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
6. ALL OVER-LOT GRADING MUST BE COMPLETED TO WITHIN ONE (1) FOOT OF FINAL GRADE PRIOR TO INSTALLATION OF WATER AND WASTEWATER INFRASTRUCTURE.
7. ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN "S" FOR SEWER AND A "W" FOR WATER.
8. ALL DUCTILE IRON PIPE LESS THAN 12 INCHES AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE 12 INCHES AND GREATER AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB. MAGNESIUM ANODES EVERY 300 FEET AND 9 LB. MAGNESIUM ANODES AT EACH FITTING.
9. COMPACTION TESTS SHALL BE 95% MODIFIED PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE DISTRICT OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCIES HAVING RIGHT-OF-WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL.
10. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE DISTRICT SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE DISTRICT AND THE DESIGN ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.
11. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.
12. BENDS, DEFLECTION & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT 25' INTERVALS ALONG CURVES TO ASSURE LOCATION OF PIPE LINE CONSTRUCTION.
13. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS.
14. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
15. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINES) SHALL HAVE LIABILITY INSURANCE NAMING THE OWNER AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE OWNER. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS' OFFICE.
16. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. A WEEKLY CONSTRUCTION MEETING SHALL BE REQUIRED WITH THE CONTRACTOR, DISTRICT ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE DISTRICT.
17. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN SANITATION DISTRICT:
  - a) PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING IS REQUIRED A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE OWNER OR DEVELOPER, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE DISTRICT TO SCHEDULE THE PRE-CONSTRUCTION MEETING. NO PRE-CONSTRUCTION MEETING CAN BE SCHEDULED PRIOR TO FOUR (4) SIGNED/APPROVED PLAN SETS ARE RECEIVED BY THE DISTRICT.
  - b) THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
18. ALL THE WATER AND WASTEWATER TESTING OF FACILITIES ARE TO BE CONSISTENT WITH SECURITY SANITATION DISTRICT UTILITY PLANS AND SPECS:
  - a) THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.
  - b) ALL SECTIONS OF WATER LINE ARE TO MEET THE FOLLOWING PRESSURE TESTING REQUIREMENTS
    - TEST 100 % OF ALL LINES
    - MUST PASS PRESSURE TEST TO 200 PSI FOR TWO HOURS (UNLESS OTHERWISE APPROVED ON THE PLANS).
  - c) ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS
    - ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
    - ALL MANHOLES SHALL BE VACUUM TESTED WITH DISTRICT STAFF PRESENT PRIOR TO CCTV INSPECTION.
    - SEWER MAINS TO BE PRESSURE TEST PRIOR TO CCTV INSPECTION
    - ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
19. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE DISTRICT ACCEPTS THE FACILITY FOR USE. ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE DISTRICT, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTORS COST.
20. FINAL ACCEPTANCE BY THE DISTRICT OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES PRIOR TO FINAL ACCEPTANCE SHALL BE 24 MONTHS COMMENCING AFTER PRELIMINARY ACCEPTANCE.
21. ACCEPTANCE:
  - a) THE DISTRICT MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK-THRU HAS OCCURRED.
  - b) A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK-THRU OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR.
22. ALL WATER AND SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE "AS-BUILT" DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE DISTRICT.
23. INSPECTION FEES: CALL THE DISTRICT (719-495-2500) FOR FEE SCHEDULE.

24. WATER SYSTEM INSTALLATION NOTES

25. ALL WATER AND FORCE MAIN PIPE SHALL BE AWWA C900 PVC, OR EQUAL, PRESSURE CLASS 200. ALL WATER AND FORCE MAIN FITTINGS SHALL HAVE MECHANICAL RESTRAINTS AND THRUST BLOCKS. ALL WATER AND FORCE MAIN PIPE SHALL HAVE A MINIMUM COVER DEPTH OF FIVE AND ONE-HALF (5.5) FEET AND A MINIMUM VERTICAL SEPARATION OF EIGHTEEN INCHES (18") BETWEEN THE PIPE AND ALL OTHER UTILITIES.
26. IN GENERAL, WATER MAINS SHALL BE DESIGNED TO HAVE TEN FEET (10') HORIZONTAL SEPARATION FROM POSSIBLE SOURCES OF POLLUTION. WHEN THE HORIZONTAL SEPARATION IS NOT ACHIEVABLE, THEN THE WATER MAIN SHALL BE DESIGNED SO THAT THE BOTTOM OF THE WATER MAIN IS TWO (2) FEET ABOVE THE TOP OF ANY SEWER PIPE. WHEN TWO FEET OF VERTICAL SEPARATION CANNOT BE ACHIEVED, THEN THE WATER MAIN WILL BE CONSTRUCTED IN TWENTY-FOOT (20') SECTIONS OF DUCTILE IRON WITH NO JOINTS ON THE SEWER PIPE. THE TWENTY-FOOT SECTION SHALL BE CENTERED ABOVE THE SEWER PIPE WITH TEN FEET (10') TO EACH JOINT. WHEN SEPARATION CAN NOT BE ACHIEVED, CASING MAY BE USED UPON WRITTEN REQUEST TO THE DISTRICT ENGINEER FOR CONSIDERATION.
27. FIRE HYDRANTS SHALL BE OPEN RIGHT WITH 7/8" X 7/8" SQUARE TAPERED ALONG WITH SERVICE CAPS. LUBRICATION TYPE: (GREASE). ACCEPTABLE BRANDS ARE AMERICAN AVK SERIES 2700 (MODERN) AND MUELLER SUPER CENTURION 250.
28. ALL MAIN LINES (PVC & DUCTILE IRON) SHALL BE INSTALLED WITH COATED #12 TRACER WIRE WITH TEST STATIONS AT INTERVALS NO GREATER THAN 50 FT (VALVE BOXES CAN BE USED AT INTERSECTIONS AND SERVICE STUBS).
29. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER LINE WITHOUT SHUTDOWN, OR ELSE NOTIFY THE DISTRICT OF ANY SERVICE SHUTDOWNS NECESSARY TO CONNECT TO EXISTING LINES.
30. IRRIGATION SERVICES SHALL HAVE A STOP AND WASTE CURB STOP VALVE INSTALLED ALONG WITH TRACER WIRE EXTENDING BACK TO THE MAIN LINE.
31. COMMENCEMENT OF USE OF WATER LINES AND/OR SYSTEMS:
  - c) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER THE COMPLETION OF ALL PRESSURE TESTING, FLUSHING, BAC-T TESTING, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.
  - d) NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.
  - e) ALL EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.
  - f) WASTEWATER SYSTEM INSTALLATION NOTES
32. SANITARY SEWER LENGTHS ARE MANHOLE CENTER TO MANHOLE CENTER. ALL FORCEMAIN PIPES SHALL BE C900 PVC DR14 OR EQUAL, UNLESS OTHERWISE NOTED. SEWER LINES MAY NOT EXCEED 7% GRADE FOR ANY SIZE WITHOUT PRIOR APPROVAL OF THE DISTRICT. TAPPING SADDLES MAY ONLY BE USED FOR TAPPING PRE-EXISTING MAINS.
33. ALL SANITARY SEWER MANHOLES SHALL BE WRAPPED WITH RU116 - RUBR-NEK JOINT WRAP OR EQUIVALENT AND COATED.
34. ALL SEWER MAINS SHALL BE INSTALLED WITH COATED #12 TRACER WIRE. BRING TRACER WIRE UP THROUGH INSIDE OF MANHOLE ALONG STEP TREADS AND RUN OUT OF MANHOLE BELOW MANHOLE RING (CUT GROOVE IN CONE SECTION OR RISERS TO ALLOW RING TO SIT FLAT).
35. COMMENCEMENT OF USE OF SEWER LINES AND/OR SYSTEMS:
  - g) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL THE COMPLETION OF ALL JET CLEANING, PRESSURE TESTING, VACUUM TESTING, CCTV INSPECTION, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.
  - h) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, ANY REQUIRED SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.
  - i) ALL NECESSARY EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.
  - j) DOWNSTREAM PLUG CAN BE REMOVED ONCE FIRST LIFT OF ASPHALT IS DOWN AND THE ABOVE REQUIREMENTS ARE MET.

THE ABOVE GUIDELINES ARE SUBJECT TO CHANGE AT ANY TIME.

CONTACTS:

DRAINAGE  
 EL PASO COUNTY (719) 520-6300      ELECTRIC  
 FOUNTAIN ELECTRIC (719) 322-2092  
GAS  
 CSU GAS (719) 448-4800

Add County standard construction notes.



DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

AVATAR EQUITIES  
 RIVER BEND CROSSING LIFT STATION  
 GENERAL NOTES

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
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4				
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7				

FOR PPRBD  
SUBMITTAL

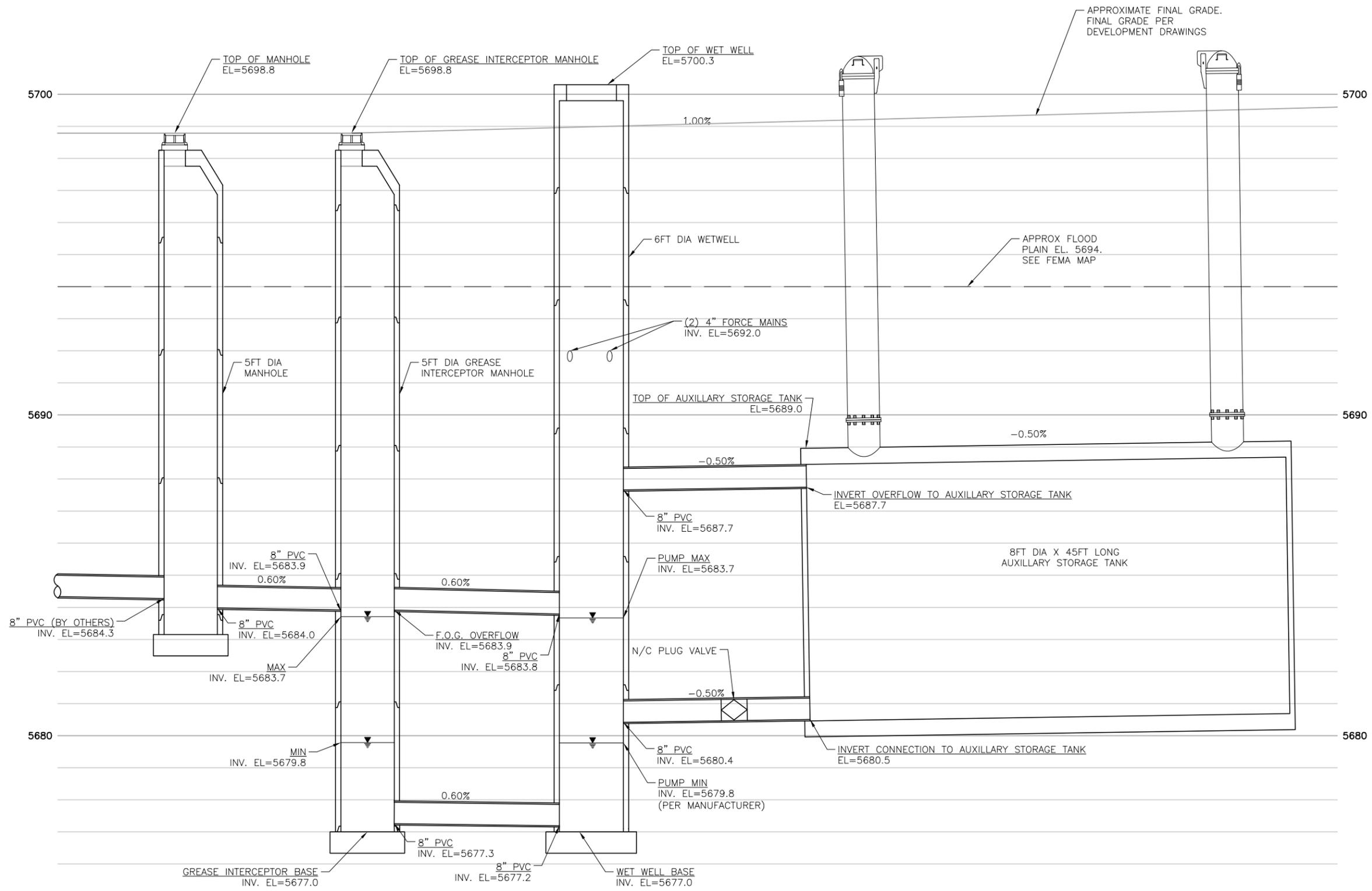
Project No.: 296.01  
 Date: 03/23/21  
 Design: JPS  
 Drawn: ACH  
 Check: JPM

G1

SHEET 2 OF

2021/03/23 4:02 PM By: Andrew Hood j:\JDS-Hydro\Project Files\296 Avatar Equities\296.01 River Bend Creek Lift Station Drawings\Working\29601\_Cover.dwg

2021/03/23 4:02 PM By: Andrew Hood j:\JDS-Hydro\Project Files\296 Avatar Equities\296.01 River Bend Creek Lift Station\Drawings\Working\29601\_G\_Hydraulic\_Profile.dwg



NOTE:  
 MINIMUM WASTEWATER SERVICE ELEVATION IS  
 XXXX AT DESIGN HIGH WATER LEVEL.

**HYDRAULIC PROFILE**  
 SCALE: N.T.S.

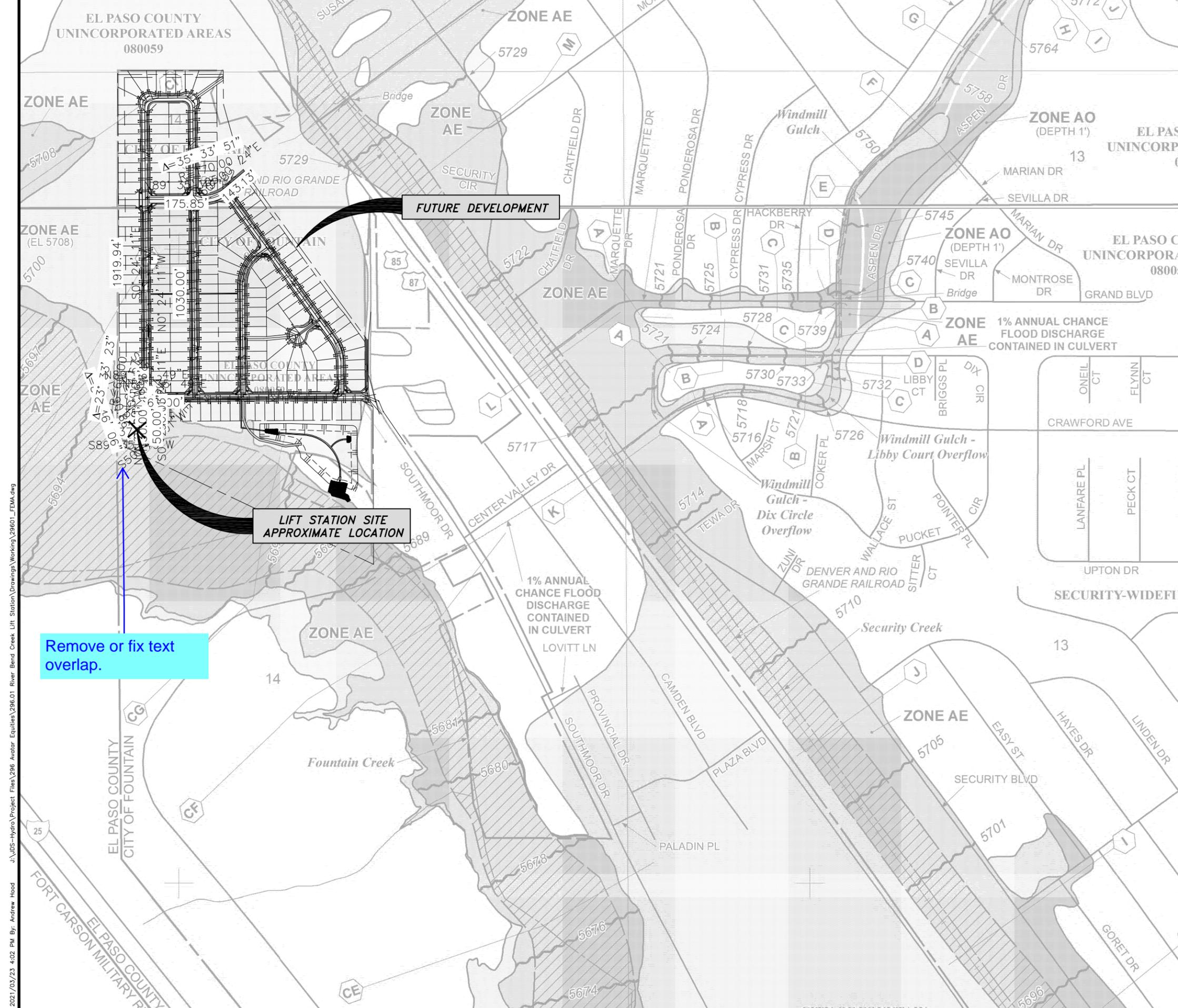
**JDS-HYDRO CONSULTANTS, INC.**  
 545 EAST PIKES PEAK AVENUE, SUITE 300  
 COLORADO SPRINGS, COLORADO 80903  
 (719) 227-0072  
DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 HYDRAULIC PROFILE

NO.	DESCRIPTION	BY	APP.	DATE
1				
2				
3				
4				
5				
6				
7				

FOR PPRBD  
 SUBMITTAL

Project No.: 296.01  
 Date: 03/23/21  
 Design: JPS  
 Drawn: ACH  
 Check: JPM



**LEGEND**

**SPECIAL FLOOD HAZARD AREAS (SFHAS) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

**ZONE A** No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined.

**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

**ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

**ZONE X** Areas determined to be outside the 0.2% annual chance floodplain.

**ZONE D** Areas in which flood hazards are undetermined, but possible.

**MAP SCALE 1" = 500'**

250 0 500 1000 FEET

**PANEL 0951G**

**FIRM**

**FLOOD INSURANCE RATE MAP**

**EL PASO COUNTY, COLORADO AND INCORPORATED AREAS**

**PANEL 951 OF 1300**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

**CONTAINS:**

COMMUNITY	NUMBER	PANEL	SUFFIX
EL PASO COUNTY	080059	0951	G
FOUNTAIN, CITY OF	080061	0951	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

**MAP NUMBER 08041C0951G**

**MAP REVISED DECEMBER 7, 2018**

**Federal Emergency Management Agency**

**REVISIONS**

NO.	DESCRIPTION	BY	DATE
1			
2			
3			
4			
5			
6			
7			

**FOR PPRBD SUBMITTAL**

Project No.: 296.01  
Date: 03/23/21  
Design: JPS  
Drawn: ACH  
Check: JPM

**G3**

SHEET ----OF

**JDS-HYDRO CONSULTANTS, INC.**  
5640 TECH CENTER DR., SUITE 100  
COLORADO SPRINGS, COLORADO 80919  
(719) 227-0072

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**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
FEMA FLOOD PLAN MAP

2021/03/23 4:02 PM By: Andrew Hood J:\JDS-Hydro\Project Files\296 Avatar Equities\296.01 River Bend Creek Lift Station\Drawings\Working\29601\_FEMA.dwg

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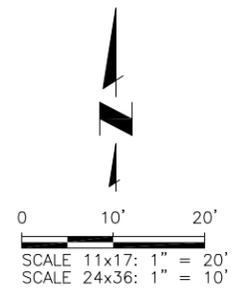
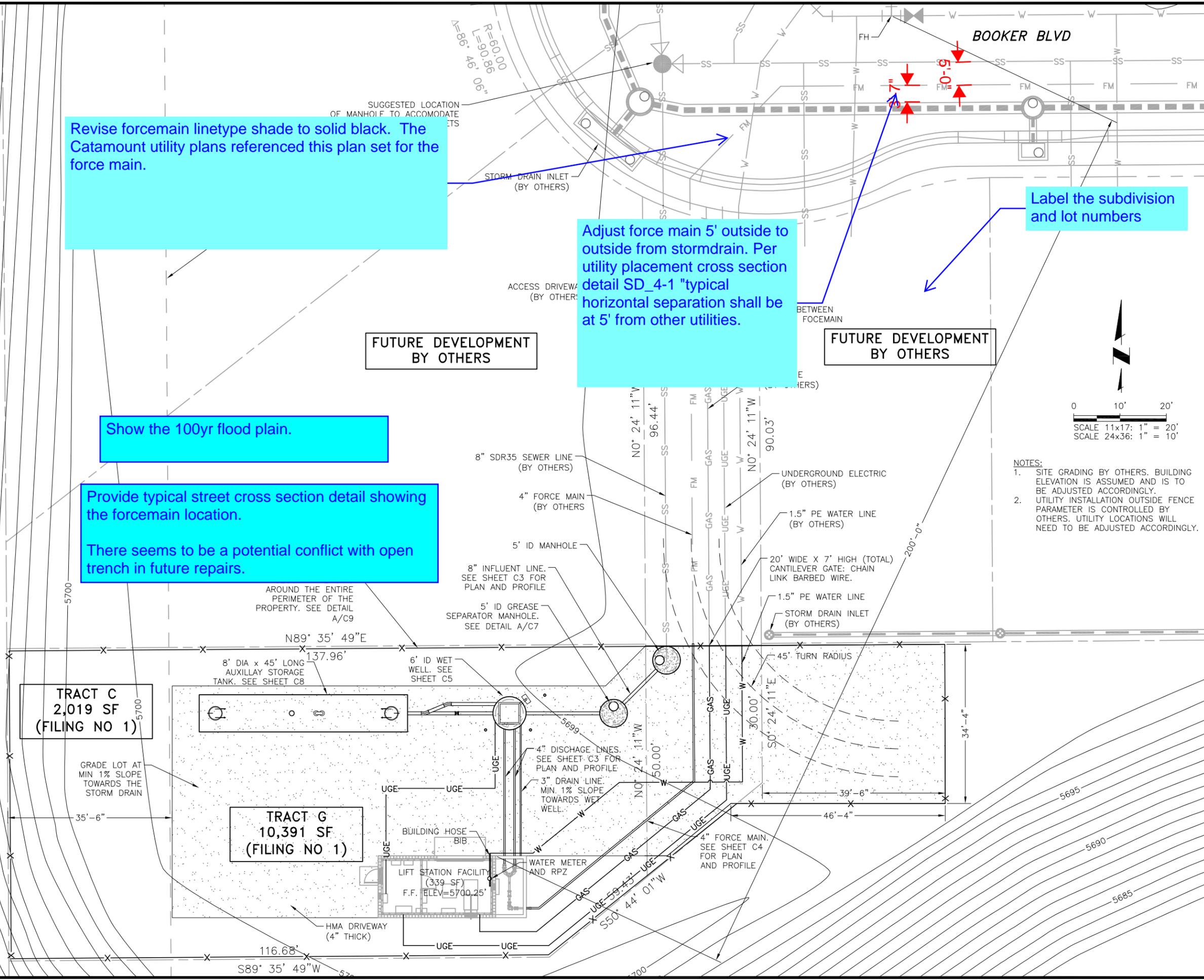
Revise forcemain linetype shade to solid black. The Catamount utility plans referenced this plan set for the force main.

Adjust force main 5' outside to outside from stormdrain. Per utility placement cross section detail SD\_4-1 "typical horizontal separation shall be at 5' from other utilities.

Label the subdivision and lot numbers

Show the 100yr flood plain.

Provide typical street cross section detail showing the forcemain location. There seems to be a potential conflict with open trench in future repairs.



- NOTES:
1. SITE GRADING BY OTHERS. BUILDING ELEVATION IS ASSUMED AND IS TO BE ADJUSTED ACCORDINGLY.
  2. UTILITY INSTALLATION OUTSIDE FENCE PARAMETER IS CONTROLLED BY OTHERS. UTILITY LOCATIONS WILL NEED TO BE ADJUSTED ACCORDINGLY.

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**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
OVERALL SITE PLAN

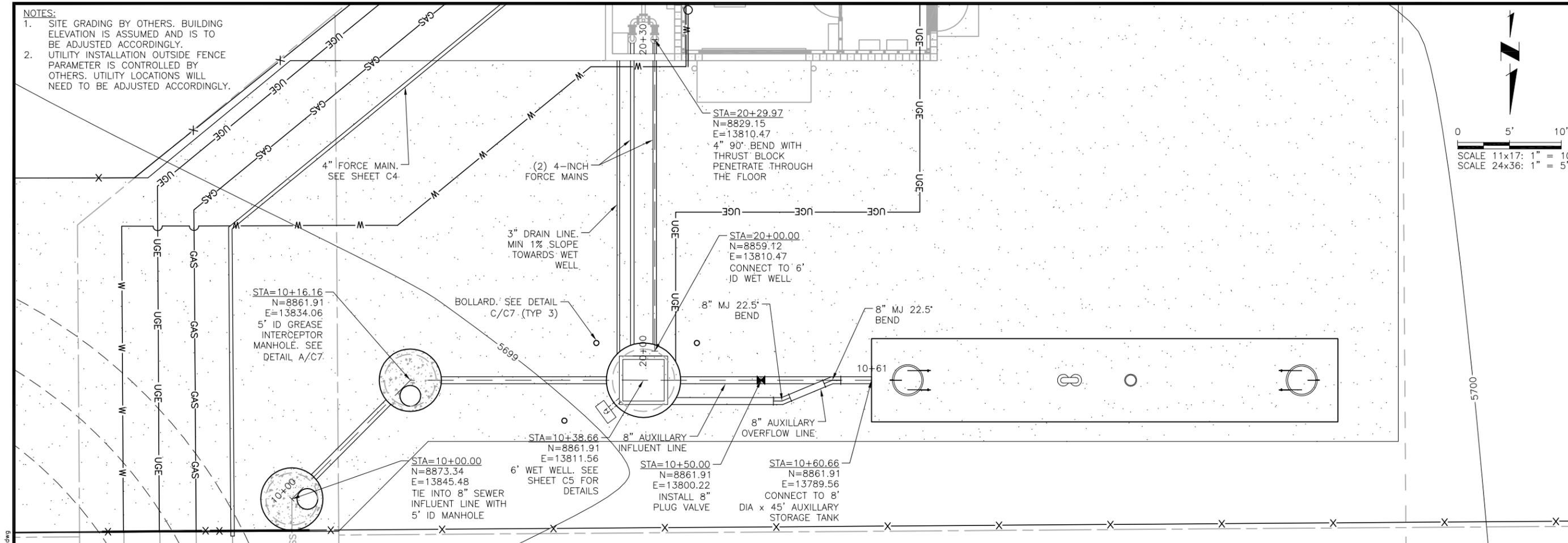
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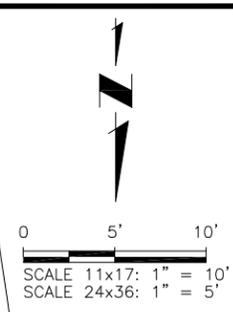
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**C1**  
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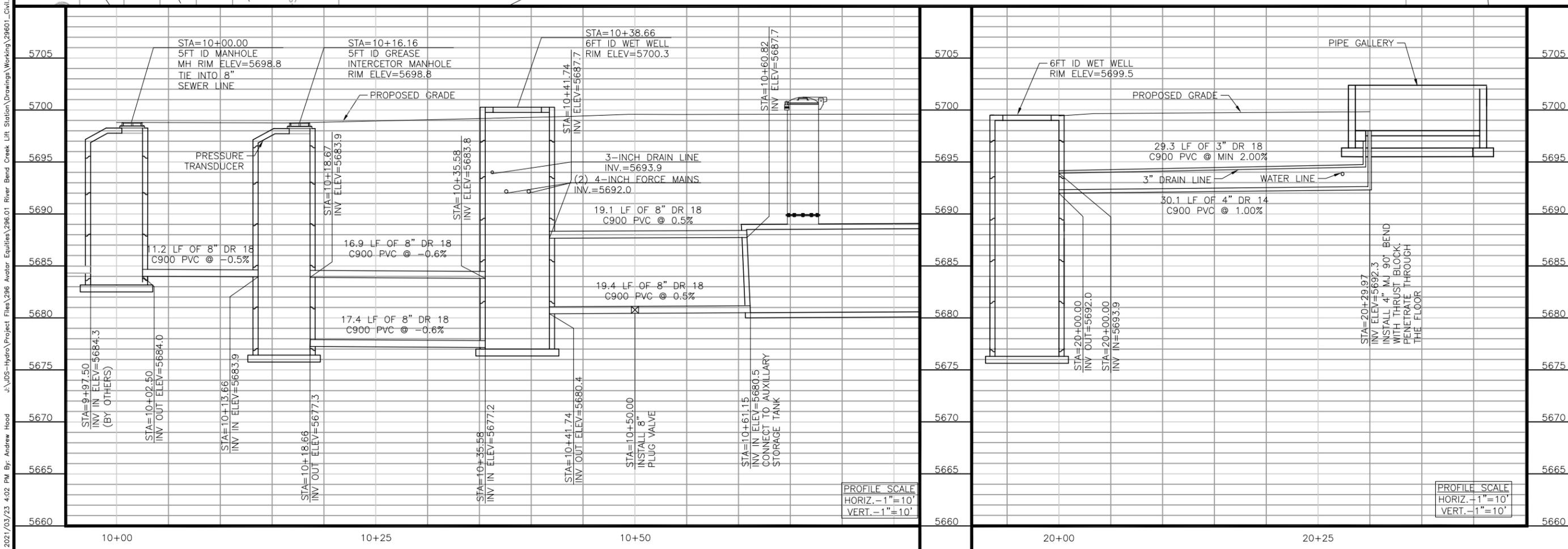
NOTES:  
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 2. UTILITY INSTALLATION OUTSIDE FENCE PARAMETER IS CONTROLLED BY OTHERS. UTILITY LOCATIONS WILL NEED TO BE ADJUSTED ACCORDINGLY.



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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 SEWER LINE INFLUENT AND SEWER LINE EFFLUENT  
 PLAN AND PROFILE



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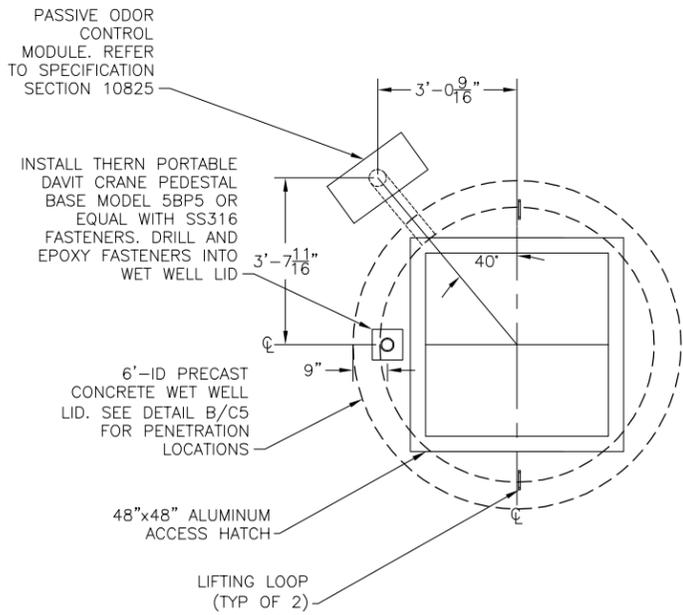
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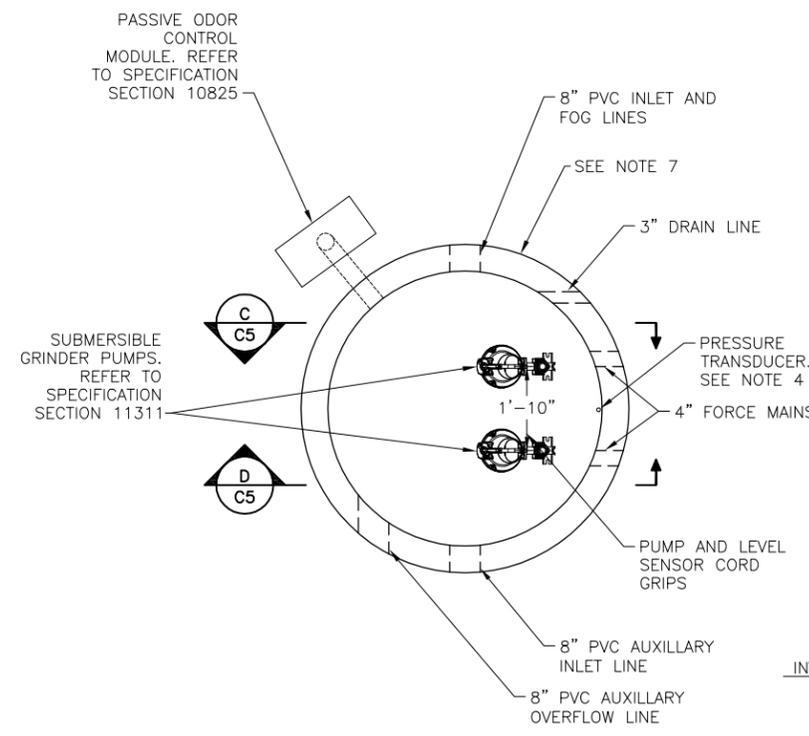
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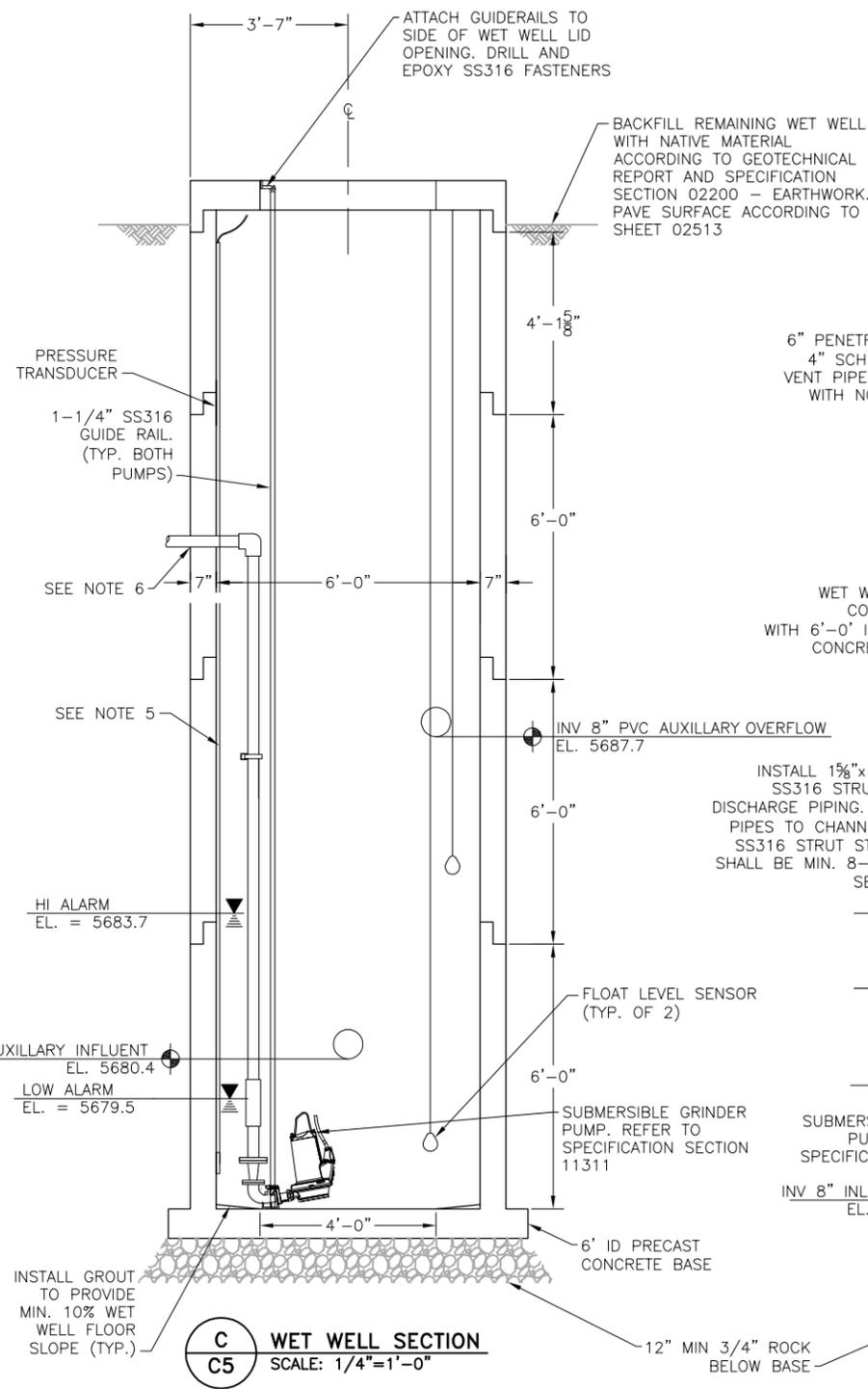




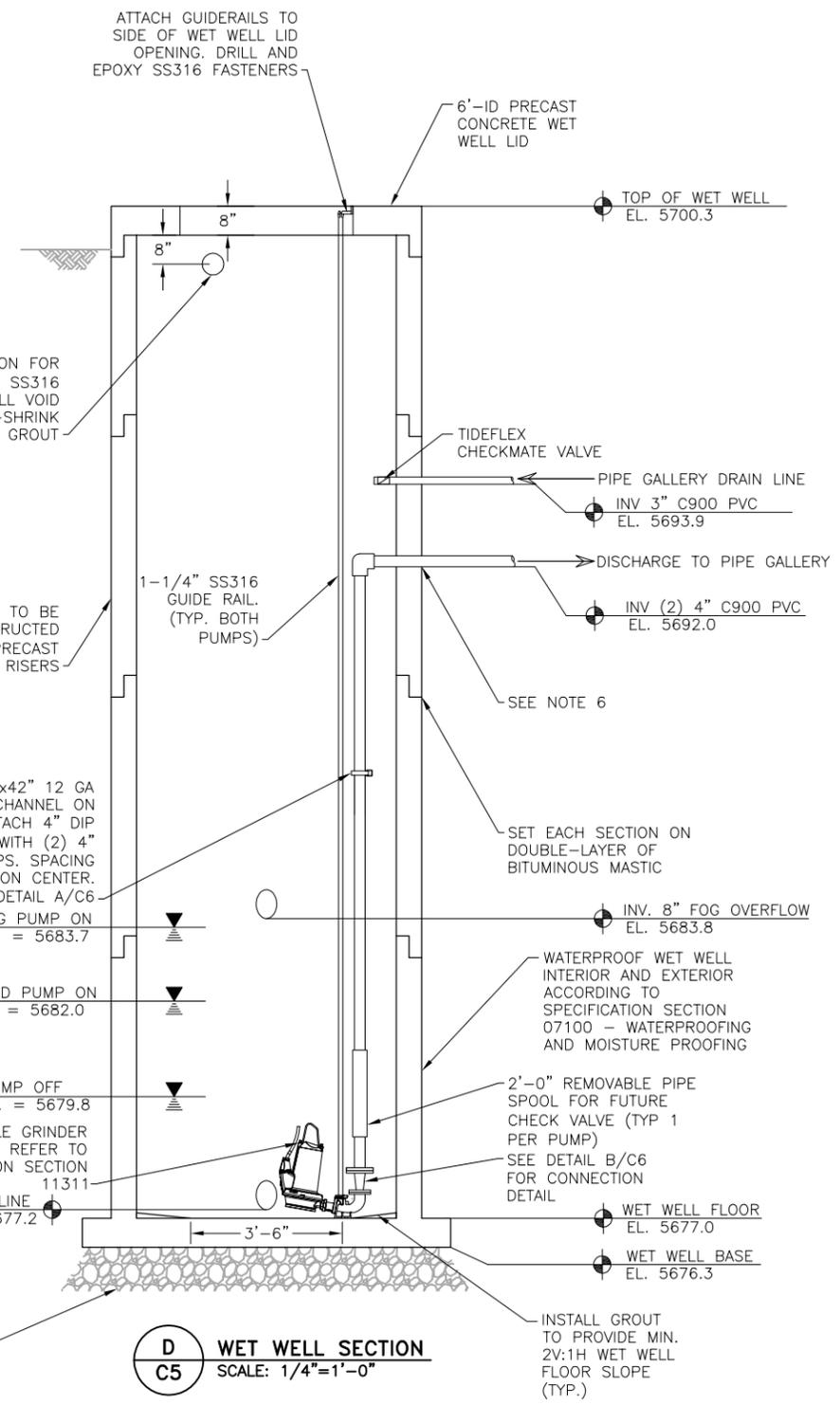
**A WET WELL PLAN**  
SCALE: 1/4"=1'-0"



**B WET WELL PLAN**  
SCALE: 1/4"=1'-0"



**C WET WELL SECTION**  
SCALE: 1/4"=1'-0"



**D WET WELL SECTION**  
SCALE: 1/4"=1'-0"

- NOTES:**
1. ALL EXTERIOR JOINTS SHALL RECEIVE BUTYL RUBBER JOINT WRAP.
  2. ALL FASTENERS WITHIN THE WET WELL SHALL BE 316SS.
  3. NGVD 29 ELEVATION = NAVD 88 ELEVATION (AS SHOWN) - 3.95'.
  4. PRESSURE TRANSDUCER SHALL BE SUPPLIED BY PUMP SUPPLIER ACCORDING TO SPECIFICATION SECTION 1832Z - SUBMERSIBLE PUMPS. MANUFACTURER SHALL PROVIDE NECESSARY LENGTH OF POLYURETHANE SENSOR CABLE TO CONNECT TRANSDUCER TO CONTROL PANEL.
  5. INSTALL VERTICAL SECTION OF SCH 40 PVC PIPE AS AN ENCLOSURE FOR PRESSURE TRANSDUCER AND CABLE. SIZE SHALL BE DETERMINED ACCORDING PRESSURE TRANSDUCER DIMENSIONS. PVC PIPE SHALL BE SECURED TO INSIDE OF WET WELL WITH SS316 STRAPS AND FASTENERS.
  6. ALL PIPE PENETRATIONS INTO WET WELL SHALL BE CONSTRUCTED W/ PRESS SEAL AND/OR LINK SEAL OR EQUAL.
  7. PROVIDE FOR WATERPROOFING OF THE EXTERIOR OF THE STRUCTURE WITH COATING AND JOINT WRAP AT EACH CIRCUMFERENTIAL JOINT.

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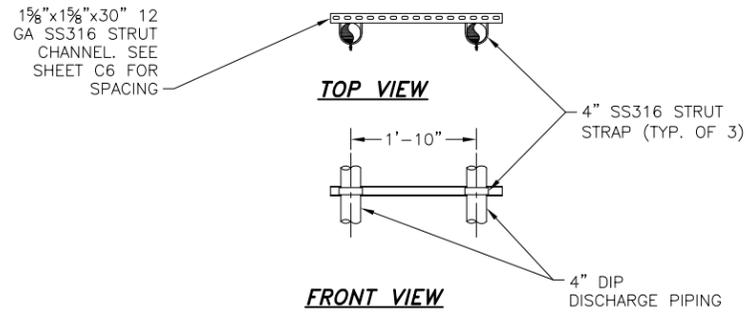
**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
WET WELL AND DETAILS

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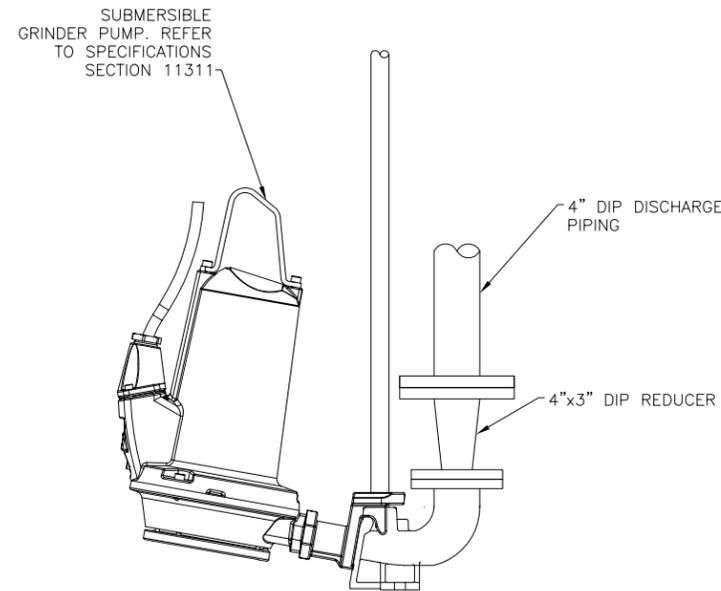
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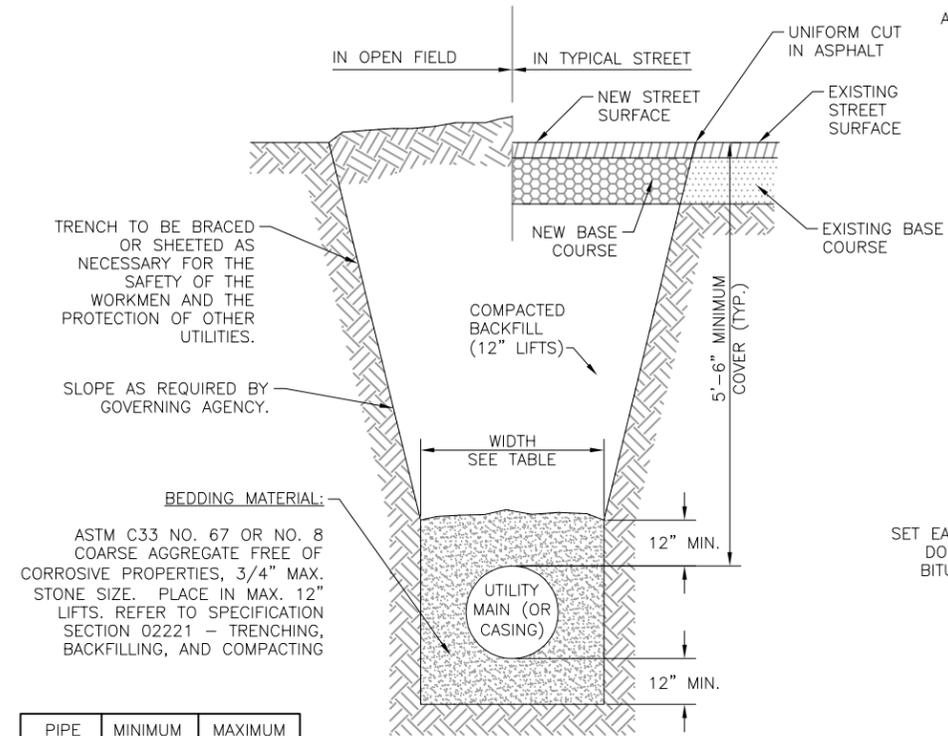
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**A DISCHARGE PIPING SUPPORT DETAIL**  
**C6** SCALE: N.T.S.

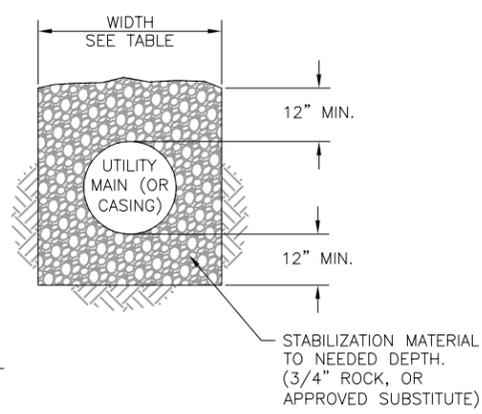


**B PUMP CONNECTION DETAIL**  
**C6** SCALE: 1"=1'-0"

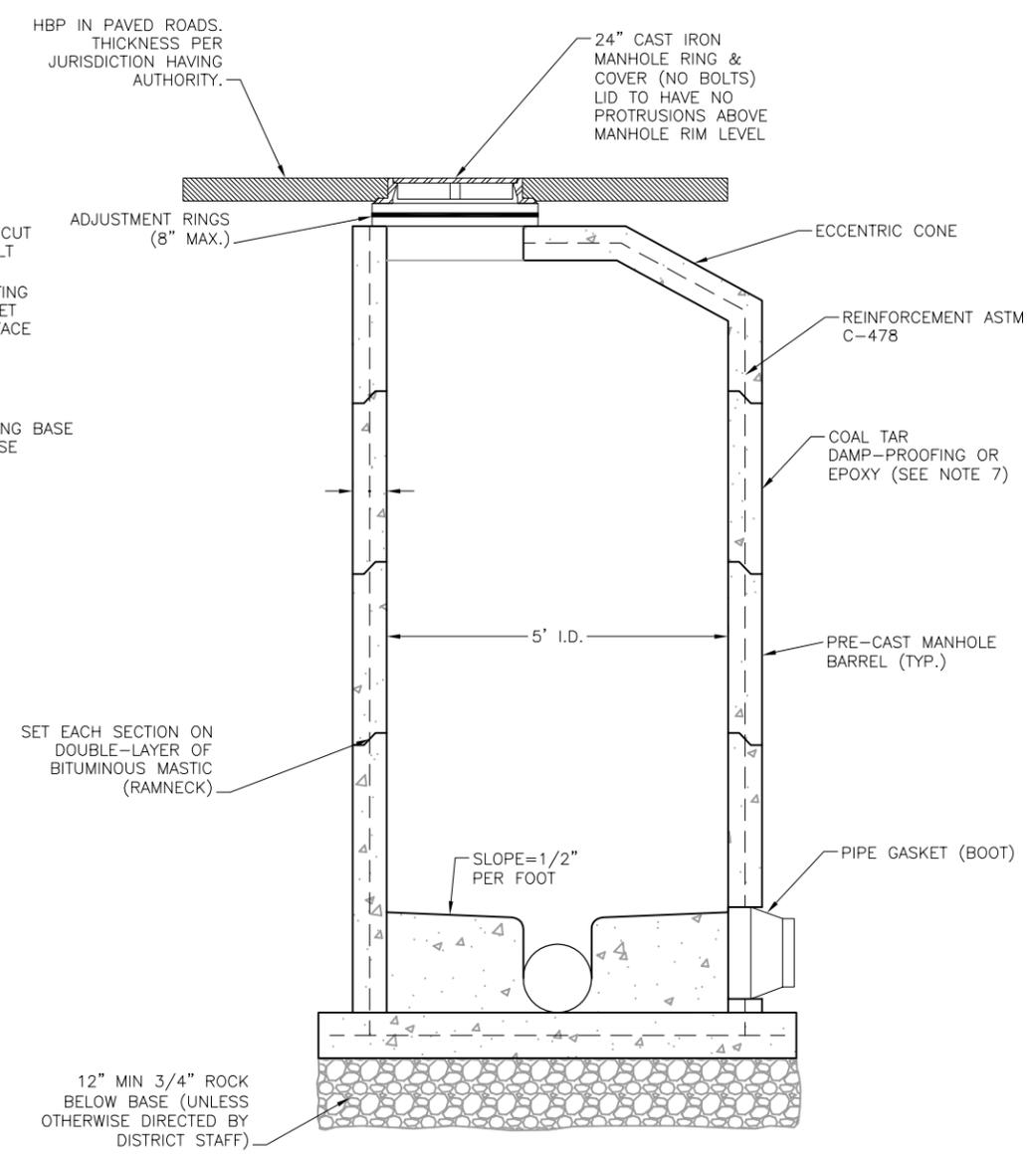


PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
3"	1'-3"	2'-10"
4"	1'-4"	2'-10"
6"	1'-6"	3'-0"
8"	1'-8"	3'-2"
10"	1'-10"	3'-4"
12"	2'-0"	3'-6"
18"	2'-10"	3'-9"
24"	3'-4"	4'-3"

**C TYPICAL TRENCH SECTION**  
**C6** SCALE: N.T.S.



**D UNSTABLE TRENCH BEDDING DETAIL**  
**C6** SCALE: N.T.S.



**E TYPICAL MANHOLE DETAIL**  
**C6** SCALE: N.T.S.

- NOTES:**
1. MANHOLE I.D. SHALL BE MINIMUM 5 FEET.
  2. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING/SHAPING CONCRETE BASE.
  3. PRE-CAST SECTIONS TO CONFORM TO ASTM C-478
  4. STUB-OUTS SHALL EXTEND A MINIMUM OF 6 FEET OUTSIDE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
  5. CONCRETE MANHOLES MAY BE POURED IN PLACE ONLY WITH PRIOR DESIGN AND INSPECTION APPROVAL.
  6. ALL MORTAR GROUT SHALL BE TYPE V CEMENT.
  7. APPLY COAL TAR EPOXY DAMP-PROOFING TO ALL EXTERIOR CONCRETE SURFACES.
  8. CENTER REINFORCING IN BASE POUR BELOW PIPE O.D. AT FLOWLINE.
  9. ALL EXTERIOR JOINTS SHALL RECEIVE BUTYL RUBBER JOINT WRAP.

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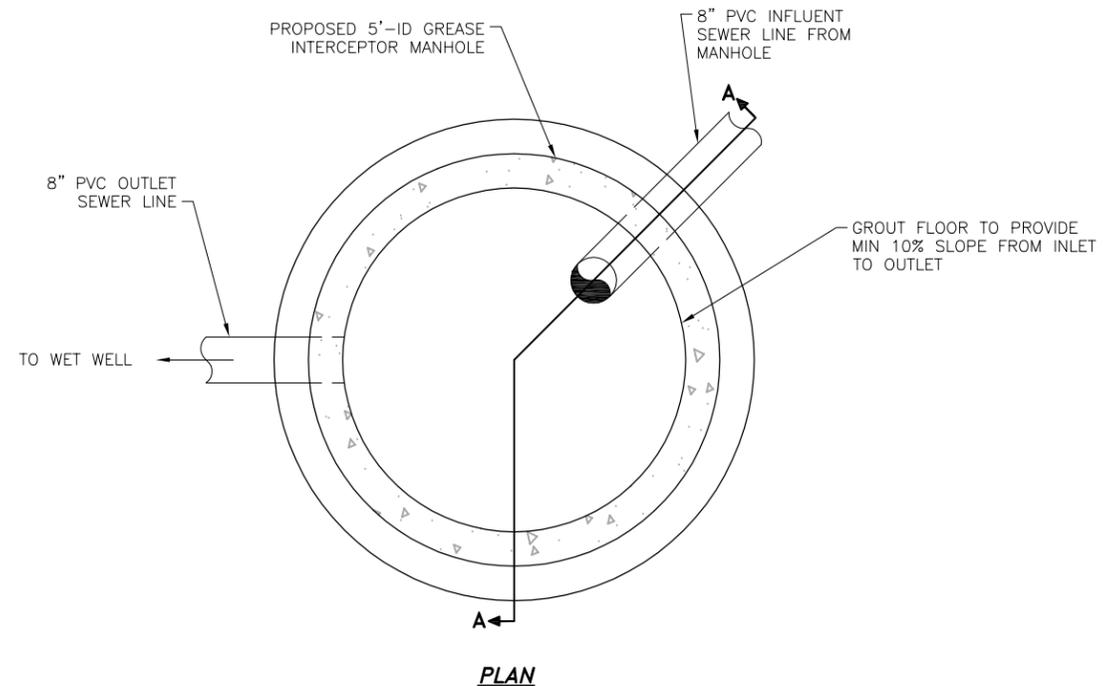
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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 CIVIL DETAILS

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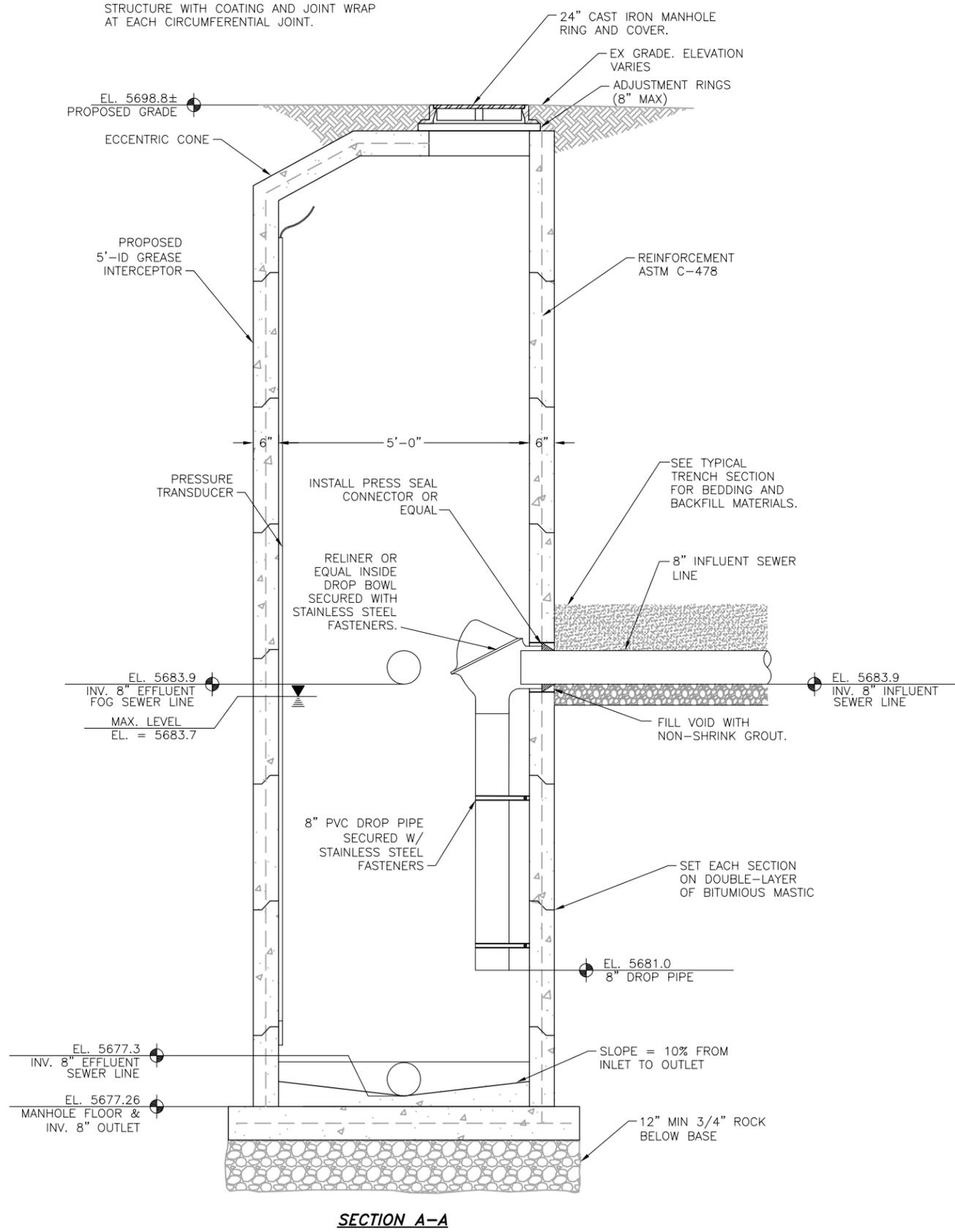
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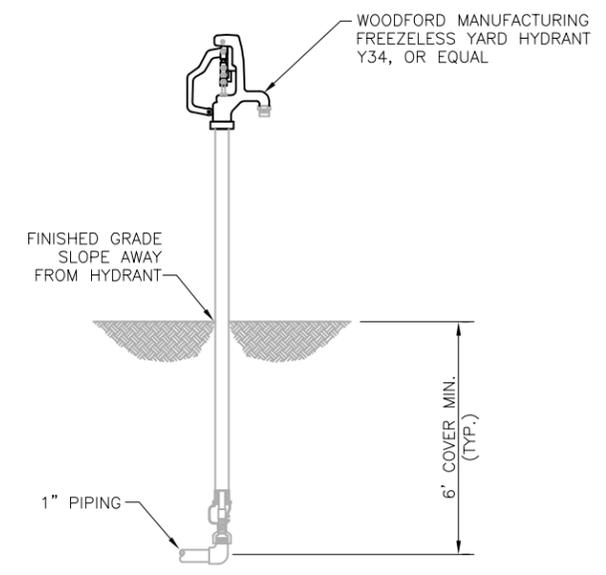


**A GREASE INTERCEPTOR DETAIL**  
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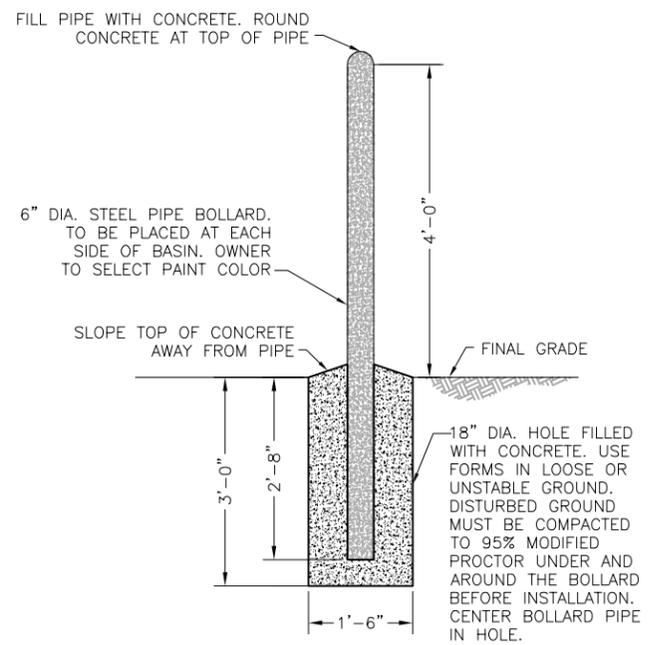
**NOTES:**  
1. PROVIDE FOR WATERPROOFING OF THE EXTERIOR OF THE STRUCTURE WITH COATING AND JOINT WRAP AT EACH CIRCUMFERENTIAL JOINT.



**SECTION A-A**



**B YARD HYDRANT DETAIL**  
SCALE: N.T.S.



**C BOLLARD DETAIL**  
SCALE: N.T.S.

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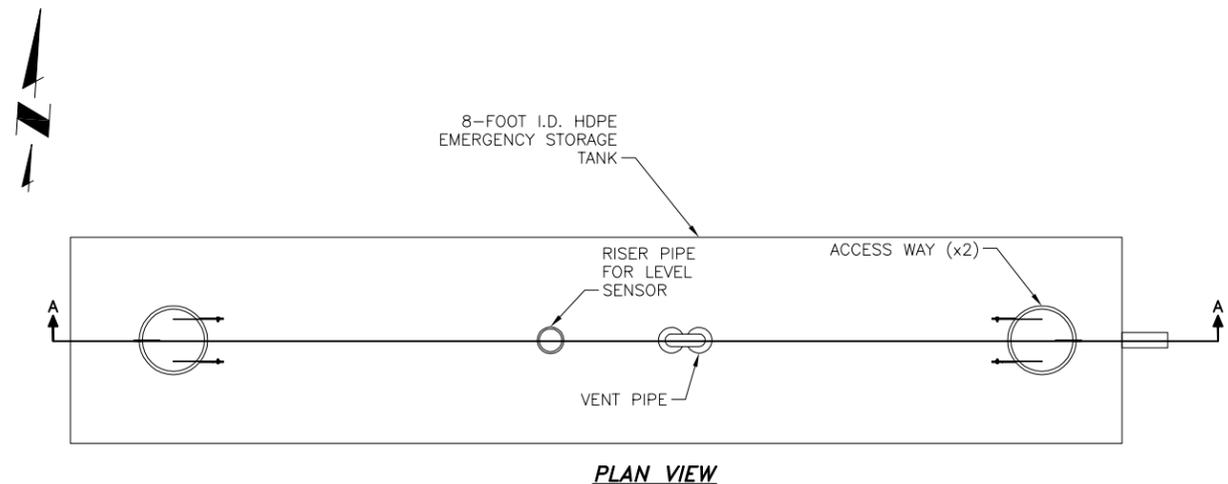
**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
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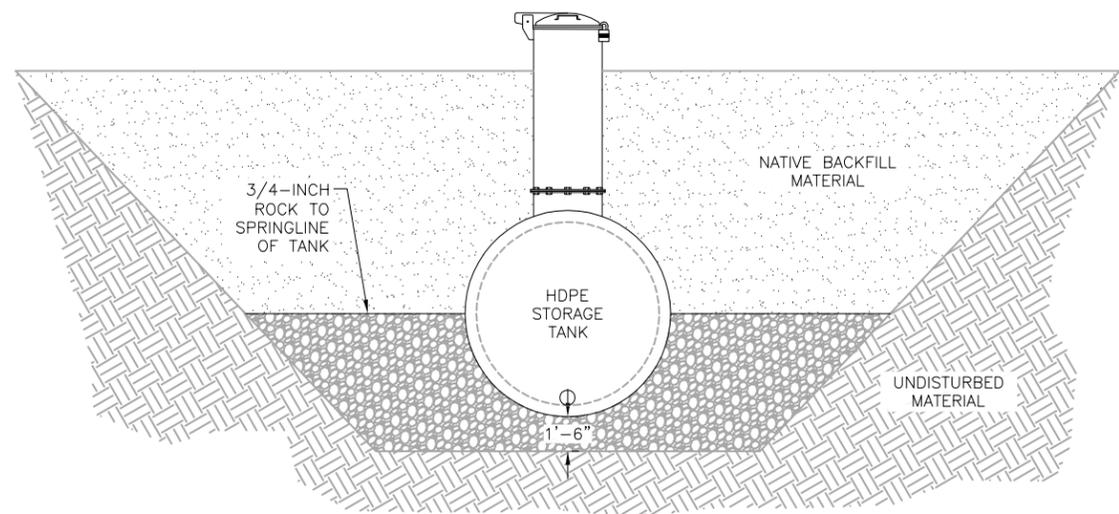
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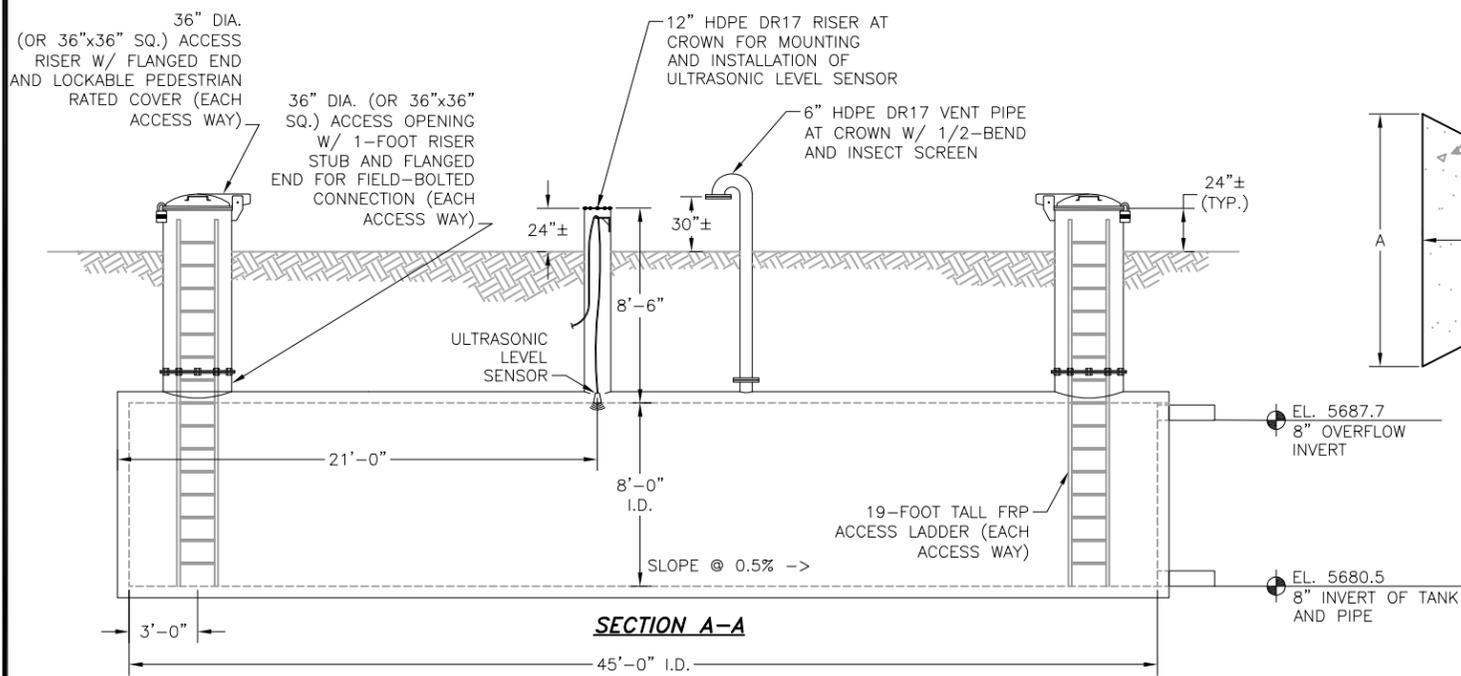
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**PLAN VIEW**



**B AUX. STORAGE TANK INSTALLATION DETAIL**  
SCALE: N.T.S.

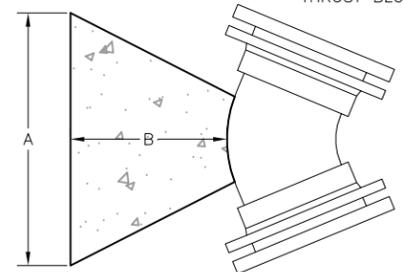


**SECTION A-A**

**A AUXILIARY STORAGE TANK**  
SCALE: N.T.S.

**NOTES:**

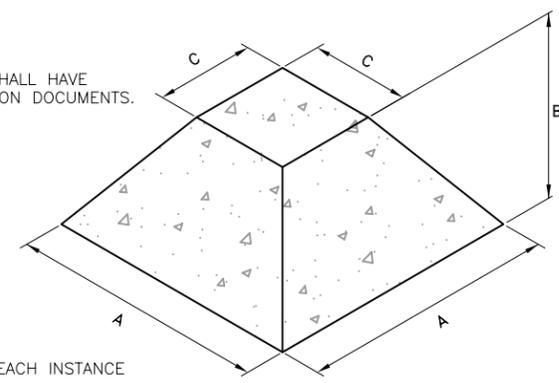
1. ALL WATER MAINS GREATER THAN 12-INCHES IN DIAMETER SHALL HAVE THRUST BLOCKS DESIGNED AND SHOWN ON THE CONSTRUCTION DOCUMENTS.



NOTE: USE THE FOLLOWING VALUES FOR "C"

PIPE SIZE =	C =
12" & UNDER	1'-6"
16" TO 24"	2'-0"
30" TO 36"	3'-0"
OVER 36"	A, B, & C WILL BE GIVEN IN EACH INSTANCE

VOL. (yds)	A	B if C=1'-6"	B if C=2'-0"	B if C=3'-0"
1/8	2'-6"	0'-10"	N/A	N/A
1/4	2'-8"	1'-7"	N/A	N/A
1/2	3'-2"	2'-5"	2'-0"	N/A
3/4	4'-0"	2'-6"	2'-2"	N/A
1	4'-4"	3'-0"	2'-7"	2'-0"
1-1/4	4'-10"	3'-1"	2'-9"	2'-2"



**C THRUST BLOCK DETAIL**  
SCALE: N.T.S.

FITTING	4"	6"	8"
TEE	1/8 yd.	1/2 yd.	3/4 yd.
90° BEND	1/8 yd.	3/4 yd.	1-1/4 yd.
45° BEND	1/8 yd.	1/2 yd.	3/4 yd.
22-1/2° BEND	1/8 yd.	1/8 yd.	1/4 yd.
11-1/4° BEND	1/8 yd.	1/8 yd.	1/8 yd.

- NOTES:**
1. PROVIDE FOR A TRAFFIC BEARING RING AND COVER AROUND THE 36-INCH DIAMETER MANWAY. CONFIRM THAT THE STRUCTURAL INTEGRITY OF THE STRUCTURE CAN ACCEPT TRAFFIC LOADING ON THE HATCHWAY. OTHERWISE, LOCATE THE STRUCTURE IN A MANNER THAT TRAFFIC CAN AVOID THE MANWAY, YET PROVIDE ADEQUATE VEHICULAR ACCESS THROUGH THE PUMP STATION SITE.

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**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
CIVIL DETAILS

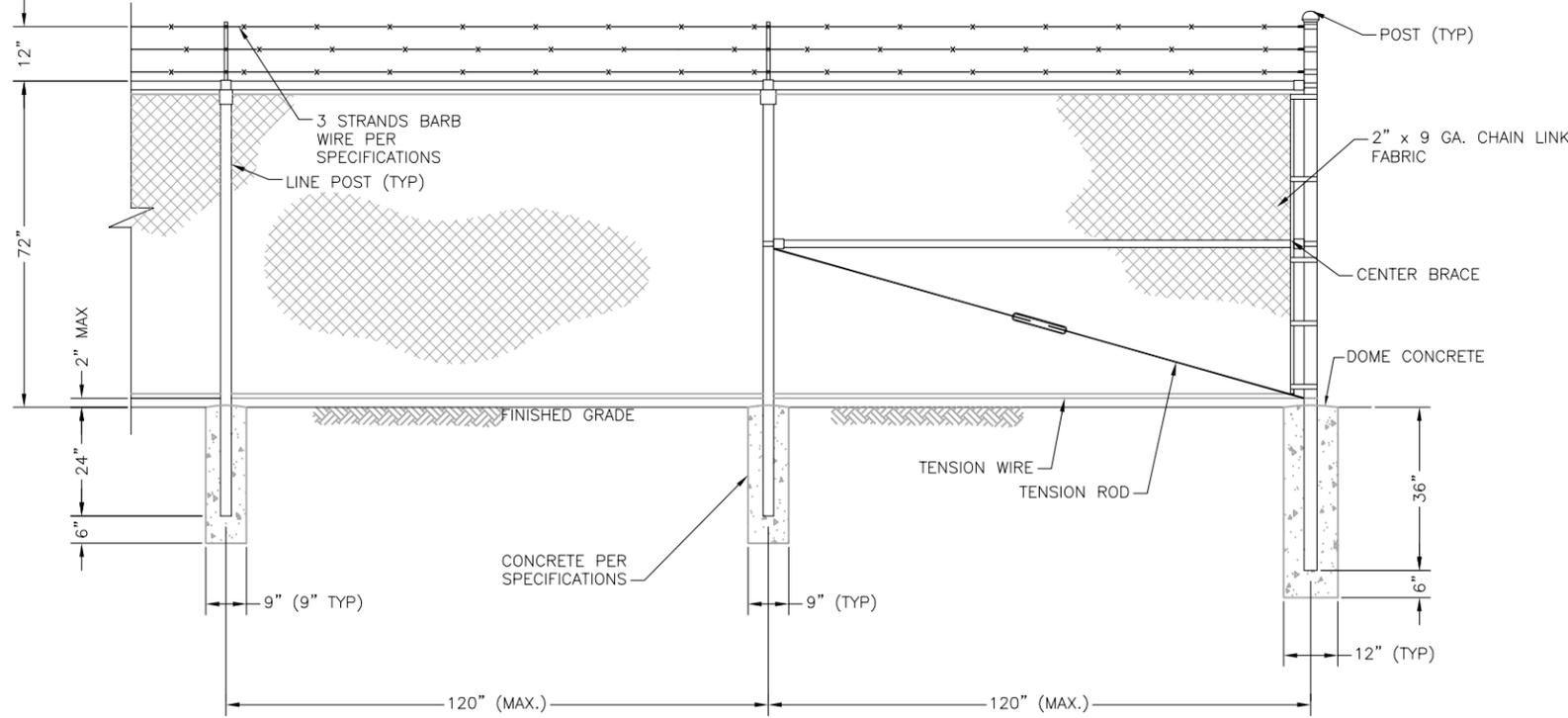
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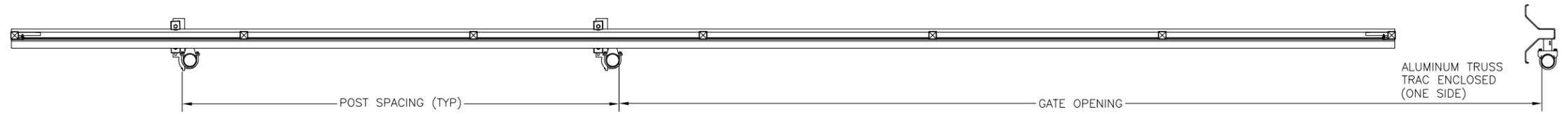
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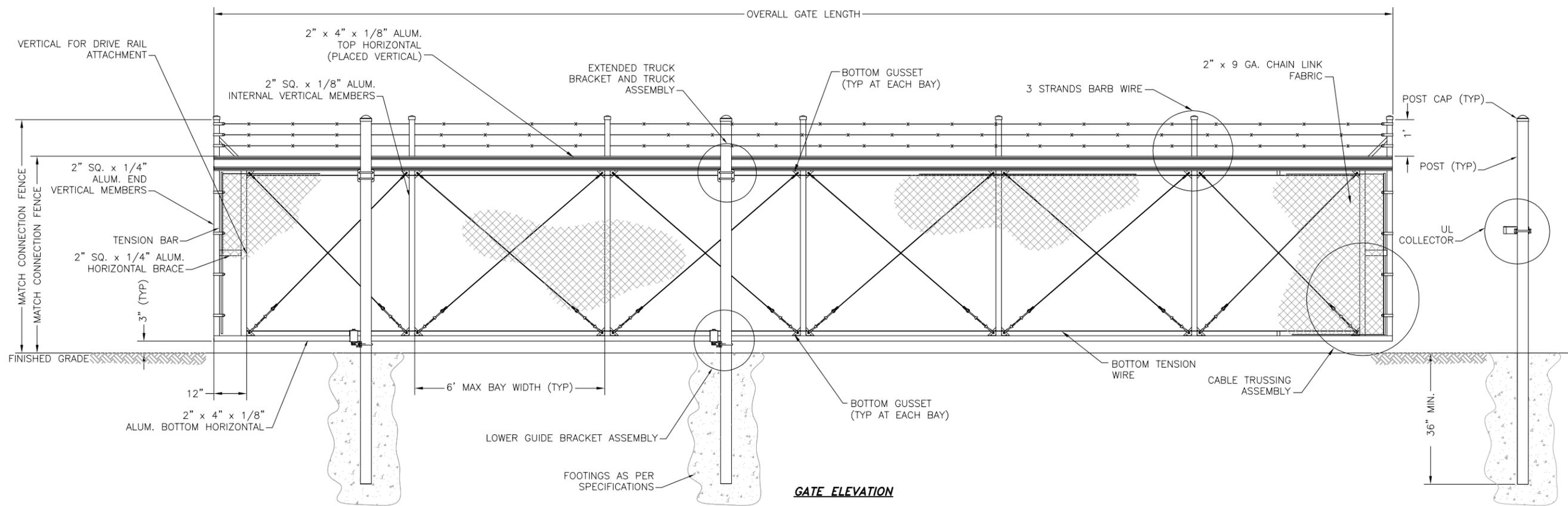


**ELEVATION WITH CORNER POST**

- FENCING NOTES:**
1. CHAIN LINK FENCE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181.
  2. CHAIN LINK FABRIC SHALL BE 2" MESH NO. 9 GAGE GALVANIZED OR ALUMINUM COATED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POSTS, RAILS, BRACES AND STRETCHER BARS SPACED AS SHOWN HEREON. WIRE FASTENERS AND TIE CLIPS SHALL BE NO. 11 GAGE (W&M) GALVANIZED STEEL WIRE OR NO. 7 GAGE (B&S) ALUMINUM WIRE, AND HOG RINGS SHALL BE NO. 9 GAGE, ALL IN CONFORMANCE WITH ASTM F 626.
  3. STEEL POSTS, RAILS AND GATE FRAMES SHALL CONFORM TO AASHTO M 181 TYPE 1, GRADE 1 OR GRADE 2.
  4. TENSION WIRE SHALL BE CONTINUOUS BETWEEN END OR CORNER POST AND LINE BRACE POST. A TURNBUCKLE OR OTHER APPROVED TIGHTENING DEVICE SHALL BE USED FOR EACH CONTINUOUS SPAN OF TENSION WIRE.
  5. TENSION WIRE SHALL BE AS SPECIFIED IN AASHTO M 181.
  6. CONCRETE FOOTINGS SHALL HAVE TOPS CROWNED AT GROUND LEVEL AND SHALL BE CLASS A, AX, OR B.
  7. CHAIN LINK FABRIC OVER 5 FEET HIGH SHALL BE TWISTED AND BARBED ON THE TOP SELVAGE AND KNUCKLED ON THE BOTTOM SELVAGE.
  8. ATTACH FABRIC TO ALL FENCE & GATE STRUCTURES AT 12" INTERVALS VERTICALLY & AT 20" HORIZONTALLY.
  9. MATCH EXISTING SITE BARB WIRE 45' ARM SUPPORTS.
  10. DETAILS ARE FOR REFERENCE ONLY - CONTRACTOR TO SUBMIT FENCE DETAILS.
  11. DISTRICT IDENTIFICATION SIGNAGE TO BE INSTALLED ON FENCE PER PLANS. KNOXBOX INSTALLED ON GATE FOR FIRE DEPARTMENT ACCESS. SEE SHEET C4.



**GATE PLAN**



**GATE ELEVATION**

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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 CIVIL DETAILS

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 Drawn: ACH  
 Check: JPM

**MISCELLANEOUS:**

- FOUNDATION DESIGN IS IN ACCORDANCE WITH THE SOIL REPORT BY ROCKY MOUNTAIN GROUP, NUMBER 161921, DATED 04/02/18. ALL DEWATERING, COMPACTION AND STRUCTURAL FILL REQUIREMENTS CONTAINED IN THE AFOREMENTIONED REPORT SHALL BE COMPLIED WITH.
- DESIGN OF FOOTINGS AND WALLS IS BASED ON THE FOLLOWING CRITERIA:  
 MAXIMUM ALLOWABLE SOIL BEARING PRESSURE.....2500 p.s.f.  
 TOTAL SOIL UNIT WEIGHT .....120 p.c.f.  
 ACTIVE LATERAL EARTH PRESSURE.....40 p.c.f.
- SOIL BENEATH FOOTINGS, WALLS AND SLABS ON GRADE SHALL BE SOLID, UNDISTURBED, NON-ORGANIC MATERIAL, FREE OF FROST, WATER AND FOREIGN DEBRIS, OR APPROVED STRUCTURAL FILL COMPACTED IN ACCORDANCE WITH THE SOIL REPORT AND SPECIFICATIONS WITH MINIMUM DENSITY AS FOLLOWS:  
 FOOTINGS, WALLS 95% OF MODIFIED PROCTOR, ASTM D1557.  
 SLABS 95% OF MODIFIED PROCTOR, ASTM D1557.  
 ALL SOIL AND FOUNDATION MATERIAL SHALL BE THOROUGHLY MOISTENED BEFORE CONCRETE IS PLACED.
- SEE CONSTRUCTION DRAWINGS FOR EXTENT OF OVEREXCAVATION AND RECONDITIONING OF FOUNDATION SOILS
- A REPRESENTATIVE OF THE SOIL ENGINEER SHALL INSPECT THE OPEN EXCAVATION TO DETERMINE THAT THE SOIL TYPE AND CONDITIONS ARE CONSISTENT WITH DESIGN CRITERIA OF THE SOIL REPORT. IF THE SOIL PROPERTIES ARE FOUND TO BE DIFFERENT FROM THIS CRITERIA, THEN THE ENGINEER SHALL BE PROMPTLY NOTIFIED SO THAT THE FOUNDATION DESIGN MAY BE REVIEWED.
- DESIGN LIVE LOADS ARE IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2009 EDITION, AND PIKES PEAK REGIONAL BUILDING CODE, 2011 EDITION, WITH THE FOLLOWING MINIMUM CRITERIA:  
 LOAD REDUCTION..... NO  
 CLOSED/OPEN/PARTIAL..... OPEN  
 WIND LOAD, 3 SECOND GUST WIND SPEED..... 130 MPH  
 (EXPOSURE 'C', COEFFICIENTS PER CHAPTER 16)  
 IBC SOIL PROFILE..... SC  
 DEAD LOAD..... 5.0 PSF  
 LIVE LOAD..... 20.0 PSF  
 COLLATERAL LOAD..... 0.5 PSF  
 ROOF SNOW LOAD..... 30 PSF  
 UNBALANCED LOAD AND DRIFTING..... 20 PSF  
 SEISMIC DESIGN CATEGORY..... ZONE B  
 SEISMIC MAPPED ACCELERATION PARAMETERS..... Ss 0.22  
 S1 0.06  
 SEISMIC SITE CLASS..... D  
 \*SEE PLAN SHEETS AND SPECIFICATIONS FOR ADDITIONAL LOADING INFORMATION
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION OF MECHANICAL OPENINGS, FLOOR DRAINS, INSERTS, DEPRESSIONS, BURIED CABLES AND UTILITIES, ETC. WITH ARCHITECTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS.
- VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND NOTIFY ARCHITECT/ENGINEER OF DISCREPANCIES. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS OF JOB SITE. IN CASE EXISTING CONDITIONS OR DIMENSIONS VARY FROM THOSE SHOWN ON DRAWING, CONTRACTOR SHALL NOTIFY THE THE ENGINEER SO PROPER ADJUSTMENTS CAN BE MADE.
- SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH 1 B.C. SECTION 1704 WHEN SUCH INSPECTIONS ARE REQUIRED BY THE BUILDING OFFICIAL. CONTRACTOR SHALL COORDINATE THE WORK SENT OUT WITH THE SPECIAL INSPECTORS WHO ARE SELECTED AND PAID FOR BY THE OWNER.
- DURING THE ERECTION OF THE BUILDING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARILY BRACING AND SHIMMING TO WITHSTAND ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING LATERAL LOADS AND STOCKPILES OF MATERIALS AND EQUIPMENT. TEMPORARY BRACING SHALL REMAIN IN PLACE UNTIL ALL STRUCTURAL FRAMING AND DIAPHRAGMS ARE IN PLACE WITH CONNECTIONS COMPLETE.
- WHERE THE STRUCTURAL DRAWINGS APPEAR TO CONFLICT WITH OSHA REQUIREMENTS, THE STRUCTURAL DRAWINGS REPRESENT FINAL CONDITIONS ONLY; THE OWNER THEN SHALL ADD ALL ERECTION FRAMING BOLTS, STABILIZER PLATES, ETC. THAT MAY BE NECESSARY TO COMPLY WITH OSHA.

**CONCRETE:**

- ALL REINFORCED CONCRETE AND MASONRY CONSTRUCTION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE PIKES PEAK REGIONAL BUILDING CODE, CONSTRUCTION DRAWINGS, SPECIFICATIONS AND CONTRACT DOCUMENT.
- ALL CONCRETE DESIGN, MATERIALS AND CONSTRUCTION SHALL CONFORM TO ACI STANDARD 318-95, THE INTERNATIONAL BUILDING CODE, 2009 EDITION, THE PIKES PEAK BUILDING CODE 2011, THE CRSI MANUAL OF STANDARD PRACTICE AND THE PROJECT SPECIFICATIONS.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS AS FOLLOWS:  
 FOOTING, WALLS.....4000 p.s.i. CEMENT TYPE II  
 SLABS ON GRADE.....4000 p.s.i. CEMENT TYPE II  
 STRUCTURAL SLABS.....4000 p.s.i. CEMENT TYPE II
- GROUT UNDER BASE PLATES AND BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT WITH A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS OF 7500 p.s.i.
- ALL REINFORCING BARS SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, GRADE 60, AND FREE FROM LOOSE RUST AND SCALE. ALL REINFORCING STEEL TO BE WELDED SHALL BE ASTM A706, GRADE 60. WELDED WIRE FABRIC SHALL BE SMOOTH STEEL WIRE FABRIC CONFORMING TO ASTM A185.
- REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE ACI DETAILING MANUAL, LATEST EDITION. FORMWORK SHALL BE DESIGNED, ERECTED AND REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS.
- REINFORCEMENT SHALL BE PLACED SO THAT THE FOLLOWING MINIMUM CONCRETE PROTECTION IS PROVIDED, UNLESS NOTED OTHERWISE:  
 CONCRETE SURFACES POURED AGAINST GROUND.....3" CLEAR  
 FORMED SURFACES EXPOSED TO GROUND OR WEATHER  
 BARS #6 AND LARGER.....2" CLEAR  
 BARS #5 AND LARGER.....1-1/2" CLEAR  
 SLABS ON GRADE.....AT CENTERS
- REINFORCEMENT SHALL BE SECURELY TIED AND SHALL BE SUPPORTED WITH METAL CHAIRS OR HUNG FROM FORMS.
- CONTINUOUS HORIZONTAL BARS AND CORNER BARS IN FOOTINGS, STEM WALLS AND SLABS SHALL BE LAPPED A MINIMUM OF 36 BAR DIAMETERS AT SPLICES. SPLICE LOCATIONS SHALL BE STAGGERED WHERE POSSIBLE.
- VERTICAL DOWEL BARS IN WALLS AND COLUMNS SHALL BE LAPPED A MINIMUM OF 46 BAR DIAMETERS, UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- TWO (2) ADDITIONAL #5 BARS (ONE EACH FACE) WITH A 2'-0" PROJECTION SHALL BE PLACED DIAGONALLY ACROSS THE CORNERS OF ALL OPENINGS AND VERTICAL STEPS IN WALLS.
- STEM WALLS BELOW GRADE SHALL HAVE BACKFILL PLACED EQUALLY ON BOTH SIDES UNTIL THE REQUIRED LEVELS ARE REACHED.

**CONCRETE (CONT'D):**

- CONTROL AND/OR CONSTRUCTION JOINTS IN SLABS ON GRADE SHALL BE SPACED AT INTERVALS ENCLOSING NO MORE THAN 144 SQUARE FEET WITH A MAXIMUM OF 12 FEET IN ANY ONE DIRECTION. CONSTRUCTION JOINTS SHALL BE FORMED WITH METAL LOAD KEY JOINT.
- CONSTRUCTION JOINTS (COLD JOINTS) SHALL BE PROVIDED IN WALLS AND GRADE BEAMS WHICH ARE OVER 70 FEET IN A STRAIGHT RUN. WATERSTOPS AND KEYWAYS SHALL BE PROVIDED AT ALL CONSTRUCTION JOINTS WHERE INTERIOR SLABS ON GRADE OCCUR BELOW EXTERIOR GRADE OR AS NOTED ON THE CONSTRUCTION PLANS. ALL CONSTRUCTION JOINTS SHALL BE APPROVED BY THE ENGINEER.
- ALL EXPOSED CONCRETE CORNERS (INCLUDING PUMP PADS, CONCRETE PIPE SUPPORTS, HOUSEKEEPING PADS, ETC.) ARE TO BE CHAMFERED 1/2".
- DAMP PROOF ALL EXPOSED EXTERIOR SURFACES, BELOW GRADE. SEE SPECIFICATIONS FOR DAMP PROOFING METHODS.
- ALL EXPANSION JOINTS AND SEAMS TO BE SEALED WITH SELF-LEVELING POLYURETHANE CAULK PER SPECIFICATIONS. USE NON-SAG TYPE POLYURETHANE FOR VERTICAL WALLS.
- PROVIDE BAR SUPPORTS AND SPACERS TO PLACE ALL BARS IN PROPER LOCATION, AND WIRE ADEQUATELY AT INTERSECTIONS TO HOLD BARS FIRMLY IN POSITION WHILE CONCRETE IS PLACED. VERTICAL DOWELS SHALL BE SUPPORTED IN PLACE PRIOR TO PLACING CONCRETE.
- BAR SUPPORTS AND SPACERS WHICH REST ON OR AGAINST EXPOSED SURFACE SHALL BE HOT DIPPED GALVANIZED OR PLASTIC COATED.
- CONTINUOUS BARS SHALL LAP AND DOWELS SHALL PROJECT ADEQUATELY TO PROVIDE A CLASS B SPLICE BUT NOT LESS THAN 12" UNLESS SHOWN OTHERWISE ON DRAWINGS. DO NOT SPLICE NEAR MAXIMUM STRESS LOCATIONS.
- SEE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS

**MASONRY:**

- ALL MASONRY DESIGN, FABRICATION, MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE LATEST INTERNATIONAL BUILDING CODE EDITION, PIKES PEAK BUILDING CODE 2015, AND ASCE 531, LATEST REVISION.
- EXTERIOR EXPOSED SURFACE OF ALL MASONRY SHALL BE SPLIT-FACED. INTERIOR SURFACE SHALL BE SMOOTH-FACED. SUBMIT SAMPLE FOR APPROVAL.
- ALL HOLLOW CONCRETE UNIT (BLOCK) ASSEMBLIES SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, f'm, OF 2000 p.s.i. CONCRETE BLOCK SHALL CONFORM TO TYPE I, SHALL BE MEDIUM WEIGHT AND CONFORM TO ASTM SPECIFICATIONS C-90.
- ALL MASONRY MORTAR SHALL BE TYPE 'S' WITH A MINIMUM COMPRESSIVE STRENGTH OF 1800 p.s.i. MIX DESIGNS SHALL BE SUBMITTED AND APPROVED PRIOR TO ANY MASONRY WORK, OR MORTAR MIXES SHALL BE IN ACCORDANCE WITH THE FOLLOWING ASTM AND BIA MIX PROPORTIONS:  
 PARTS BY VOLUME OF PORTLAND CEMENT.....1  
 PARTS BY VOLUME OF HYDRATED LIME.....1/4 TO 1/2  
 AGGREGATE, MEASURED IN A DAMP, LOOSE CONDITION.....NOT LESS THAN 2-1/4  
 NOR MORE THAN THREE TIMES THE  
 SUM OF THE VOLUMES OF THE  
 CEMENT AND LIME USED
- HOLLOW UNIT MASONRY SHALL HAVE FULL MORTAR COVERAGE ON THE FACE SHELLS AND ON THE WEBS. SURROUNDING CELLS TO BE FILLED WITH GROUT. VERTICAL HEAD JOINTS SHALL BE WELL BUTTERED FOR A FULL THICKNESS EQUAL TO THE FACE SHELL OF THE UNIT.
- HORIZONTAL WIRE REINFORCEMENT SHALL BE PLACED IN BED JOINTS AT 16" O.C. VERTICAL SPACING. ADDITIONAL REINFORCEMENT SHALL BE PLACED IN THE FIRST BED JOINT ABOVE AND BELOW OPENINGS AND SHALL EXTEND 2'-0" BEYOND OPENINGS.
- NOMINAL WIDTH OF JOINT REINFORCEMENT SHALL BE EQUAL TO THE NOMINAL WIDTH OF THE WALL, OR AS DETAILED. JOINT REINFORCEMENT AT CORNERS AND INTERSECTIONS SHALL BE PREFABRICATED UNITS.
- CONTROL JOINTS SHALL BE PLACED IN ALL MASONRY WALLS AT A MAXIMUM SPACING OF 30'-0" O.C., OR AS NOTED ON THE DRAWINGS. HORIZONTAL WIRE REINFORCEMENT SHALL BE DISCONTINUOUS AT ALL CONTROL JOINTS. BOND BEAM REINFORCEMENT SHALL BE CONTINUOUS THROUGH CONTROL JOINTS. STEP BOND BEAMS AS REQUIRED AND DETAILED TO ACCOMMODATE JOIST BEARINGS, EMBEDDED PLATES, ETC. IN ORDER TO MAINTAIN CONTINUOUS UNOBSTRUCTED ROOF OR FLOOR DIAPHRAGM CONNECTIONS. SEE CONSTRUCTION DRAWINGS FOR LOCATION OF CONTROL JOINT.
- VERTICAL REINFORCEMENT SHALL BE DEFORMED BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. ALL SPLICES IN VERTICAL REINFORCEMENT SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS INTO THE BLOCK WALL AND SHALL BE GROUTED SOLID. SPLICED BARS SHALL BE SEPARATED BY ONE BAR DIAMETER OR WIRE TOGETHER.
- PROVIDE ONE FULL HEIGHT BAR AT ALL WALL CORNERS AND WALL ENDS. PROVIDE TWO FULL HEIGHT BARS AT EACH JAMB OF ALL WALL OPENINGS.
- VERTICAL REINFORCEMENT SHALL BE SECURED IN PLACE IN LOCATION SHOWN ON DRAWINGS AND SHALL BE HELD IN POSITION AT TOP AND BOTTOM.
- GROUT FOR VERTICAL REINFORCING AND BOND BEAMS SHALL BE PEA-GRAVEL CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS OF 3000 p.s.i., MIX DESIGNS SHALL BE SUBMITTED AND APPROVED PRIOR TO ANY GROUTING.
- CELLS CONTAINING REINFORCEMENT SHALL BE SOLIDLY FILLED WITH GROUT. GROUT SHALL BE POURED IN LIFTS OF NOT MORE THAN 4'-0", THEN THE GROUT SHALL BE PUDDLED OR VIBRATED INTO PLACE AND SHALL BE STOPPED 1-1/2" BELOW THE TOP OF A COURSE TO FORM A KEY WITH THE NEXT COURSE ABOVE.
- CONTRACTOR SHALL PROVIDE LINTELS AT THE HEADS OF ALL OPENINGS IN MASONRY WALLS AS NOTED IN THE DRAWINGS AND DETAILS. THE MINIMUM BEARING FOR LINTELS IS 8" EACH SIDE.

**STRUCTURAL STEEL:**

- ALL STRUCTURAL STEEL DESIGN, MATERIALS, FABRICATION AND ERECTION SHALL CONFORM TO THE AISC SPECIFICATION, 9th EDITION, THE INTERNATIONAL BUILDING CODE, 2003 EDITION AND THE PROJECT SPECIFICATIONS.
- ALL STRUCTURAL STEEL SHALL CONFORM TO ASTM A572, GRADE 50. ALL STEEL PLATE, ANGLES AND BARS SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE NOTED. TUBE STEEL COLUMNS SHALL CONFORM TO ASTM A500, GRADE B. ANCHOR BOLTS SHALL CONFORM TO ASTM A307. HEADED ANCHOR STUDS SHALL CONFORM TO ASTM A108. PROVIDE A SHOP COAT OF RUST INHIBITING PAINT ON ALL STRUCTURAL STEEL.
- SHOP CONNECTIONS SHALL BE WELDED WITH E70XX ELECTRODES, LOW HYDROGEN AND GROUND SMOOTH WHERE EXPOSED. FIELD CONNECTIONS SHALL BE MADE WITH BOLTS CONFORMING TO ASTM A325 UNLESS OTHERWISE NOTED. FIELD WELDS SHALL BE MADE WITH E70XX ELECTRODES. ALL WELDING SHALL BE DONE BY CERTIFIED, LICENSED WELDERS AND SHALL BE INSPECTED BY THE TESTING AND INSPECTION AGENCY TO ASSURE CONFORMITY WITH DETAILS AND STANDARD PRACTICE.
- ALL BEAMS BEARING ON CONCRETE MASONRY SHALL BEAR A MINIMUM OF 5" ON 3/4" NON-SHRINK GROUT WITH TWO (2) 5/8" DIAMETER x 1'-0" + 2 ANCHOR BOLTS, UNLESS NOTED OTHERWISE.

**WOOD:**

- ALL LUMBER DESIGN, MATERIALS, FABRICATION AND CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE, 2015 EDITION, THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION, LATEST EDITION, ALONG WITH ITS SUPPLEMENT OF WOOD DESIGN VALUES, AND THE PROJECT SPECIFICATIONS. ALL FRAMING, ROOFING, SHEATHING, NAILING, BLOCKING, BRACING AND WOOD DESIGN AND CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE UNIFIED BUILDING CODE. ALL WOOD CONSTRUCTION SPECIFICATIONS NOT DIRECTLY OUTLINED IN THE DRAWINGS OR SPECIFICATIONS SHALL BE ACCOMMODATED BY THE UBC.
- ALL DIMENSION LUMBER (2" TO 4" THICK) SHALL BE HEM-FIR #2 OR BETTER, WITH THE FOLLOWING MINIMUM ALLOWABLE STRESSES (NORMAL LOADING CONDITIONS AND SINGLE MEMBER USES):  
 EXTREME FIBER IN BENDING, Fb.....850 p.s.i.  
 HORIZONTAL SHEAR, Fv.....75 p.s.i.  
 COMPRESSION PERPENDICULAR TO GRAIN, Fc .....405 p.s.i.  
 COMPRESSION PARALLEL TO GRAIN, Fc.....1,300 p.s.i.  
 MODULUS OF ELASTICITY, E.....1,300,000 p.s.i.
- ALL MICROLAM MEMBERS SHALL BE MANUFACTURED BY TRUS-JOINT MACMILLAN WITH THE FOLLOWING MINIMUM ALLOWABLE STRESSES:  
 EXTREME FIBER IN BENDING, Fb.....2,600 p.s.i.  
 HORIZONTAL SHEAR, Fv.....285 p.s.i.  
 MODULUS OF ELASTICITY, E.....1,900,000 p.s.i.
- ALL PLYWOOD SHEATHING SHALL BEAR THE STAMP OF THE AMERICAN PLYWOOD ASSOCIATION (APA). ORIENTED STRAND BOARD MAY BE SUBSTITUTED FOR PLYWOOD ONLY WITH PRIOR APPROVAL. PLYWOOD SHALL HAVE THE FOLLOWING SPAN RATINGS:  
 ROOFS  
 5/8" EXPOSURE 1 PLYWOOD 40/20  
 WALLS (INTERIOR)  
 1/2" EXPOSURE 1 PLYWOOD 32/16  
 WALLS (EXTERIOR)  
 1/2" FIBERBOARD PER MANUFACTURER
- DESIGN VALUES USED FOR TRUSSES AND FABRICATED ITEMS SHALL BE SUBMITTED WITH SHOP DRAWINGS.
- MISCELLANEOUS FRAMING CLIPS, ANCHORS, AND HANGERS SHALL BE PROVIDED AS NECESSARY TO ERECT A RIGID STRUCTURAL FRAMEWORK. WALLS SHALL BE FRAMED SOLID AT ALL BEAM AND COLUMN BEARINGS, SECURELY ANCHORED AT TOP AND BOTTOM.
- ALL BUILT-UP MEMBERS OF TWO PIECES SHALL BE NAILED TOGETHER WITH A MINIMUM OF FOUR (4) 10d NAILS PER FOOT. ALL BUILT-UP MEMBERS OF MORE THAN TWO PIECES SHALL BE BOLTED TOGETHER WITH 1/2" DIAMETER BOLTS AT 24" O.C. (COUNTERSINK AS REQUIRED) WITH A MINIMUM OF THREE (3) BOLTS PER BEAM.
- ALL PLYWOOD SHEATHING SHALL BE NAILED IN ACCORDANCE WITH THE FOLLOWING SCHEDULE, UNLESS NOTED OTHERWISE:  
 BLOCKING IS REQUIRED AT ALL PANEL JOINTS IN WALLS.  

	PANEL EDGES	INTERMEDIATE SUPPORTS
1/2" FIBERBOARD	PER MANUFACTURER	PER MANUFACTURER
1/2" PLYWOOD	8d AT 6" O.C.	8d AT 10" O.C.
5/8" PLYWOOD	10d AT 6" O.C.	10d AT 10" O.C.
- BRIDGING AND NAILING SCHEDULES SHALL BE PROVIDED IN ACCORDANCE WITH THE UNIFORM BUILDING CODE, LATEST EDITION.
- ALL TRUS-JOINT (OR EQUIVALENT) MEMBERS SHALL MEET ICBO PRODUCT ACCEPTANCE NATIONAL EVALUATION REPORT.
- WHERE USP CONNECTORS ARE NOTED, SIMPSON BRAND EQUIVALENT CONNECTORS MAY BE USED. VERIFY SUBSTITUTIONS WITH ENGINEER.
- ALL TRUSS JOIST SUSPENDED PIPE HANGERS TO INCLUDE A METAL PLATE CONNECTION SLEEVE AT SUSPENSION POINT. SIZE PER MANUFACTURER RECOMMENDATION.
- GABLE END WALLS REQUIRE 3"x4" BRACING @ 48" O.C.
- SEE MANUFACTURER'S RECOMMENDATIONS FOR FASTENER AND NAILING SCHEDULES FOR ALL METAL PLATE CONNECTORS.



AVATAR EQUITIES  
 RIVER BEND CROSSING LIFT STATION  
 STRUCTURAL NOTES

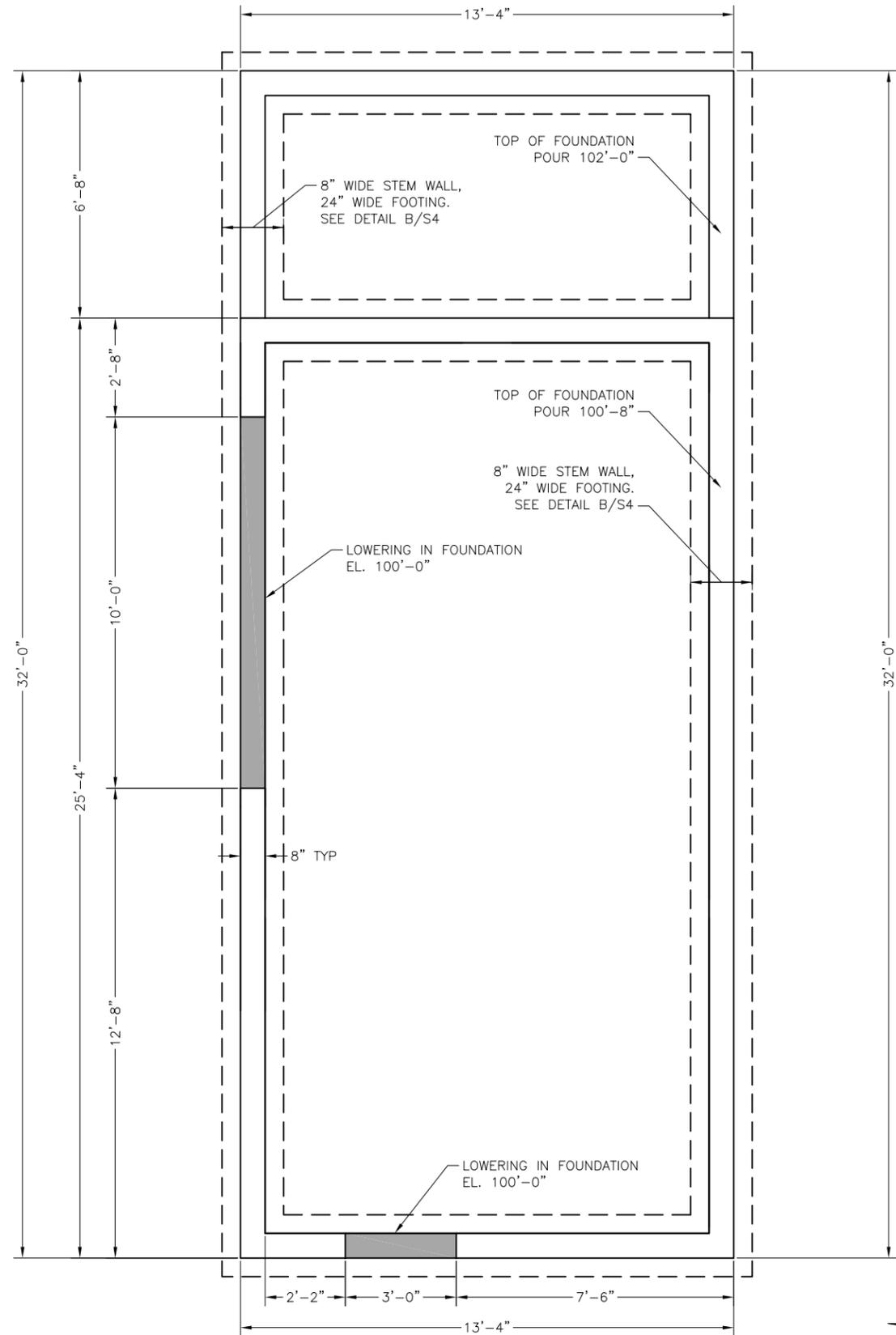
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**FOR PPRBD SUBMITTAL**

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 Date: 03/23/21  
 Design: JPS  
 Drawn: ACH  
 Check: JPM

**S1**  
SHEET ----OF

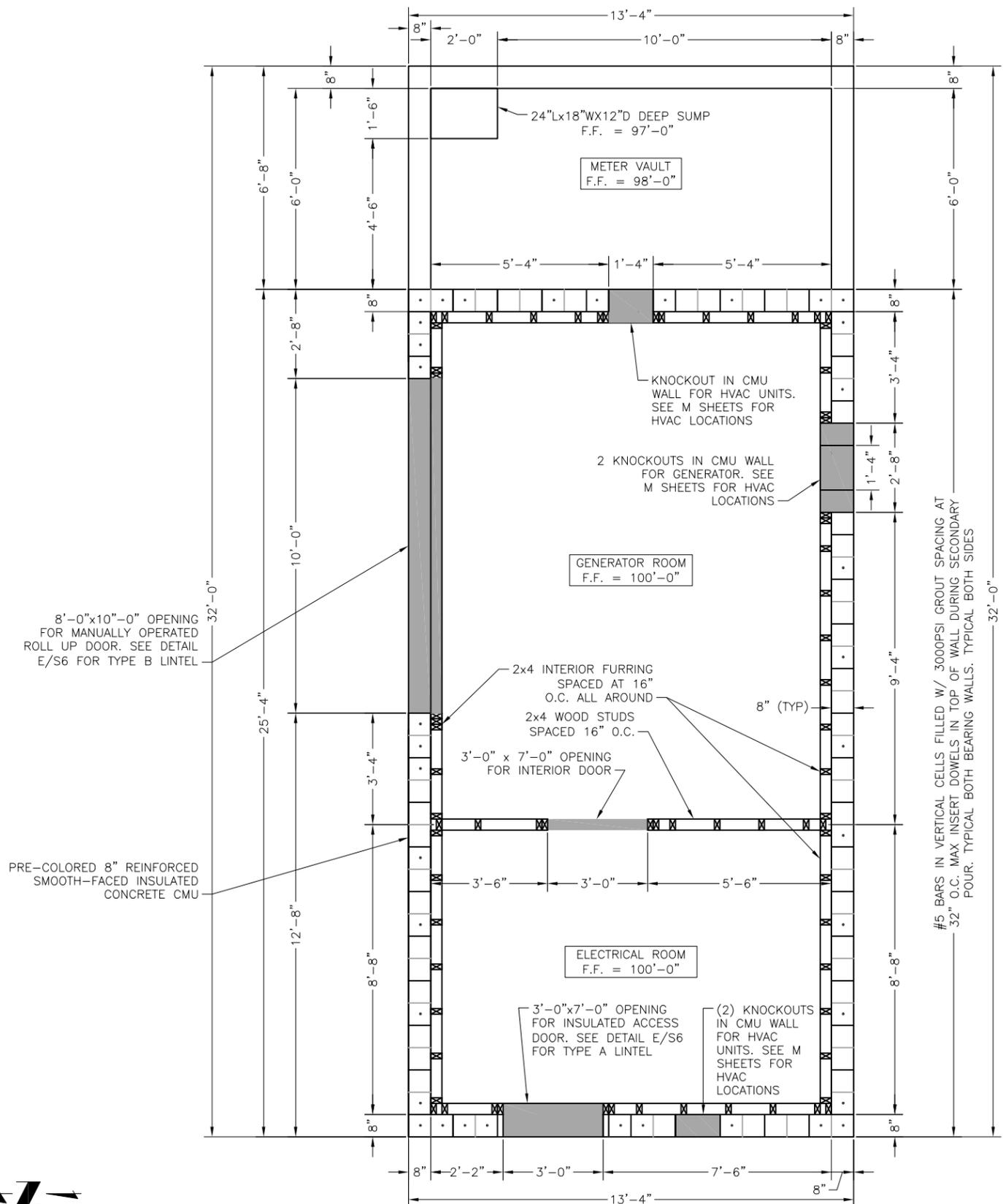
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**STRUCTURAL FOUNDATION PLAN**  
SCALE: 1/4"=1'-0"

**NOTES:**

- CONTROL JOINTS: SEE STRUCTURAL NOTES FOR PLACEMENT OF CONTROL JOINTS IN FLOOR AND CMU WALL.
- FOR DETAILS CONCERNING DOOR AND WINDOW OPENINGS IN MASONRY, SEE SHEET S6.
- FOR DETAILS CONCERNING DOOR OPENINGS IN WOOD FURRING, SEE SHEET S8.
- COORDINATE INSTALLATION OF ELECTRICAL CONDUIT ON THE WALL WITH HVAC PLANS. DO NOT PAINT CONDUIT.
- SEE MECHANICAL SHEETS FOR LOCATION AND DETAILS OF ALL KNOCKOUTS IN CMU CONCERNING HVAC UNITS.
- SEE SHEET S1 FOR GENERAL STRUCTURAL NOTES.



**STRUCTURAL FLOOR PLAN**  
SCALE: 1/4"=1'-0"

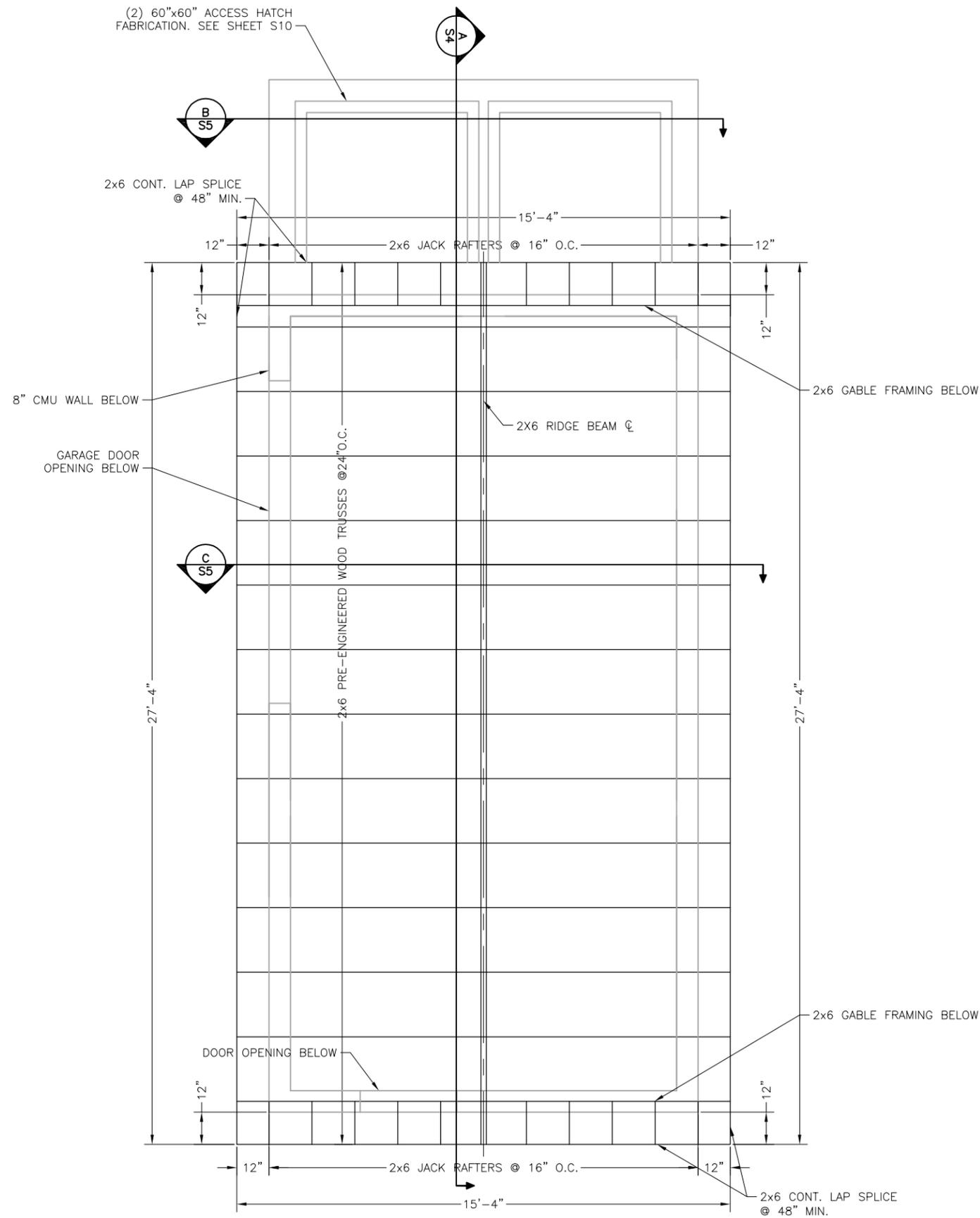
**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
STRUCTURAL FOUNDATION AND FLOOR PLAN

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**STRUCTURAL ROOF PLAN**  
SCALE: 1/4"=1'-0"

**NOTES:**

1. PRE-ENGINEERED TRUSSES: SEE GENERAL NOTE SET FOR DESIGN LOADS. SUBMIT SHOP DRAWINGS AND DESIGN CALCULATIONS PRIOR TO FABRICATION. TOP (RAFTER) AND BOTTOM CHORD (CEILING JOIST) OF TRUSS SHALL BE 2x6's.
2. REFER TO TRUSS DESIGN SHEETS FOR TRUSS INFORMATION.
3. REFER TO DETAIL C/S9 FOR HARDWARE TO RESIST UPLIFT.

**JDS-HYDRO CONSULTANTS, INC.**  
5540 TECH CENTER DR., SUITE 100  
COLORADO SPRINGS, COLORADO 80919  
(719) 227-0072

DISCLAIMER: THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. ANY ERRORS OR OMISSIONS SHALL BE REPORTED TO JDS-HYDRO CONSULTANTS, INC. JDS-HYDRO ASSUMES NO LIABILITY FOR UNAUTHORIZED CHANGES AND/OR REVISIONS MADE TO PLANS.

**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
STRUCTURAL ROOF FRAMING PLAN

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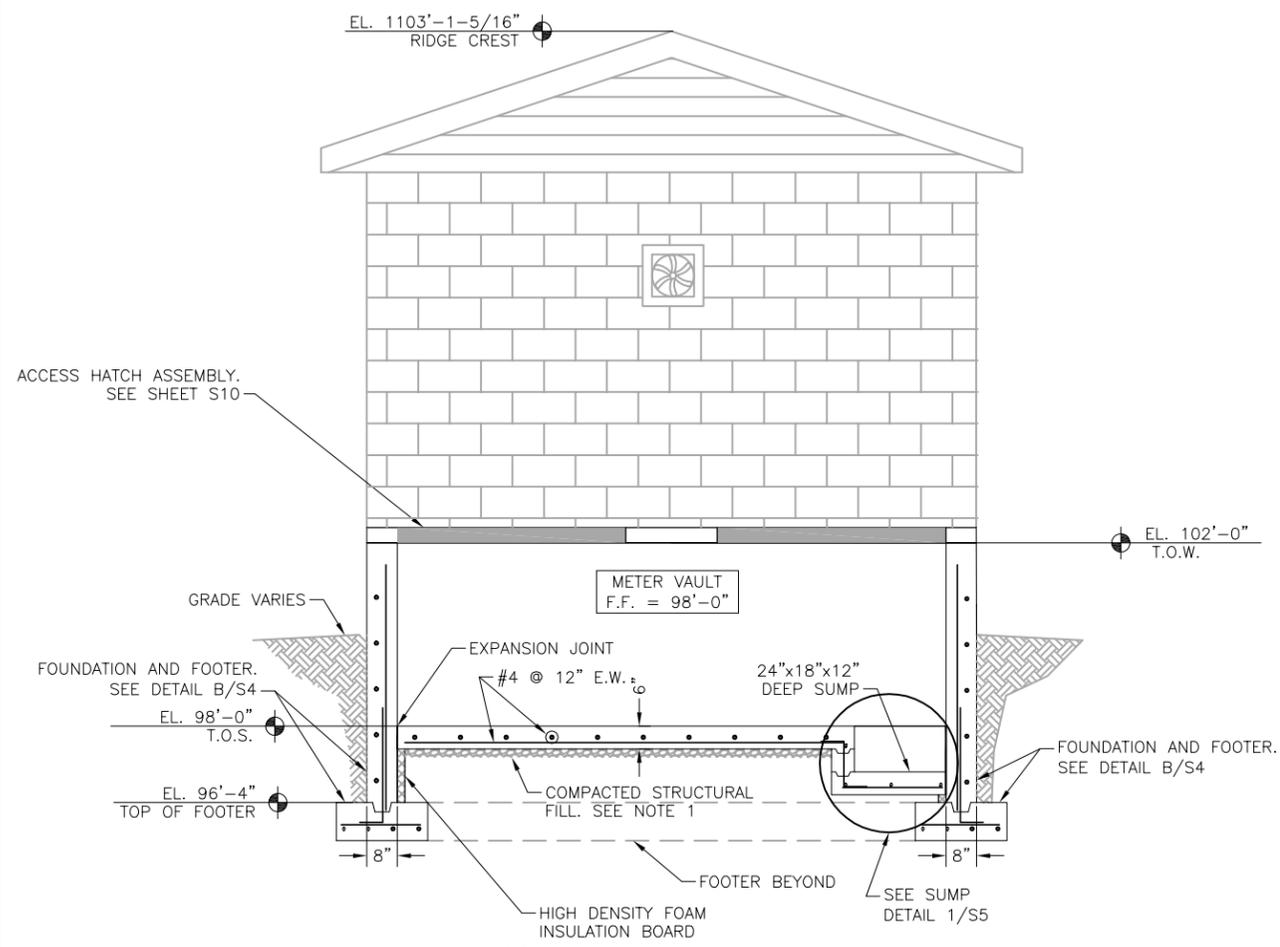
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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 STRUCTURAL SECTIONS

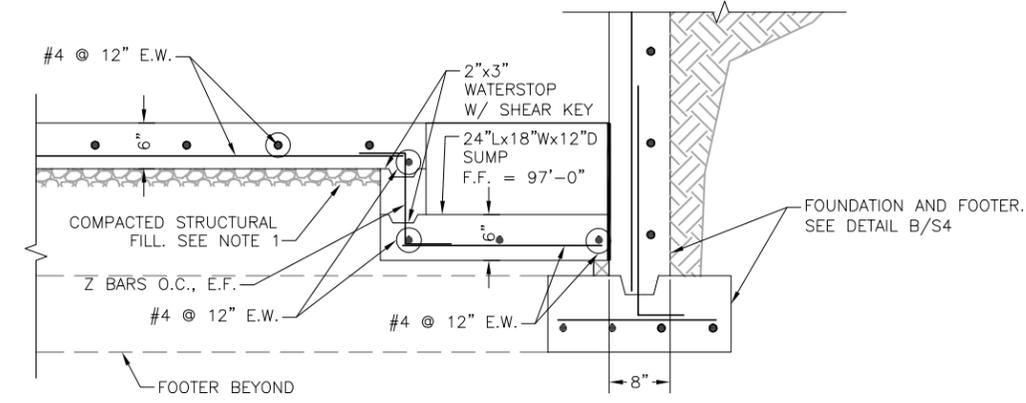
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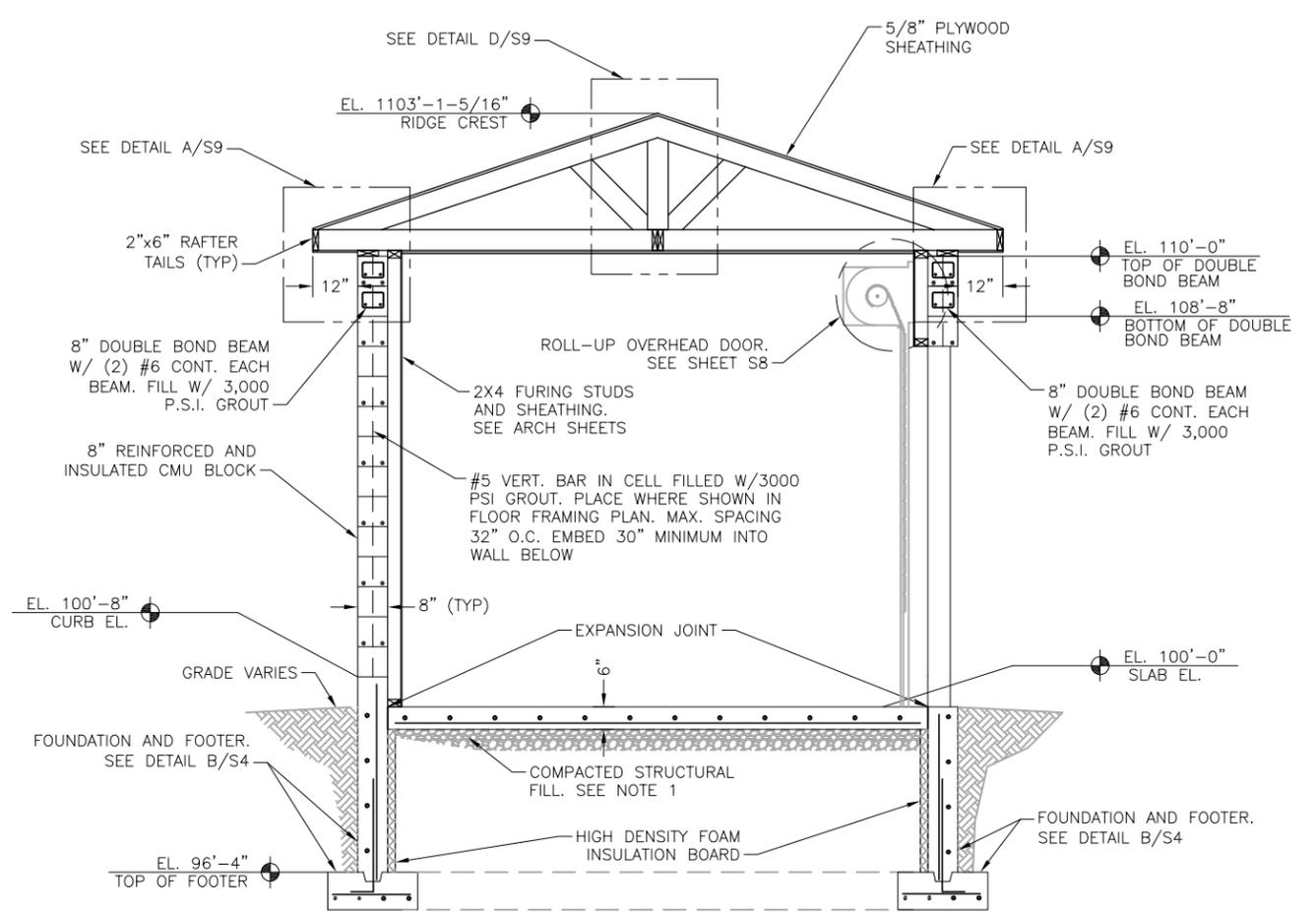
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**B BUILDING SECTION**  
**S5** SCALE: 1/4"=1'-0"



**1 SUMP DETAIL**  
**S5** SCALE: 1/2"=1'-0"



**C BUILDING SECTION**  
**S5** SCALE: 1/4"=1'-0"

- NOTES:**
- OVEREXCAVATE EXISTING SOILS BELOW FLOOR SLAB 1'-0" AND REPLACE WITH 9" OF STRUCTURAL FILL. STRUCTURAL FILL SHALL BE PLACED PER THE SOILS REPORT. ALSO PROVIDE ONE 3" LAYER OF 3/4" CRUSHED ROCK 6-MIL VAPOR RETARDER BETWEEN CRUSHED ROCK AND SLAB.
  - #9 GALVANIZED LADDER JOINT REINFORCEMENTS SHALL BE PROVIDED AT 16" O.C. WITHIN ALL REINFORCED MASONRY WALLS, MATERIALS, AND INSTALLATION TO CONFIRM WITH ACI 531, LATEST VERSION.
  - LAP SPLICES AND DEVELOPMENT LENGTHS SHALL BE PER PROVIDED PER SHEET S6.
  - SEE SHEET S1 FOR COVER REQUIREMENTS, MASONRY REQUIREMENTS, AND DEVELOPMENT LENGTHS.
  - ALL CMU WALLS SHALL BE 8" NOMINAL SPLIT-FACED, REINFORCED, AND INSULATED PER SPECIFICATIONS.

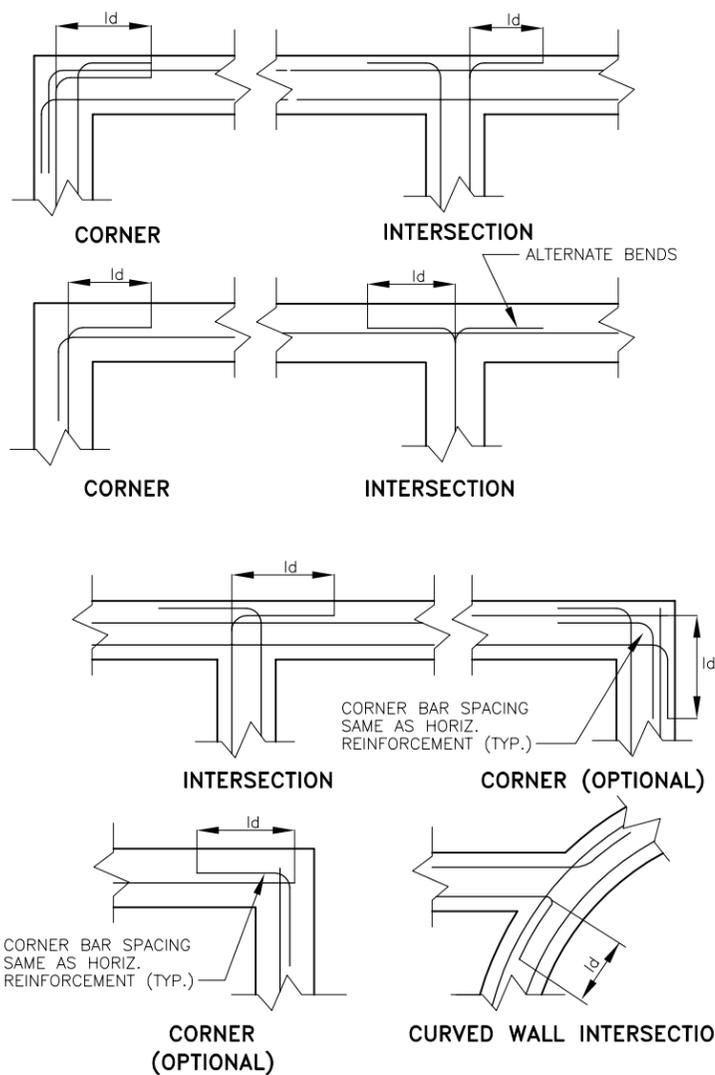
**SPLICE AND DEVELOPMENT LENGTHS**

	BEAMS AND COLUMNS					WALLS AND SLABS				
	LENGTH OF LAPPED SPLICES FOR REINF. (INCHES)		LENGTH OF END ANCHORAGE FOR DEVELOPMENT OF REINFORCEMENT (INCHES)			LENGTH OF LAPPED SPLICES FOR REINF. (INCHES)		LENGTH OF END ANCHORAGE FOR DEVELOPMENT OF REINFORCEMENT (INCHES)		
	<sup>1</sup> HOR. BARS	<sup>2</sup> OTHERS	<sup>1</sup> HOR. BARS	<sup>2</sup> OTHERS	HOOKS	<sup>1</sup> HOR. BARS	<sup>2</sup> OTHERS	<sup>1</sup> HOR. BARS	<sup>2</sup> OTHERS	HOOKS
3	21	16	16	13	6	21	16	13	13	6
4	28	22	22	17	8	28	22	22	17	8
5	35	27	27	21	10	35	27	27	21	10
6	46	36	32	25	12	42	32	32	25	12
7	63	48	38	29	14	63	48	48	37	14
8	82	63	45	35	16	117	90	63	49	16
9	104	80	57	44	18	149	114	80	62	18
10	132	102	73	56	20	189	145	102	78	20
11	152	125	89	69	22	232	178	178	137	22
12	-	-	122	94	38	-	-	243	187	38
13	-	-	178	137	50	-	-	356	274	50

**NOTES:**

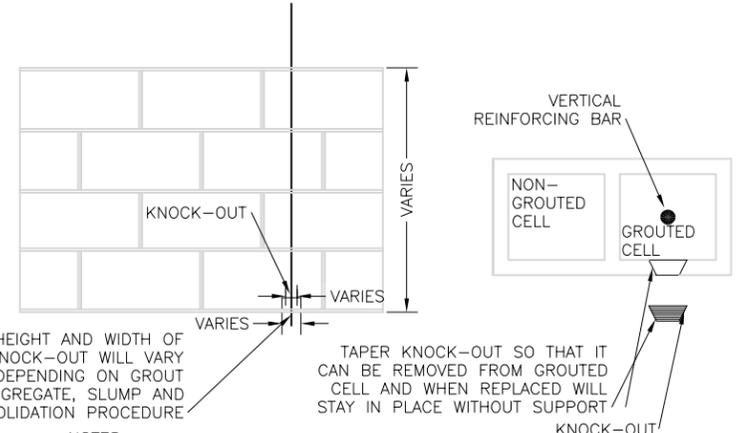
- HORIZONTAL BARS IN THIS COLUMN MUST HAVE A MINIMUM OF 12" OF CONCRETE THICKNESS BELOW THE BAR. HORIZONTAL BARS IN WALLS ARE ALSO SUBJECT TO THESE STANDARDS.
- VERTICAL BARS AND HORIZONTAL BARS WITH LESS THAN 12" OF CONCRETE THICKNESS BELOW THE BAR CAN BE CONSIDERED AS "OTHER BARS".
- STRAIGHT BARS SIZE 7 THROUGH 11 PLACED WITH NO LESS THEN 5 BAR DIAMETER CLEAR SPACING MAY HAVE A DEVELOPMENT LENGTH AND LAP SPLICE LENGTH OF 0.8 TIMES THE LENGTH SHOWN.

**DESIGN LOADS:**  
 ROOF LOADS:  
 DEAD LOAD=20PSF  
 SNOW LOADS: PG=20PSF; PF=30PSF  
 IMPORTANCE FACTOR  $I_s=1.1$   
 THERMAL FACTOR  $C_T=1.0$   
 LATERAL LOADS:  
 WIND LOADS:  
 EXPONENT C;  $V_{50}=100$ MPH; 3 SECOND GUST  
 IMPORTANCE FACTOR  $I_w=1.15$   
 INTERNAL PRESSURE COEFFICIENT  $C_p=+/- 0.18$   
 SEISMIC LOADS:  
 IMPORTANCE FACTOR  $I_s=1.25$   
 SITE CLASS=D  
 SEISMIC DESIGN CATEGORY=B  
 MAPPED SPECIAL ACCELERATION = .201G  
 .059G



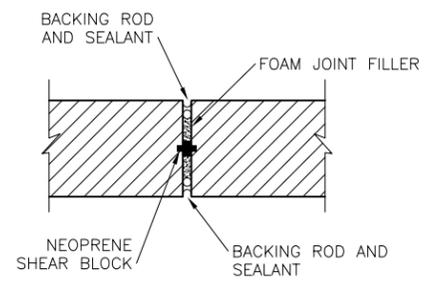
**A CONCRETE WALL REINFORCEMENT**  
 SCALE: N.T.S.

- NOTES:**
- ALL BENDS SHALL BE 90° HOOKS UNLESS OTHERWISE SPECIFIED IN DRAWING.
  - ID=BAR LAP SPLICE SHALL MEET ACI 318 REQUIREMENTS.

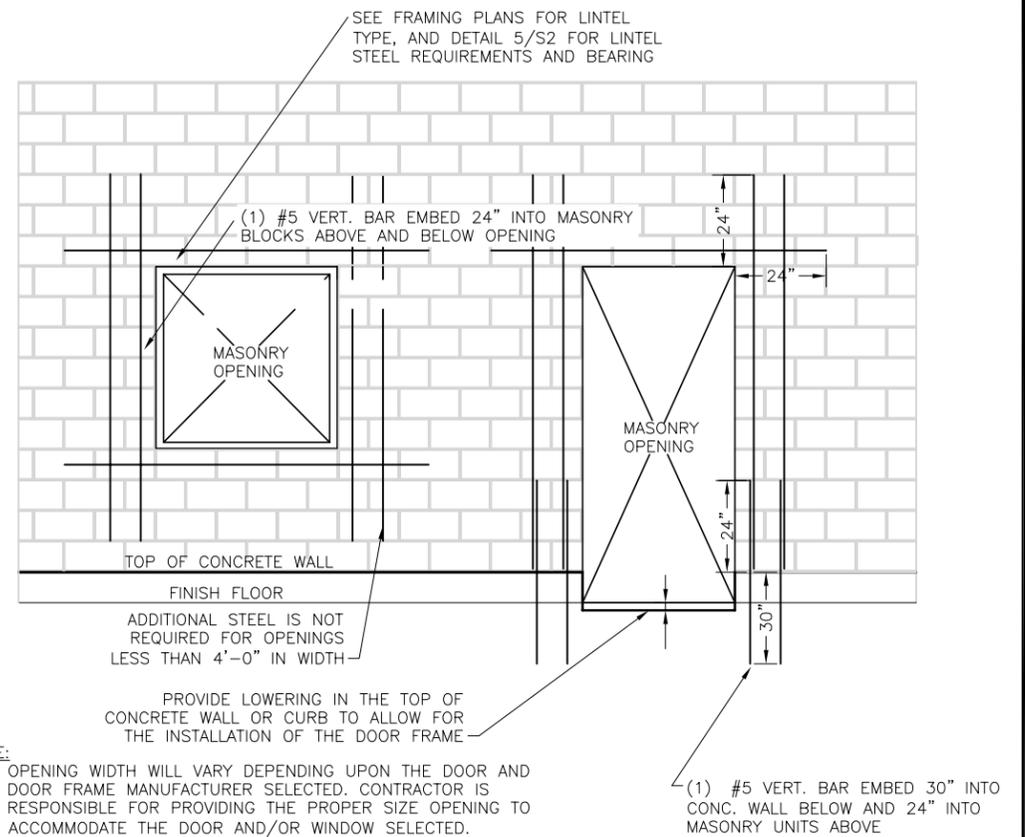


**B GROUDED CELL DRAIN**  
 SCALE: N.T.S.

- THE HEIGHT AND WIDTH OF THE KNOCK-OUT WILL VARY DEPENDING ON GROUT AGGREGATE, SLUMP AND CONSOLIDATION PROCEDURE
- TAPER KNOCK-OUT SO THAT IT CAN BE REMOVED FROM GROUDED CELL AND WHEN REPLACED WILL STAY IN PLACE WITHOUT SUPPORT
- NOTES:**
- THE CONTRACTOR MAY SUBMIT ALTERNATIVE GROUDED CELL DRAIN.
  - REMOVE KNOCK-OUT DURING CONSOLIDATION.
  - INSTALL KNOCK-OUT PRIOR TO FINAL SET OF GROUT.

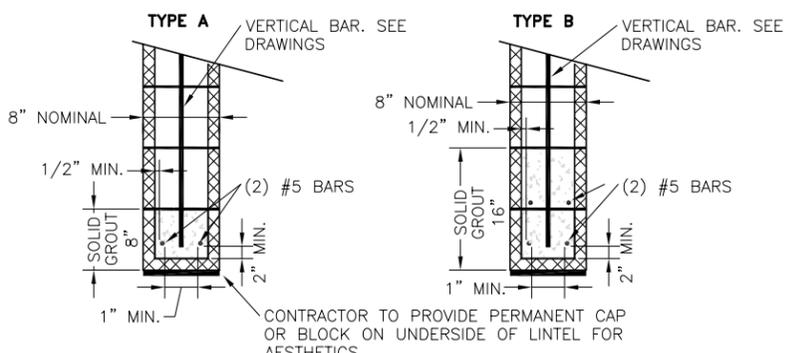


**C MASONRY CONTROL JOINT**  
 SCALE: N.T.S.



**D TYPICAL CONCRETE BLOCK MASONRY REINFORCEMENT AT OPENINGS**  
 SCALE: N.T.S.

- NOTE:**
- OPENING WIDTH WILL VARY DEPENDING UPON THE DOOR AND DOOR FRAME MANUFACTURER SELECTED. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE PROPER SIZE OPENING TO ACCOMMODATE THE DOOR AND/OR WINDOW SELECTED.



**E MASONRY LINTELS**  
 SCALE: N.T.S.

- NOTES:**
- REFER TO DRAWINGS FOR TYPE OF LINTEL SPECIFIED FOR OPENING.
  - PROVIDE A MINIMUM 8" OF BEARING ON EACH END OF LINTEL.
  - WHERE LINTEL AND BOND BEAM ARE AT THE SAME ELEVATION PROVIDE THE MAXIMUM STEEL CALLED OUT IN THE LINTEL OR IN THE BOND BEAM.
  - MINIMUM GROUT COMPRESSIVE STRENGTH 3000 P.S.I.

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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 STRUCTURAL DETAILS

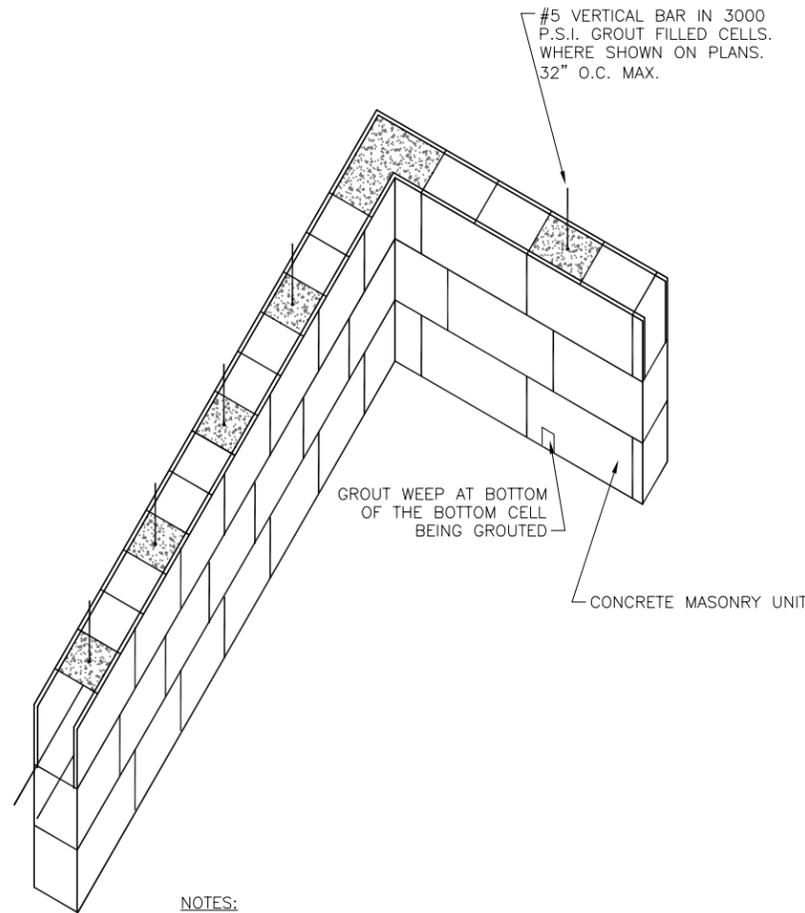
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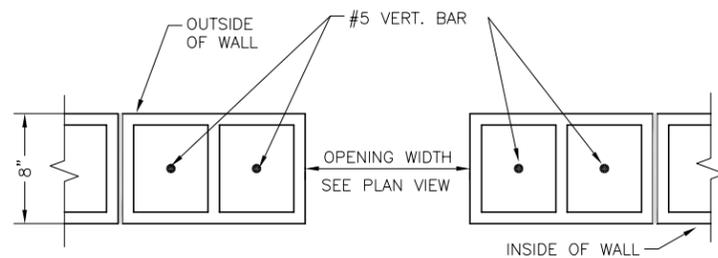
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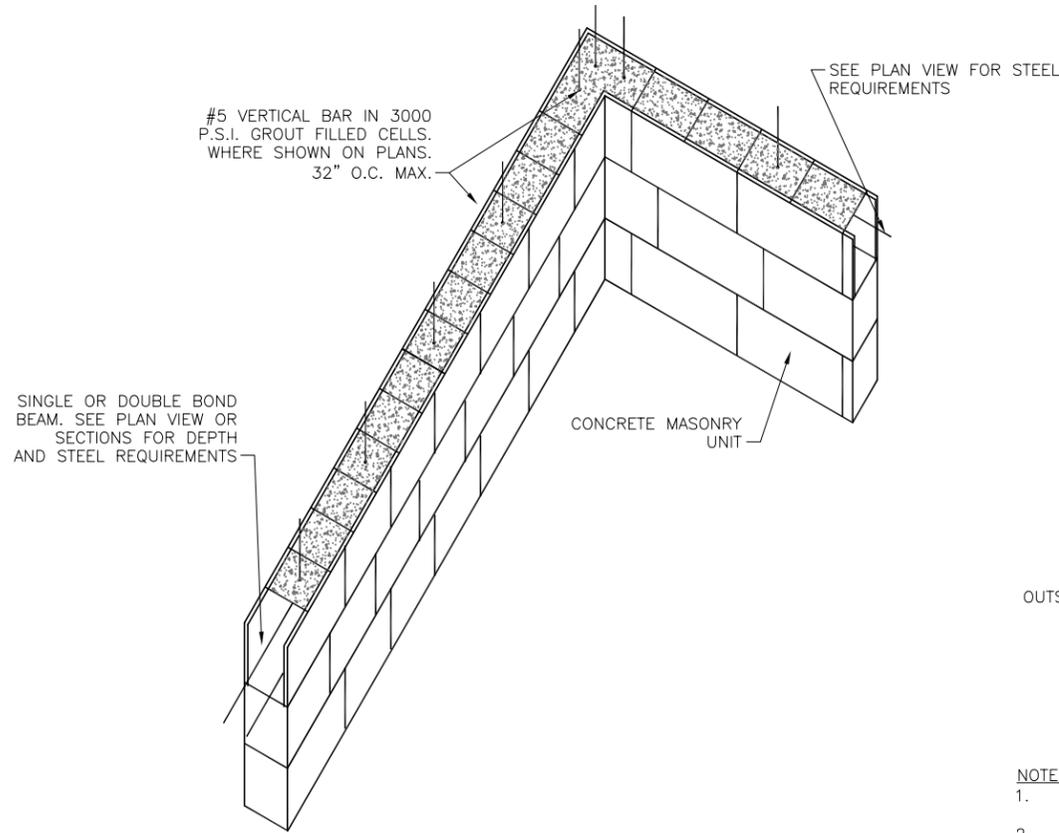
- NOTES:**
- ALL CELLS THAT ARE NOT GROUTED SHALL BE FILLED WITH PERLITE TO PRODUCE A MINIMUM R VALUE OF 9.
  - PROVIDE A MINIMUM OF 24" LAP ON ALL BARS.
  - INSERT ALL VERTICAL BARS A MINIMUM OF 30" INTO THE PRIMARY CONCRETE WALL BELOW.
  - PROVIDE STANDARD CLASS LADDER TYPE DUR-O-WALL JOINT REINFORCEMENT, INCLUDE PREFAB CORNERS AND TEE SECTIONS. PLACE IN ALTERNATE COURSES VERTICALLY AND LAP SPLICES 6".

**A INTERSECTION SHEAR WALL UNBONDED INTERSECTION**  
SCALE: N.T.S.



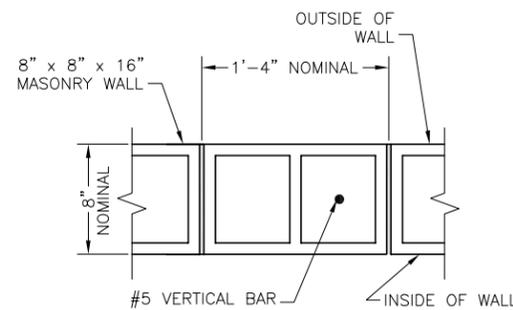
- NOTES:**
- EMBED DOWELS 30" INTO PRIMARY CONCRETE WALL BELOW FOR ALL VERTICAL BARS. LAP VERTICAL BARS MINIMUM 24".
  - VERTICAL BAR TO BE LOCATED IN CENTER OF GROUTED OPENING. RETAIN IN POSITION USING DUR-O-WALL BAR POSITIONER OR EQUAL.
  - PROVIDE CLEANOUTS AT BOTTOM OF ALL GROUTED CELLS.
  - FILL ALL CELLS WITH 3,000 PSI GROUT.

**D VERTICAL REINFORCED MASONRY CELL AT DOORWAY/WINDOW**  
SCALE: N.T.S.



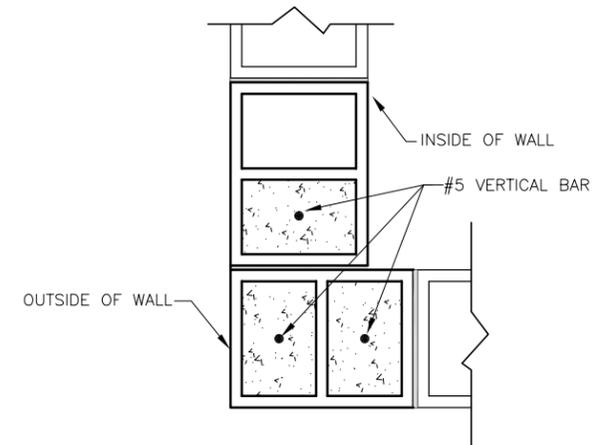
- NOTES:**
- ALL CELLS THAT ARE NOT GROUTED SHALL BE FILLED WITH PERLITE TO PRODUCE A MINIMUM R VALUE OF 9.
  - PROVIDE A MINIMUM OF 24" LAP ON ALL BARS.

**B INTERSECTING SHEAR WALLS BONDED INTERSECTION**  
SCALE: N.T.S.



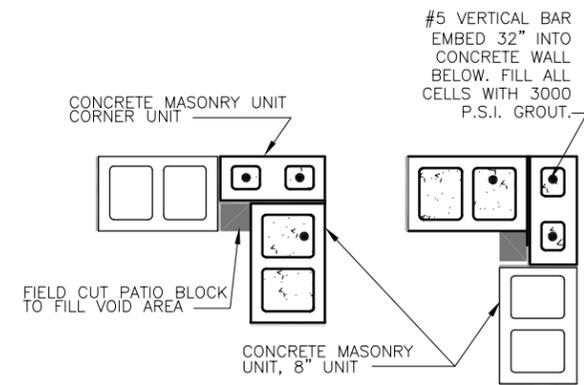
- NOTES:**
- EMBED DOWELS 30" INTO PRIMARY CONCRETE WALL BELOW FOR ALL VERTICAL BARS. LAP VERTICAL BARS MINIMUM 24".
  - VERTICAL BAR TO BE LOCATED IN CENTER OF GROUTED OPENING. RETAIN IN POSITION USING DUR-O-WALL BAR POSITIONER OR EQUAL.
  - PROVIDE CLEANOUTS AT BOTTOM OF ALL GROUTED CELLS.
  - MAXIMUM SPACING BETWEEN REINFORCED CELLS 24" O.C.
  - FILL ALL CELLS WITH 3,000 PSI GROUT.

**E VERTICAL REINFORCED MASONRY CELL**  
SCALE: N.T.S.



- NOTES:**
- EMBED DOWELS 30" INTO CONCRETE WALL BELOW FOR ALL VERTICAL BARS. LAP VERTICAL BARS MINIMUM 24".
  - VERTICAL BAR TO BE LOCATED IN CENTER OF GROUTED OPENING. RETAIN IN POSITION USING DUR-O-WALL BAR POSITIONER OR EQUAL.
  - PROVIDE CLEANOUTS AT BOTTOM OF ALL GROUTED CELLS.

**C VERTICAL REINFORCED MASONRY CELL AT CORNER**  
SCALE: N.T.S.



**F CMU CORNER DETAILS FOR 10" AND 12" CMU**  
SCALE: N.T.S.

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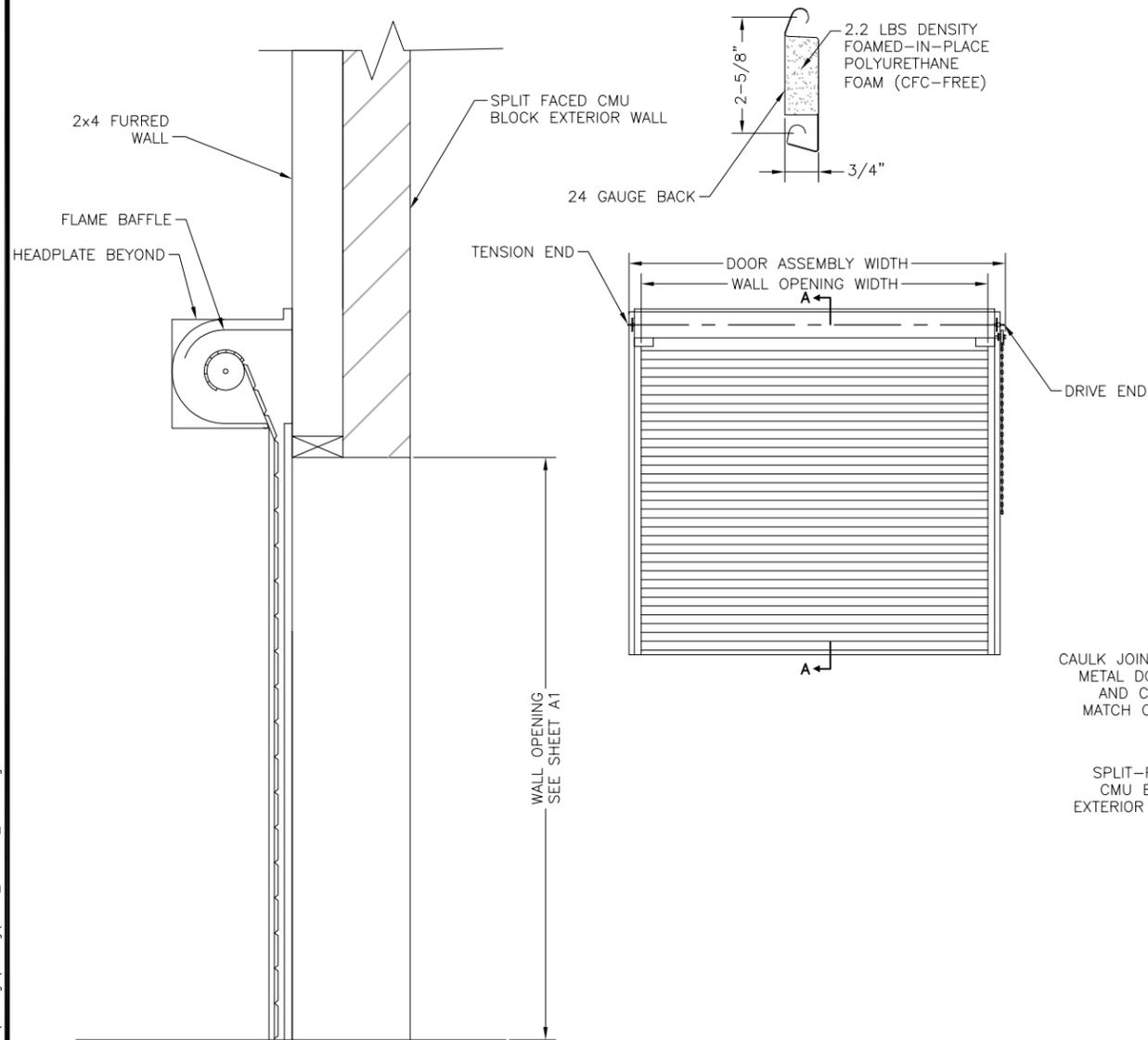
**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
STRUCTURAL DETAILS

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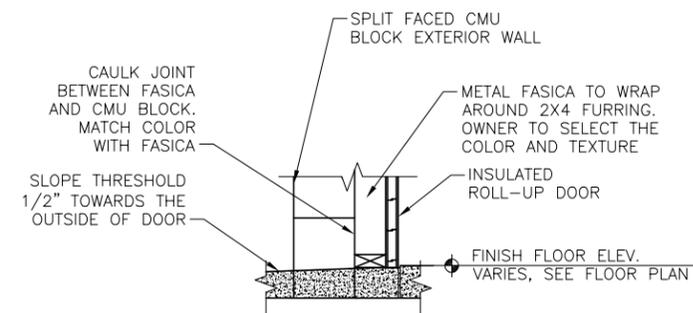
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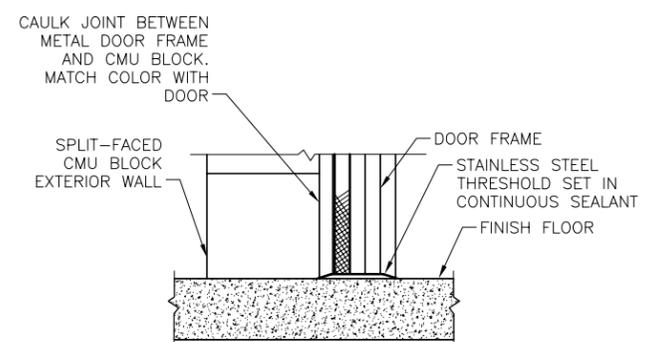


**SECTION A-A**

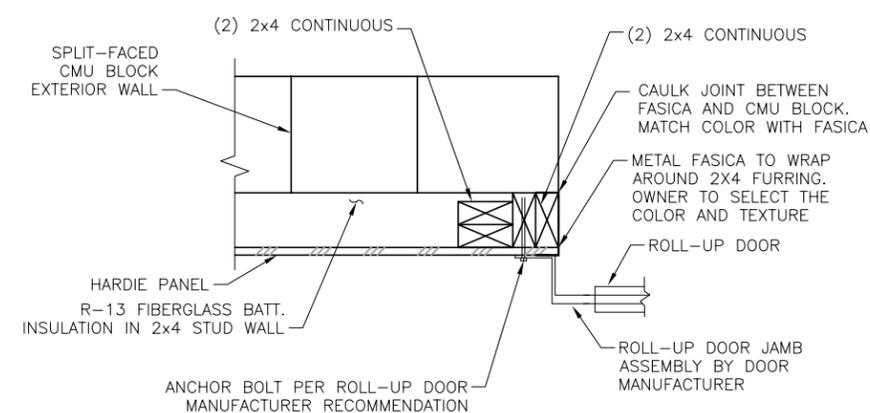
**A**  
**S8** **ROLL-UP DOOR**  
SCALE: N.T.S.



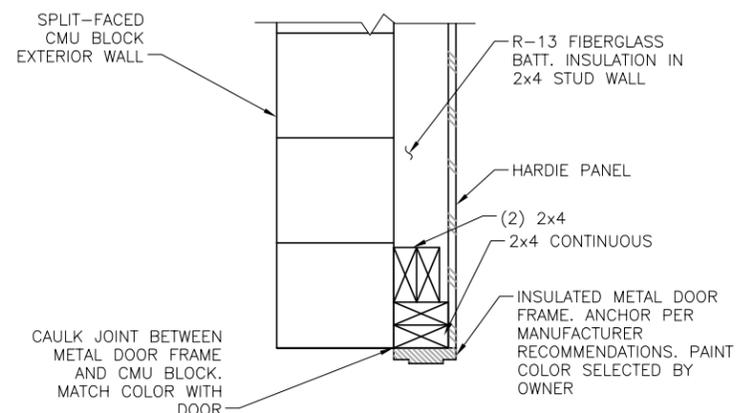
**B**  
**S8** **ROLL-UP DOOR AT THRESHOLD**  
SCALE: N.T.S.



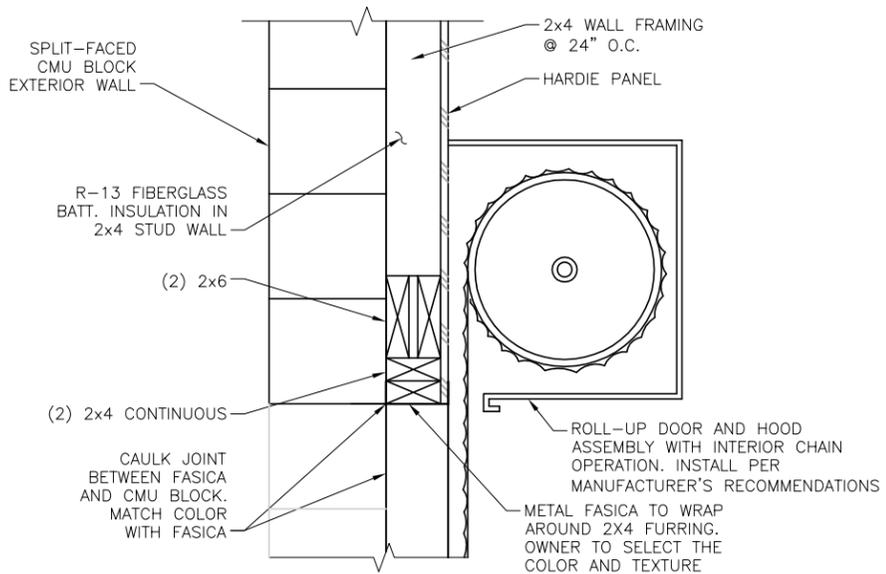
**C**  
**S8** **DOOR AT THRESHOLD**  
SCALE: N.T.S.



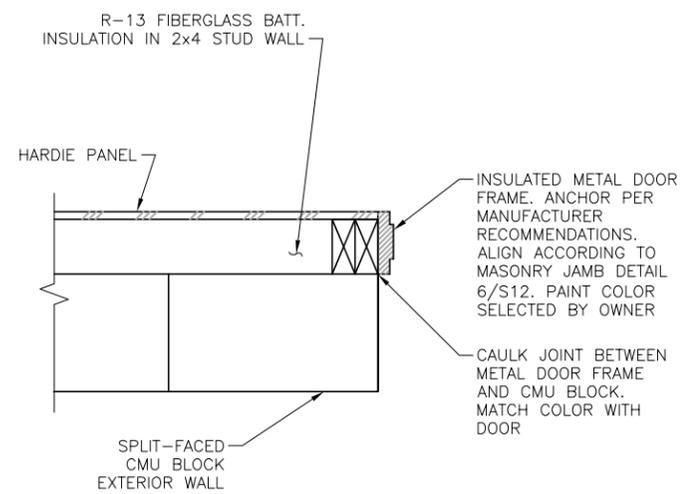
**D**  
**S8** **ROLL-UP DOOR FRAME AT WOODEN JAMB**  
SCALE: N.T.S.



**E**  
**S8** **DOOR FRAME AT HEADER**  
SCALE: N.T.S.



**F**  
**S8** **ROLL-UP DOOR FRAME AT HEADER**  
SCALE: N.T.S.



**G**  
**S8** **DOOR FRAME AT WOODEN JAMB**  
SCALE: N.T.S.

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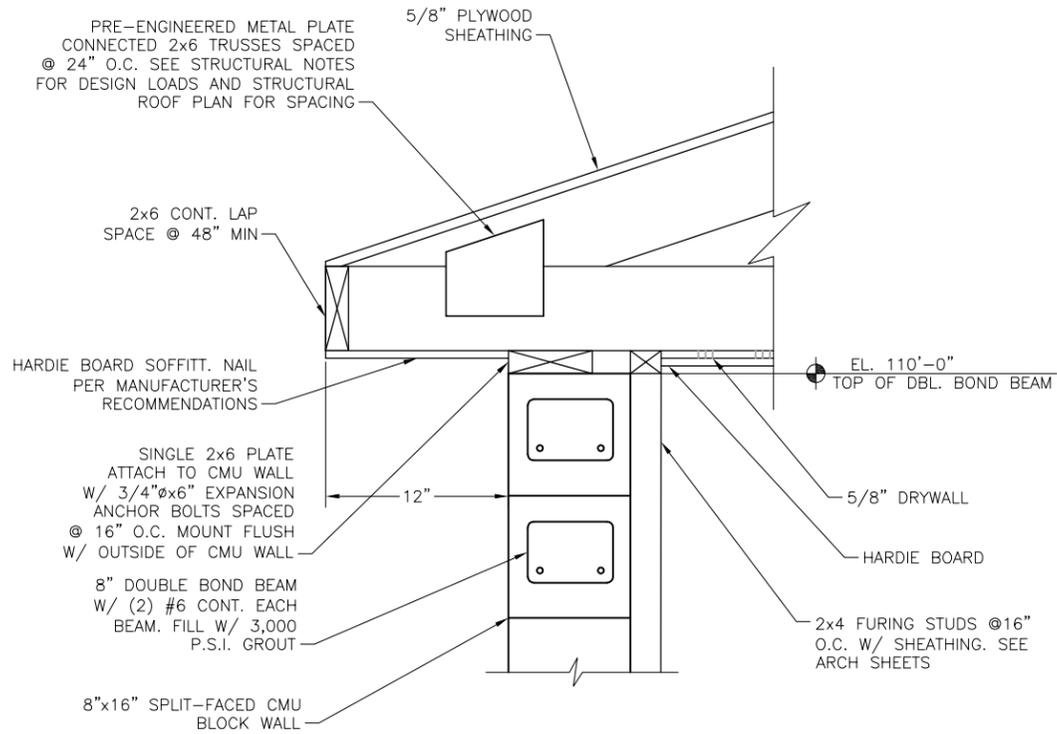
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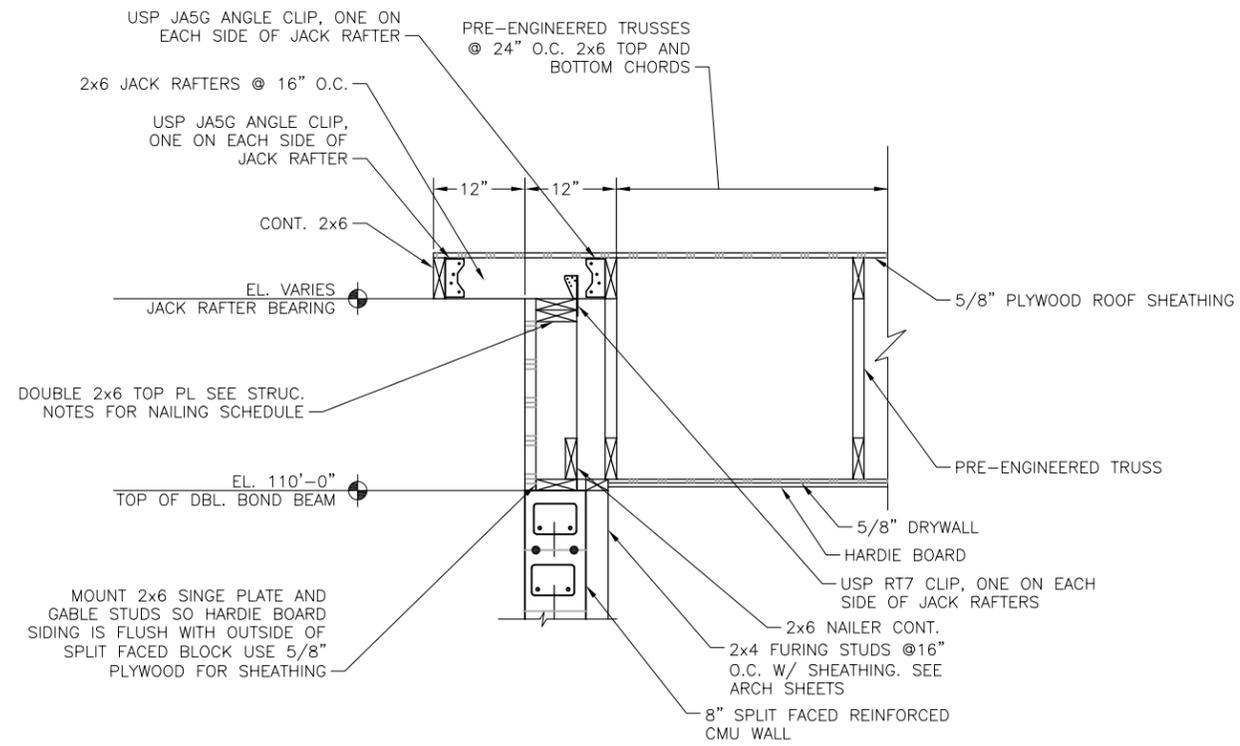
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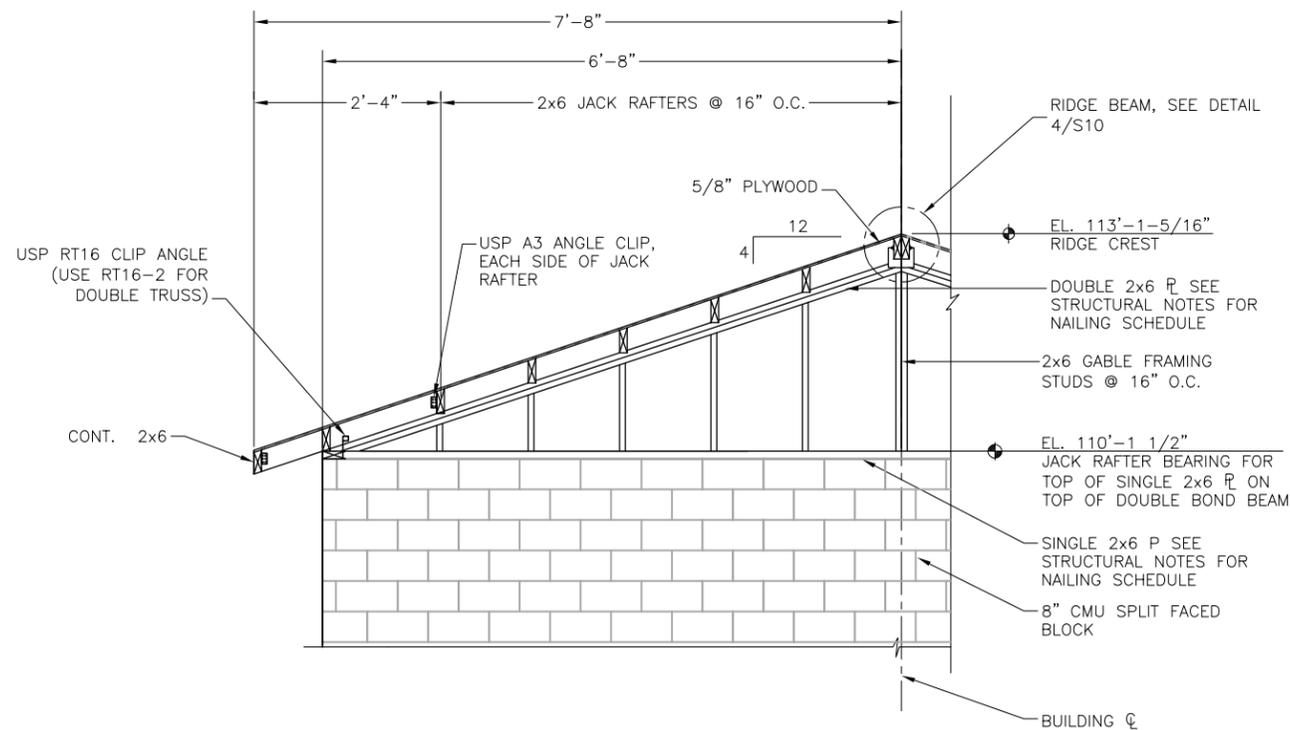
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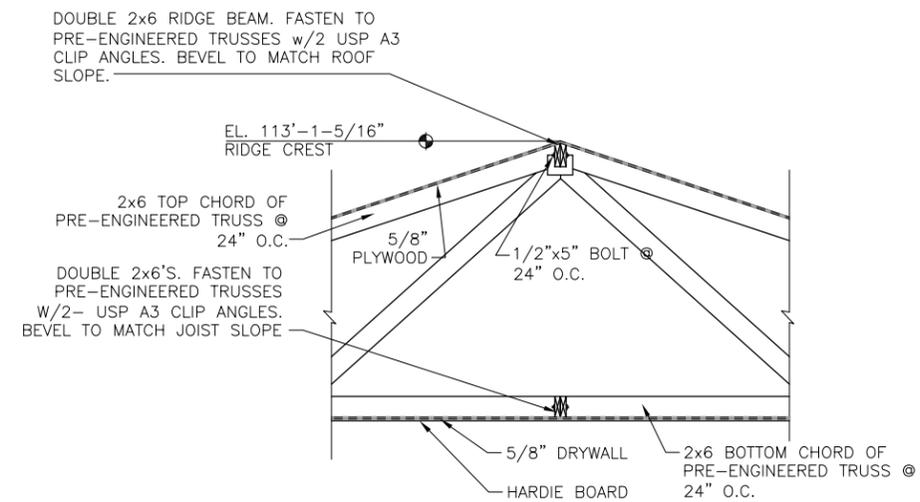
**A** TYPICAL TRUSS BEARING W/ OVERHANG  
S9 SCALE: N.T.S.



**B** TYPICAL JACK RAFTER DETAIL  
S9 SCALE: N.T.S.



**C** TYPICAL JACK RAFTER AT GABLE DETAIL  
S9 SCALE: N.T.S.



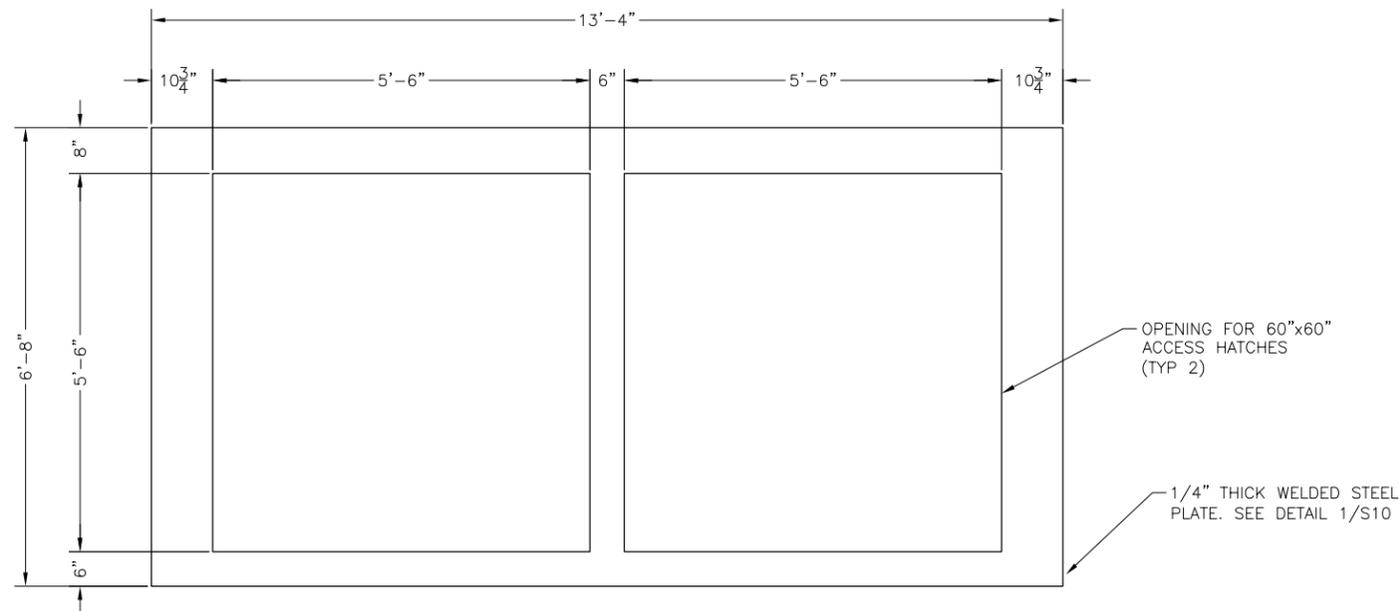
**D** TYPICAL RIDGE BEAM DETAIL  
S9 SCALE: N.T.S.

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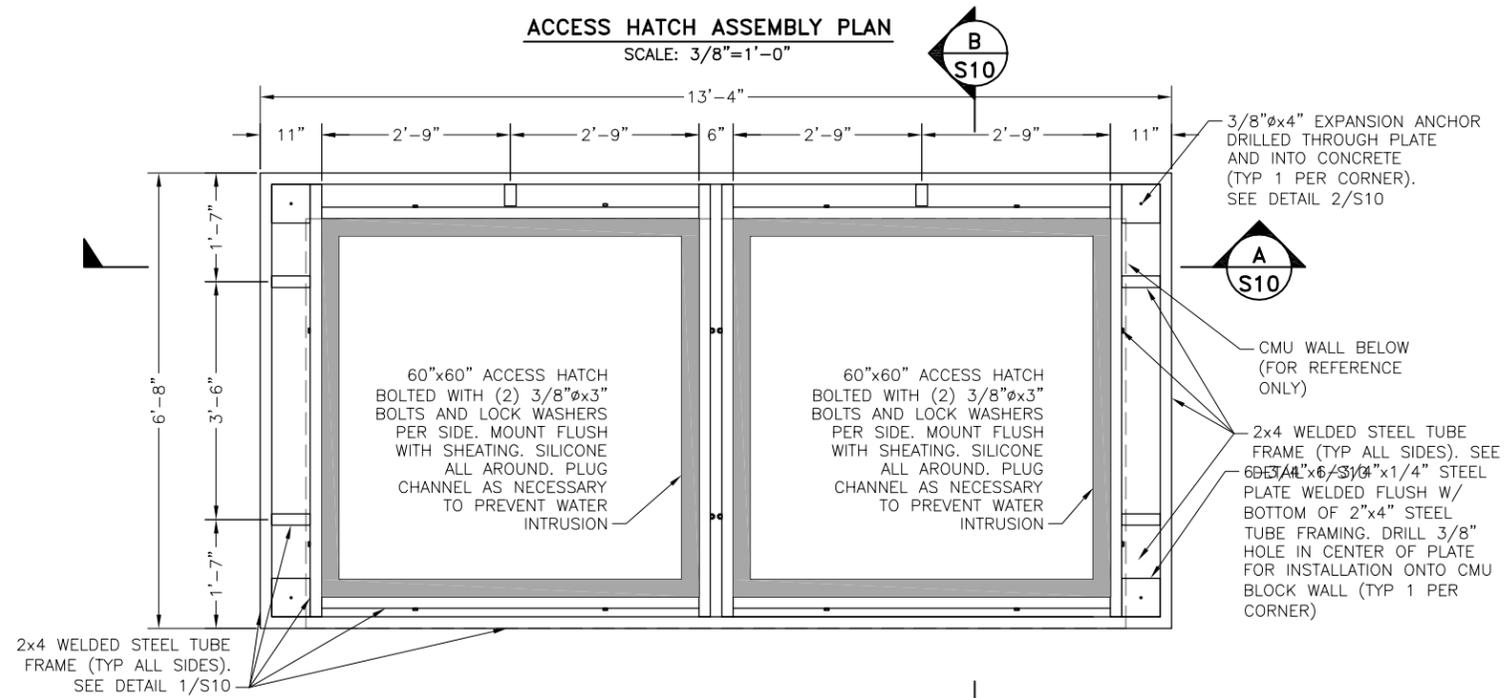
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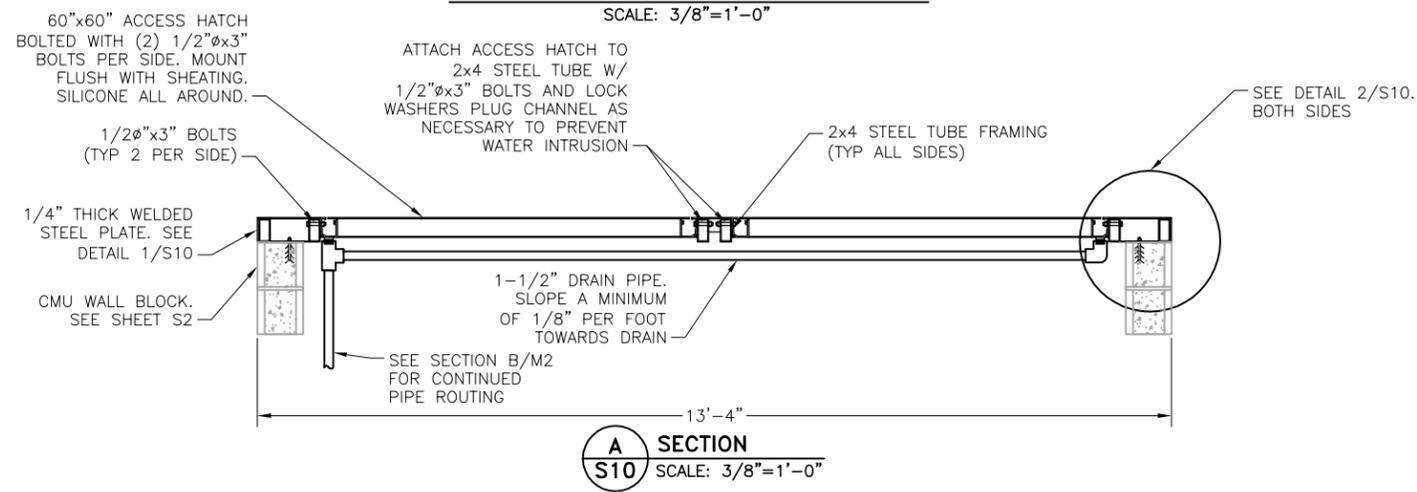
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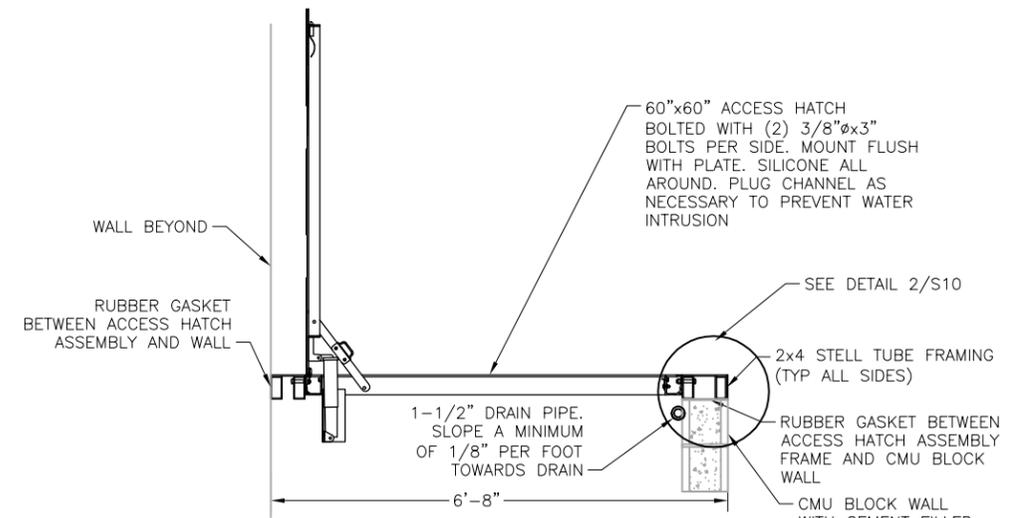
**ACCESS HATCH ASSEMBLY PLAN**  
SCALE: 3/8"=1'-0"



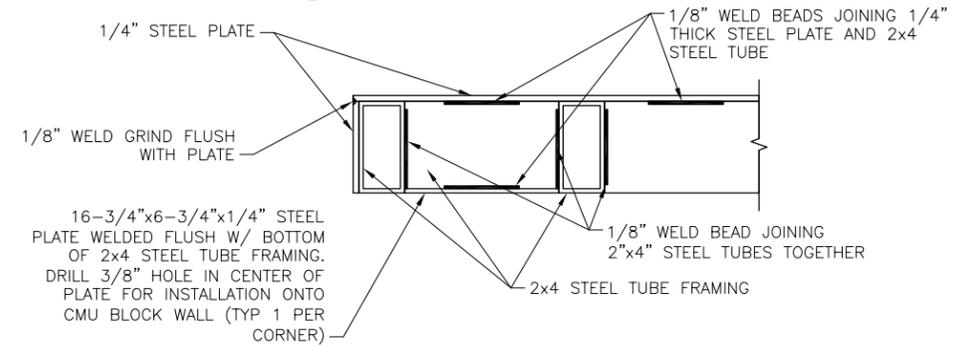
**ACCESS HATCH ASSEMBLY FRAMING PLAN**  
SCALE: 3/8"=1'-0"



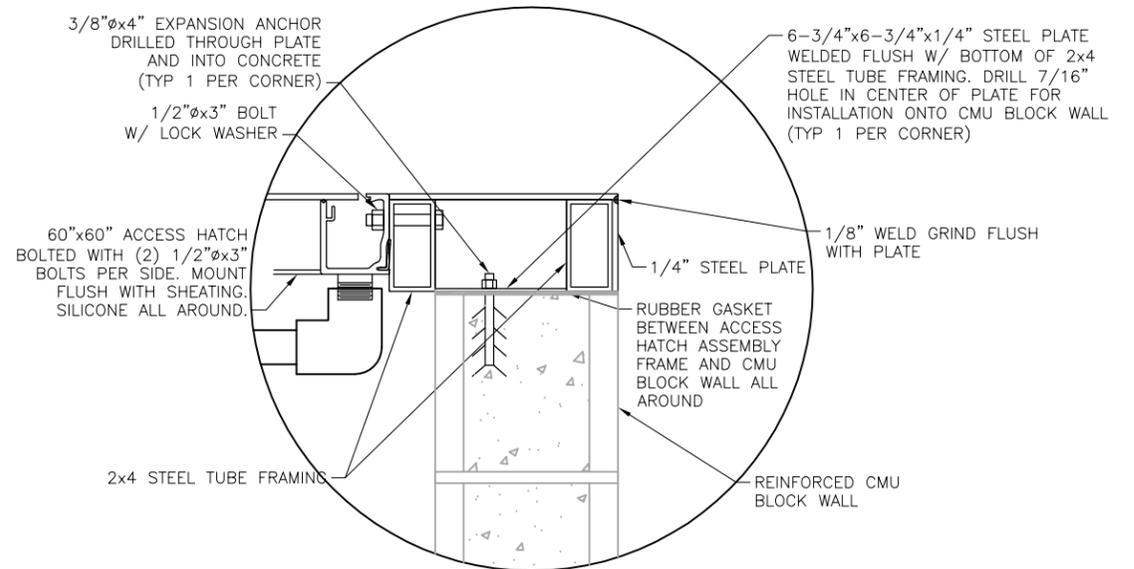
**A SECTION**  
S10 SCALE: 3/8"=1'-0"



**B SECTION**  
S10 SCALE: 3/8"=1'-0"



**1 2x4 STEEL TUBE WELD DETAIL**  
S10 SCALE: 1-1/2"=1'-0"



**2 CORNER DETAIL**  
S10 SCALE: 1-1/2"=1'-0"

- NOTES:**
- CONTRACTOR MAY PROPOSE AN ALTERNATE FRAMING PLAN TO BE REVIEWED AND CONSIDERED UPON BY ENGINEER.
  - ACCESS HATCH ASSEMBLY TO BE POWDER COATED AFTER ASSEMBLY OF FRAME AND SHEATHING. OWNER TO SELECT COLOR.
  - CONTRACTOR TO APPLY SILICONE SEALANT TO ALL GASKETED AREAS.

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**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
ACCESS HATCH ASSEMBLY

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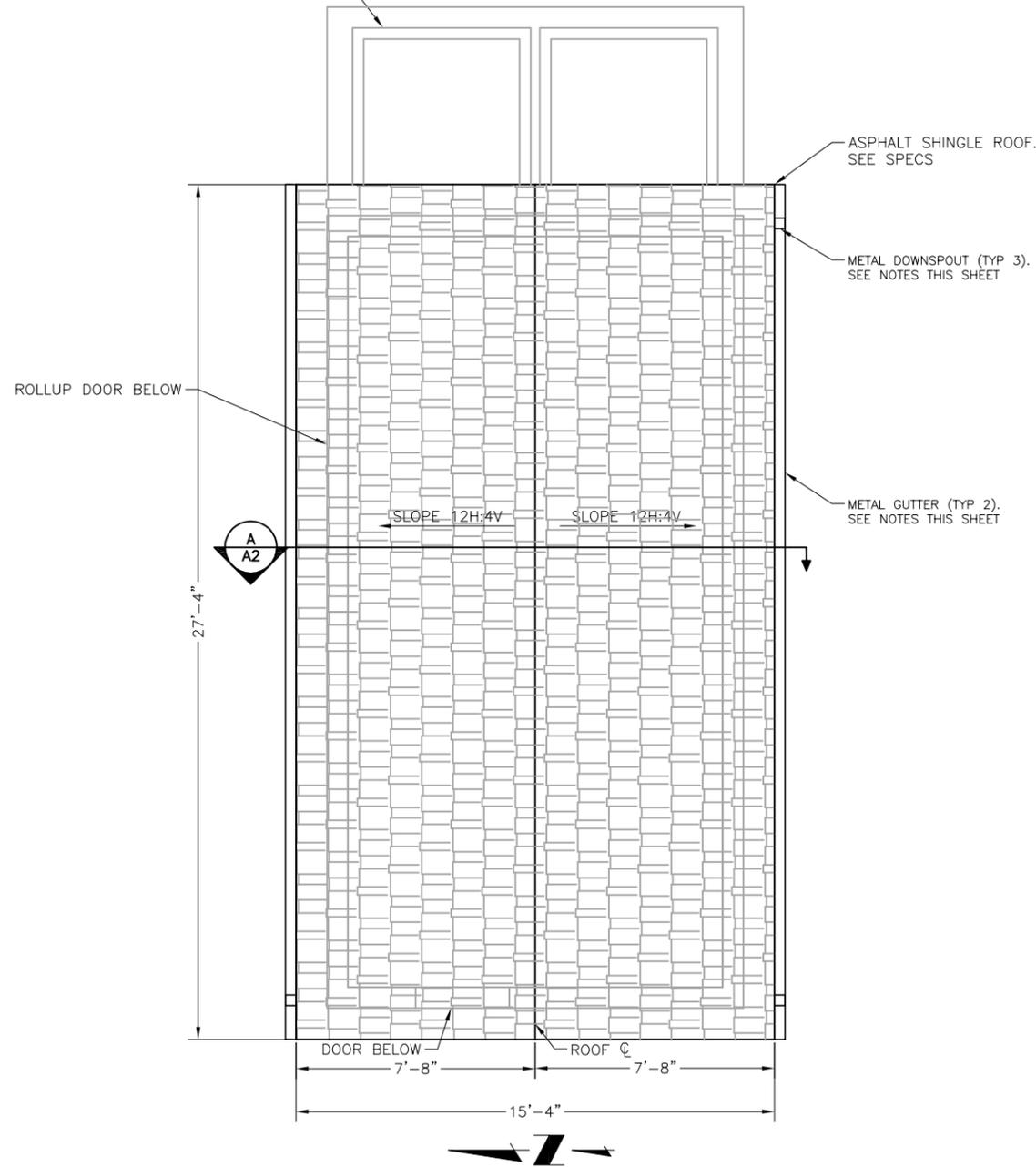
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(2) 60"x60" ACCESS HATCHES BELOW ON A FABRICATED STEEL TOP. SEE SHEE S10

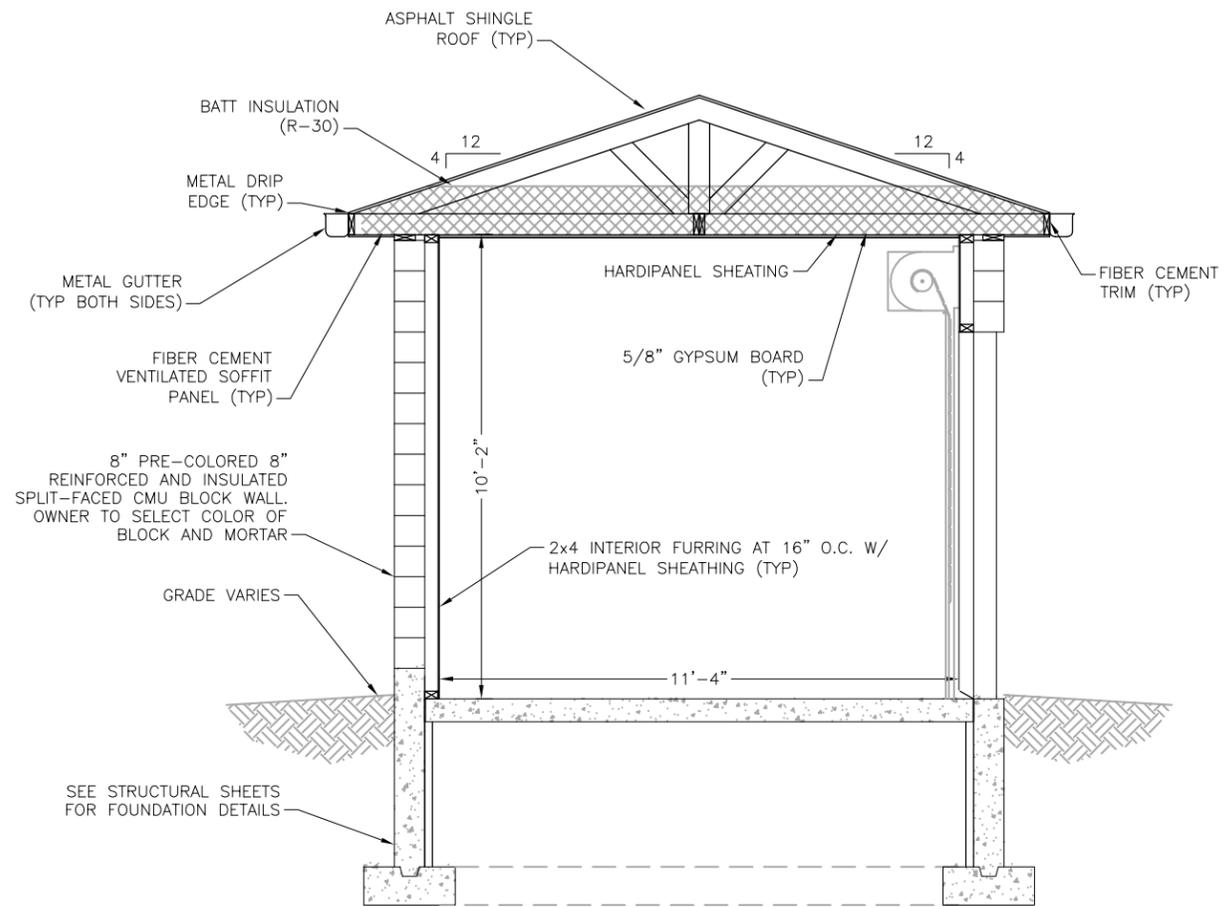


**ARCHITECTURAL ROOF PLAN**

SCALE: 3/16"=1'-0"

**NOTES:**

1. OWNER TO SELECT PAINT COLOR FOR ALL PAINTED SURFACES INCLUDING DOORS, TRIM, AND EXTERIOR MATERIALS. SEE SPECS FOR FINISHES.
2. OWNER TO SELECT DOOR HARDWARE FINISH AND COLORS.
3. ALL INTERIOR DOOR AND FRAME PAINT TO MATCH EXTERIOR TRIM PAINT.
4. EXPOSED INTERIOR CONCRETE FLOOR SURFACES SHALL BE COATED WITH CONCRETE FLOOR SEALER PER SPECIFICATIONS.
5. CONTRACTOR TO VERIFY GENERATOR EXHAUST PENETRATION LOCATION/SIZE WITH GENERATOR MANUFACTURER AND ADJUST EXHAUST PENETRATION LOCATION/SIZE AS NEEDED.
6. SUBMIT SHOP DRAWINGS FOR GUTTERS AND DOWNSPOUTS FOR APPROVAL PRIOR TO FABRICATION.



**A SECTION**  
A2 SCALE: 1/4"=1'-0"

**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
ARCHITECTURAL ROOF PLAN AND SECTION

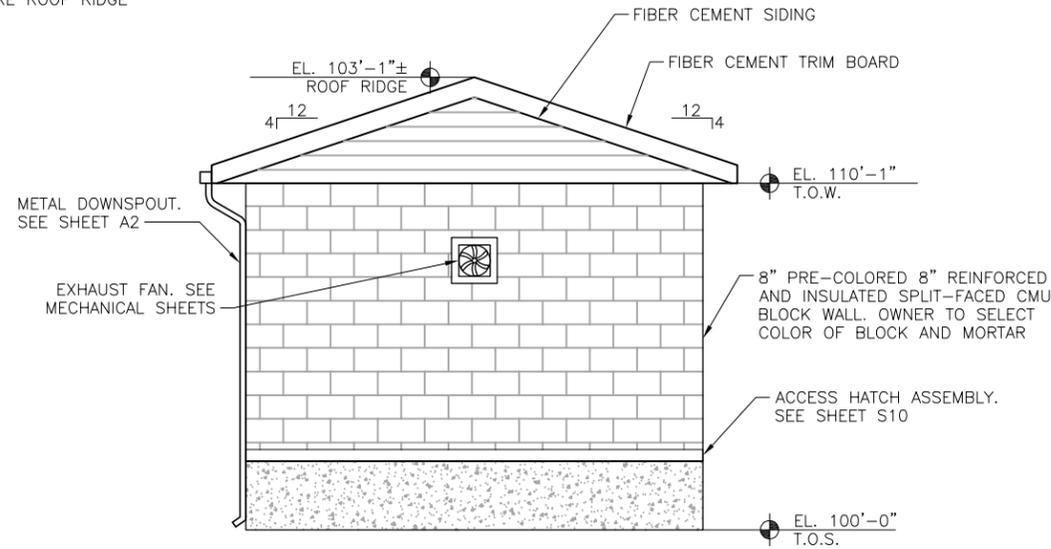
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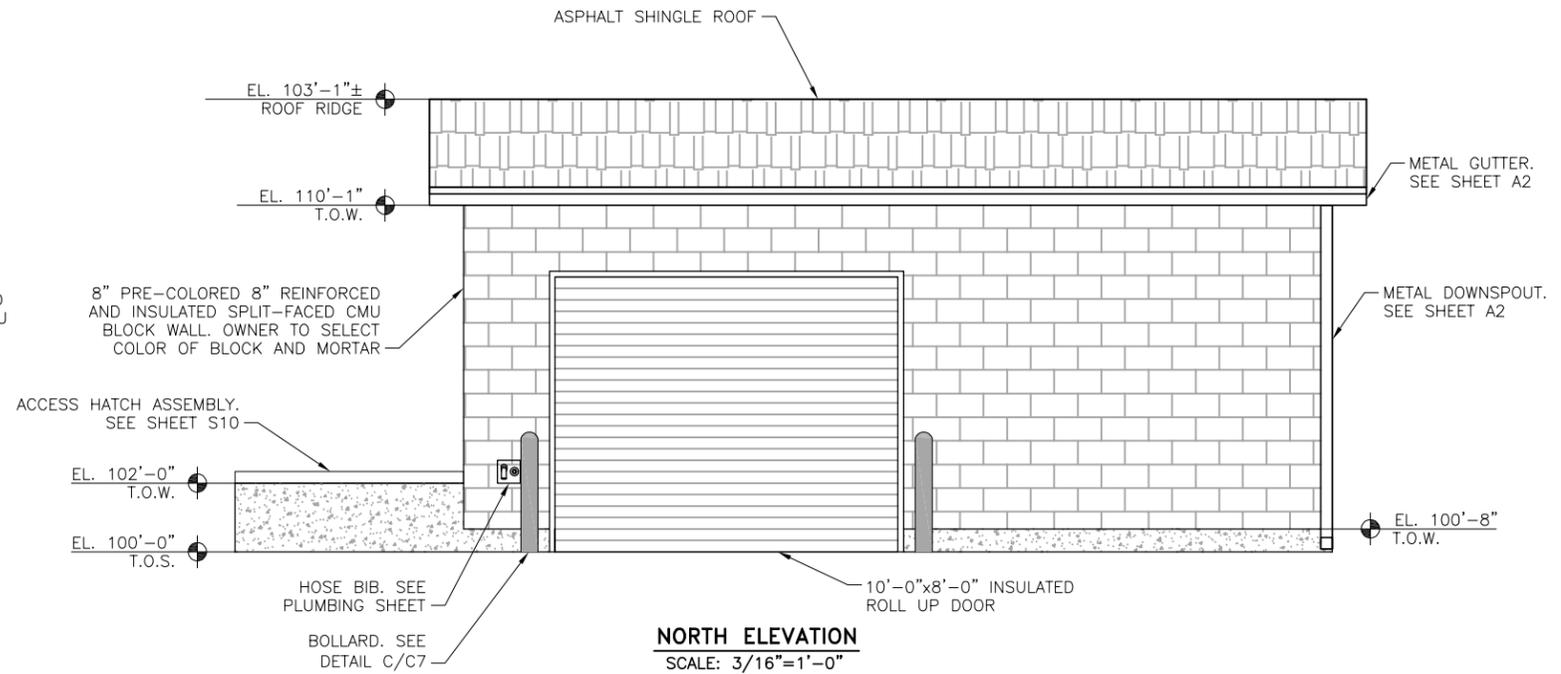
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**NOTES:**

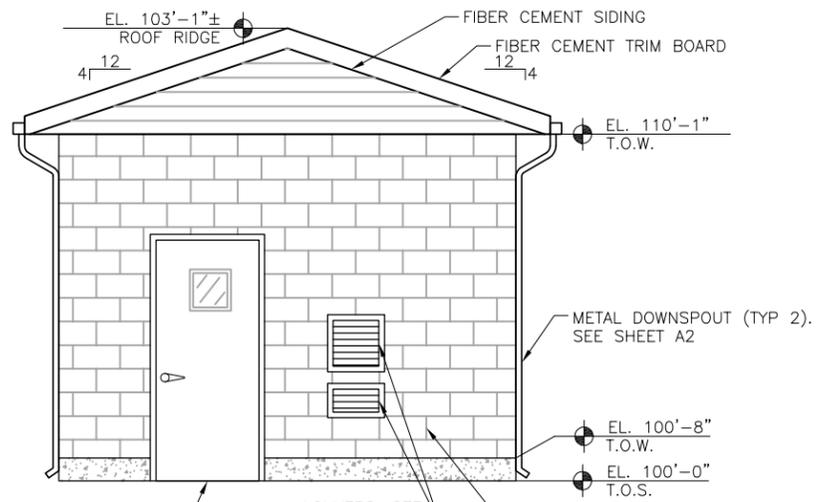
1. OWNER TO SELECT ALL PAINT COLORS. SEE SPECIFICATIONS FOR FINISHES. VERIFY COLOR WITH OWNER PRIOR TO FABRICATION.
2. SUBMIT SHOP DRAWINGS FOR GUTTERS AND DOWNSPOUTS FOR APPROVAL PRIOR TO FABRICATION.
3. SEE ELECTRICAL SHEETS FOR EXTERIOR LIGHT FIXTURE LOCATIONS.
4. CONTRACTOR TO INSTALL RIDGE VENT ACROSS ENTIRE ROOF RIDGE



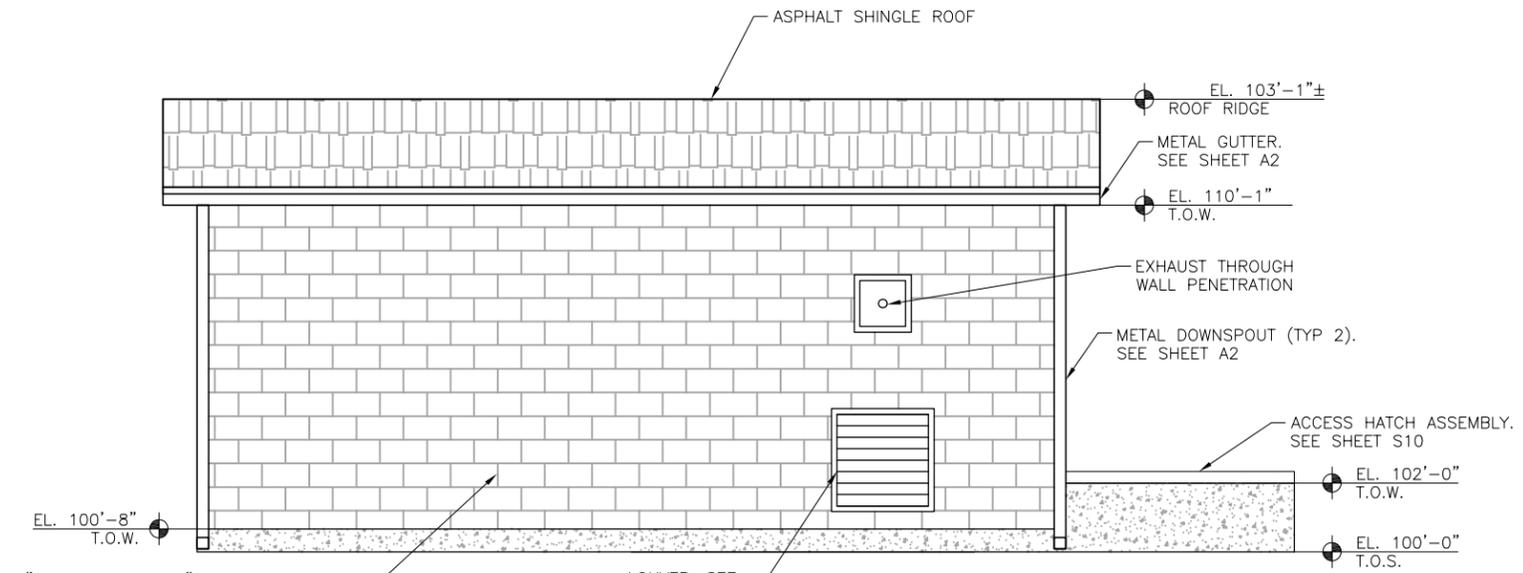
**EAST ELEVATION**  
SCALE: 3/16"=1'-0"



**NORTH ELEVATION**  
SCALE: 3/16"=1'-0"



**WEST ELEVATION**  
SCALE: 3/16"=1'-0"



**SOUTH ELEVATION**  
SCALE: 3/16"=1'-0"

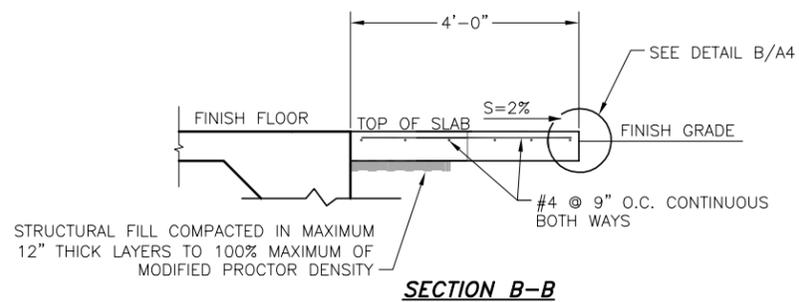
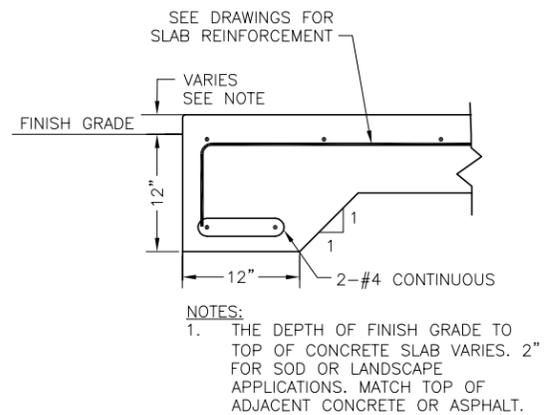
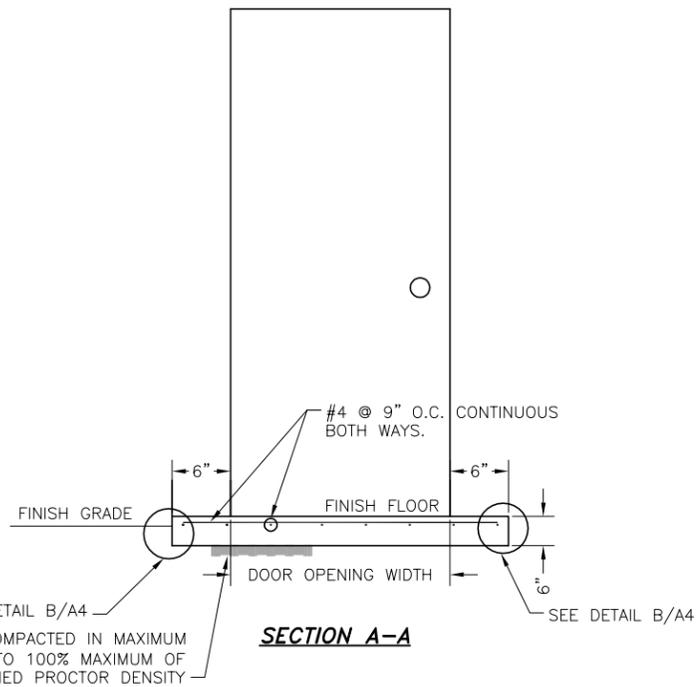
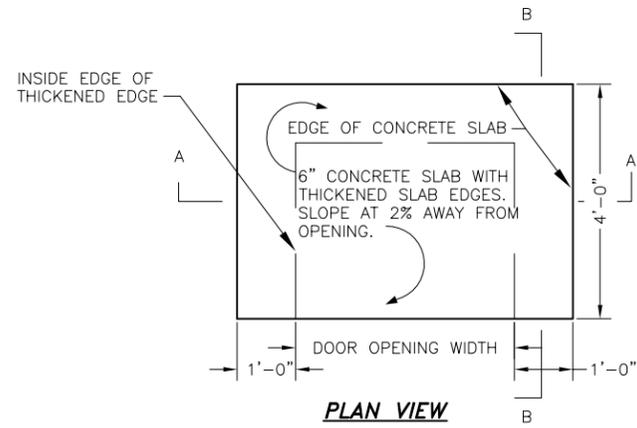
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**B** LANDING SLAB EDGE  
**A4** SCALE: N.T.S.

**A** DOORWAY LANDINGS AS SHOWN ON ARCHITECTURAL SHEETS  
**A4** SCALE: N.T.S.

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AVATAR EQUITIES  
RIVER BEND CROSSING LIFT STATION  
ARCHITECTURAL DETAILS

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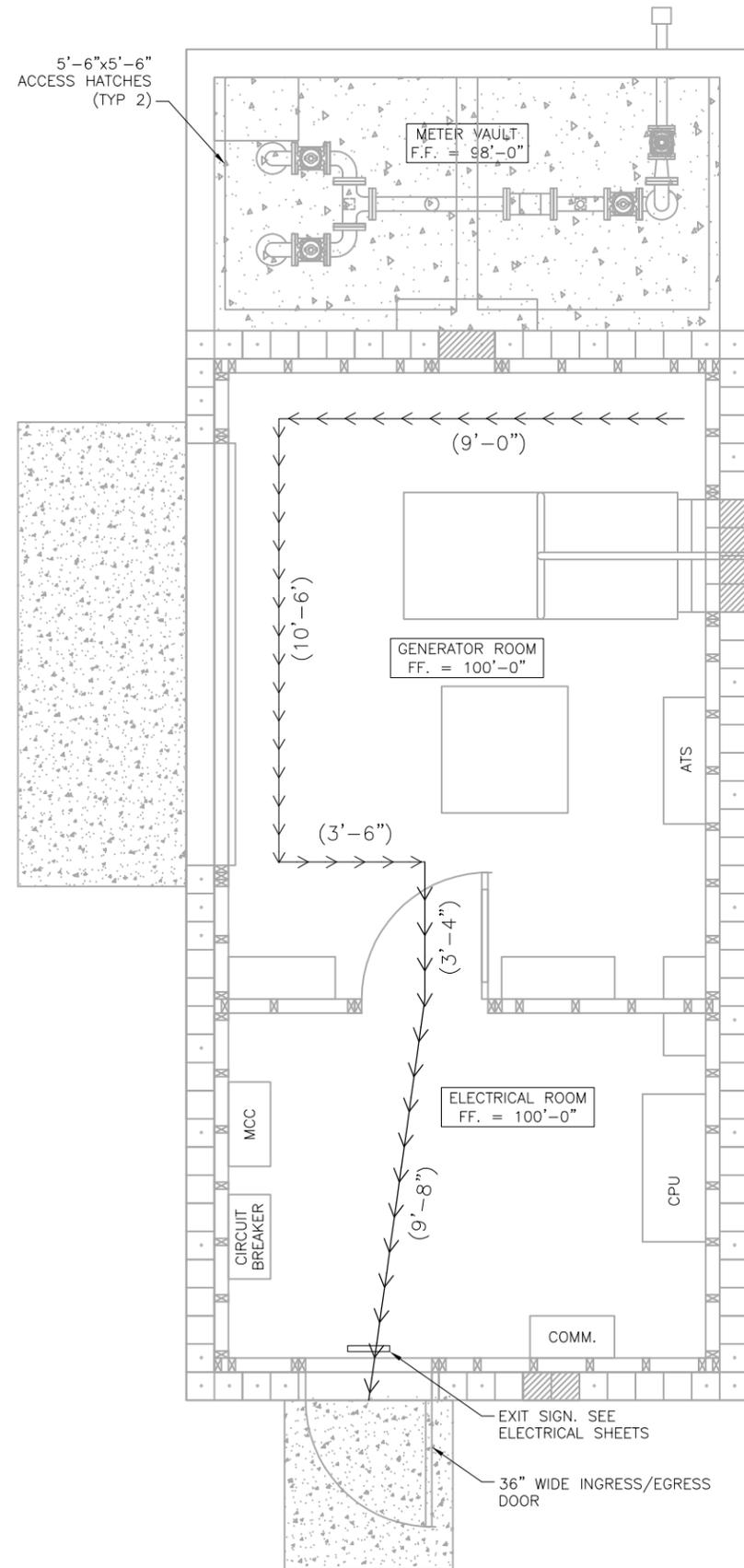
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- LIFE SAFETY PLAN INFORMATION:**
- OCCUPANCY TYPE: UTILITY (S-1)
  - NON-SEPARATED OCCUPANCY
  - OCCUPANCY LOADING: 338 SF/100 UTILITY = 1
  - ALLOWABLE AREA CALCULATION:
    - $A_a = A_t + (N \times I_f)$
    - $A_a = 13,000 + (13,000 \times 0)$
    - $A_a = 13,000$  SQ. FT.
  - INCIDENTAL USE AREAS: NONE
  - EGRESS WIDTH REQUIREMENTS:
    - REQUIRED: OCCUPANT LOAD X 0.3 INCHES = 3.6 INCHES
    - PROVIDED:
  - STAIRS: NONE
  - EGRESS: 36 INCHES
  - MAXIMUM TRAVEL DISTANCE: 52.9'
  - MAXIMUM COMMON PATH OF TRAVEL: 21.2'
  - BUILDING IS NOT SPRINKLERED
  - ITEMS THAT ARE NOT APPLICABLE

FIRE WALLS  
 FIRE BARRIERS  
 FIRE PARTITIONS  
 SMOKE BARRIERS  
 SMOKE PARTITIONS  
 RATED ASSEMBLIES

- NOTES:**
1. FACILITY IS UNMANNED AND WILL BE PERIODICALLY ACCESSED ONLY BY OPERATIONS STAFF.



**LIFE SAFETY PLAN**  
 SCALE: 1/4"=1'-0"

**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 LIFE SAFETY PLAN

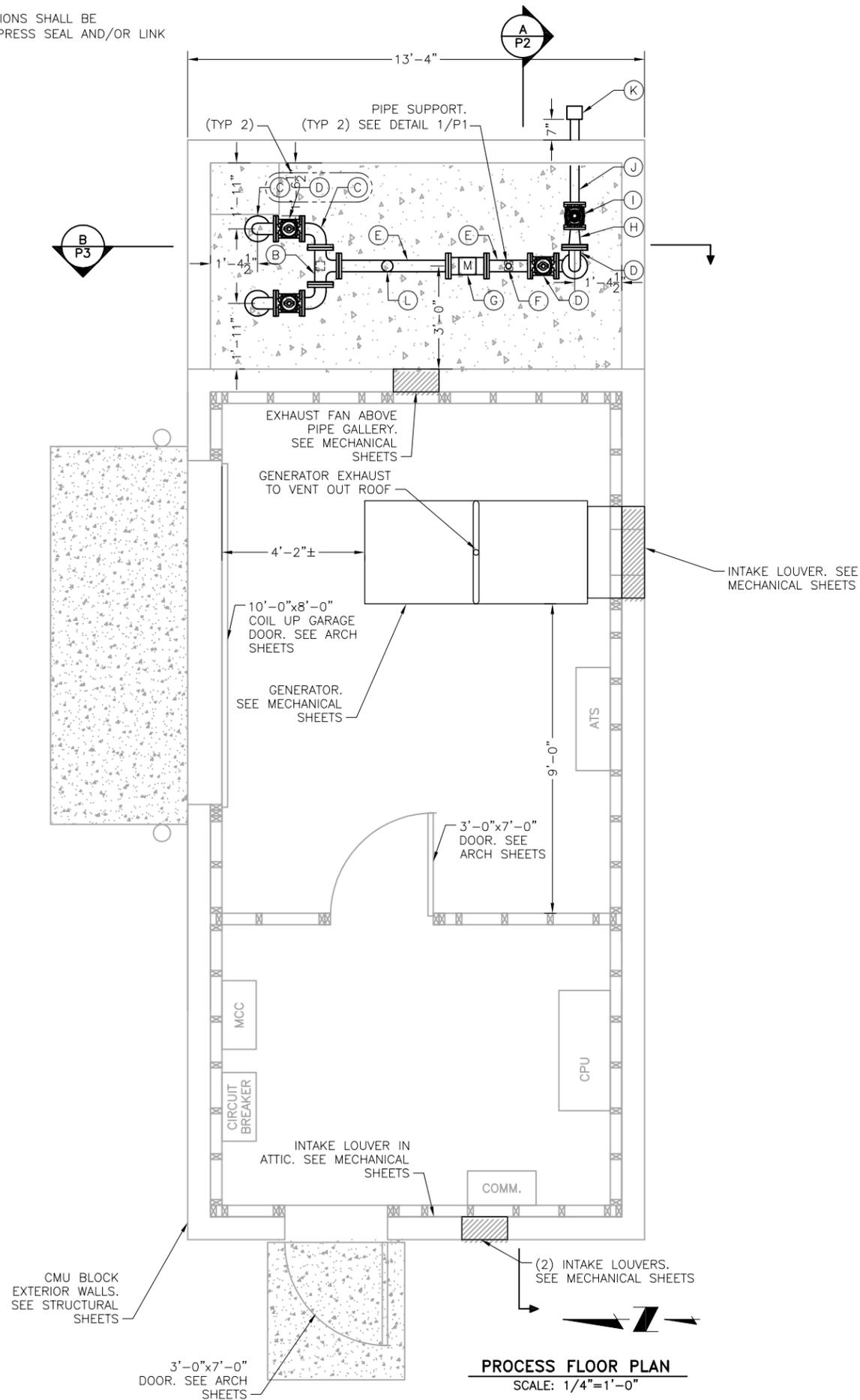
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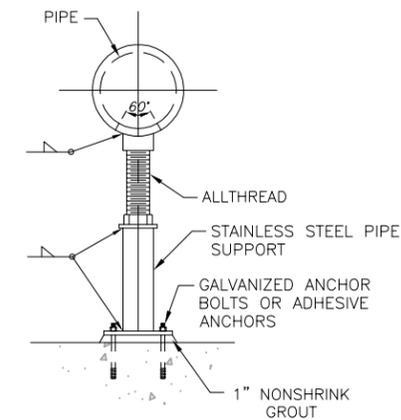
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**NOTES:**  
 1. ALL PIPE PENETRATIONS SHALL BE CONSTRUCTED W/ PRESS SEAL AND/OR LINK SEAL OR EQUAL.



**PROCESS FLOOR PLAN**  
 SCALE: 1/4"=1'-0"

SCHEDULE		
A	4"	DIP FLxMJ
B	4"	DIP TEE
C	4"	DIP ELBOW
D	4"	PLUG VALVE
E	4"	DIP FLxFL
F	-	PRESSURE SENSOR
G	4"	METER
H	4"x3"	CONC. REDUCER
I	3"	PLUG VALVE
J	3"	DIP MNPTxFL
K	3"	CAMLOCK FITTING
L	-	AIR VAC
M	4"	CHECK VALVE



**1 ADJUSTABLE PIPE SUPPORT DETAIL**  
 P1 SCALE: N.T.S.

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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 PROCESS PLAN

NO.	DESCRIPTION	BY	APP.	DATE
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**FOR PPRBD SUBMITTAL**

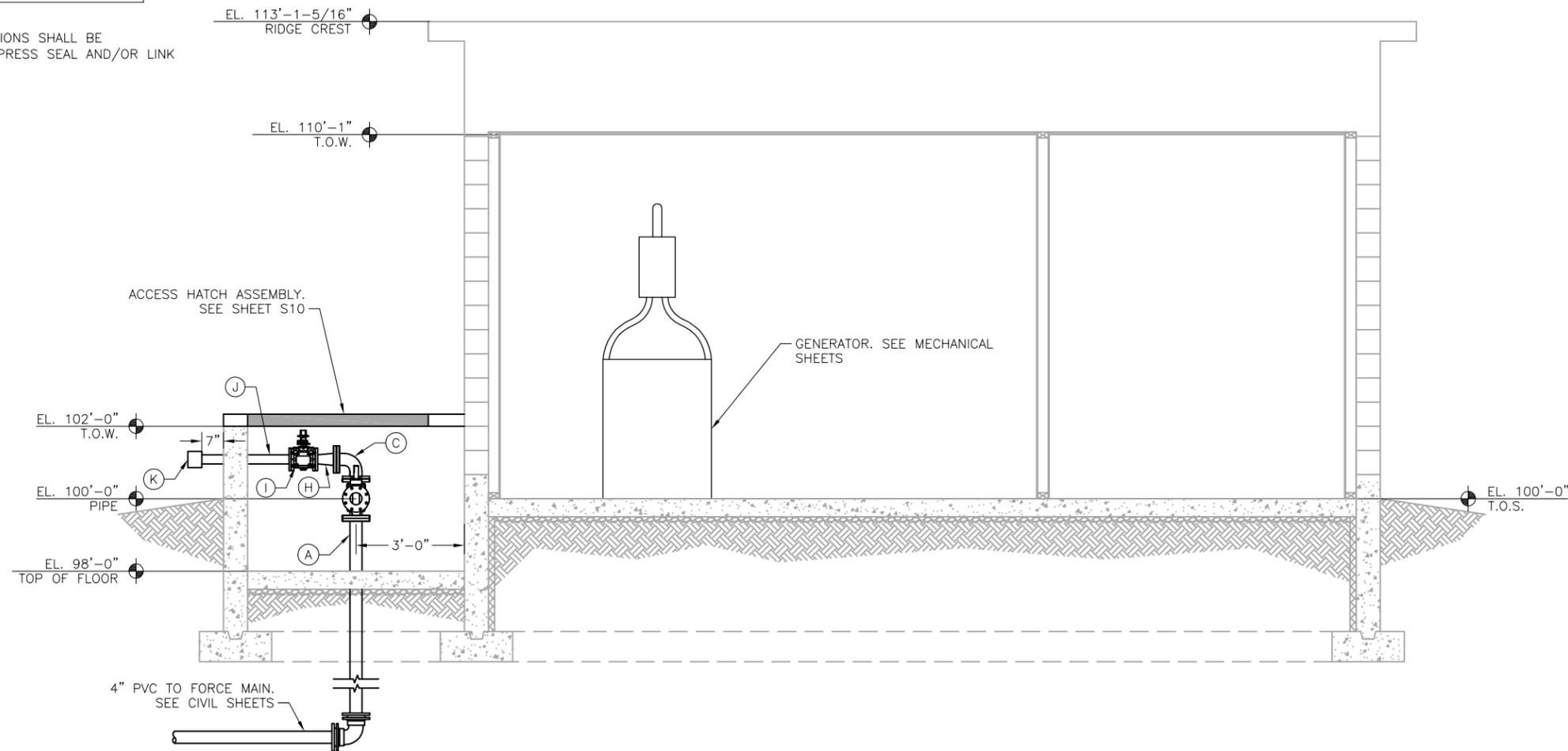
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**P1**  
 SHEET ----OF

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SCHEDULE		
A	4"	DIP FLxMJ
B	4"	DIP TEE
C	4"	DIP ELBOW
D	4"	PLUG VALVE
E	4"	DIP FLxFL
F	-	PRESSURE SENSOR
G	4"	METER
H	4"x3"	CONC. REDUCER
I	3"	PLUG VALVE
J	3"	DIP MNPTxFL
K	3"	CAMLOCK FITTING
L	-	AIR VAC
M	4"	CHECK VALVE

NOTES:  
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**A** SECTION  
**P2** SCALE: 1/4"=1'-0"

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**AVATAR EQUITIES**  
**RIVER BEND CROSSING LIFT STATION**  
**PROCESS SECTION**

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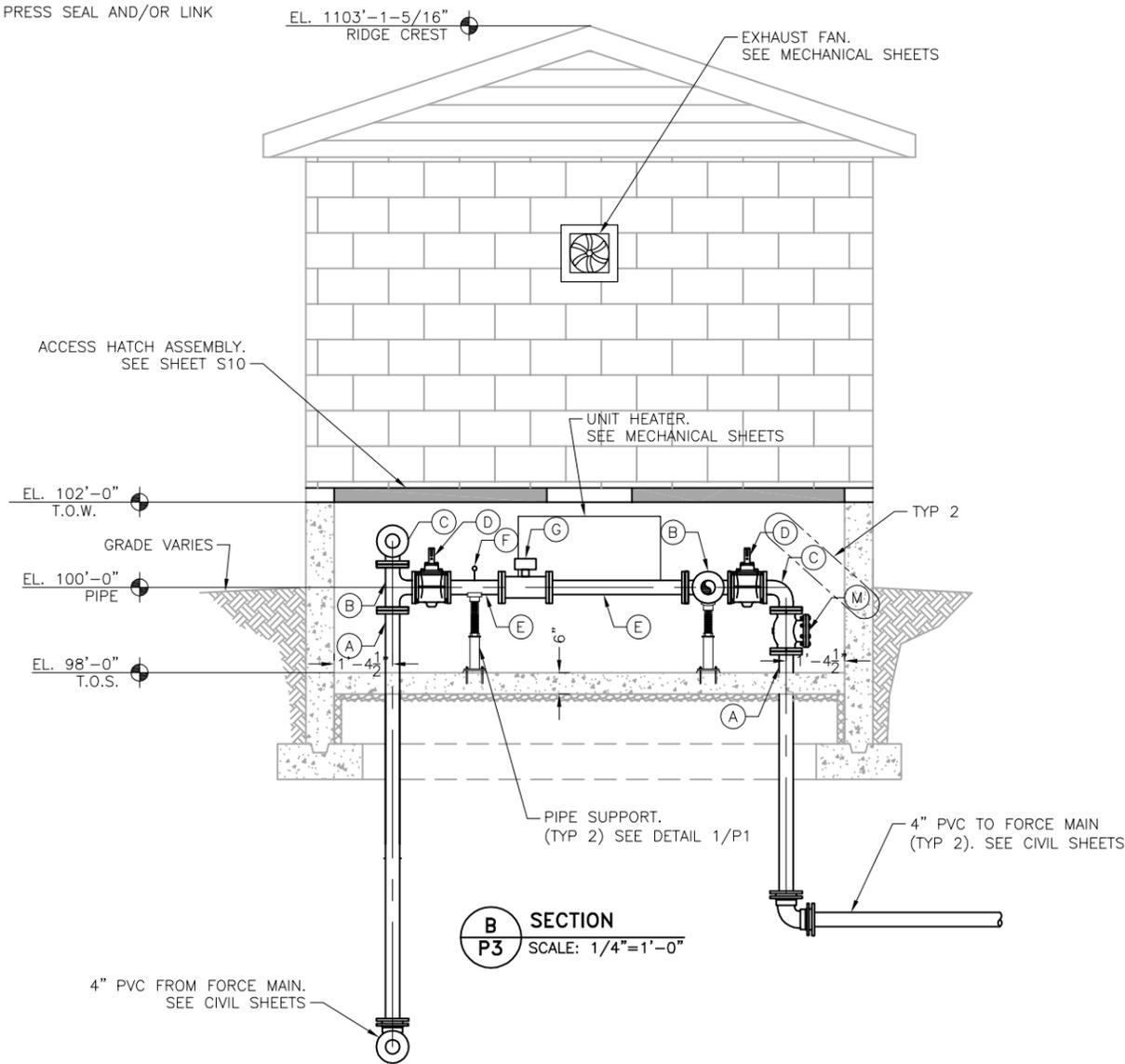
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SCHEDULE		
A	4"	DIP FLxMJ
B	4"	DIP TEE
C	4"	DIP ELBOW
D	4"	PLUG VALVE
E	4"	DIP FLxFL
F	-	PRESSURE SENSOR
G	4"	METER
H	4"x3"	CONC. REDUCER
I	3"	PLUG VALVE
J	3"	DIP MNPTxFL
K	3"	CAMLOCK FITTING
L	-	AIR VAC
M	4"	CHECK VALVE

NOTES:  
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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 PROCESS SECTION

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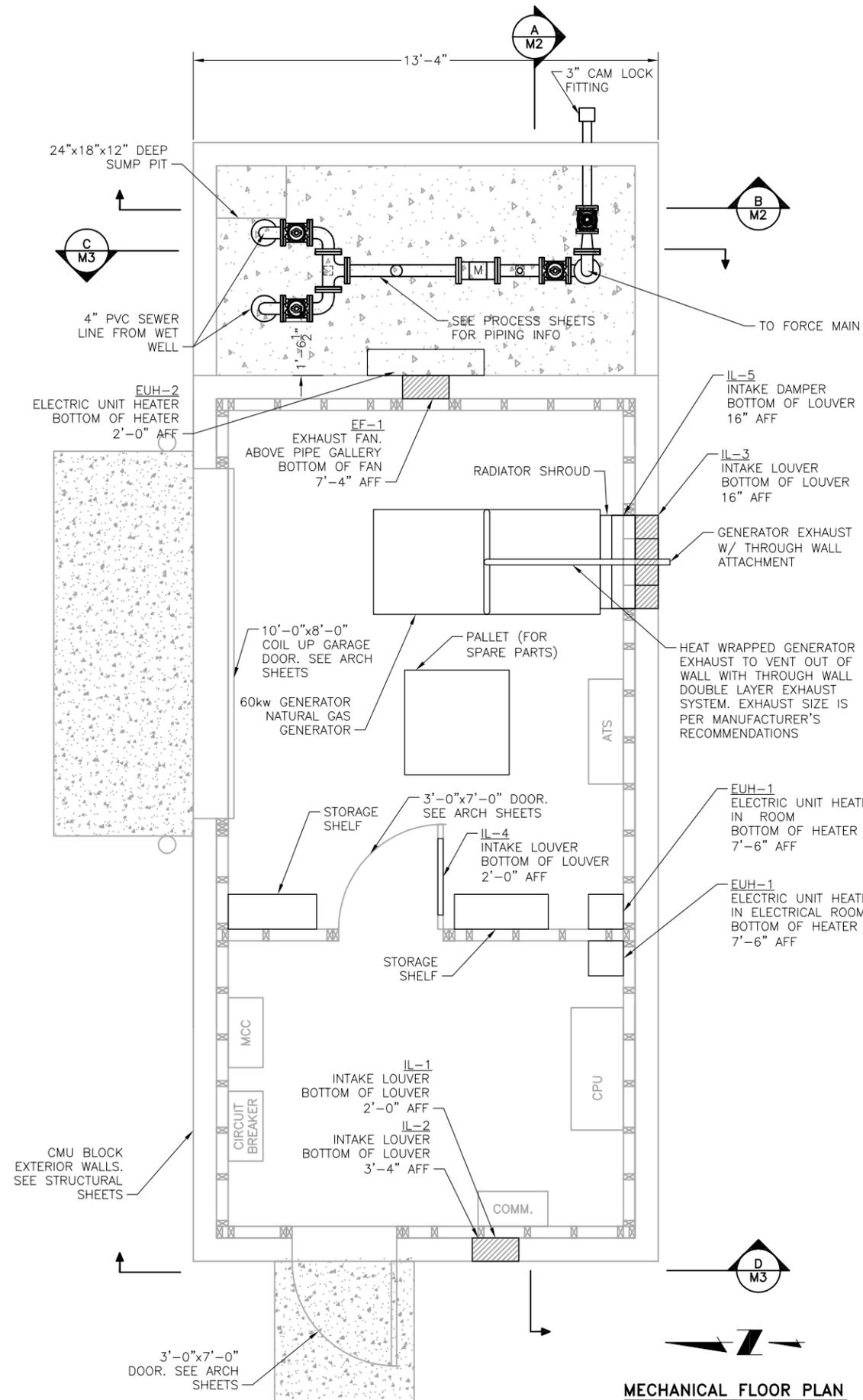
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**P3**  
 SHEET ----OF

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LOUVER SCHEDULE							
MARK	MANUFACTURER	MODEL NO.	OPENING SIZE (LxW)	CFM @ S.P.	MATERIAL	TYPE	REMARKS
IL-1	NAILOR	16BFE	16"x16"	240	MILL FINISH EXTRUDED ALUMINUM	FIXED INTAKE/EXHAUST LOUVER	1, 2
IL-2	NAILOR	16BFE	16"x8"	120	MILL FINISH EXTRUDED ALUMINUM	FIXED INTAKE/EXHAUST LOUVER	1, 2
IL-3	DAYTON	20UA11	30"x30"	MIN 3,256	MILL FINISH EXTRUDED ALUMINUM	FIXED INTAKE/EXHAUST LOUVER	1, 2
IL-4	DAYTON	5NKN3	26-1/8"x26-1/4"	MIN 1,000	MILL FINISH EXTRUDED ALUMINUM	FIXED INTAKE/EXHAUST LOUVER	2, 3
IL-5	EWC CONTROLS	30x30ND	30"x30"	PER GENERATOR MANUFACTURER	MILL FINISH EXTRUDED ALUMINUM	MOTORIZED INTAKE/EXHAUST DAMPER	2, 4

- LOUVER SCHEDULE NOTES:**
- BIRD SCREEN AND FASTENERS SHALL BE INCLUDED. FURNISH LOUVER WITH 24-MESH INSECT SCREEN. MIN.
  - AS SPECIFIED OR APPROVED EQUAL.
  - INTERIOR DOOR LOUVER.
  - MOTORIZED, SPRING CLOSED

EXHAUST FAN SCHEDULE							
MARK	MANUFACTURER	MODEL NO.	CFM @ S.P.	VOLTAGE/PHASE	HP	CONTROL	REMARKS
EF-1	CANARM	SD08	360	115/1 PH	25W	MOUNTED THERMOSTAT	1

1. FURNISH WITH INTAKE FAN GUARD AND SHUTTER. VARIABLE SPEED, 8" BLADE DIAMETER, 11" SQUARE OPENING. 0.85 FLA, STEEL & ALUMINUM MAKEUP, CONTINUOUSLY RUN.

UNIT HEATER SCHEDULE (ELECTRIC)							
MARK	MANUFACTURER	MODEL NO.	VOLTAGE	KW	BTU/H	AMPS	REMARKS
EUH-1	DAYTON	2YU58	208AC	2.2KW	7,500	11A	1
EUH-2	QMARK	ICG18081	208AC	1.8	6,140	9	2

1. FURNISH WITH MANUFACTURER-RECOMMENDED WALL BRACKET. CONTROLLED VIA THERMOSTAT. TEFC MOTOR.  
2. CLASS 1, DIV 1

- UNIT HEATER SCHEDULE NOTES:**
- AS SPECIFIED OR APPROVED EQUAL.

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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 MECHANICAL FLOOR PLAN AND DETAILS

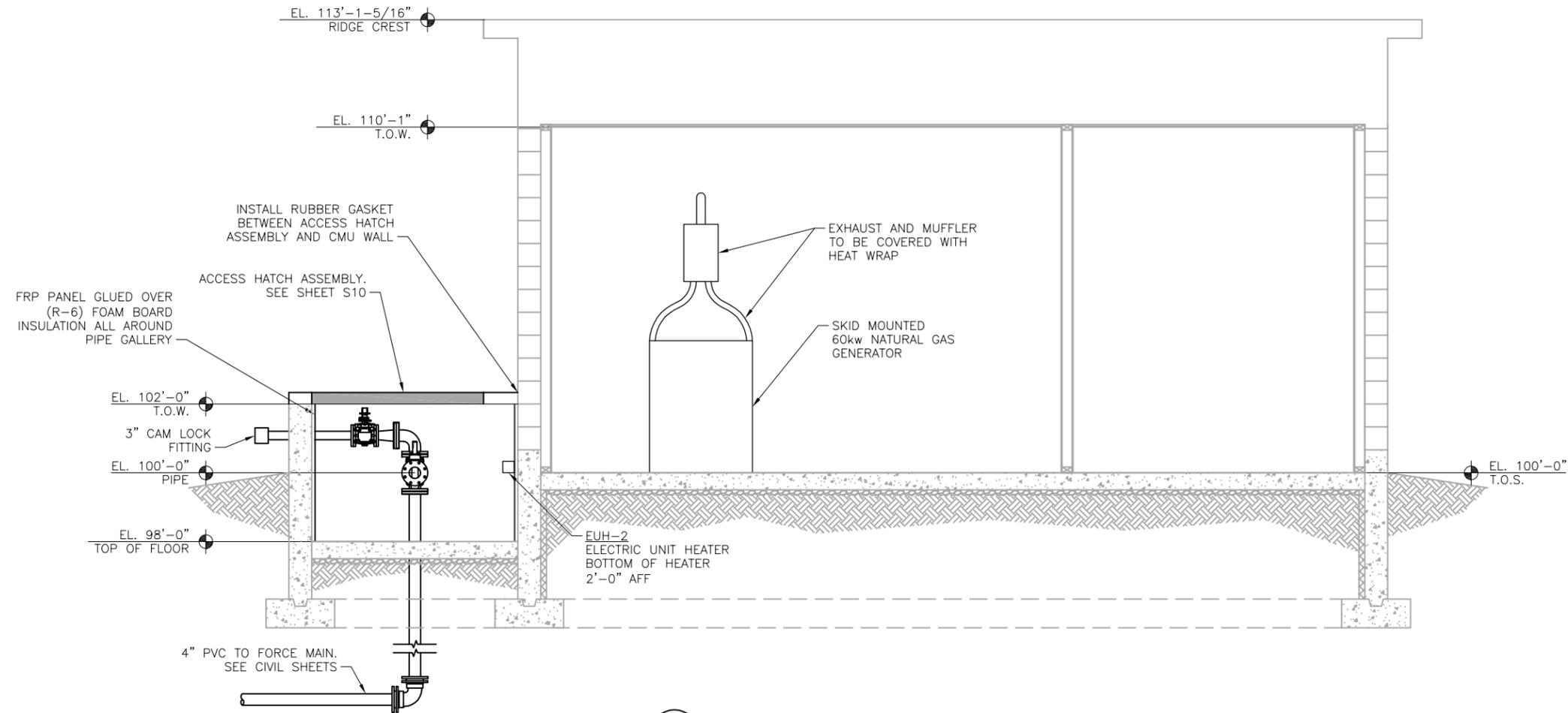
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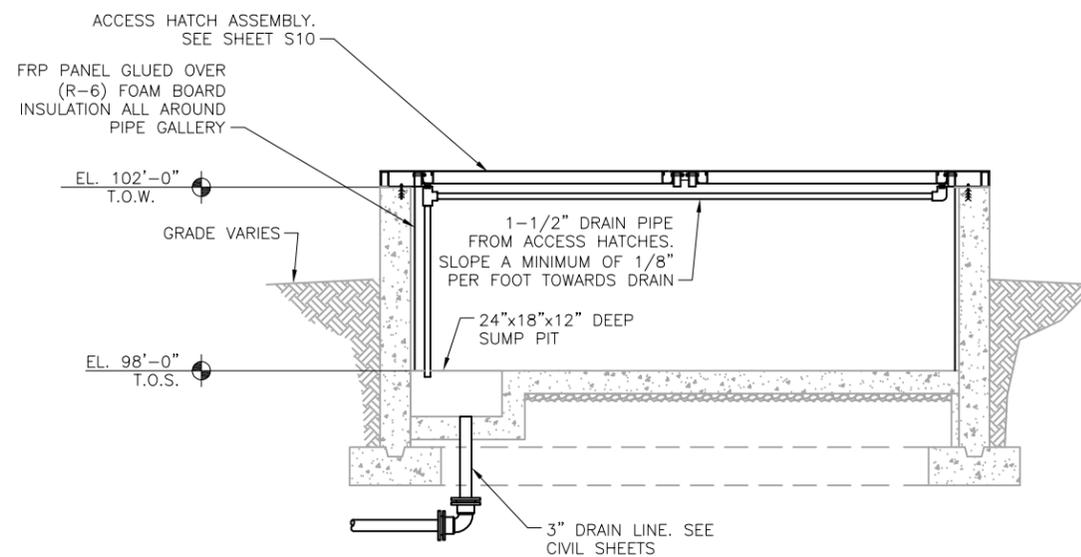
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**M1**  
SHEET ----OF

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**A** SECTION  
M2 SCALE: 1/4"=1'-0"



**B** SECTION  
M2 SCALE: 1/4"=1'-0"

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**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
MECHANICAL SECTIONS

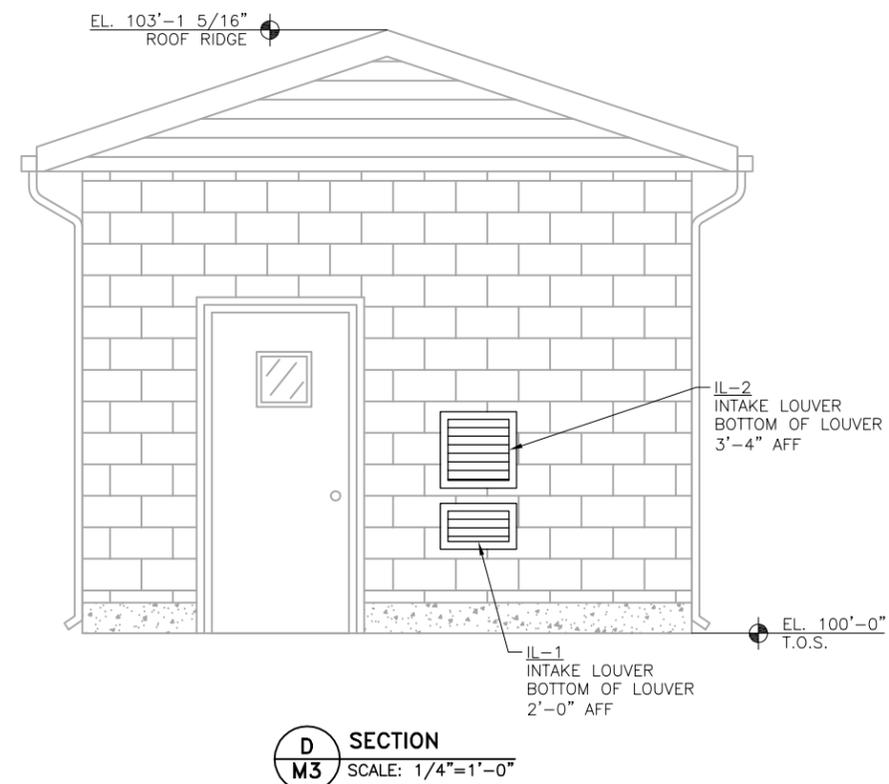
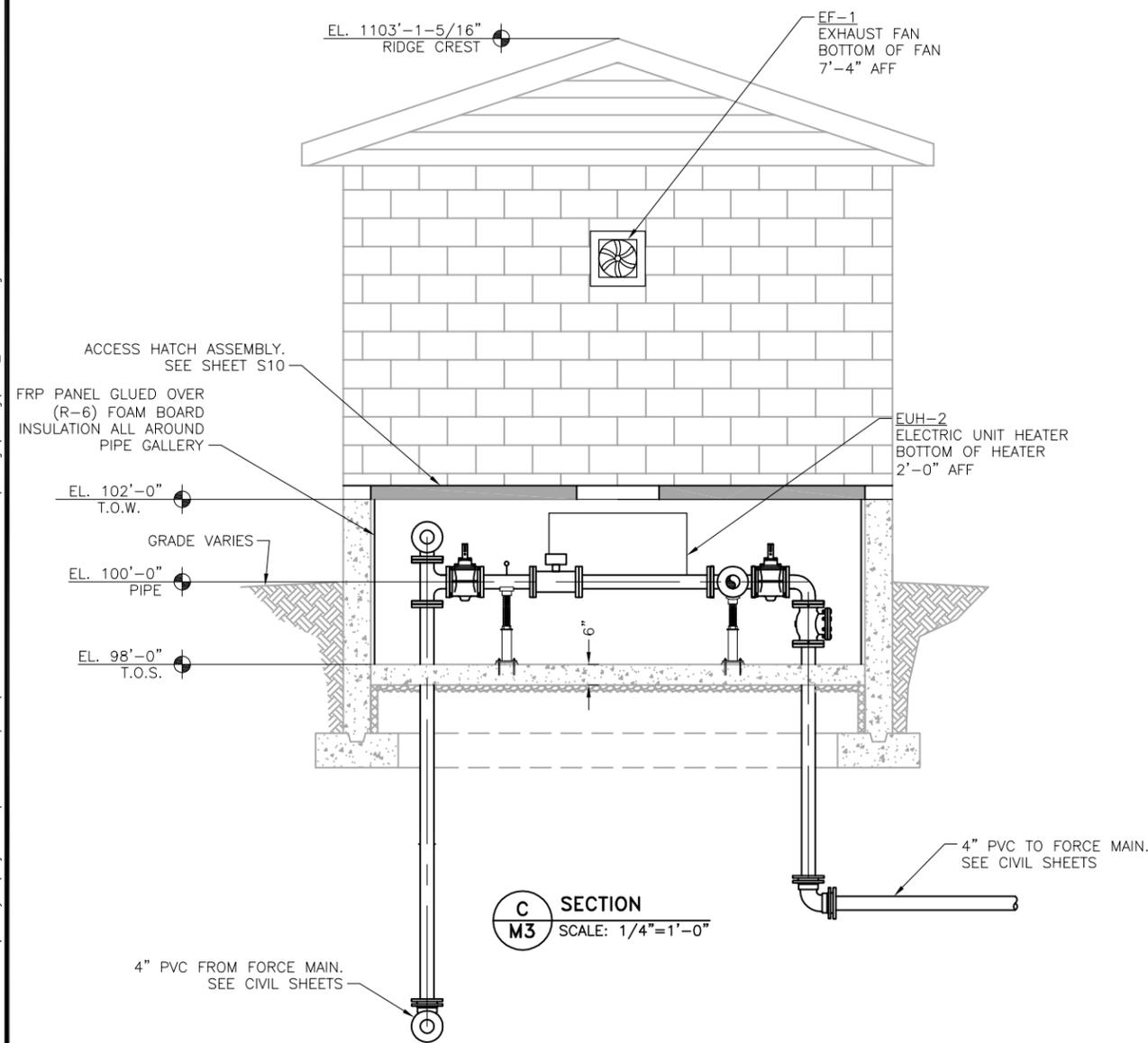
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**M2**  
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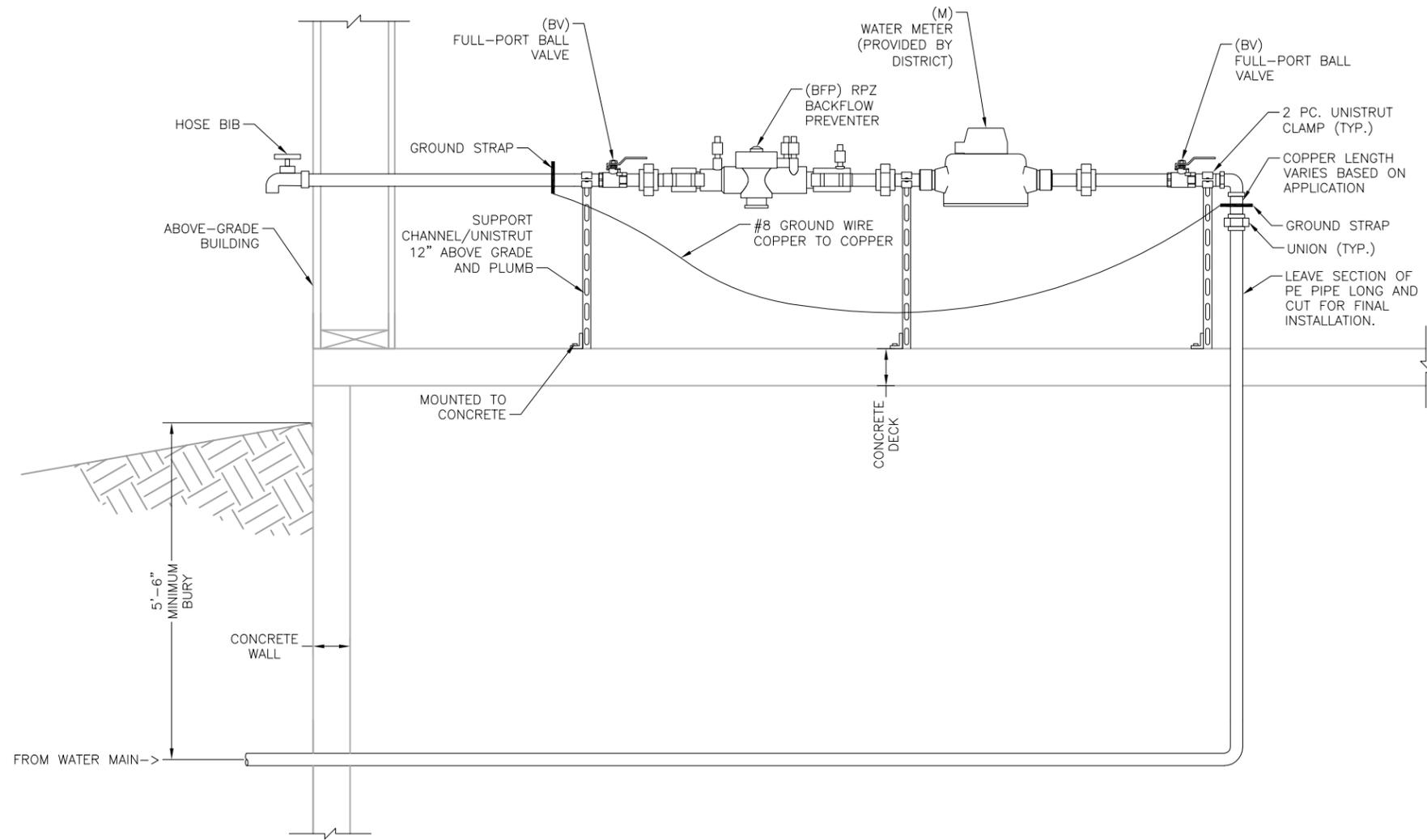
AVATAR EQUITIES  
RIVER BEND CROSSING LIFT STATION  
MECHANICAL SECTIONS

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**A**  
**PL-1** 1-INCH METER DETAIL  
SCALE: N.T.S.

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**AVATAR EQUITIES**  
RIVER BEND CROSSING LIFT STATION  
1-INCH METER DETAIL

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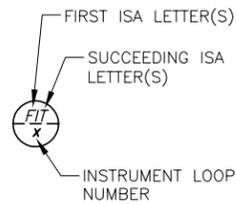
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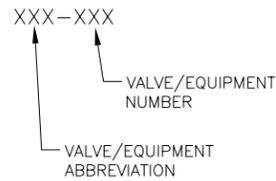
**GENERAL NOTES**

- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THIS PROJECT.

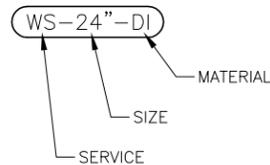
**INSTRUMENT IDENTIFICATION TAG NUMBER**



**EQUIPMENT IDENTIFICATION**



**LINE IDENTIFICATION**



**INSTRUMENT IDENTIFICATION TAG LETTER TABLE (ISA)**

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		BINARY	"OR" FUNCTION	INTERLOCK
C	USER'S CHOICE (*)			CONTROL	CLOSE
D	USER'S CHOICE (*)	DIFFERENCE, DIFFERENTIAL			DEVIATION
E	VOLTAGE		SENSOR, PRIMARY ELEMENT		BACKUP GENERATOR TO BE INTEGRATED WITH AUTOMATIC TRANSFER SWITCH AND PROVIDE POWER TO ENTIRE FACILITY IN THE EVENT OF A MAIN POWER LOSS.
F	FLOW, FLOW RATE	RATIO			
G	USER'S CHOICE (*)		GLASS, GAUGE, VIEWING DEVICE		
H	HAND (MANUAL)				HIGH
I	CURRENT		INDICATE		
J	POWER		SCAN		
K	TIME, SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	USER'S CHOICE (*)		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		OPEN
P	PRESSURE		POINT (TEST CONNECTION)		
Q	QUANTITY	INTEGRATE, TOTALIZE	INTEGRATE, TOTALIZE		
R	RADIATION		RECORD		RUN
S	SPEED, FREQUENCY	SAFETY		SWITCH	STOP
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL, PROBE		
X	UNCLASSIFIED (+)	X AXIS	UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED (+)
Y	EVENT, STATE OR PRESENCE	Y AXIS		AUXILIARY DEVICES	
Z	POSITION, DIMENSION	Z AXIS, SAFETY INSTRUMENTED SYSTEM		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	
	(+)			WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL.	
	(*)			WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT	

**TRANSDUCERS**

- |   |           |    |                 |
|---|-----------|----|-----------------|
| A | ANALOG    | I  | CURRENT         |
| D | DIGITAL   | P  | PNEUMATIC       |
| E | VOLTAGE   | PF | PULSE FREQUENCY |
| F | FREQUENCY | PD | PULSE DURATION  |
| H | HYDRAULIC | R  | RESISTANCE      |

**ACCESSORY DEVICES**

EXAMPLE: TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT



- A = ALARM
- C = CONTROLLER
- I = INDICATOR
- R = RECORDER
- S = SWITCH
- T = TRANSMITTER
- X = UNCLASSIFIED

**INSTRUMENTATION LEGEND:**

- BUTTERFLY VALVE
- GATE VALVE
- PLUG VALVE
- SWING CHECK VALVE
- BALL VALVE
- ELECTRICALLY ACTUATED PLUG VALVE
- PUMP
- FLOW METER
- WATER LEVEL
- TRANSFORMER
- ULTRASONIC LEVEL SENSOR
- LEVEL (FLOAT)
- CENTRIFUGAL PUMP
- CENTRIFUGAL SUBMERSIBLE PUMP

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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 PROCESS AND INSTRUMENTATION  
 NOTES AND LEGEND

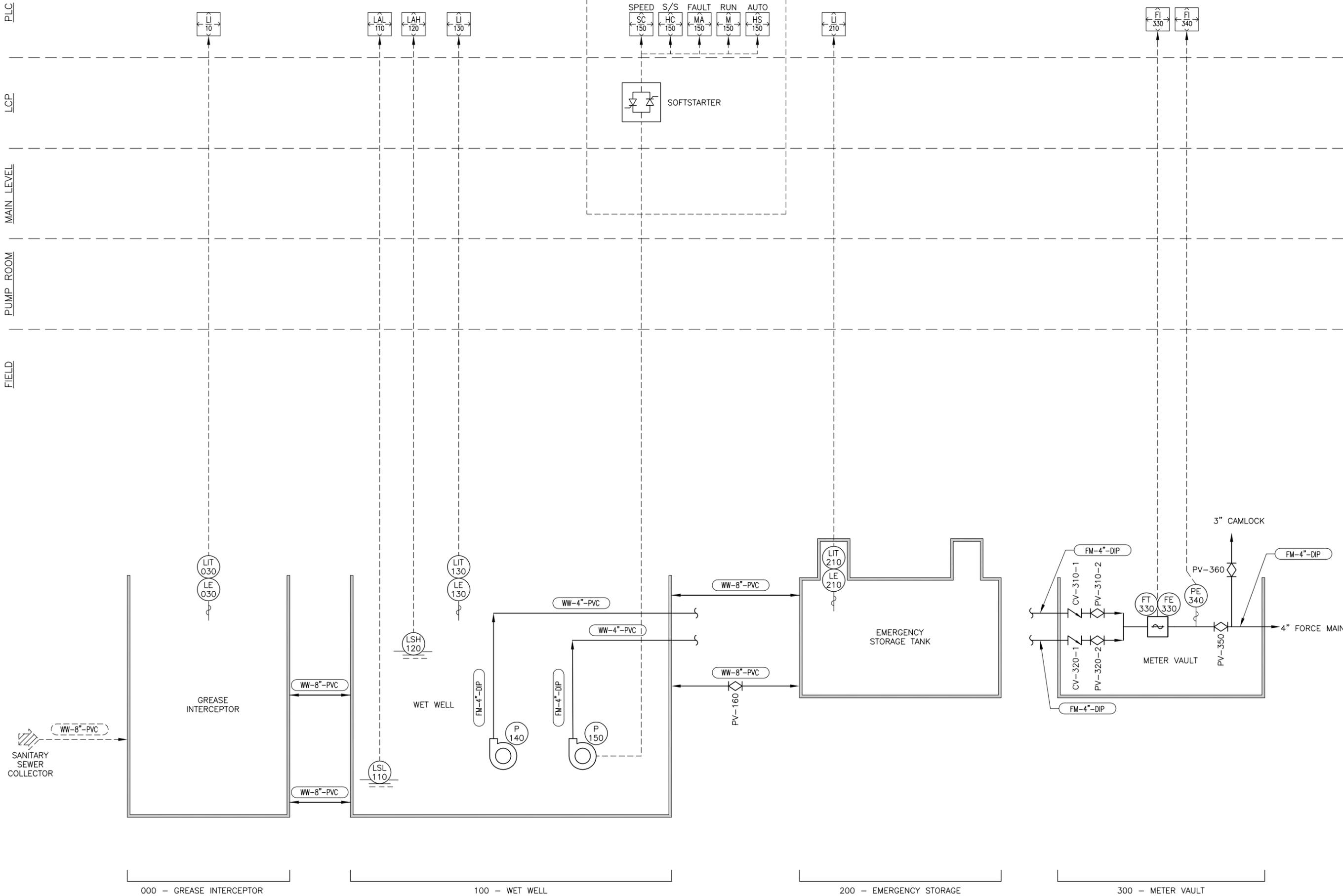
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FIELD PUMP ROOM MAIN LEVEL LCP PLC



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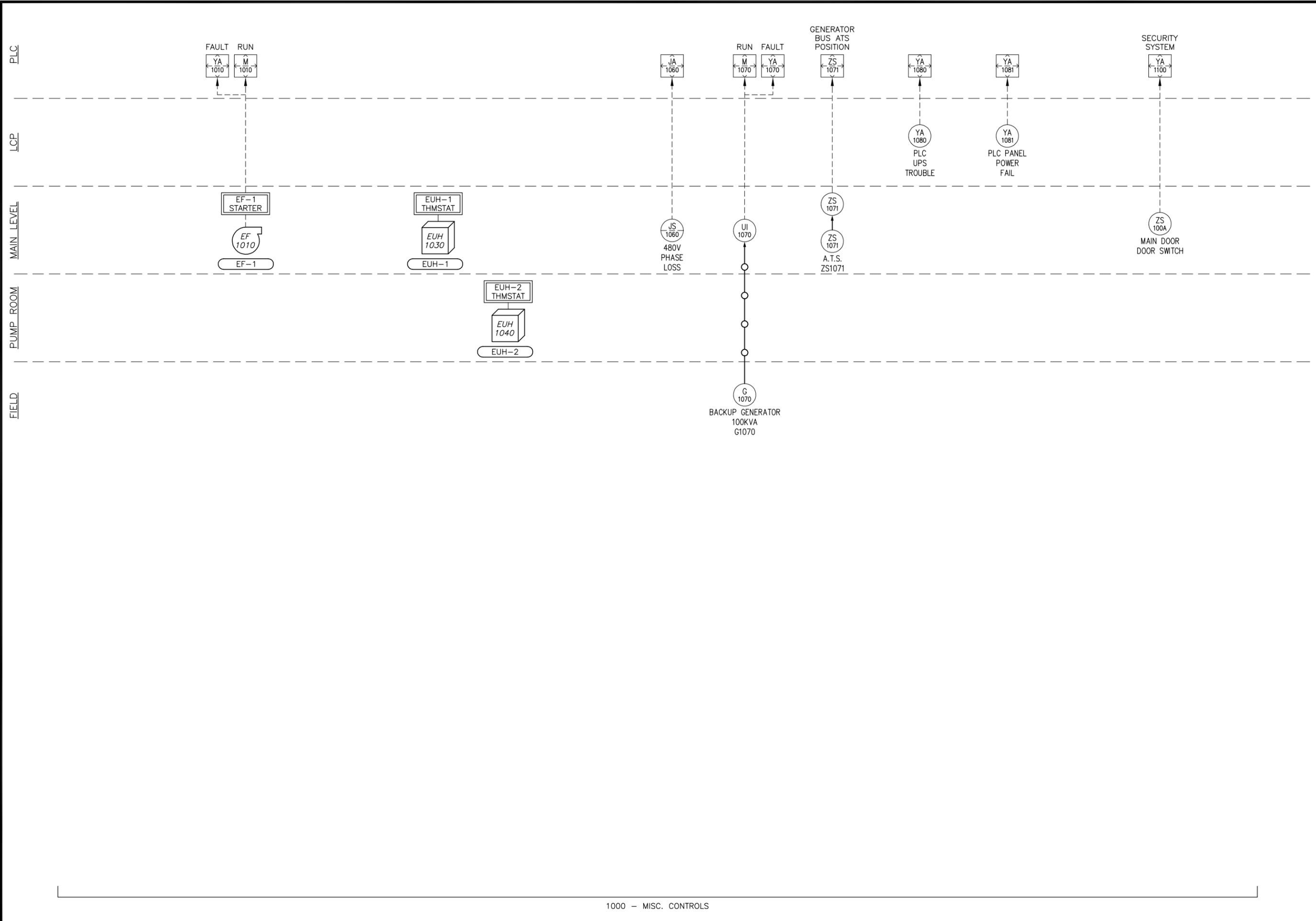
**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 PROCESS AND INSTRUMENTATION  
 CONTROL DIAGRAM 1

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1000 - MISC. CONTROLS

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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 PROCESS AND INSTRUMENTATION  
 CONTROL DIAGRAM 2

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GREASE INTERCEPTOR (DESIGNATION 000)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
LEVEL INDICATOR	LE060		INDICATES LEVEL IN MAIN EMERGENCY STORAGE TANK. ULTRASONIC. OUTPUT SIGNAL TO PLC.

WET WELL (DESIGNATION 100)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
LOW LEVEL FLOAT	LSL130		INDICATES LOW LEVEL ALARM IN WET WELL. OUTPUT SIGNAL TO PLC.
HIGH LEVEL FLOAT	LSH140		INDICATES HIGH LEVEL ALARM IN WET WELL. OUTPUT SIGNAL TO PLC.
LEVEL INDICATOR	LE150		INDICATES LEVEL IN WET WELL. PRESSURE TRANSDUCER. OUTPUT SIGNAL TO PLC.

EMERGENCY STORAGE TANK (DESIGNATION 200)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
LEVEL INDICATOR	LE060		INDICATES LEVEL IN MAIN EMERGENCY STORAGE TANK. ULTRASONIC. OUTPUT SIGNAL TO PLC.

METER VAULT (DESIGNATION 300)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
MAIN PUMPS	P210/P220	7.5 HP. EA. THREE-PHASE	VAUGHN SE3P/S3P PUMPS TO SEND WASTEWATER FROM THE WET WELL TO THE RECEIVING TREATMENT FACILITY VIA THE FORCE MAIN. PUMP CONTROLS ARE BASED ON LEVELS IN WET WELL. PUMPS WILL ALTERNATE BETWEEN LEAD AND LAG VIA LOGIC IN THE PLC.
PRESSURE INDICATING TRANSDUCERS	PIT210/PIT220	4~20 mA	ANALOG PRESSURE TRANSDUCERS (IN COMBINATION WITH VISUAL PRESSURE GAUGES) SEND A 4~20 mA SIGNAL TO THE PLC.

METER VAULT (DESIGNATION 300) CONTINUED			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
MAGNETIC FLOWMETER	FE260	120VAC	METERS FLOW FROM MAIN PUMPS AND REPORT TO PLC. SIGNAL IS USED TO CONTROL SPEED OF MAIN PUMPS IN ORDER TO ACHIEVE MINIMUM FLUSHING VELOCITIES IN THE FORCE MAIN.

MISC. CONTROLS (DESIGNATION 1000)			
EQUIPMENT	EQUIPMENT NUMBER	RATING	COMMENTS
EXHAUST FAN 1	EF1010	1/5	TO EXHAUST AIR FROM ABOVE-GRADE STRUCTURE. FAN TO BE INTEGRATED WITH MAIN PLC AND LOCAL THERMOSTAT.
UNIT HEATER 1	EUH 1030	2.2 KW	CONTROLLED VIA LOCAL THERMOSTAT
UNIT HEATER 2	EUH 1040	1.8 KW	CONTROLLED VIA LOCAL THERMOSTAT
BACKUP GENERATOR	G1070	60 kW	PROPOSED BACKUP GENERATOR TO BE INTEGRATED WITH NEW AUTOMATIC TRANSFER SWITCH TO PROVIDE POWER TO ENTIRE FACILITY IN THE EVENT OF A MAIN POWER LOSS.
AUTOMATIC TRANSFER SWITCH	ZS1071		PROPOSED AUTOMATIC TRANSFER SWITCH TO AUTOMATICALLY TRANSFER POWER FROM GENERATOR TO LIFT STATION IN THE EVENT OF A MAIN POWER LOSS.

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**AVATAR EQUITIES**  
 RIVER BEND CROSSING LIFT STATION  
 PROCESS AND INSTRUMENTATION  
 CONTROL SCHEDULE

NO.	DESCRIPTION	BY	APP.	DATE
1				
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FOR PPRBD  
SUBMITTAL

Project No.: 296.01  
 Date: 03/23/21  
 Design: JPS  
 Drawn: ACH  
 Check: JPM

SYMBOL	DESCRIPTION
<b>LIGHT FIXTURES</b>	
	SEE LIGHT FIXTURE TAG ON PLAN AND REFER TO LIGHT FIXTURE SCHEDULE.
<b>SWITCHES</b>	
S	TOGGLE SWITCH, 20A, SINGLE POLE, VOLTAGE AS REQUIRED, MOUNTED AT 48" ABOVE FINISHED FLOOR.
OC	OCCUPANCY SENSOR, WALL MTD., 48" AFF. SENSOR SWITCH WSD PDT. OR EQUAL.
OC	OCCUPANCY SENSOR, CEILING MTD. SENSOR SWITCH CSM PDT OR EQUAL.
OC	PHOTOCELL SWITCH, MOUNT ON NORTH FACING EXTERIOR WALL, UNO.
<b>SUBSCRIBER'S FUSE SWITCHES</b>	
3	THREE-WAY TOGGLE SWITCH
4	FOUR-WAY TOGGLE SWITCH
D	LOW VOLTAGE DIMMER
M	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
T	ELECTRONIC DIGITAL 24/7 ASTRONOMICAL TIME CLOCK SWITCH
L	LOW VOLTAGE SWITCH
<b>RECEPTACLES</b>	
	DUPLEX RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO, MOUNT 18" AFF.
	QUAD RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO, MOUNT 18" AFF.
	SIMPLEX RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO, MOUNT 18" AFF.
	SPECIAL RECEPTACLE, 220V, TYPE AS INDICATED OR MATCH EQUIPMENT CAP., MOUNT AT HEIGHT AS REQUIRED PER EQUIPMENT.
	DUPLEX RECEPTACLE, 20A, 120V, 3 WIRE GROUNDED, NEMA 5-20R, UNO, WITH TIE-BAR REMOVED FOR SWITCHING, MOUNT 18" AFF.
	SPECIAL PURPOSE RECEPTACLE, NEMA TYPE AS INDICATED, MOUNT AT HEIGHT AS REQUIRED PER EQUIPMENT.
	DOUBLE GANG, TOMBSTONE STYLE, STAINLESS STEEL, FLOOR BOX WITH DEVICE AS INDICATED.
<b>SUBSCRIBERS FOR RECEPTACLES</b>	
C	CLOCK RECEPTACLE
CE	CEILING FLUSH MOUNTED
IG	ISOLATED GROUND
GFI	GROUND FAULT INTERRUPTER
WR	WEATHER RESISTANT WITH GROUND FAULT INTERRUPTER IN WEATHER PROOF BOX
OC	OVER COUNTER, MOUNT RECEPTACLE MOUNTED 6" ABOVE BACKSPASH
UC	UNDER COUNTER
USB	DUPLEX RECEPTACLE WITH TWO USB CHARGER PORTS (HUBBELL USB20X2W OR EQUAL)
<b>POWER SYMBOLS</b>	
□	JUNCTION BOX, FLUSH/SURFACE MTD.
□	POWER POLE WITH COMM AND POWER.
○	MOTOR
□	NON FUSIBLE DISCONNECT SWITCH, RATING AS INDICATED.
□	FUSIBLE DISCONNECT SWITCH, RATING AS INDICATED.
□	PANELBOARD/LOADCENTER.
□	CEILING MOUNTED PAD FAN.
NOTE: NOT ALL SYMBOLS ARE USED. VERIFY ALL CONNECTIONS AND RECEPTACLE TYPES FOR EQUIPMENT FROM APPROVED MECHANICAL AND EQUIPMENT SUBMITTALS PRIOR TO INSTALLATION.	

SYMBOL	DESCRIPTION
<b>COMMUNICATION SYSTEM SYMBOLS</b>	
▼	TELEPHONE OUTLET, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
▼	TELEPHONE OUTLET, WIRING BY OTHERS, UNO, WALL PHONE, MOUNT 48" AFF.
▼	DATA OUTLET, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
▼	DATA/TELEPHONE OUTLET, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
▼	AV/DATA OUTLET FOR TV/MONITOR CONNECTION, WIRING BY OTHERS, WIRING BY OTHERS, UNO, MOUNT 18" AFF.
Ⓢ	LINE VOLTAGE THERMOSTAT, PROVIDED BY MECHANICAL, INSTALLED BY ELECTRICIAN.
<b>ONE-LINE SYMBOLS</b>	
Ⓢ	CIRCUIT BREAKER, FRAME AND TRIP AS INDICATED.
Ⓢ	POWER TRANSFORMER, RATING AS INDICATED.
Ⓢ	GROUND ELECTRODE
Ⓢ	CURRENT TRANSFORMER (CT)
Ⓢ	NON-FUSIBLE SWITCH, RATING AS INDICATED.
Ⓢ	FUSIBLE SWITCH, RATING AND FUSE SIZE AS INDICATED.
Ⓢ	FEEDER SCHEDULE KEY TAG
Ⓢ	UTILITY TRANSFORMER
Ⓢ	UTILITY ELECTRIC METER
Ⓢ	MOTOR WITH DISCONNECT
Ⓢ	MOTOR WITH CONTROLLER AND DISCONNECT
Ⓢ	GENERATOR
Ⓢ	TRANSFER SWITCH
Ⓢ	WEATHERHEAD
Ⓢ	PANELBOARD OR LOADCENTER, IDENTIFICATION, AMPERES AND VOLTAGE.
<b>ABBREVIATIONS</b>	
UNO	UNLESS NOTED OTHERWISE.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
EWC	ELECTRIC WATER COOLER, PROVIDE GFI PROTECTION
E	EXISTING DEVICE TO REMAIN.
N	NEW DEVICE TO BE INSTALLED.
H	MOUNT DEVICE 6" AFF, HORIZONTALLY.
TP	TAMPER-PROOF
SWD	SWITCH RATED BREAKERS
NL	NIGHTLIGHT WIRED FIXTURE

## DIVISION 26 SPECIFICATIONS

GENERAL: THESE DRAWINGS REMAIN THE SOLE PROPERTY OF CHAVEZ, TIFFANY AND AYERS ENGINEERING CORPORATION AND MAY BE USED ONLY FOR THE PROJECT AS INDICATED BY NAME AND LOCATION. ANY OTHER USE REQUIRES PRIOR, WRITTEN PERMISSION. THE CONTRACTOR WILL PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, LICENSES, FEES, PERMITS, ETC. TO COMPLETE THE ELECTRICAL WORK DESCRIBED ON THE DRAWINGS. THE CONTRACTOR WILL WARRANT EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A MINIMUM PERIOD OF ONE YEAR FROM THE DATE OF ACCEPTANCE. WARRANTY SHALL INCLUDE REPLACEMENTS OR REPAIRS WITHOUT COST TO THE OWNER DURING THE WARRANTY PERIOD. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) 2017 AND ALL OTHER APPLICABLE LOCAL CODES AND ORDINANCES. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS.

USE OF DRAWINGS: DO NOT SCALE FROM THE ELECTRICAL DRAWINGS. FOR EXACT LOCATIONS USE ARCHITECT'S DIMENSIONED DRAWINGS, SHOP DRAWINGS AND FIELD MEASUREMENTS. VERIFY ALL LOCATIONS WITH THE ARCHITECT PRIOR TO ELECTRICAL ROUGH-IN.

WIRING METHODS: ALL WIRING FOR LIGHTING AND POWER SYSTEMS WILL BE IN CONDUIT OR CABLE ASSEMBLIES APPROVED BY THE GOVERNING AUTHORITIES. ALL EXPOSED CABLING SHALL BE IN CONDUIT. CONDUCTOR SIZES SHOWN ARE BASED ON AMPACITIES FOR COPPER CONDUCTORS. UNLESS OTHERWISE NOTED, WHEN APPROVED BY ENGINEER, FEEDERS MAY BE ALUMINUM CONDUCTORS OF EQUIVALENT AMPACITIES. GROUNDING CONDUCTORS SHALL BE PROVIDED FOR ALL CIRCUITS SHOWN ON THE DRAWINGS. PROVIDE BLOCKING AND OTHER NECESSARY SUPPORTS IN WALLS AND CEILINGS FOR MATERIAL AND EQUIPMENT TO BE PROVIDED. BRANCH CIRCUIT NUMBERS SHOWN ON THE DRAWINGS MAY BE REARRANGED WITHIN A GIVEN PANELBOARD TO SUIT THE NEEDS OF THE INSTALLATION. ELECTRICAL BRANCH CIRCUITS SHALL BE BALANCED BETWEEN LINES AND PHASES. MULTIWIRE BRANCH CIRCUITS SHALL HAVE A MEANS TO SIMULTANEOUSLY DISCONNECT ALL UNDERGROUND CONDUCTORS AT THE POINT WHERE BRANCH CIRCUITS ORIGINATE (HANDLE TIES ARE AN APPROVED MEANS). THE GROUNDING AND UNDERGROUND CONDUCTOR OF EACH MULTIWIRE BRANCH CIRCUIT SHALL BE GROUPED BY WIRE TIES AT ONE LOCATION IN PANELBOARD. ALL PATIENT CARE AREAS SHALL COMPLY WITH NEC 517.13(A)(8) TO INCLUDE LUMINAIRES AND NEC 250.118, CAN NOT BE IN PVC.

UTILITY COORDINATION: PROVIDE ALL COORDINATION WITH THE UTILITY INCLUDING LOAD DATA FORMS AND APPLICATION FOR SERVICE AS APPLICABLE. INSTALLATION OF SERVICE, PRIMARY OR SECONDARY FEEDERS AND METERING SHALL BE PERFORMED IN ACCORDANCE WITH THE UTILITY REQUIREMENTS.

GROUNDING: PROVIDE A COMPLETE GROUNDING SYSTEM AS REQUIRED BY THE NEC AND LOCAL AUTHORITIES HAVING JURISDICTION. ALL BRANCH CIRCUITS SHALL INCLUDE A GROUND CONDUCTOR. USE OF RACEWAY FOR GROUNDING IS NOT PERMITTED. GALVANIZED GROUND RODS ARE NOT PERMITTED.

PANELBOARDS: PROVIDE MINIMUM INTEGRATED EQUIPMENT SHORT CIRCUIT RATING AS INDICATED ON PANEL SCHEDULES. PROVIDE BOLT-ON BREAKERS UNLESS OTHERWISE NOTED. PROVIDE CIRCUIT BREAKERS SHOWN ON THE PANELBOARD SCHEDULES. ALL TERMINATIONS AND LUGS SHALL BE RATED FOR 75-DEGREE CONDUCTORS. PROVIDE TYPEWRITTEN CIRCUIT SCHEDULES TO IDENTIFY PANELBOARD AND EACH BRANCH BREAKER. ACCEPTABLE MANUFACTURERS ARE SQUARE D, SIEMENS AND EATON.

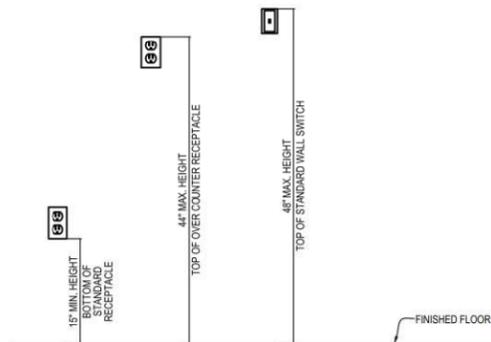
WIRING DEVICES: PROVIDE SPECIFICATION GRADE 15 AND 20-AMPERE SWITCH AND RECEPTACLE DEVICES, AS APPLICABLE. OTHER DEVICES SHALL BE PROVIDED AS INDICATED AND SHALL MATCH PLUG-CONNECTED EQUIPMENT FURNISHED FOR THE PROJECT. DEVICE WALL PLATES SHALL BE SMOOTH, NYLON TYPE AND SHALL BE OFFICE WHITE IN COLOR OR AS OTHERWISE SPECIFIED. DEVICE COLOR SHALL MATCH WALL PLATES. RECEPTACLES IN PATIENT CARE AREAS MUST BE HOSPITAL GRADE.

DISCONNECT SWITCHES: HEAVY DUTY QUICK MAKE, QUICK-BREAK TYPE, NON-FUSED UNLESS OTHERWISE NOTED. PROVIDE MEANS TO LOCK SWITCH IN OFF POSITION WITH PAD-LOCK. ENCLOSURES SHALL BE NEMA TYPE 1 OR NEMA TYPE 3R FOR OUTDOOR INSTALLATION. PROVIDE PERMANENT LABELS FOR DISCONNECTS TO INDICATE EQUIPMENT SERVED.

LIGHTING FIXTURES: SEE LIGHT FIXTURE SCHEDULE. PROVIDE ALL FIXTURES WITH LAMPS AS INDICATED. WHERE REQUIRED, FIXTURES SHALL BE WET OR DAMP LOCATION LABELED. VERIFY MOUNTING HEIGHTS PRIOR TO ELECTRICAL ROUGH-IN. PROVIDE ALL REQUIRED MOUNTING ACCESSORIES REQUIRED FOR PROPER MOUNTING TO SURFACES. SUCH ACCESSORIES TO INCLUDE BUT NOT LIMITED TO SLOPE ADAPTORS, CANOPIES, AND VAULTED CEILING CANOPIES, ETC. PROVIDE DISCONNECTING MEANS FOR LUMINAIRES THAT UTILIZE DOUBLE-ENDED LAMPS AND BALLAST(S) IN ACCORDANCE WITH NEC 410.130(G)(1). ALTERNATES NOT ACCEPTABLE UNLESS NOTED AS "OR EQUAL" ON LIGHT FIXTURE SCHEDULE.

VOICE DATA: RACEWAY SYSTEM BY CONTRACTOR. ALL RACEWAYS SHALL BE PROVIDED WITH PULLSTRINGS OF MINIMUM OF 400-LB TEST STRENGTH. ALL EQUIPMENT RECEPTACLES AND CABLING BY OTHERS. PROVIDE BLANK COVERS OVER ALL UNUSED OUTLETS, CABLES, DEVICES AND CABLE TERMINATION IS BY OTHERS.

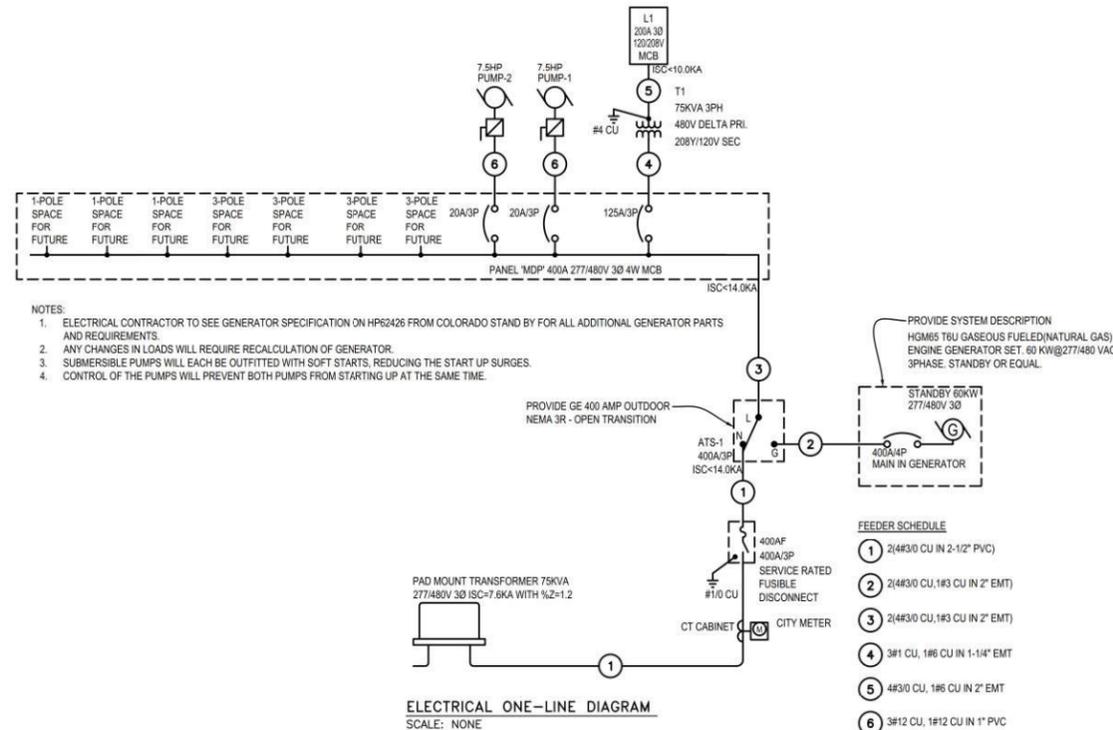
FIRE ALARM: DESIGN BUILD CONTRACTOR TO PROVIDE AS REQUIRED PER FIRE AND LOCAL CODES.



ADA MOUNTING HEIGHT REQUIREMENTS

PANEL L1												
VOLTAGE (L-N):			120			ENCLOSURE TYPE:			NEMA 1			
VOLTAGE (L-L):			208			MOUNTING:			SURFACE			
PHASES, WIRES:			3 φ 4 W			AIC RATING (A):			10000			
MINIMUM BUS CAPACITY (A):			200 A			NOTES:			FULLY RATED			
MAIN O.C. DEVICE (A):			200 A									
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA)			POLE	TRIP AMPS	DESCRIPTION			CKT NO
1	LIGHTING	20	1	234	98			20	EF-1			2
3	OVERHEAD DOOR	20	1			1587	375	20	EJH-2			4
5	SUMP PUMP RECEPTACLE	20	1				1127	0	20	SPARE		6
7	ELECTRICAL ROOM RECEPTACLES	20	1	720	1144			2	20	EJH-1		8,10
9	GENERATOR ROOM RECEPTACLES	20	1			720	1144	2	20	EJH-1		8,10
11	BLANK	0	1				0	1144	2	20	EJH-1	12,14
13	BLANK	0	1	0	1144			2	20	EJH-1		12,14
15	BLANK	0	1			0	1000	1	20	MAGNETIC FLOWMETER		16
17	BLANK	20	1				0	1000	1	20	WATER ON FLOOR SWITCH	18
19	BLANK	0	1	0	1000			1	20	PUMP CONTROL		20
21	BLANK	0	1			0	1080	1	20	CPU RECEPTACLES		22
23	BLANK	0	1				0	1920	1	20	CPU	24
25	BLANK	0	1	0	1080			1	20	COMM RECEPTACLE		26
27	BLANK	0	1			0	0	1	20	SPARE		28
29	BLANK	0	1				0	0	1	0	BLANK	30
31	BLANK	0	1	0	0			1	0	0	BLANK	32
33	BLANK	0	1			0	0	1	0	0	BLANK	34
35	BLANK	0	1				0	0	1	0	BLANK	36
37	BLANK	0	1	0	0			1	0	0	BLANK	38
39	BLANK	0	1				0	0	1	0	BLANK	40
41	BLANK	0	1				0	0	1	0	BLANK	42
				CONNECTED LOAD PHASE TOTALS (VA)								
				5420			5906			5191		
				CONNECTED LOAD (KVA)			DEMAND FACTOR			DEMAND LOAD (KVA)		
				6.0			1.00			6.0		
				5.0			1.00			5.0		
				0.2			1.25			0.2		
				0.1			1.25			0.1		
				1.6			1.00			1.6		
				3.6			1.00			3.6		
				16.5			17.0			17.0		
				45.8			47.1			47.1		
				DEMAND LOAD (KVA)			DEMAND FACTOR			DEMAND LOAD (KVA)		
				17.0			1.00			17.0		
				55.1			1.00			55.1		
				152.9			1.00			152.9		
				76%			76%			76%		
				92%			92%			92%		
				86%			86%			86%		
				96%			96%			96%		

PANEL MDP												
VOLTAGE (L-N):			277			ENCLOSURE TYPE:			NEMA 1			
VOLTAGE (L-L):			480			MOUNTING:			SURFACE			
PHASES, WIRES:			3 φ 4 W			AIC RATING (A):			14000			
MINIMUM BUS CAPACITY (A):			400 A			NOTES:			FULLY RATED			
MAIN O.C. DEVICE (A):			400 A									
CKT NO	DESCRIPTION	TRIP AMPS	POLE	PHASE LOADS (VA)			POLE	TRIP AMPS	DESCRIPTION			CKT NO
1,3,5	SUBMERSIBLE GRINDER PUMP	20	3	2921	2921			3	20	SUBMERSIBLE GRINDER PUMP		2,4,6
1,3,5	SUBMERSIBLE GRINDER PUMP	20	3			2921	2921	3	20	SUBMERSIBLE GRINDER PUMP		2,4,6
1,3,5	SUBMERSIBLE GRINDER PUMP	20	3					3	20	SUBMERSIBLE GRINDER PUMP		2,4,6
7,9,11	PANEL L1 via Transformer	125	3	5420	0		2921	2921	3	0	BLANK	8,10,12
7,9,11	PANEL L1 via Transformer	125	3			5906	0	3	0	BLANK		8,10,12
7,9,11	PANEL L1 via Transformer	125	3				5191	0	3	0	BLANK	8,10,12
13,15,17	BLANK	0	3	0	0			3	0	BLANK		14,16,18
13,15,17	BLANK	0	3			0	0	3	0	BLANK		14,16,18
13,15,17	BLANK	0	3				0	3	0	BLANK		14,16,18
19,21,23	BLANK	0	3	0	0			1	0	BLANK		20
19,21,23	BLANK	0	3			0	0	1	0	BLANK		22
19,21,23	BLANK	0	3				0	1	0	BLANK		24
				CONNECTED LOAD PHASE TOTALS (VA)								
				11282			11748			11033		
				CONNECTED LOAD (KVA)			DEMAND FACTOR			DEMAND LOAD (KVA)		
				6.0			1.00			6.0		
				5.0			1.00			5.0		
				0.2			1.25			0.2		
				0.1			1.25			0.1		
				10.4			1.00			10.4		
				8.8			1.25			11.0		
				3.6			1.00			3.6		
				34.0			36.3			36.3		
				40.9			43.7			43.7		
				DEMAND LOAD (KVA)			DEMAND FACTOR			DEMAND LOAD (KVA)		
				36.3			1.00			36.3		
				296.3			1.00			296.3		
				356.3			1.00			356.3		
				89%			89%			89%		
				96%			96%			96%		
				94%			94%			94%		
				98%			98%			98%		



ELECTRICAL ONE-LINE DIAGRAM  
SCALE: NONE



**JDS-HYDRO**  
CONSULTANTS, INC.  
545 EAST PIKES PEAK AVENUE, SUITE 300  
COLORADO SPRINGS, COLORADO 80903  
(719) 227-0072

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**AVATAR EQUITIES**  
RIVERBEND CROSSING LIFT STATION  
ELECTRICAL LEGEND AND SPECIFICATIONS

NO.	DESCRIPTION	BY	DATE
1			
2			
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FOR CONSTRUCTION

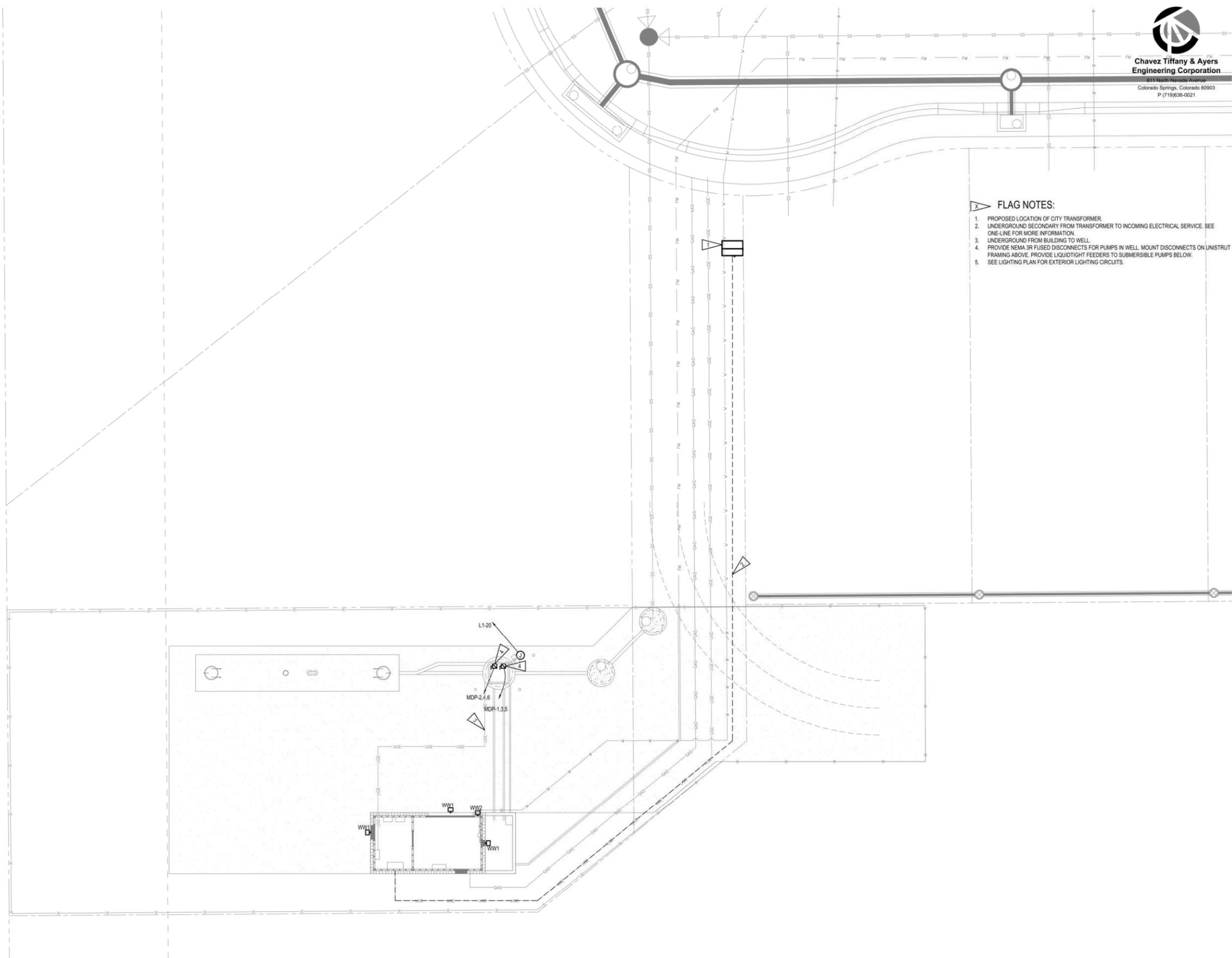
COLORADO LICENSED PROFESSIONAL ENGINEER  
3/22/21

Project No.: 296.01  
Date: 3/22/21  
Design: JJA  
Drawn: EJR  
Check: JJA

**E1**  
SHEET E1 OF 3



**Chavez Tiffany & Ayers**  
Engineering Corporation  
611 North Nevada Avenue  
Colorado Springs, Colorado 80903  
P. (719) 636-0021



- FLAG NOTES:**
1. PROPOSED LOCATION OF CITY TRANSFORMER.
  2. UNDERGROUND SECONDARY FROM TRANSFORMER TO INCOMING ELECTRICAL SERVICE SEE ONE-LINE FOR MORE INFORMATION.
  3. UNDERGROUND FROM BUILDING TO WELL.
  4. PROVIDE NEMA 3R FUSED DISCONNECTS FOR PUMPS IN WELL. MOUNT DISCONNECTS ON UNISTRUT FRAMING ABOVE. PROVIDE LIQUIDTIGHT FEEDERS TO SUBMERSIBLE PUMPS BELOW.
  5. SEE LIGHTING PLAN FOR EXTERIOR LIGHTING CIRCUITS.

**ELECTRICAL SITE PLAN**  
SCALE: 1"=10'-0"



**CONSULTANTS, INC.**  
545 EAST PIKES PEAK AVENUE, SUITE 300  
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**AVATAR EQUITIES**  
**RIVERBEND CROSSING LIFT STATION**  
**ELECTRICAL SITE PLAN**

NO.	DESCRIPTION	BY	APP.	DATE
1				
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FOR CONSTRUCTION



Project No.: **296.01**  
Date: **3/22/21**  
Design: **JJA**  
Drawn: **EJR**  
Check: **JJA**

COMcheck Software Version 4.1.1.0  
**Interior Lighting Compliance Certificate**

**Project Information**

Energy Code: 2015 IECC  
 Project Title: River Bend Lift Station  
 Project Type: New Construction

Construction Site: Owner/Agent: Designer/Contractor:

**Additional Efficiency Package(s)**

Reduced interior lighting power. Requirements are implicitly enforced within interior lighting allowance calculations.

**Allowed Interior Lighting Power**

A Area Category	B Floor Area (ft <sup>2</sup> )	C Allowed Watts / ft <sup>2</sup>	D Allowed Watts (B X C)
1-Warehouse	288	0.59	171
Total Allowed Watts = 171			

**Proposed Interior Lighting Power**

A Fixture ID : Description / Lamp / Wattle Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Watt.	E (C X D)
1-Warehouse LED 1: S4: Other:	1	4	41	164
Total Proposed Watts = 164				

Interior Lighting PASSES: Design 4% better than code

**Interior Lighting Compliance Statement**

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2015 IECC requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

Project Title: River Bend Lift Station Report date: 03/22/21  
 Data filename: Z:\SCA\inc\Projects\River Bend Lift Station\Project Elec\Schedules\River Bend Lift Station IECC Page 1 of 5  
 2015.cck



Chavez Tiffany & Ayers  
 Engineering Corporation  
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 Colorado Springs, Colorado 80903  
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CONSULTANTS, INC.  
 545 EAST PIKES PEAK AVENUE, SUITE 300  
 COLORADO SPRINGS, COLORADO 80903  
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**AVATAR EQUITIES  
 RIVERBEND CROSSING LIFT STATION  
 LIGHTING AND POWER PLANS**

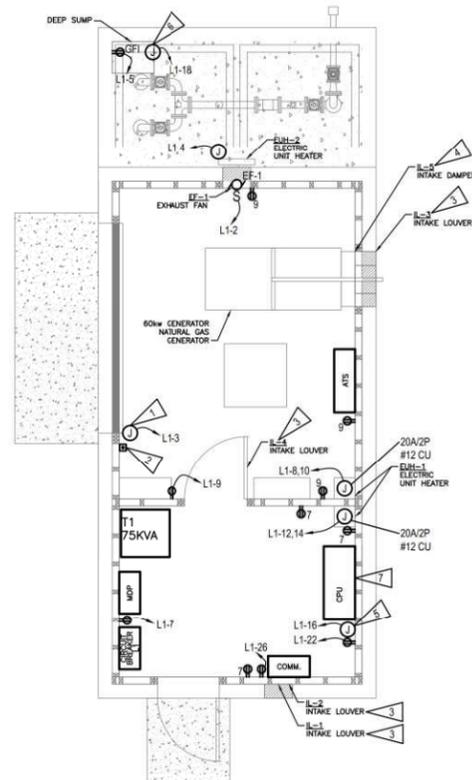
TYPE	MFR	CATALOG NO	LAMPS		MTG	DESCRIPTION	NOTES/VOLTS	TOTAL WATTS
			LUMENS	COLOR TEMP				
S4	LITHONIA OR EQUAL	ZL1D L48 5000LM FST MVOLT 35K 800	5,000	3500K	SURFACE	4' LENSED LED STRIPLIGHT	120	41
XE	LITHONIA OR EQUAL	LHQM LED G	-	-	UNIVERSAL	THERMOPLASTIC EXIT/EM COMBO UNIT WITH BATTERY BACK-UP	120	7.3
WW1	LITHONIA OR EQUAL	WDGE2 LED P1 40K 80CRI VW MVOLT SRM PIR DDBXD	1200	4000K	WALL/SURFACE 9'-0" AFF	COMPACT LED WALL PACK AND OCCUPANCY SENSOR	A	120
WW2	LITHONIA OR EQUAL	DSXW1 LED 10C 700 40K TFTM MVOLT DDBXD	2808	4000K	WALL/SURFACE 9'-0" AFF	LED WALL PACK WITH FORWARD THROW	B	120

**GENERAL NOTES:**

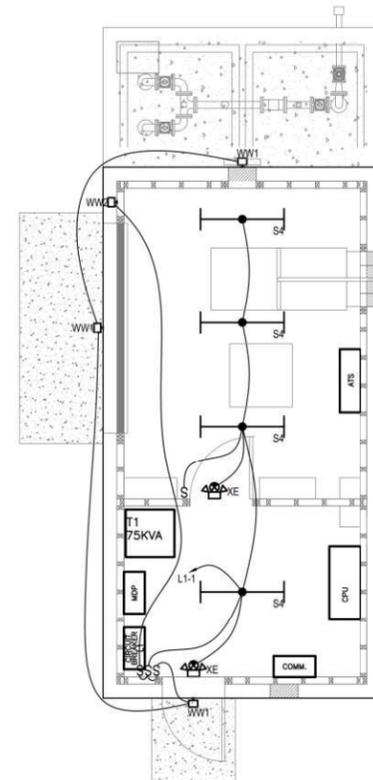
- NOTES:**  
 A. FIXTURE OCCUPANCY SENSOR CAN BE OVERRIDDEN BY STANDARD TOGGLE SWITCH.  
 B. LIGHT FIXTURE CONTROLLED BY STANDARD TOGGLE SWITCH.

**FLAG NOTES:**

1. PROVIDE JUNCTION BOX WITH 120V CIRCUIT CONNECTION FOR OVERHEAD DOOR.
2. PROVIDE BUTTON CONTROL FOR OVERHEAD DOOR.
3. NO ELECTRICAL CONNECTION REQUIRED FOR LOUVER.
4. PROVIDE LOW VOLTAGE WIRING FOR CONNECTION OF LOUVER. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR.
5. PROVIDE JUNCTION BOX WITH 120V CONNECTION FOR MAGNETIC FLOWMETER. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND SUPPLIER.
6. PROVIDE WEATHER PROOF JUNCTION BOX AND 120V CONNECTION FOR WATER-ON-FLOOR SWITCH. COORDINATE INSTALLATION WITH GENERAL CONTRACTOR AND SUPPLIER.
7. COORDINATE SIZE AND CONNECTION FOR CPU.



**POWER PLAN**  
 SCALE: 1/4"=1'-0"



**LIGHTING PLAN**  
 SCALE: 1/4"=1'-0"

NO.	DESCRIPTION	BY	DATE
1			
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6			
7			

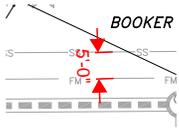
FOR CONSTRUCTION



Project No.: 296.01  
 Date: 3/22/21  
 Design: JJA  
 Drawn: EJR  
 Check: JJA

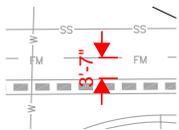
# Lift Station CD\_v6.pdf Markup Summary

dsdlaforce (10)



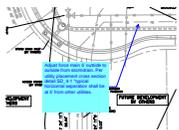
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**Page Label:** 5  
**Author:** dsdlaforce  
**Date:** 5/17/2021 2:53:37 PM  
**Status:**  
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5'-0"



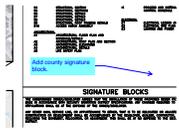
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**Date:** 5/17/2021 3:00:34 PM  
**Status:**  
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3'-7"



**Subject:** Callout  
**Page Label:** 5  
**Author:** dsdlaforce  
**Date:** 5/17/2021 3:01:09 PM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Adjust force main 5' outside to outside from stormdrain. Per utility placement cross section detail SD\_4-1 "typical horizontal separation shall be at 5' from other utilities.



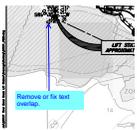
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**Date:** 5/17/2021 9:36:15 AM  
**Status:**  
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**Space:**

Add county signature block.



**Subject:** Text Box  
**Page Label:** 2  
**Author:** dsdlaforce  
**Date:** 5/17/2021 9:36:55 AM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Add County standard construction notes.



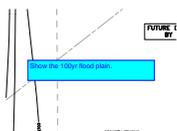
**Subject:** Callout  
**Page Label:** 4  
**Author:** dsdlaforce  
**Date:** 5/17/2021 9:37:49 AM  
**Status:**  
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**Layer:**  
**Space:**

Remove or fix text overlap.



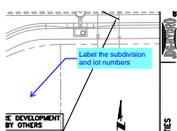
**Subject:** Callout  
**Page Label:** 5  
**Author:** dsdlaforce  
**Date:** 5/17/2021 9:41:05 AM  
**Status:**  
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Revise forcemain linetype shade to solid black.  
The Catamount utility plans referenced this plan set for the force main.



**Subject:** Text Box  
**Page Label:** 5  
**Author:** dsdlaforce  
**Date:** 5/17/2021 9:42:11 AM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Show the 100yr flood plain.



**Subject:** Callout  
**Page Label:** 5  
**Author:** dsdlaforce  
**Date:** 5/17/2021 9:43:38 AM  
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**Layer:**  
**Space:**

Label the subdivision and lot numbers



**Subject:** Text Box  
**Page Label:** 5  
**Author:** dsdlaforce  
**Date:** 5/17/2021 9:53:55 AM  
**Status:**  
**Color:** ■  
**Layer:**  
**Space:**

Provide typical street cross section detail showing the forcemain location.

There seems to be a potential conflict with open trench in future repairs.