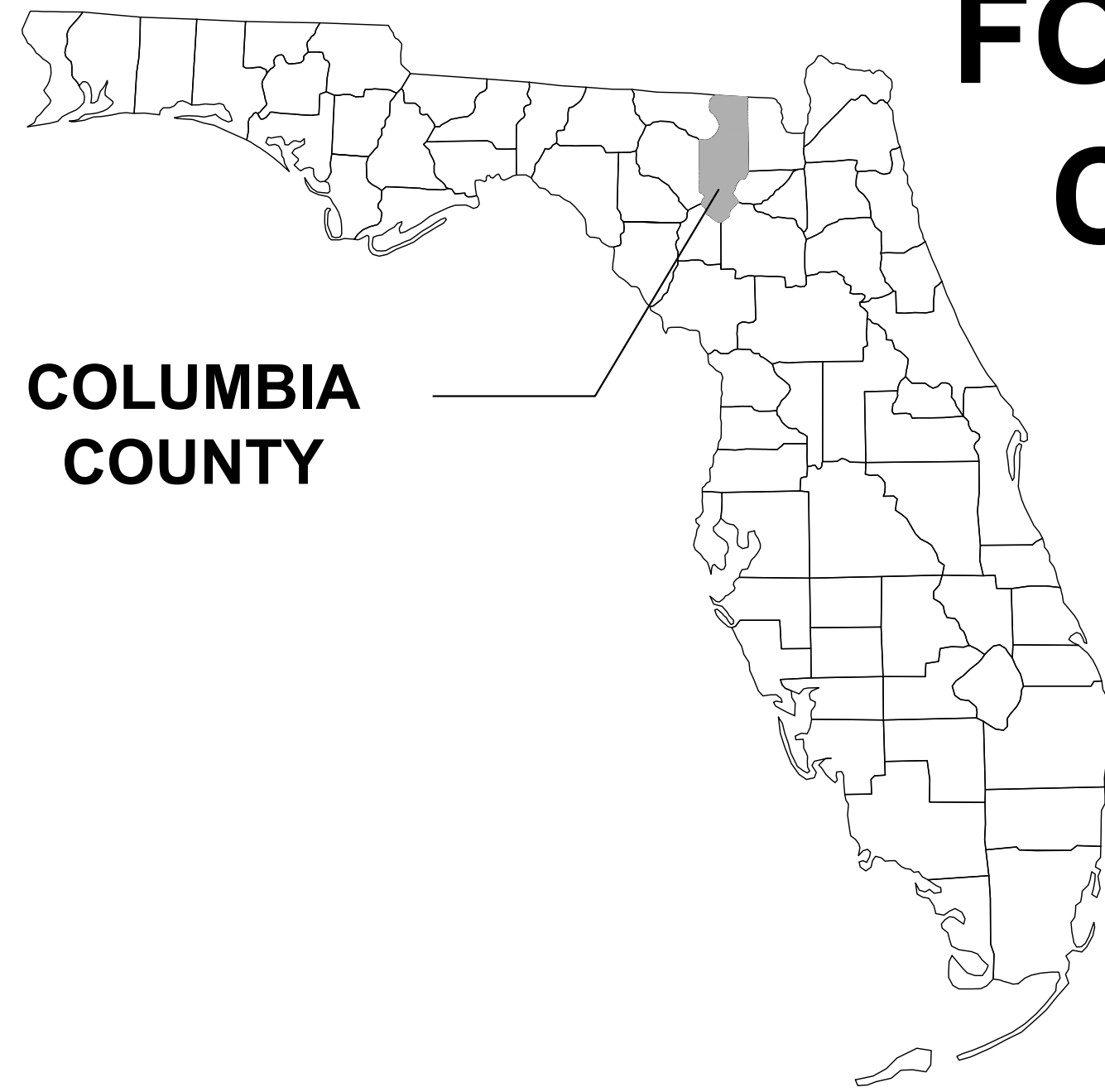




COLUMBIA
COUNTY

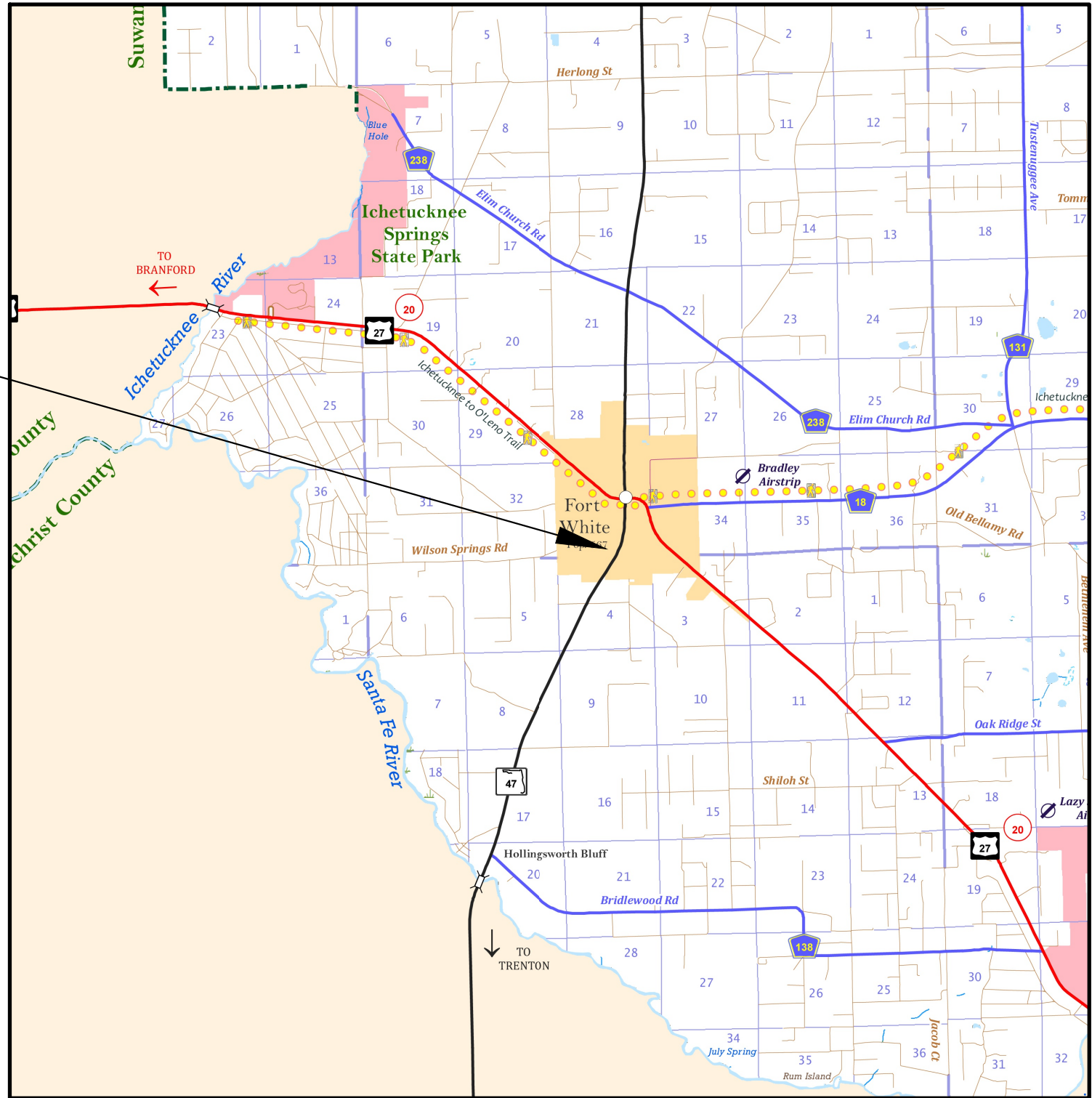
FORT WHITE PHASE 1 WASTEWATER SYSTEM

CONTRACT B - WASTEWATER TREATMENT

COLUMBIA COUNTY, FLORIDA

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PROJECT
LOCATION



PLANS PREPARED FOR:

TOWN OF FORT WHITE
P.O. BOX 129
118 SW WILSON SPRINGS RD
FT WHITE, FL 32038
386-497-2321

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11/2025
ISSUED FOR CONSTRUCTION

REVISIONS	
DATE	DESCRIPTION



NORTH FLORIDA PROFESSIONAL SERVICES, INC.
P.O. BOX 3823
LAKE CITY, FL 32056
PH. 386-752-4675
LIC NO. LB8356
2551 BLAIRSTONE PINES DR.
TALLAHASSEE, FL 32301
WWW.NFPS.NET
CA# 29011

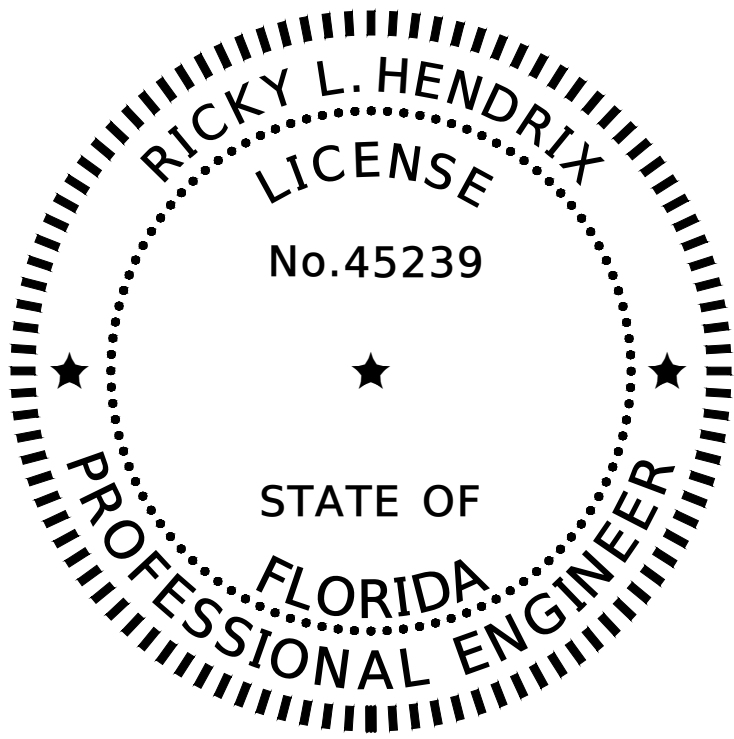
JOB NUMBER:
L220209FOR
EOR:
RICKY L. HENDRIX
P.E. NO.:
45239

COVER SHEET

SHEET
NO.

G1

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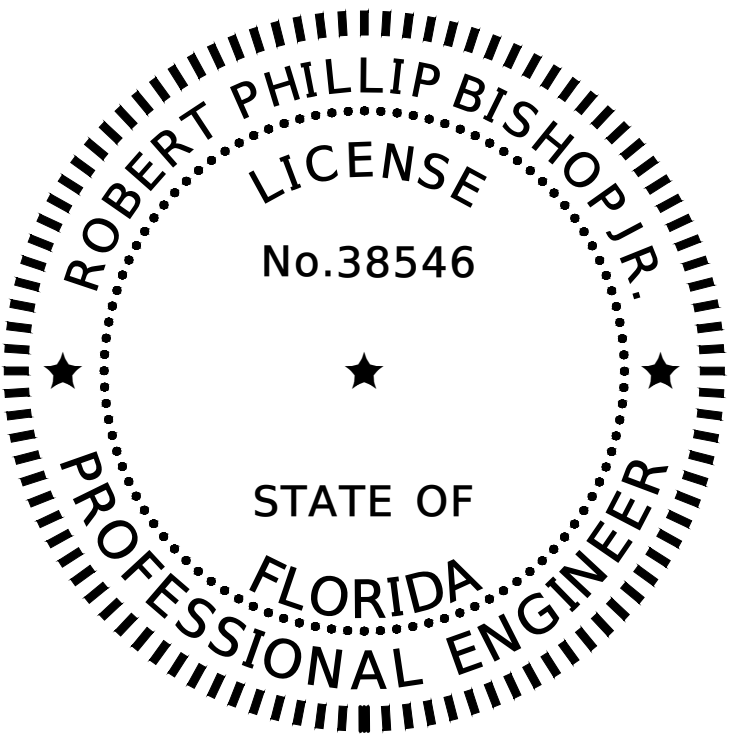
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LAKE CITY, FL 32056
CERTIFICATE OF AUTHORIZATION: 29011
RICKY L. HENDRIX, P.E. NO. 45239

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN
ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

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SPRAYFIELD PIPING PLAN	P10
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Digitally signed by Robert P Bishop
DN: CN=Robert P Bishop,
dnQualifier=A01410D000001872413ECF1000636D7,
O=NORTH FLORIDA PROFESSIONAL SERVICES
INC., C=US
Date: 2025.11.13 17:00:50-05'00'

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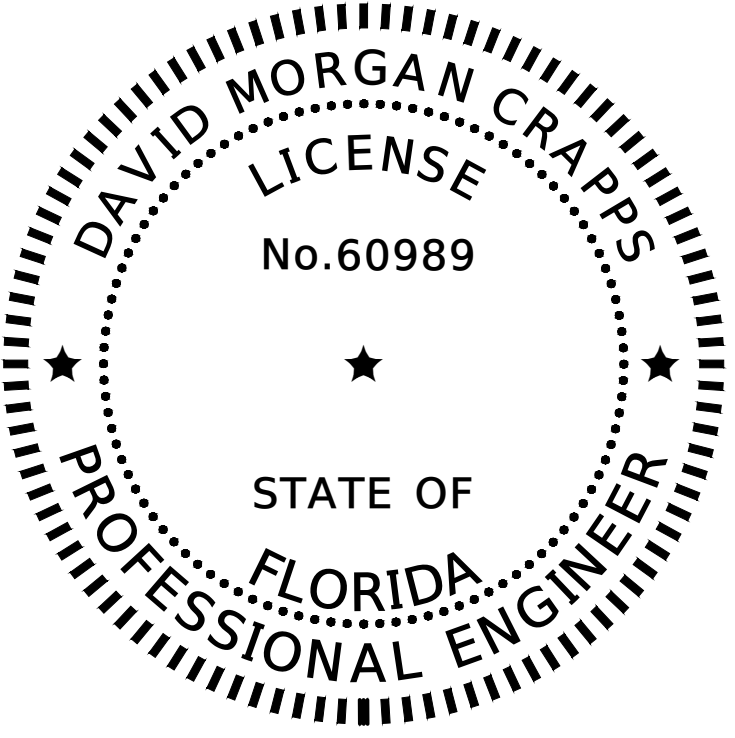
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P.O. BOX 3823
LAKE CITY, FL 32056
CERTIFICATE OF AUTHORIZATION: 29011
ROBERT PHILLIP BISHOP JR., P.E. NO. 38546

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ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

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CRAPPS, P.E. ON THE DATE ADJACENT TO THE SEAL.

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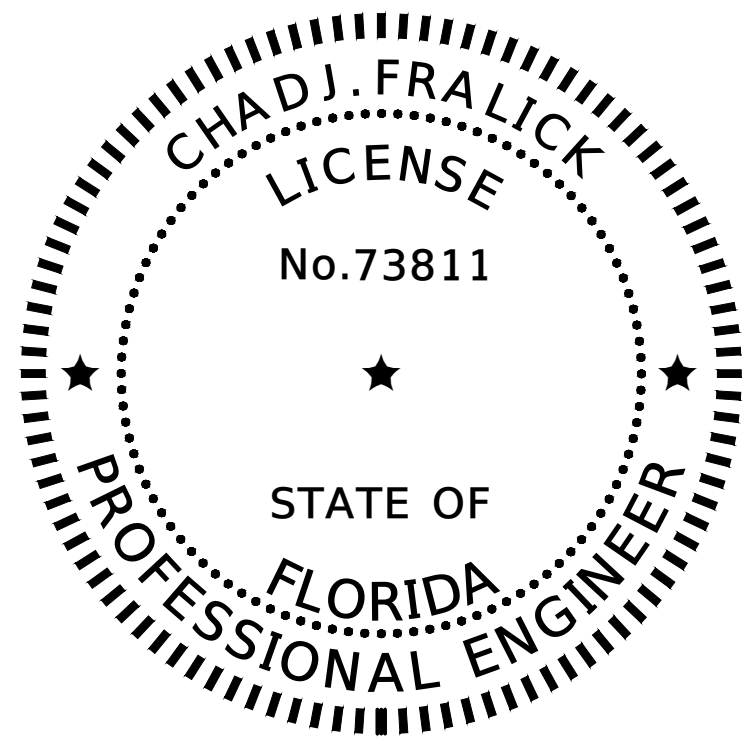
NORTH FLORIDA PROFESSIONAL SERVICES INC.
P.O. BOX 3823
LAKE CITY, FL 32056
CERTIFICATE OF AUTHORIZATION: 29011
DAVID MORGAN CRAPPS, P.E. NO. 60989

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ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

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REVISIONS			NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356	2551 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CA# 29011	JOB NUMBER: L220209FOR EOR: RICKY L. HENDRIX P.E. NO.: 45239	SIGNATURE SHEETS FT WHITE PHASE 1- WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA	SHEET NO.
DATE	DESCRIPTION						
							G2



Chad J. Fralick

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COBURN AND ASSOCIATES CONSULTING ENGINEERS
P.O. BOX 577
HIGH SPRINGS, FL 32655-0577
CERTIFICATE OF AUTHORIZATION: 30824
CHAD J. FRALICK, P.E. NO. 73811

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

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REVISIONS			NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356 2551 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CA# 29011	JOB NUMBER: L220209FOR EOR: RICKY L. HENDRIX P.E. NO.: 45239	SIGNATURE SHEETS FT WHITE PHASE 1- WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA	SHEET NO.
DATE	DESCRIPTION					
						G3

GENERAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE JOB SITE TO ENSURE THAT ALL NEW WORK WILL FIT IN THE MANNER INTENDED ON THE PLANS. SHOULD ANY CONDITIONS EXIST THAT ARE CONTRARY TO THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER AND THE OWNER OF SUCH DIFFERENCES IMMEDIATELY AND PRIOR TO PROCEEDING WITH THE WORK.
2. THE CONTRACTOR SHALL COMPLY WITH ALL CONDITIONS AS SET FORTH BY THE ISSUED FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION 10/2 SELF-CERTIFICATION, SUWANNEE RIVER WATER MANAGEMENT DISTRICT ENVIRONMENTAL RESOURCE PERMIT, FLORIDA DEPARTMENT OF TRANSPORTATION DRIVEWAY CONNECTION PERMIT, FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION DRINKING WATER FACILITY PERMIT.
3. THE CONTRACTOR SHALL MAINTAIN THE CONSTRUCTION SITE IN A SECURE MANNER. ALL OPEN TRENCHES AND EXCAVATED AREAS SHALL BE PROTECTED FROM ACCESS BY THE GENERAL PUBLIC.
4. ALL EXISTING PROPERTY, FENCING, DRIVEWAYS, SIDEWALK, SIGNS, STRUCTURES, UTILITIES AND OTHER ITEMS DISTURBED BY PROJECTS CONSTRUCTION SHALL BE RESTORED BY CONTRACTOR TO ORIGINAL LINE AND GRADE UNLESS OTHERWISE APPROVED BY ENGINEER. CONTRACTOR SHALL, AT ALL, TIMES, MAINTAIN ACCESS TO ADJOINING PROPERTIES ALONG THE PROJECT ROUTE.
5. CONTRACTOR SHALL, AT ALL TIMES, MAINTAIN TRAFFIC PER FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGES CONSTRUCTION, ROADWAY AND TRAFFIC DESIGN STANDARDS AND THE MANUAL ON UNIFORM TRAFFIC DEVICES, LATEST EDITION.
6. ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION SHALL BE PROTECTED. IF A CORNER MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED, THE CONTRACTOR SHOULD NOTIFY THE ENGINEER.
7. THE SITE IS LOCATED IN SECTION 10, 15, 22, 27-31, TOWNSHIP 6 SOUTH, RANGE 17 EAST AND SECTIONS 33-36. OF TOWNSHIP 6 SOUTH, RANGE 16 EAST IN COLUMBIA COUNTY, FLORIDA.
8. THE CONTRACTOR SHALL IMPLEMENT ALL COMPONENTS OF THE EROSION AND SEDIMENTATION CONTROL PLAN PRIOR TO ANY EARTH DISTURBING ACTIVITIES. ALL COMPONENTS SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL ALL VEGETATION IS ESTABLISHED, THE ENTIRE PROJECT AREA IS STABILIZED AND THE OWNER HAS ACCEPTED OPERATION AND MAINTENANCE.
9. THE STORMWATER BASIN IS DESIGNED IN ACCORDANCE WITH SRWMD APPLICANT HANDBOOK VOLUME II AND 62-330 F.A.C.
10. ALL SLOPES OF THE STORMWATER BASIN SHALL BE GRASSED. ALL SLOPES STEEPER THAN 3:1 SHALL BE STAPLED SOD.
11. ALL DISTURBED AREAS NOT SODDED SHALL BE SEEDED WITH A MIXTURE OF LONG-TERM VEGETATION AND QUICK GROWING SHORT-TERM VEGETATION FOR THE FOLLOWING CONDITIONS. FOR THE MONTHS FROM SEPTEMBER THROUGH MARCH, THE MIX SHALL CONSIST OF 70 POUNDS PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF WINTER RYE. FOR THE MONTHS OF APRIL THROUGH AUGUST, THE MIX SHALL CONSIST OF 70 PER ACRE OF LONG-TERM SEED AND 20 POUNDS PER ACRE OF MILLET.
12. THE LOCATION OF THE UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE ONLY. THE EXACT LOCATION SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ALL CONFLICTS OR DISCREPANCIES BETWEEN THESE PLANS AND EXISTING FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF ENGINEER. CONTRACTOR SHALL PROTECT ALL UTILITIES WITHIN THE PROJECT AREAS. CONTRACTOR SHALL CONTACT SUNSHINE 811 OR (800) 432-4770 FOR UTILITY CONSTRUCTION LOCATES AT LEAST TWO (2) BUSINESS DAYS PRIOR TO CONSTRUCTION. UTILITY CONTACT INFORMATION AS FOLLOWS:

NAME	CONTACT	PHONE	EMAIL
AT&T	PK PANTEL	904-727-1568	pp563@att.com
CENTURY LINK	JAMES YOUNG	352-303-2430	jimmyyoung@lumens.net
CLAY ELETRIC	CHRIS BRYAN	352-473-8000 x 8424	cbryan@clayelectric.com
DUKE ENERGY			DEFTtransmissionGOV@duke-energy.com
			PEFTtransmissiongov@pgnmail.com
MCI			ASGinvestigationteam@ASGINC.US
TOWN OF FORT WHITE	VERNON ZIMMERMAN	386-497-2321	town@fortwhitetil.com
WINDSTREAM COMM	DAVID JORDAN	386-364-2493	David.jordan@windstream.com

13. ALL UTILITY CONSTRUCTION SHALL MEET COLUMBIA COUNTY WATER AND WASTEWATER UTILITY STANDARDS, AVAILABLE FROM COLUMBIA COUNTY PUBLIC WORKS.

14. CONTRACTOR SHALL FOLLOW ALL TRENCH SAFETY PRACTICES PER OSHA GUIDELINES AND THE FLORIDA TRENCH SAFETY ACT, CHAPTER 553 F.S.

15. ALL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH COLUMBIA COUNTY LAND DEVELOPMENT REGULATIONS.

16. CONTRACTOR SHALL REVIEW AND BECOME FAMILIAR WITH ALL REQUIRED UTILITY CONNECTIONS PRIOR TO BIDDING. CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS REQUIRED TO COMPLETE CONNECTION TO THE EXISTING UTILITIES. THIS INCLUDES BUT IS NOT LIMITED TO MANHOLE CORING, WET TAPS, PAVEMENT REPAIRS AND DIRECTIONAL BORING.

17. CONTRACTOR SHALL COORDINATE ALL WORK WITH OTHER CONTRACTORS WITHIN PROJECT AREA.

18. FINISHED FLOOR ELEVATIONS SHALL BE AT LEAST ONE (1) FOOT ABOVE THE CENTERLINE OF THE ADJACENT ROADWAY OR AS NOTED FOR THE APPLICABLE LOT. THE LOT SHALL BE GRADED TO DRAIN TO THE ROADSIDE DITCH OF THE ADJACENT ROADWAY.

19. THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE F.D.O.T. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION) AND THE F.D.O.T. STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION (CURRENT EDITION), AWWA SPECIFICATIONS, AND THE COLUMBIA COUNTY DEVELOPMENT STANDARDS UNLESS OTHERWISE NOTED.

20. IF UNSUITABLE MATERIAL IS ENCOUNTERED DURING GRADING, CONTRACTOR SHALL REMOVE UNSUITABLE MATERIAL TO A DEPTH OF 24" BELOW FINISHED GRADE WITHIN THE CONSTRUCTION LIMITS.

21. CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION.

22. CONTRACTOR SHALL NOTIFY FDOT PRIOR TO ANY WORK WITHIN FDOT RIGHT-OF-WAY LIMITS

23. CONTRACTOR SHALL SUBMIT A NOTICE OF CONSTRUCTION COMMENCEMENT TO THE WATER MANAGEMENT DISTRICT AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.

24. CONTRACTOR SHALL SUBMIT A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM NOTICE OF INTENT ALONG WITH SUPPORTING DOCUMENTATION TO THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMIT FEES.

25. CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST 48 HOURS IN ADVANCE OF THE PRESSURE AND LEAKAGE TESTS. NO FINAL TESTING OR PRESSURE TESTING WILL BE ACCEPTED UNLESS WITNESSED BY THE COUNTY'S REPRESENTATIVE.

26. NO WORK SHALL BE PERFORMED ON SATURDAY OR SUNDAY WITHOUT WRITTEN NOTIFICATION TO THE COUNTY AND ENGINEER.

27. IF DURING CONSTRUCTION OR OPERATION OF THE STORM WATER MANAGEMENT SYSTEM, A STRUCTURAL FAILURE IS OBSERVED THAT HAS THE POTENTIAL TO CAUSE THE DIRECT DISCHARGE OF SURFACE WATER INTO THE FLORIDAN AQUIFER SYSTEM, CORRECTIVE ACTIONS DESIGNED OR APPROVED BY A REGISTERED PROFESSIONAL SHALL BE TAKEN AS SOON AS PRACTICAL TO CORRECT THE FAILURE. SEE KARST REPAIR DETAIL #E23. IN ADDITION, A REPORT PREPARED BY A REGISTERED PROFESSIONAL MUST BE PROVIDED AS SOON AS PRACTICAL TO THE DEPARTMENT FOR REVIEW AND APPROVAL THAT PROVIDES REASONABLE ASSURANCE THAT THE BREACH WILL BE PERMANENTLY CORRECTED.

28. ALL UTILITY AND/OR DRAINAGE STRUCTURES SHALL BE PRECAST UNLESS APPROVED BY THE ENGINEER. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO PROCUREMENT.

29. CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY MEETING THE REQUIREMENTS OF CHAPTER 61G17 F.A.C. FOR THE STORMWATER MANAGEMENT SYSTEMS. INCLUDE HORIZONTAL AND VERTICAL DIMENSIONAL DATA SO THAT IMPROVEMENTS ARE LOCATED AND DELINEATED RELATIVE TO THE BOUNDARY. THIS AS-BUILT SURVEY SHOULD INCLUDE ALL OUTFALL STRUCTURES. PROVIDE SUFFICIENT DETAILED DATA TO DETERMINE WHETHER THE IMPROVEMENTS WERE CONSTRUCTED IN ACCORDANCE WITH THE PLANS. A COPY OF THE AS-BUILT SURVEY (IN PAPER AND DIGITAL AUTOCAD FORMAT) MUST BE SUBMITTED TO THE CITY OF LAKE CITY, FLORIDA (DEPARTMENT OF GROWTH MANAGEMENT) AND THE ENGINEER.

R E V I S I O N S			NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356	2551 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CA# 29011	JOB NUMBER: L220209FOR EOR: RICKY L. HENDRIX P.E. NO.: 45239	GENERAL NOTES FT WHITE PHASE 1- WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA	SHEET NO.
DATE	DESCRIPTION						
							C1

WATER AND SEWER NOTES

1. CONTRACTOR SHALL FIELD VERIFY EXISTING UTILITY CONDITIONS AT ALL INTERSECTIONS WITH PROPOSED WORK. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY POTENTIAL CONFLICTS AND SHALL PROVIDE TO THE ENGINEER SUCH RELEVANT INFORMATION AS UTILITY TYPE, VERTICAL AND HORIZONTAL LOCATION, MATERIAL, SIZE AND APPARENT CONDITION OF THE CONFLICTING UTILITY. FIELD VERIFICATION USING "SOFT DIG" EXCAVATIONS, GROUND PENETRATING RADAR (GPR) OR OTHER ACCEPTABLE DETECTION METHODS, SHALL BE PERFORMED 48 HOURS IN ADVANCE OF THE WORK. FOR DIRECTIONAL DRILLING, FIELD VERIFICATION SHALL BE PERFORMED PRIOR TO MOBILIZATION OF THE DRILLING EQUIPMENT.
2. CONTRACTOR IS SOLELY RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES AND OTHER OBSTRUCTIONS BOTH ABOVE AND BELOW GROUND SURFACE. ALL DAMAGE RESULTING FROM FAILURE TO COMPLY WITH THESE REQUIREMENTS SHALL BE REPAIRED SOLELY AT THE CONTRACTOR'S EXPENSE.
3. WHEN SERVICE INTERRUPTIONS ARE NECESSARY FOR EXISTING WATER AND SEWER MAINS, CONTRACTOR SHALL MINIMIZE SUCH INTERRUPTIONS DURING THE COURSE OF CONSTRUCTION. ALL WATER OR SEWER SERVICE CONNECTIONS, INTERRUPTIONS OR RELOCATIONS SHALL BE COORDINATED IN ADVANCE WITH OWNER OR OWNER'S REPRESENTATIVE.
4. ALL NEW OR RELOCATED WATER MAINS THAT SERVE FIRE HYDRANTS AND ALL FIRE HYDRANT LEADS SHALL BE NO SMALLER THAN SIX INCHES IN DIAMETER. AUXILIARY VALVES SHALL BE PROVIDED ON ALL HYDRANT LEADS.
5. SUFFICIENT VALVES SHALL BE PROVIDED IN NEW AND RELOCATED WATER MAINS SO THAT INCONVENIENCE AND SANITARY HAZARDS WILL BE MINIMIZED DURING REPAIRS. ISOLATION VALVES SHALL GENERALLY BE SPACED AT NO MORE THAN 600-FOOT INTERVALS IN RESIDENTIAL AND COMMERCIAL DISTRICTS AND NO MORE THAN 2,000-FOOT INTERVALS IN RURAL AREAS.
6. PROPER BACKFLOW-PREVENTION ASSEMBLIES/DEVICES SHALL BE PROVIDED IN ACCORDANCE WITH RULE 62-555.360, F.A.C., AND THE AWWA'S MANUAL M14, RECOMMENDED PRACTICE FOR BACKFLOW PREVENTION AND CROSS-CONNECTION CONTROL.
7. THIS PROJECT SHALL NOT INCLUDE ANY INTERCONNECTION BETWEEN PREVIOUSLY SEPARATE PUBLIC WATER SYSTEMS THAT HAVE SEPARATE WATER SUPPLY SOURCES. A SPECIFIC CONSTRUCTION PERMIT IS REQUIRED FOR SUCH AN INTERCONNECTION FROM THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP)
8. COPPER TRACER WIRE SHALL BE PLACED ON ALL POTABLE WATER LINES AND WATER LATERALS. TRACER WIRE SHALL BE CONTINUOUS WITH NO INTERRUPTIONS. CONTRACTOR SHALL PERFORM CONTINUITY TESTING ON ALL TRACER WIRE AND PROVIDE WRITTEN TEST RESULTS TO ENGINEER.
9. LOCATOR BALLS SHALL BE PROVIDED AT THE END OF ALL WATER AND SANITARY SEWER LATERALS. THE LOCATOR BALLS SHALL BE SECURED TO THE LATERALS WITH A PLASTIC TIE STRAP.
10. RESTRAINED JOINTING USING MEGALUG-TYPE RESTRAINTS, AS WELL AS ALL WATER AND SANITARY SEWER LATERALS SHALL BE LEFT UNCOVERED UNTIL INSPECTED BY THE ENGINEER OR THE ENGINEER'S INSPECTOR.
11. CONTRACTOR SHALL PROVIDE TEMPORARY STAKES (2" BY 2" WOODEN STAKES) AT THE END OF EACH LATERAL. EACH STAKE SHALL INDICATE EITHER WATER OR SANITARY SEWER LATERAL. CONTRACTOR SHALL MAINTAIN THE STAKES UNTIL AN AS-BUILT SURVEY OF ALL WATER AND SANITARY SEWER MAINS AND LATERALS ARE COMPLETE AND SUBMITTED TO ENGINEER FOR APPROVAL.
12. FOR SANITARY SEWERAGE ALIGNMENT: EACH SECTION OF THE COMPLETED SEWER SYSTEM SHALL BE INSPECTED FOR PROPER ALIGNMENT. INSPECTION SHALL CONSIST OF "LAMPING" FROM MANHOLE TO MANHOLE. ANY SECTION OF THE SEWER SYSTEM, WHICH DOES NOT DISPLAY TRUE, CONCENTRIC ALIGNMENT, SHALL BE INSTALLED AT NO ADDITIONAL EXPENSE TO THE OWNER.

13. ALL PIPE, PIPE FITTINGS, PIPE JOINT PACKING AND JOINTING MATERIALS, VALVES, FIRE HYDRANTS, AND METERS INSTALLED UNDER THIS PROJECT SHALL CONFORM TO APPLICABLE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS.
14. ALL PIPE SIZES AND MATERIALS (INCLUDING PRESSURE CLASS, SCHEDULE AND/OR DIMENSION RATIO) SHALL BE AS INDICATED IN THESE DRAWINGS. POLYVINYL CHLORIDE (PVC) PRESSURE PIPE SHALL CONFORM TO STANDARDS ASTM D1784 AND ASTM D1785 (SIZE 3-INCH OR LESS), AWWA C900 (SIZE 4- THROUGH 12-INCH) OR AWWA C905 (SIZE 14-INCH OR GREATER). PVC NON-PRESSURE GRAVITY PIPE SHALL CONFORM TO STANDARDS ASTM D3404 AND ASTM F679 (SIZE 4- THROUGH 15-INCH). DUCTILE IRON PIPE (DIP) SHALL CONFORM TO STANDARDS AWWA C150 AND C151 (SIZE 4-INCH OR GREATER). HIGH DENSITY POLYETHYLENE (HDPE) PIPE SHALL CONFORM TO STANDARDS AWWA C901 (SIZE 3-INCH OR LESS) OR AWWA C906 (SIZE 4-INCH OR GREATER).
15. ALL PUBLIC WATER SYSTEM COMPONENTS, EXCLUDING FIRE HYDRANTS, THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF INTERNATIONAL STANDARD 60/61 AS ADOPTED IN RULE 62-555.335, F.A.C., OR OTHER APPLICABLE STANDARDS, REGULATIONS, OR REQUIREMENTS REFERENCED IN PARAGRAPH 62-555.320(3)(B), F.A.C.
16. ALL PIPE AND PIPE FITTINGS INSTALLED UNDER THIS PROJECT SHALL CONTAIN NO MORE THAN 8.0% LEAD, AND ANY SOLDER OR FLUX USED IN THIS PROJECT WILL CONTAIN NO MORE THAN 0.2% LEAD.
17. ALL WATER MAIN PIPE AND FITTINGS, EXCEPT PIPE INSTALLED UNDER A CONSTRUCTION PERMIT FOR WHICH THE DEPARTMENT RECEIVED A COMPLETE APPLICATION, SHALL BE COLOR CODED OR MARKED USING BLUE AS A PREDOMINANT COLOR TO DIFFERENTIATE DRINKING WATER FROM RECLAIMED OR OTHER WATER. UNDERGROUND PLASTIC PIPE SHALL BE SOLID-WALL BLUE PIPE, SHALL HAVE A CO-EXTRUDED BLUE EXTERNAL SKIN, OR SHALL BE WHITE OR BLACK PIPE WITH BLUE STRIPES INCORPORATED INTO, OR APPLIED TO, THE PIPE WALL; AND UNDERGROUND METAL OR CONCRETE PIPE SHALL HAVE BLUE STRIPES APPLIED TO THE PIPE WALL. PIPE STRIPED DURING MANUFACTURING OF THE PIPE SHALL HAVE CONTINUOUS STRIPES THAT RUN PARALLEL TO THE AXIS OF THE PIPE, THAT ARE LOCATED AT NO GREATER THAN 90-DEGREE INTERVALS AROUND THE PIPE, AND THAT WILL REMAIN INTACT DURING AND AFTER INSTALLATION OF THE PIPE. IF TAPE OR PAINT IS USED TO STRIPE PIPE DURING INSTALLATION OF THE PIPE, THE TAPE OR PAINT SHALL BE APPLIED IN A CONTINUOUS LINE THAT RUNS PARALLEL TO THE AXIS OF THE PIPE AND THAT IS LOCATED ALONG THE TOP OF THE PIPE; FOR PIPES WITH AN INTERNAL DIAMETER OF 24 INCHES OR GREATER, TAPE OR PAINT SHALL BE APPLIED IN CONTINUOUS LINES ALONG EACH SIDE OF THE PIPE AS WELL AS ALONG THE TOP OF THE PIPE. ABOVEGROUND PIPE AT DRINKING WATER TREATMENT PLANTS SHALL BE COLOR CODED AND LABELED IN ACCORDANCE WITH SUBSECTION 62-555.320(10), F.A.C., AND ALL OTHER ABOVEGROUND PIPE SHALL BE PAINTED BLUE OR SHALL BE COLOR CODED OR MARKED LIKE UNDERGROUND PIPE.
18. ALL FIRE HYDRANTS THAT WILL BE INSTALLED UNDER THIS PROJECT AND THAT WILL HAVE UNPLUGGED, UNDERGROUND DRAINS SHALL BE LOCATED AT LEAST THREE FEET FROM ANY EXISTING OR PROPOSED STORM SEWER, STORMWATER FORCE MAIN, PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., OR VACUUM-TYPE SANITARY SEWER; CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C., OR VACUUM-TYPE SANITARY SEWER; OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-10, F.A.C.; AND AT LEAST TEN FEET FROM ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM."
19. NEW OR ALTERED CHAMBERS, PITS, OR MANHOLES THAT CONTAIN VALVES, BLOW-OFFS, METERS, OR OTHER SUCH WATER DISTRIBUTION SYSTEM APPURTENANCES AND THAT ARE INCLUDED IN THIS PROJECT WILL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER, AND BLOW-OFFS OR AIR RELIEF VALVES INSTALLED UNDER THIS PROJECT SHALL NOT BE CONNECTED DIRECTLY TO ANY SANITARY OR STORM SEWER.

20. NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS OR IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDED PROCEDURES.
21. A CONTINUOUS AND UNIFORM BEDDING SHALL BE PROVIDED IN TRENCHES FOR UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT; BACKFILL MATERIAL WILL BE TAMPED IN LAYERS AROUND UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT AND TO A SUFFICIENT HEIGHT ABOVE THE PIPE TO ADEQUATELY SUPPORT AND PROTECT THE PIPE; AND UNSUITABLY SIZED STONES (AS DESCRIBED IN APPLICABLE AWWA STANDARDS OR MANUFACTURERS' RECOMMENDED INSTALLATION PROCEDURES) FOUND IN TRENCHES WILL BE REMOVED FOR A DEPTH OF AT LEAST SIX INCHES BELOW THE BOTTOM OF UNDERGROUND PIPE INSTALLED UNDER THIS PROJECT.
22. ALL BURIED PRESSURE PIPING INSTALLED UNDER THIS PROJECT SHALL USE RESTRAINED JOINTS WHERE REQUIRED TO PREVENT PIPE MOVEMENT DUE TO THRUST. ALL BURIED PRESSURE FITTINGS, PLUGS, VALVES AND HYDRANTS SHALL BE RESTRAINED WITH MECHANICAL JOINT RETAINER GLANDS (MEGALUG OR EQUIVALENT), WITH VALVES BEING RESTRAINED AS DEAD ENDS IN BOTH DIRECTIONS. REFER TO THE PIPE RESTRAINT JOINT SCHEDULE AND MECHANICAL RESTRAINT DETAILS IN THESE DRAWINGS. NO CONCRETE THRUST BLOCKS SHALL BE ALLOWED.
23. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE CONSTRUCTED OF POLYVINYL CHLORIDE PIPE SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C605, AS INCORPORATED INTO RULES 62-555.320(21) AND 62-555.330, F.A.C., AND ALL OTHER NEW OR ALTERED WATER MAINS INCLUDED IN THIS PROJECT SHALL BE PRESSURE AND LEAKAGE TESTED IN ACCORDANCE WITH AWWA STANDARD C600 AS INCORPORATED INTO RULE 62-555.320(21) AND 62-555.330.
24. CONTRACTOR SHALL PROVIDE ALL TEMPORARY BACKFILLING, THRUST RESTRAINT, BRACING, TEST PLUGS, PUMPING EQUIPMENT, WATER METERS, PRESSURE GAUGES AND OTHER MATERIALS AND EQUIPMENT NEEDED TO COMPLETE HYDROSTATIC PRESSURE TESTING OF ALL APPLICABLE PIPING. ONCE CONTRACTOR HAS PERFORMED SATISFACTORY PRETESTING, CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER 48 HOURS IN ADVANCE OF PROPOSED PRESSURE TESTING AND BACTERIOLOGICAL SAMPLING.
25. NEW OR ALTERED WATER MAINS, INCLUDING FIRE HYDRANT LEADS AND INCLUDING SERVICE LINES THAT WILL BE UNDER THE CONTROL OF A PUBLIC WATER SYSTEM AND THAT HAVE AN INSIDE DIAMETER OF THREE INCHES OR GREATER, SHALL BE FLUSHED DISINFECTED AND BACTERIOLOGICALLY EVALUATED IN ACCORDANCE WITH AWWA STANDARD C651, AS INCORPORATED INTO RULE 62-555.340, F.A.C.
26. TEMPORARY JUMPER CONNECTIONS ARE REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE WATER SYSTEM AND PROPOSED NEW OR ALTERED WATER MAINS WHERE NEEDED FOR FILLING AND FLUSHING ACTIVITIES. JUMPER CONNECTIONS SHALL BE MAINTAINED UNTIL ALL FLUSHING, DISINFECTION, AND TESTING ARE COMPLETE TO THE OWNER'S SATISFACTION AND UNTIL CLEARANCE FOR SERVICE HAS BEEN ISSUED BY THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION (FDEP) AND ALL OTHER PERTINENT AGENCIES.
27. NEW OR ALTERED WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL BE INSTALLED IN AREAS WHERE THERE ARE KNOWN AGGRESSIVE SOIL CONDITIONS SHALL BE PROTECTED THROUGH USE OF CORROSION-RESISTANT WATER MAIN MATERIALS, THROUGH ENCASEMENT OF THE WATER MAINS IN POLYETHYLENE, OR THROUGH PROVISION OF CATHODIC PROTECTION.
28. NEW OR RELOCATED UNDERGROUND UTILITIES SHALL MEET THE SEPARATION REQUIREMENTS OF CHAPTER 62-555.314 F.A.C. WHERE MINIMUM SEPARATION BETWEEN UTILITIES IS REQUIRED, SEPARATION DISTANCES SHALL BE MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE. REFER TO THE TYPICAL PIPE SEPARATION DETAIL IN THESE DRAWINGS.

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WATER AND SEWER NOTES (CONTINUED)

29. NEW OR RELOCATED, UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER, STORM SEWER, STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

30. NEW OR RELOCATED, UNDERGROUND WATER MAINS INCLUDED IN THIS PROJECT SHALL HAVE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND TEN FEET IS PREFERRED BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-TYPE SANITARY SEWER, EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

31. THE HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY-TYPE SANITARY SEWERS MAY BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST SIX INCHES, TWELVE INCHES IS PREFERRED, ABOVE THE TOP OF THE SEWER.

32. A HORIZONTAL SEPARATION DISTANCE OF AT LEAST TEN FEET SHALL BE MAINTAINED BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM".

33. NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED GRAVITY- OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 6 INCHES, PREFERABLY 12 INCHES ABOVE THE OTHER PIPELINE. NEW OR RELOCATED, UNDERGROUND WATER MAINS THAT ARE INCLUDED IN THIS PROJECT AND THAT WILL CROSS ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER OR STORMWATER FORCE MAIN, OR PIPELINE CONVEYING RECLAIMED WATER WILL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES ABOVE THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE OR BELOW THE OTHER PIPELINE. REFER TO THE UTILITY CONFLICT ADJUSTMENT DETAILS IN THESE DRAWINGS.

34. AT THE UTILITY CROSSINGS DESCRIBED ABOVE, SEPARATION DISTANCE SHALL NOT APPLY WHERE A WATER SERVICE PIPE CROSSES A SEWER PIPE, PROVIDED THE WATER SERVICE PIPE IS SLEEVED TO AT LEAST FIVE FEET HORIZONTALLY FROM THE SEWER PIPE CENTERLINE ON BOTH SIDES OF SUCH CROSSINGS WITH PIPE MATERIAL LISTED IN FLORIDA BUILDING CODE SECTION 603.2.

35. CONTRACTOR SHALL PROVIDE AN AS-BUILT SURVEY, MEETING THE REQUIREMENTS OF CHAPTER 61G17 F.A.C. FOR THE POTABLE WATER MAIN EXTENSION AND THE SANITARY SEWER COLLECTION AND TRANSMISSION. INCLUDE HORIZONTAL AND VERTICAL DIMENSIONAL DATA SO THAT IMPROVEMENTS ARE LOCATED AND DELINEATED RELATIVE TO THE BOUNDARY. PROVIDE SUFFICIENT DETAILED DATA TO DETERMINE WHETHER THE IMPROVEMENTS WERE CONSTRUCTED IN ACCORDANCE WITH THE PLANS. A COPY OF THE AS-BUILT SURVEY (IN PAPER AND DIGITAL AUTOCAD FORMAT) MUST BE SUBMITTED TO OWNER AND THE ENGINEER

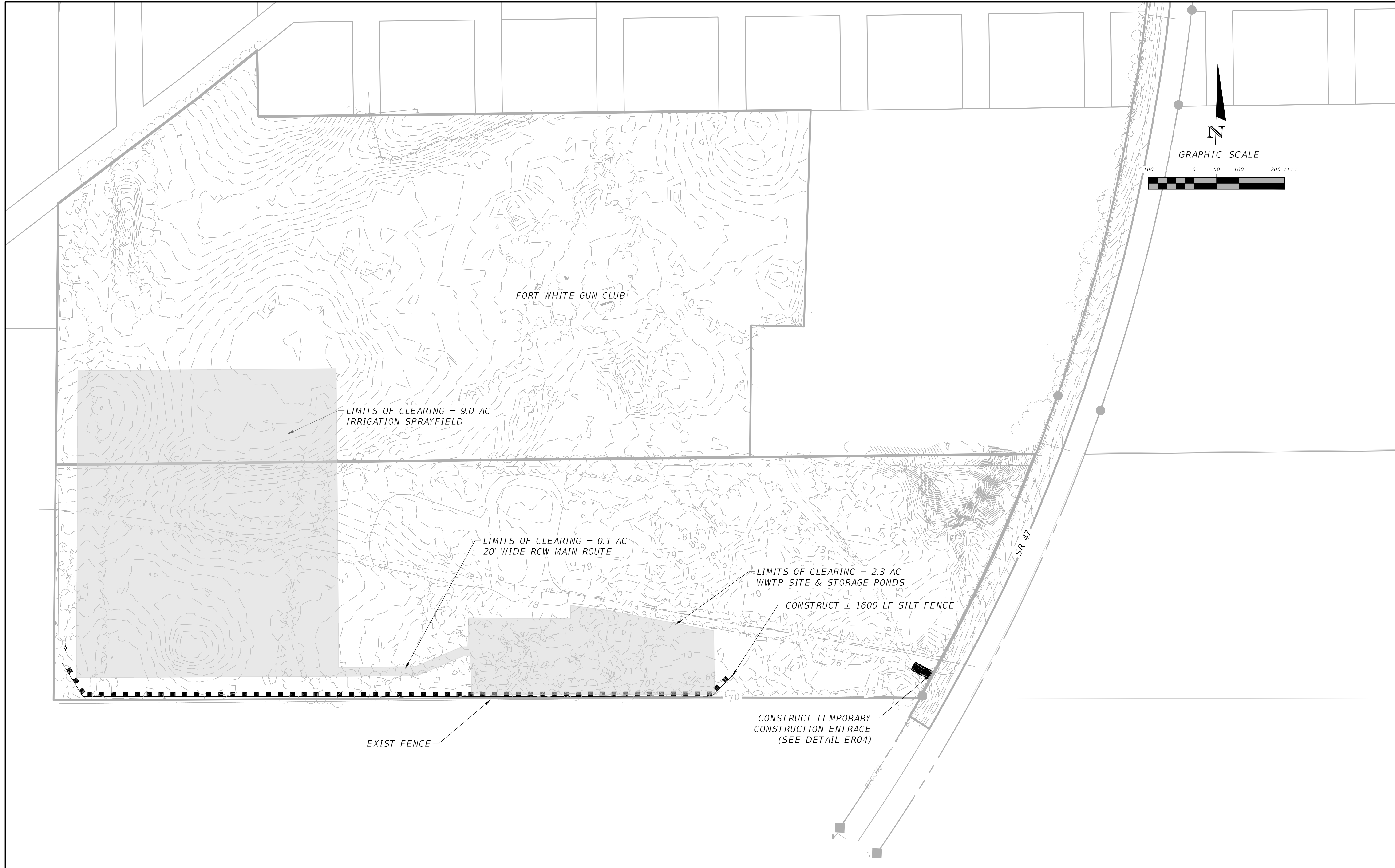
36. AS-BUILT INFORMATION FOR BURIED UTILITIES SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

- 1. CERTIFICATION THAT ALL BURIED UTILITIES MEET THE MINIMUM COVER AND SEPARATION REQUIREMENTS.
- 2. HORIZONTAL AND VERTICAL LOCATION OF ALL JOINT DEFLECTIONS, FITTINGS, VALVES, AND HYDRANTS.
- 3. HORIZONTAL AND VERTICAL LOCATION OF ALL PIPING AT 50-FOOT INTERVALS.
- 4.HORIZONTAL AND VERTICAL LOCATION DATA FOR ALL CONSTRUCTION THAT DEVIATES FROM THE APPROVED ENGINEERING PLANS.

37. CONTRACTOR SHALL PROVIDE POTABLE WATER TEST REPORTS IN ACCORDANCE WITH FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS AFTER DISINFECTION OF THE SYSTEM.

38. WHERE THE DISTANCE BETWEEN AN EXISTING POWER POLE AND THE TOP OF UTILITY TRENCH IS LESS THAN THE TRENCH DEPTH, CONTRACTOR EITHER SHALL USE A TRENCH BOX OR SHALL COORDINATE WITH THE APPLICABLE ELECTRIC UTILITY PROVIDER TO SECURE THE POWER POLE DURING TRENCHING AND UTILITY CONSTRUCTION.

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DATE	DESCRIPTION						C4

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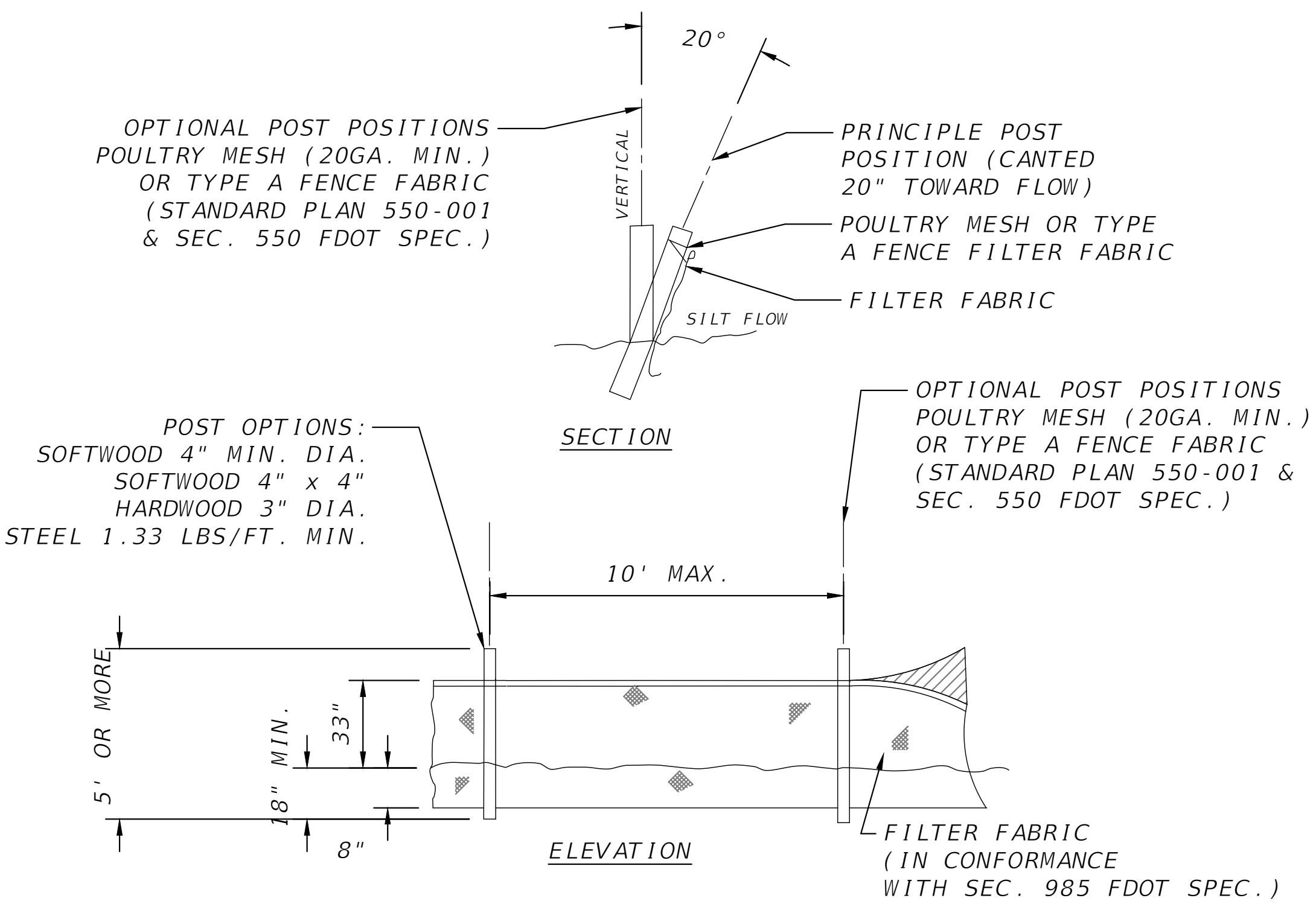
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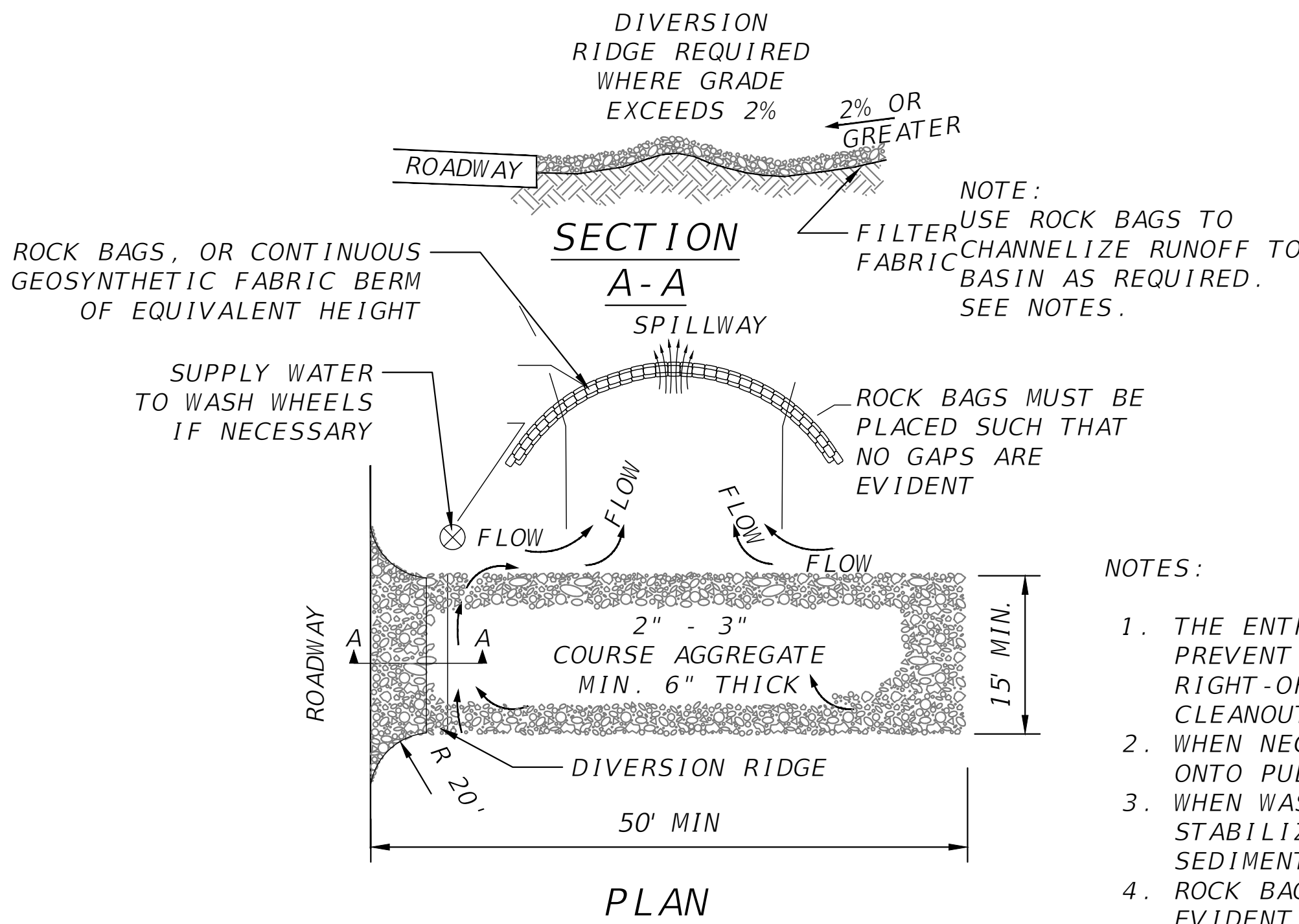
EROSION CONTROL NOTES

1. THIS EROSION AND SEDIMENTATION CONTROL PLAN COMPLIES WITH THE REQUIREMENTS OF THE "FLORIDA DEVELOPMENT MANUAL" AND THE "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTOR'S MANUAL".
2. THE CONTRACTOR SHALL ADHERE TO COLUMBIA COUNTY, SRWMD, AND OTHER GOVERNING AUTHORITIES FOR EROSION AND SEDIMENT CONTROL REGULATIONS. IF THE CONTRACTOR NEEDS TO CHANGE THIS PLAN TO MORE EFFECTIVELY CONTROL EROSION AND SEDIMENTATION, THE CONTRACTOR SHALL USE BMPs FROM THE "FLORIDA EROSION AND SEDIMENT CONTROL INSPECTOR'S MANUAL".
3. THE CONTRACTOR SHALL ADJUST AND REVISE THIS PLAN TO MEET ACTUAL FIELD CONDITIONS. ANY REVISIONS SHALL BE APPROVED BY THE REVIEWING AGENCIES.
4. SEDIMENT AND EROSION CONTROL FACILITIES, STORM DRAINAGE FACILITIES AND DETENTION BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
5. EROSION CONTROL MEASURES SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL OF 0.5 INCHES OR GREATER, AND ALL FACILITIES REPAIRED OR REPLACED AS NECESSARY.
6. SEDIMENT AND EROSION CONTROL MEASURES SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION IS COMPLETE AND UNTIL A PERMANENT GROUND COVER HAS BEEN ESTABLISHED.
7. ALL OPEN DRAINAGE SWALES SHALL BE GRASSED AND RIPRAP SHALL BE PLACED AS REQUIRED TO CONTROL EROSION.
8. SILT FENCES SHALL BE LOCATED ON SITE TO PREVENT SEDIMENT AND EROSION FROM LEAVING PROJECT LIMITS.
9. CONTRACTOR SHALL PLACE A DOUBLE ROW OF SILT FENCE IN AREAS WHERE RUNOFF FROM DISTURBED AREAS MAY ENTER WETLANDS.
10. DURING CONSTRUCTION AND AFTER CONSTRUCTION IS COMPLETE, ALL STRUCTURES SHALL BE CLEANED OF ALL DEBRIS AND EXCESS SEDIMENT.

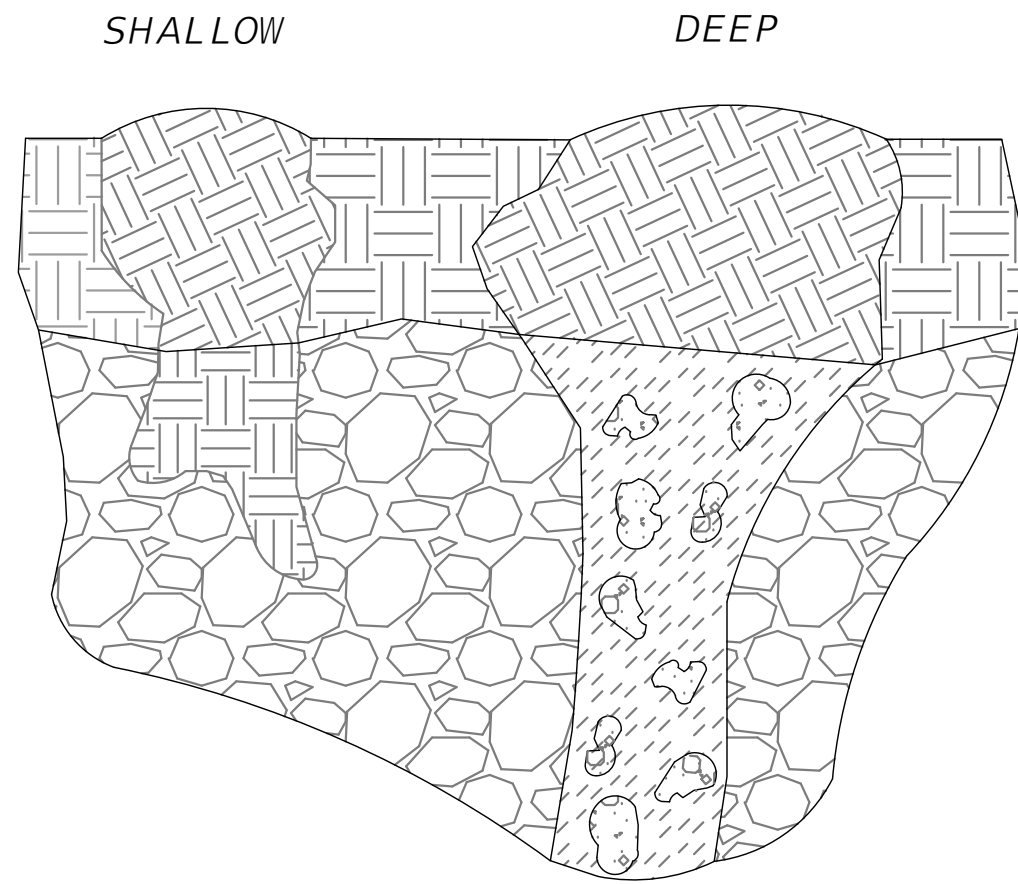
11. ALL GRADED AREAS SHALL BE STABILIZED IMMEDIATELY WITH A TEMPORARY FAST-GROWING COVER AND/OR MULCH.
12. A PAD OF RUBBLE RIP RAP SHALL BE PLACED AT THE BOTTOM OF ALL TEMPORARY OR PROPOSED PERMANENT COLLECTION FLUMES AND COLLECTION PIPE OUTLETS. GRANITE OR LIMESTONE RIPRAP IS REQUIRED, NO BROKEN CONCRETE WILL BE ACCEPTED.
13. ALL SIDE SLOPES STEEPER THAN 3:1 SHALL BE ADEQUATELY PROTECTED FROM EROSION THROUGH THE USE OF SYNTHETIC BALES OR SODDING.
14. ALL STABILIZATION PRACTICES SHALL BE INITIATED AS SOON AS PRACTICABLE IN AREAS OF THE PROJECT WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY STOPPED, BUT IN NO CASE SHALL THE DISTURBED AREA BE LEFT UNPROTECTED FOR MORE THAN SEVEN DAYS.
15. ALL WASTE GENERATED ON THE PROJECT SHALL BE DISPOSED OF BY THE CONTRACTOR IN AREAS PROVIDED BY CONTRACTOR.
16. LOADED HAUL TRUCKS SHALL BE COVERED WITH TARPS.
17. EXCESS DIRT SHALL BE REMOVED DAILY, UNLESS COORDINATED WITH OWNER'S PERMISSION TO STORE OR SPREAD ON SITE.
18. THIS PROJECT SHALL COMPLY WITH ALL WATER QUALITY STANDARDS. PERMIT REQUIRED FROM SRWMD HAS BEEN OBTAINED.
19. QUALIFIED PERSONNEL SHALL INSPECT THE AREA USED FOR STORAGE OF STOCKPILES, THE SILT FENCE AND STRAW BALES, THE LOCATION WHERE VEHICLES ENTER OR EXIT THE SITE, AND THE DISTURBED AREAS THAT HAVE NOT BEEN FINALLY STABILIZED, AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM OF 0.5 INCHES OR GREATER.
20. SITES THAT HAVE BEEN FINALLY STABILIZED WITH SOD OR GRASSING SHALL BE INSPECTED AT LEAST ONCE EVERY WEEK.



ER18 TYPE IV SILT FENCE
SCALE: N.T.S.



ERO4 TEMPORARY CONSTRUCTION ENTRANCE
SCALE: N.T.S.

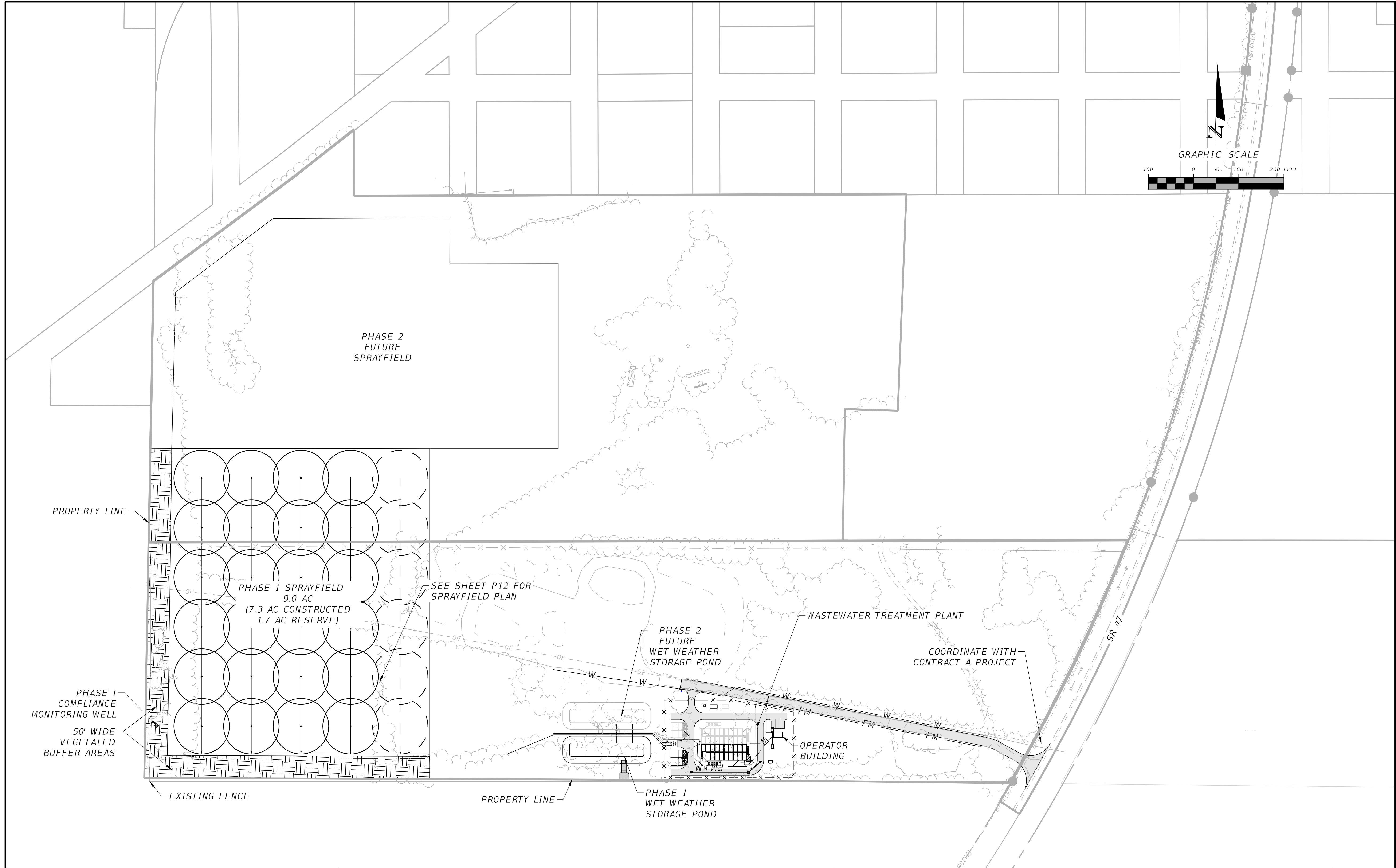


- NOTES:
THE FOLLOWING SHALL BE PERFORMED IN THE EVENT ANY KARST FEATURES FORM DURING CONSTRUCTION - E.G. SOLUTION CAVITIES, CHIMNEYS, SINKHOLES.
1. NOTIFY THE WATER MANAGEMENT DISTRICT AND THE APPLICABLE MUNICIPAL OR COUNTY PUBLIC WORKS IMMEDIATELY WHEN THE FEATURES ARE ENCOUNTERED. THE METHOD OF REPAIR SHALL BE SUBMITTED FOR REVIEW, COMMENT, AND APPROVAL PRIOR TO ATTEMPTING ANY REPAIR.
 2. SHALLOW KARST FEATURES ARE TYPICALLY LESS THAN 5' DEEP AND ONLY HAVE SMALL VOIDS IN THE LIMESTONE. THE FEATURE CAN BE REPAIRED BY BACKFILLING WITH A LOWER PERMEABILITY MATERIAL SUCH AS CLAYEY-SAND OR CLAY. COMPACT THE BACKFILL AND CREATE A SMALL MOUND SLIGHTLY ABOVE GRADE TO ACCOUNT FOR SETTLING.
 3. DEEP KARST FEATURES SHALL BE REPAIRED MORE PERMANENTLY. EXCAVATE THE FEATURE TO THE LIMESTONE BEDROCK. PLUG VOIDS IN THE BEDROCK WITH CLEAN GROUT. BACKFILL OVER THE PLUG WITH A LOWER-PERMEABILITY MATERIAL SUCH AS CLAYEY-SAND OR CLAY. COMPACT THE BACKFILL TO GRADE.

ER23 KARST FEATURE REPAIR DETAIL
SCALE: N.T.S.

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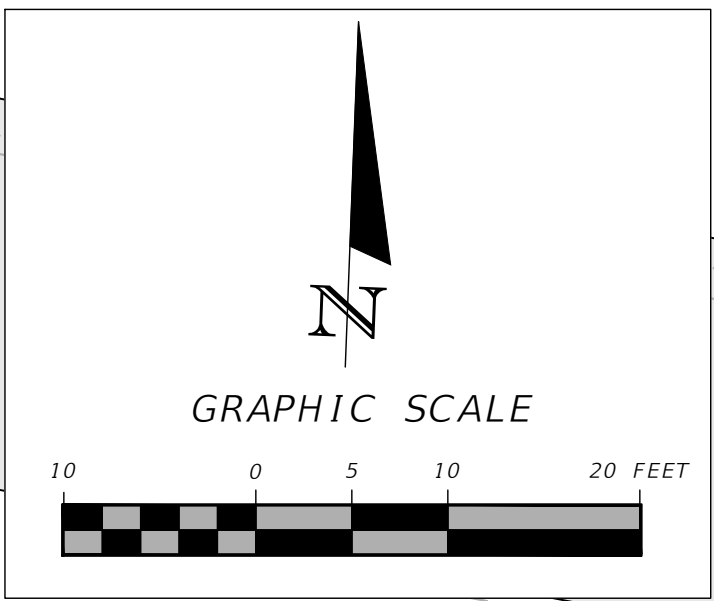
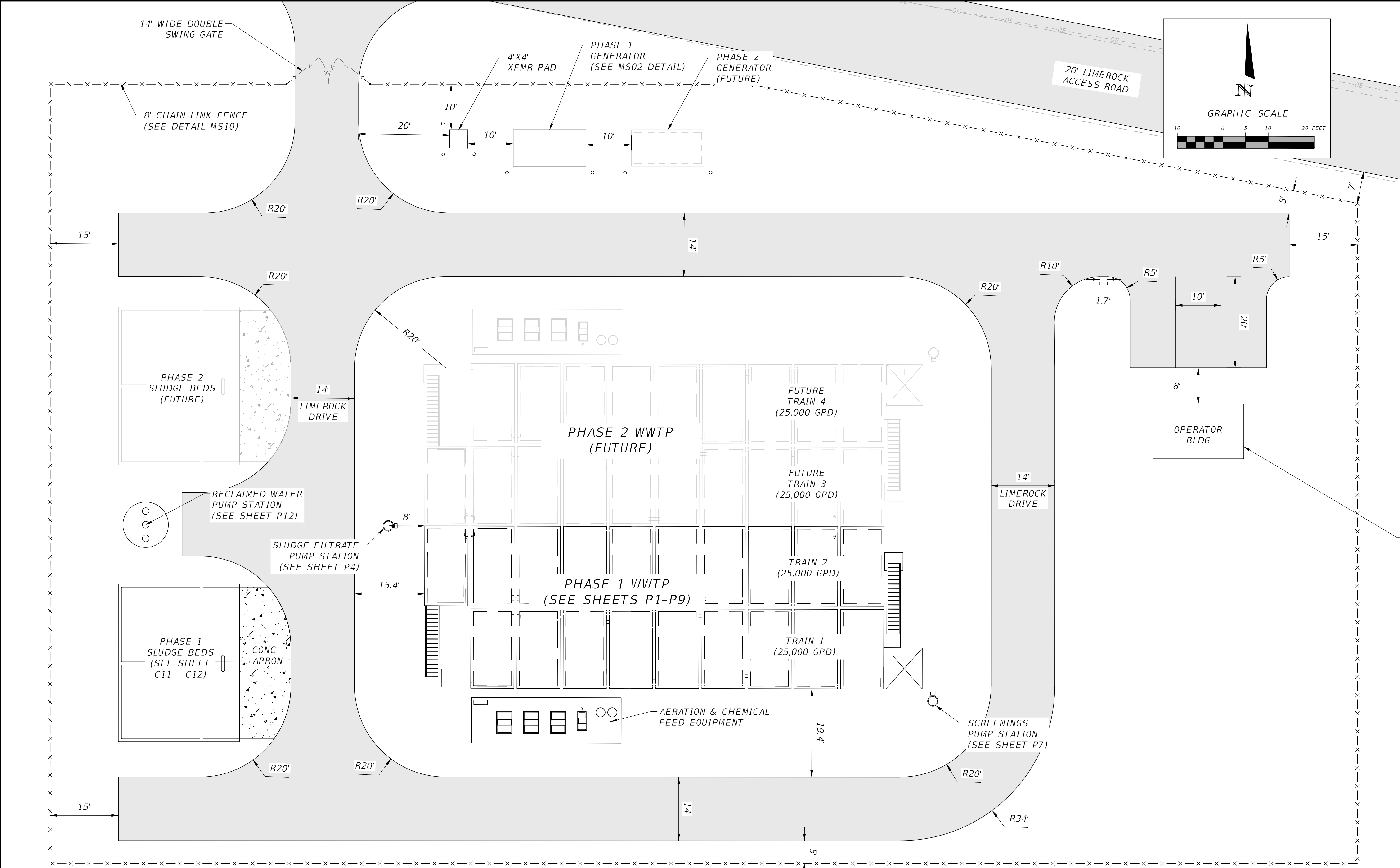
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LIC NO. LB8356

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CA# 29011

JOB NUMBER:
L220209FOR
EOR:
RICKY L. HENDRIX
P.E. NO.:
45239

OVERALL SITE PLAN
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.
C6



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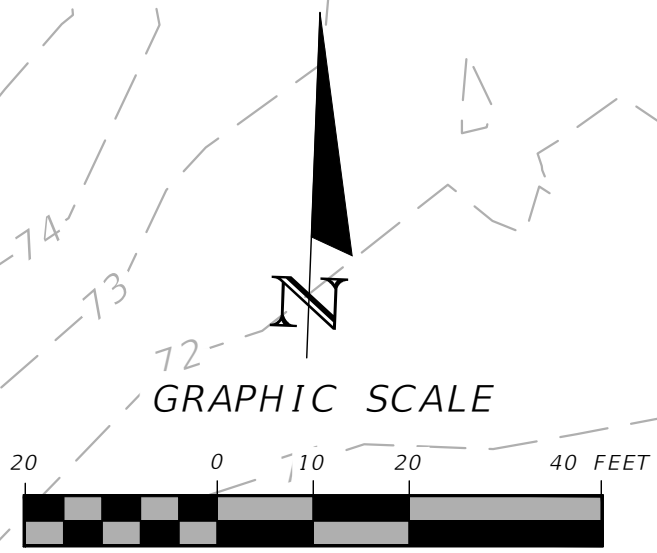
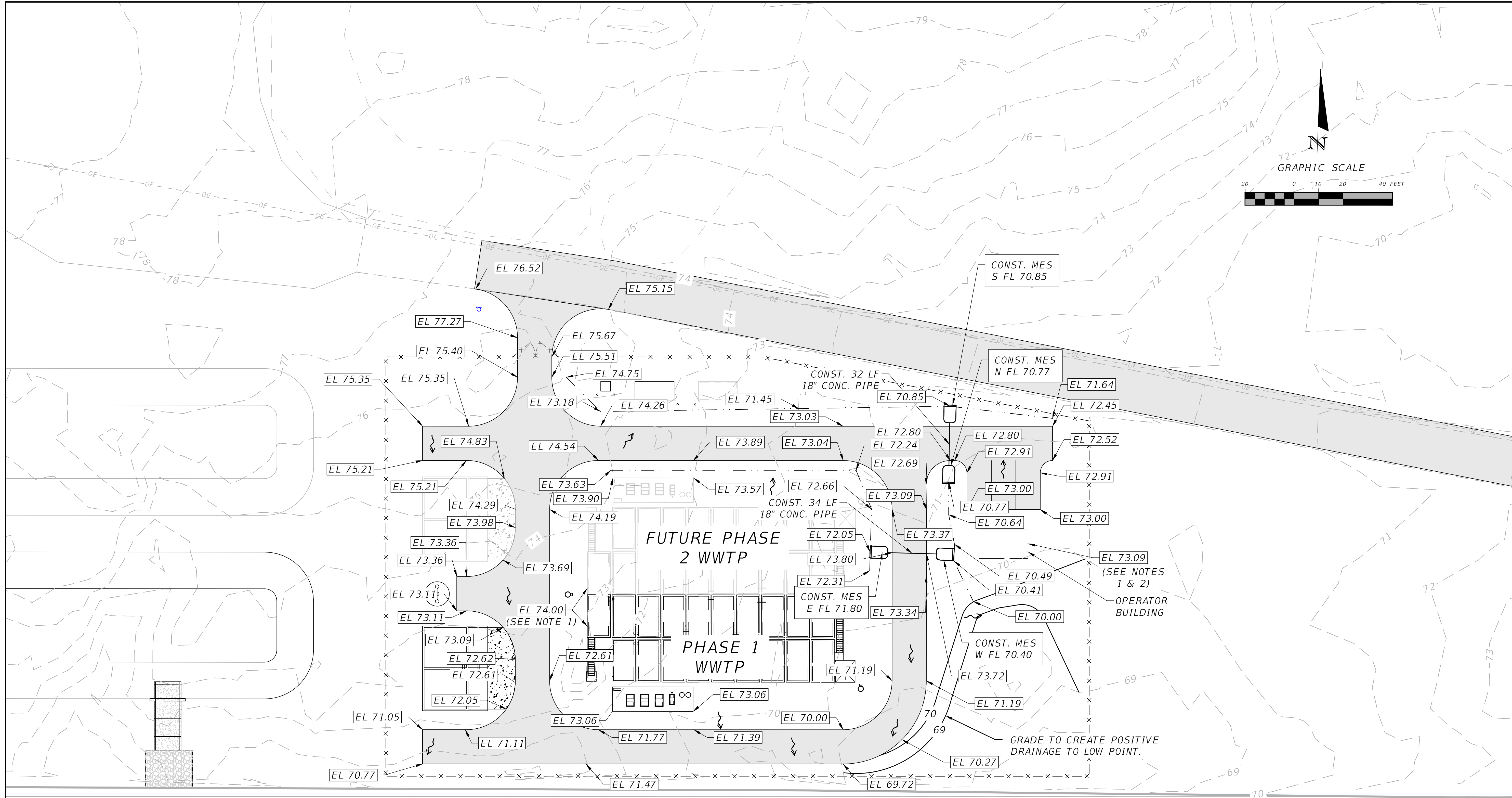
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JOB NUMBER:
L220209FOR
EOR:
RICKY L. HENDRIX
P.E. NO.:
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WWTP SITE PLAN
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.
C7

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- NOTES:
1. VALUE SHOWN IS FINAL GRADE ELEVATION AROUND ENTIRE PERIMETER OF STRUCTURE, INCLUDING FUTURE (PHASE 2) STRUCTURE AREAS WHERE APPLICABLE.
 2. SEE SHEET S3 FOR OPERATOR BLDG FFE.

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DATE	DESCRIPTION						

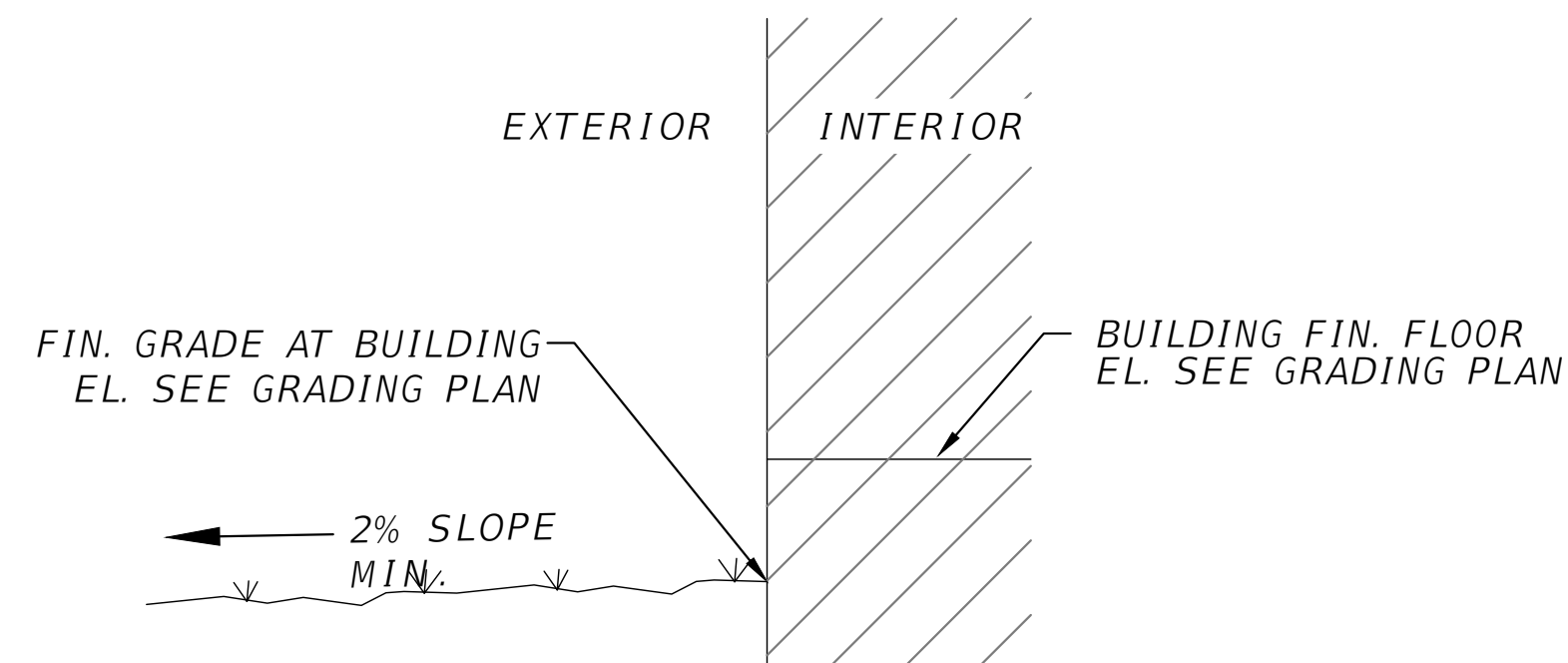


- MS02 GENERATOR INSTALLATION
SCALE: N.T.S

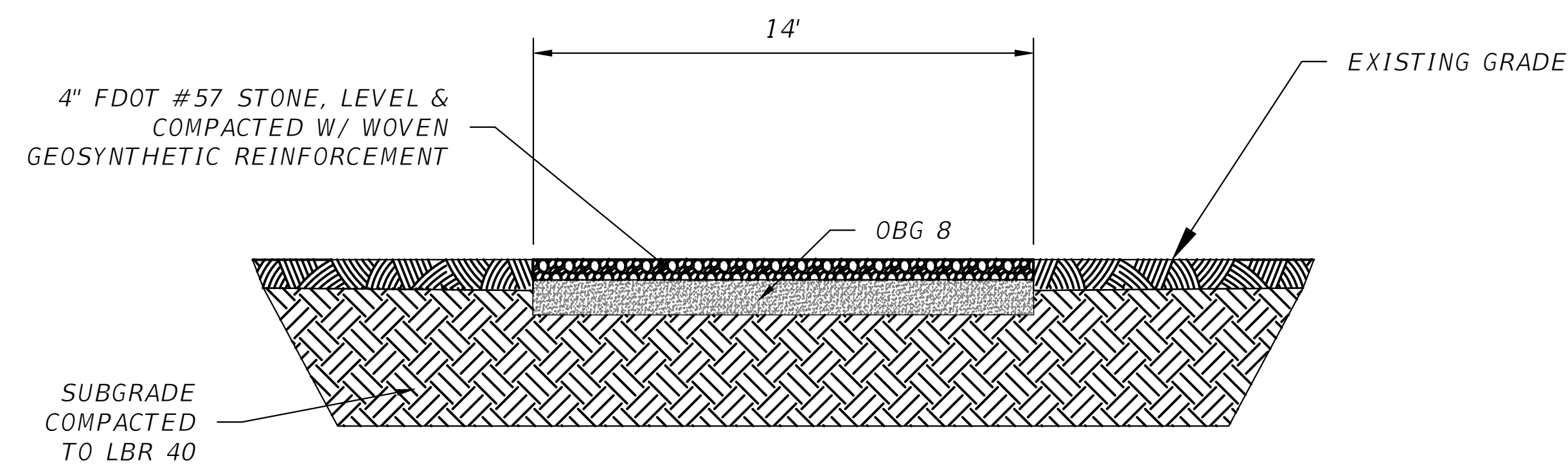


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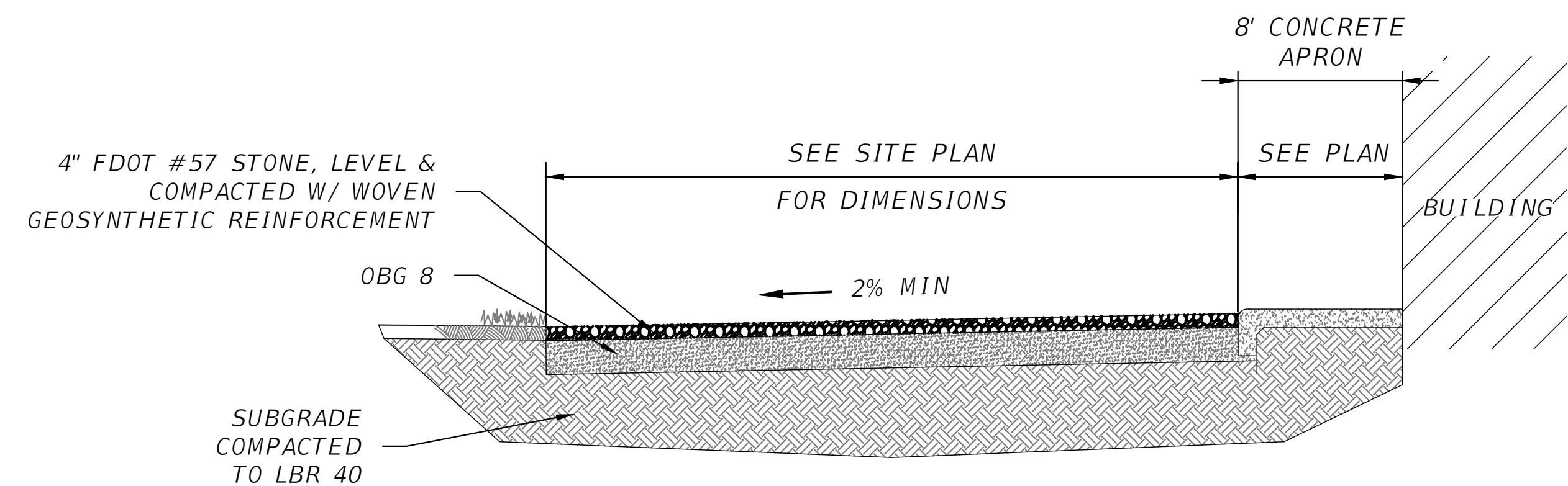
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MS14 GRADE AT BUILDING
SCALE: N.T.S



MS36 TYPICAL LIMEROCK ROAD SECTION
SCALE: N.T.S



MS26 PARKING APRON TYPICAL SECTION
SCALE: N.T.S

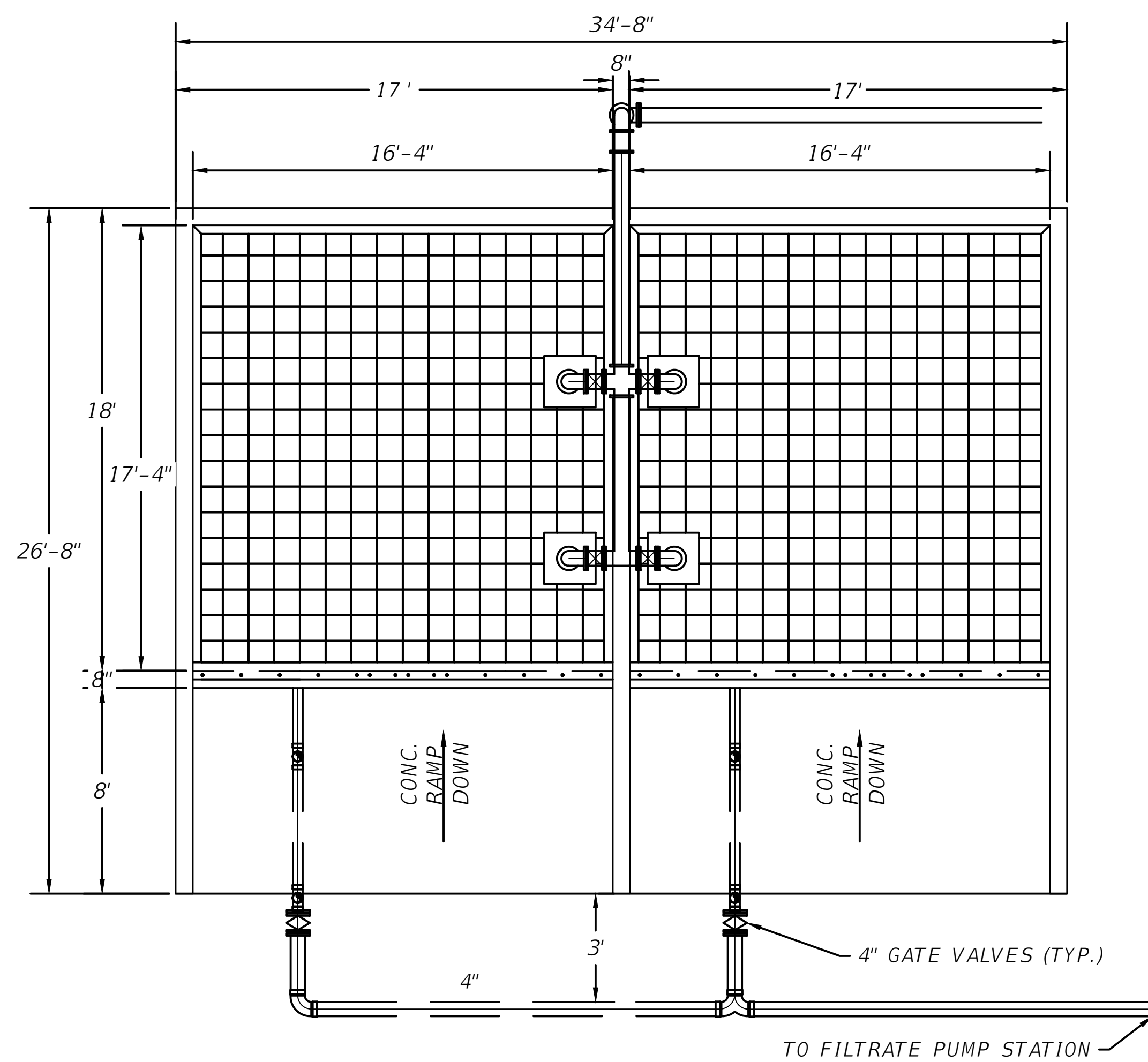
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DATE	DESCRIPTION				
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Grace Pearson

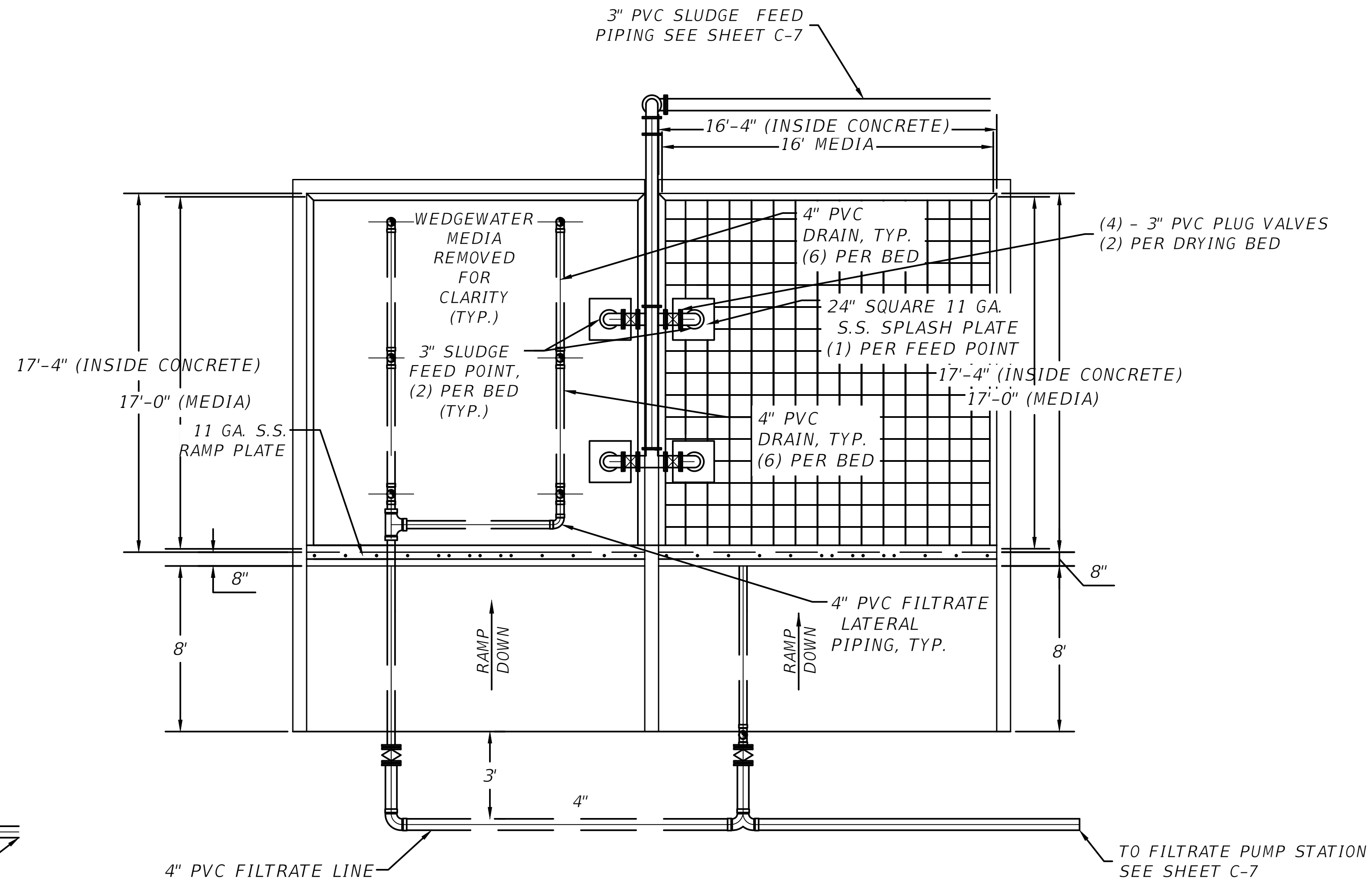
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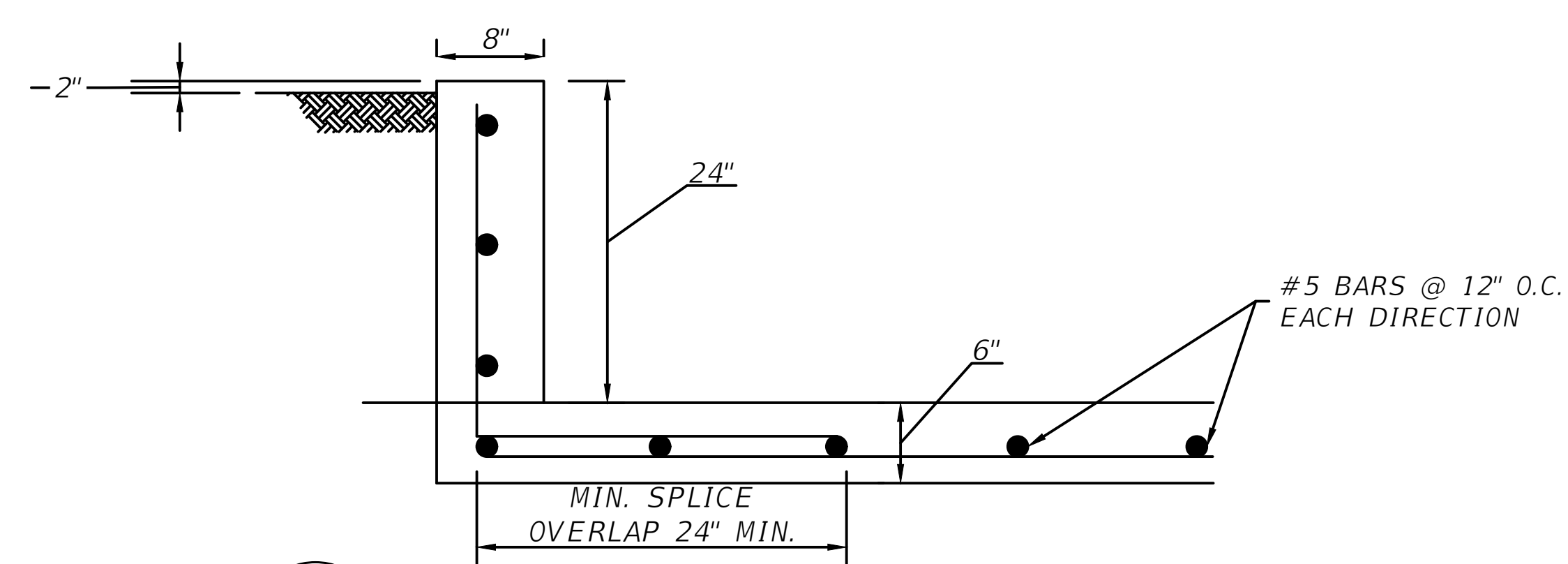


PLAN



DETAIL

MS30 DRYING BED PLAN
SCALE: N.T.S



MS31 CONCRETE PERIMETER
SCALE: N.T.S

REVISIONS	
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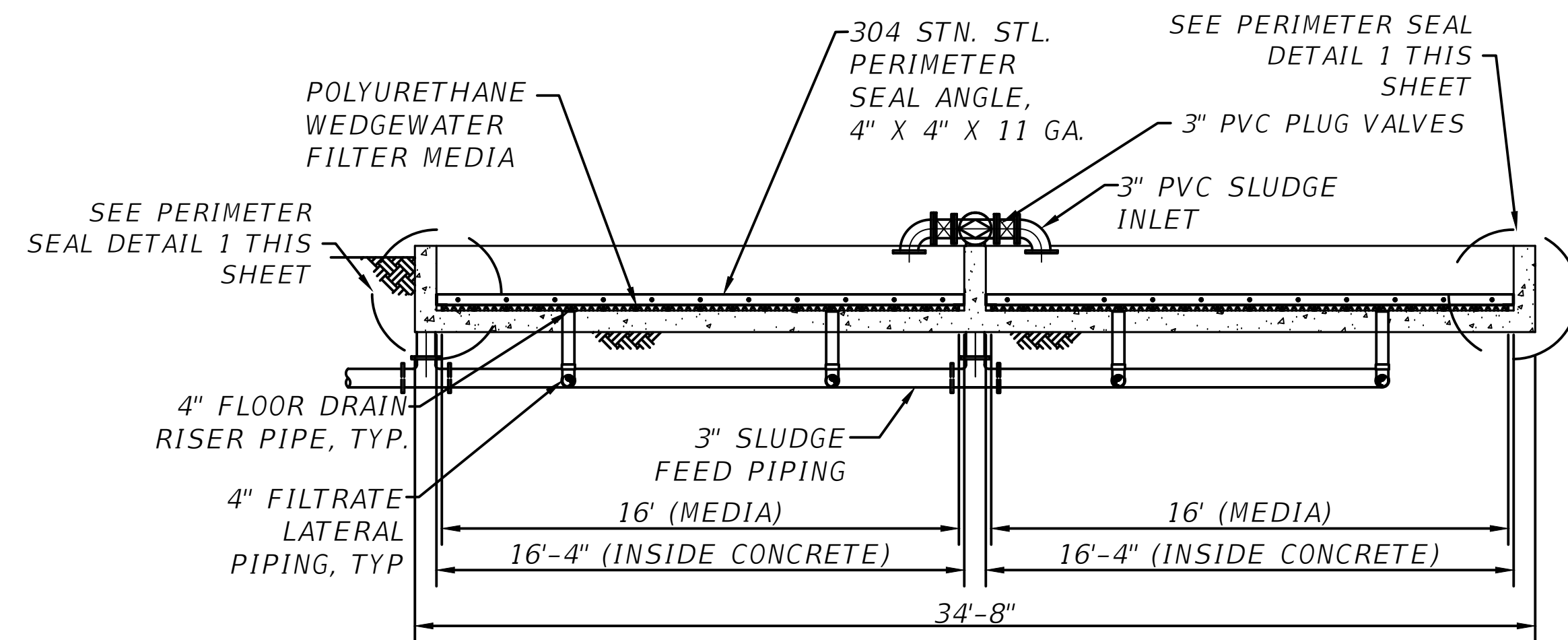
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P.E. NO.:
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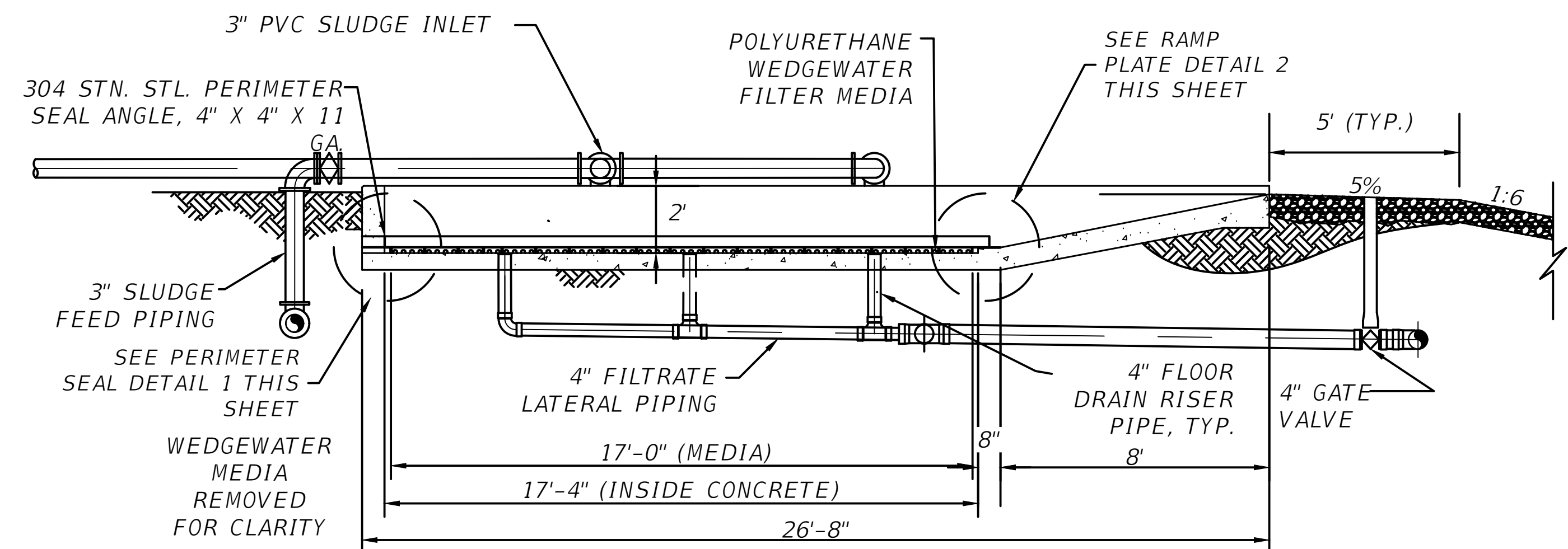
MISCELLANEOUS DETAILS
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

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C11

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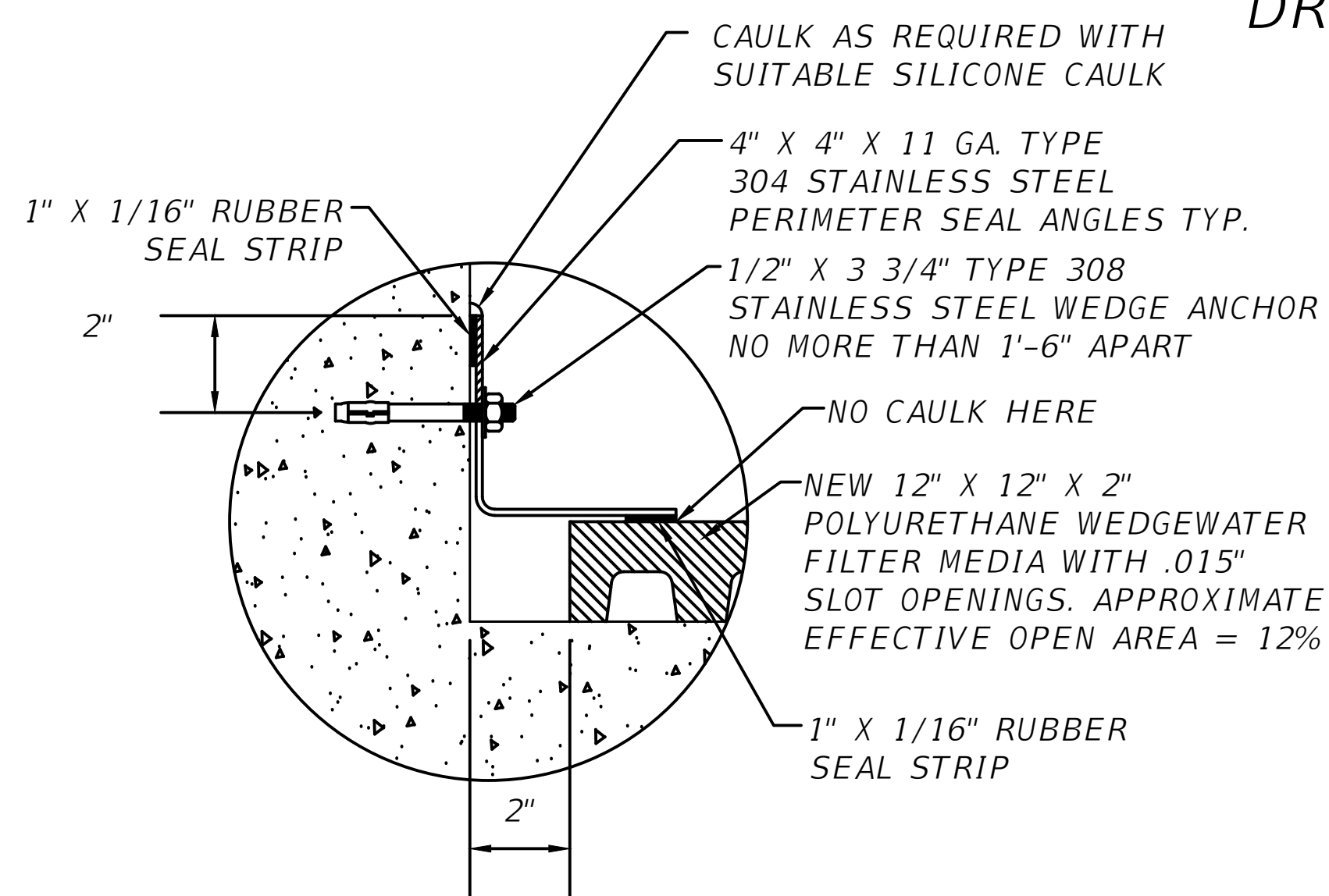


MS32 DRYING BED SECTION
SCALE: N.T.S

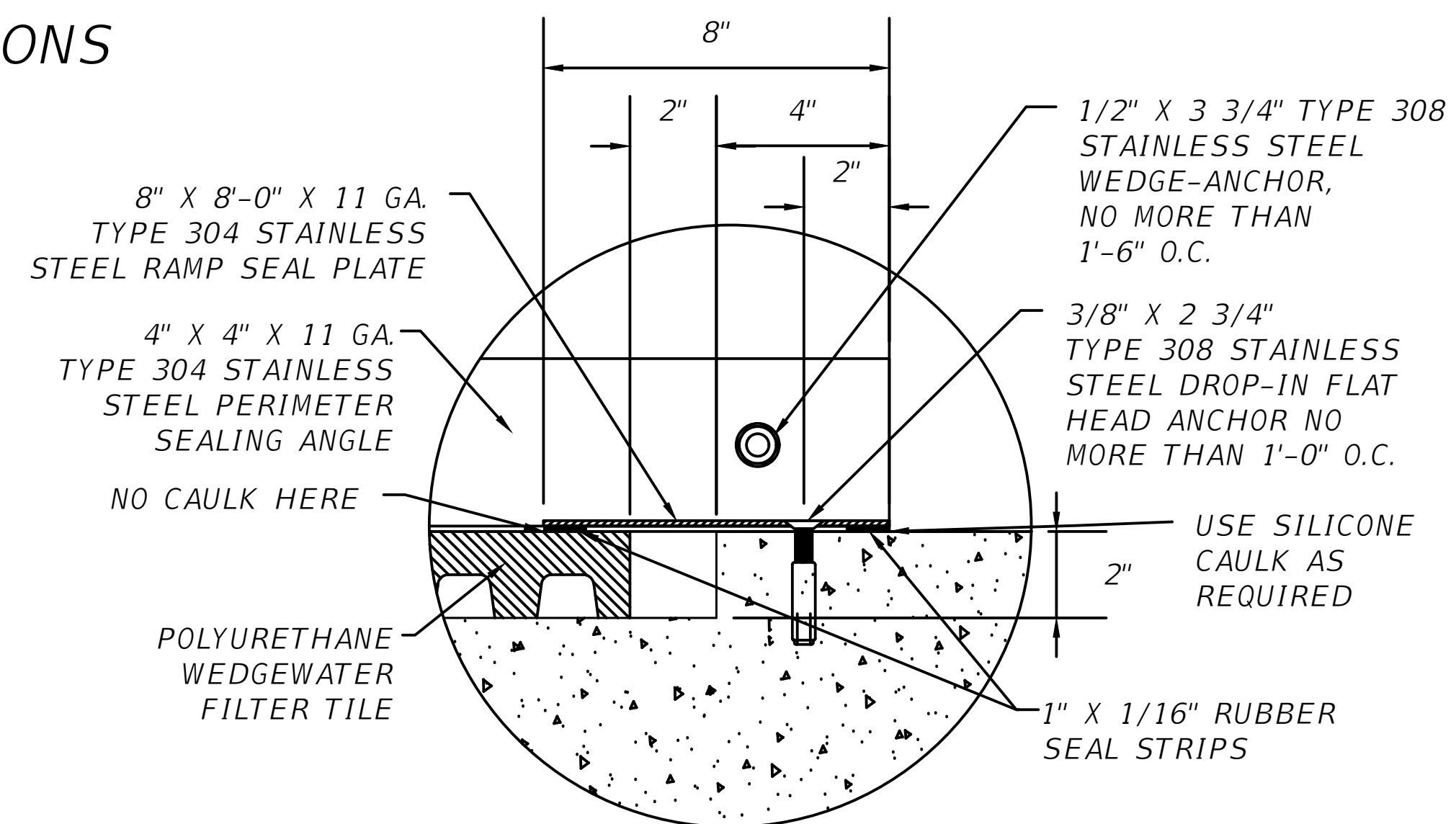


MS33 DRYING BED SECTION
SCALE: N.T.S

DRYING BED SECTIONS



1 PERIMETER SEAL
SCALE: N.T.S



2 RAMP PLATE
SCALE: N.T.S

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DATE	DESCRIPTION



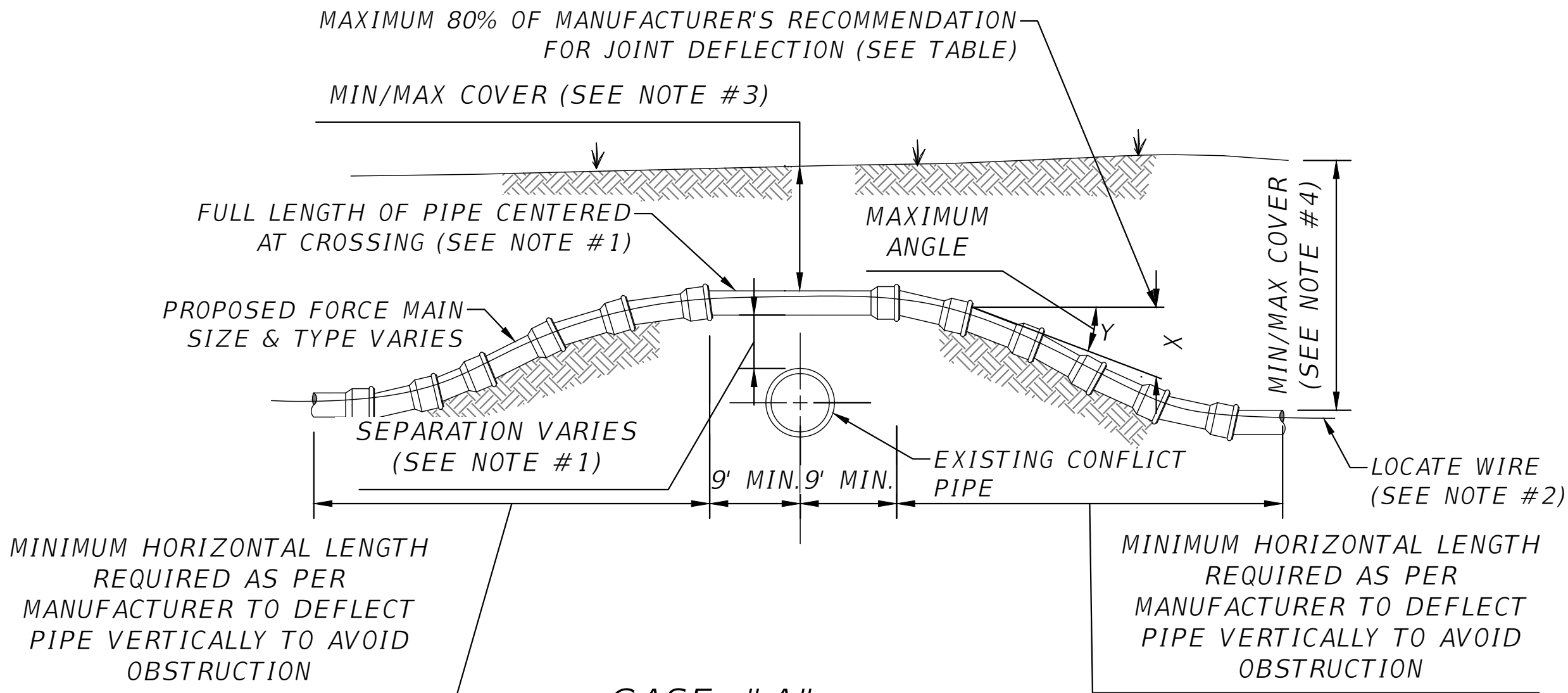
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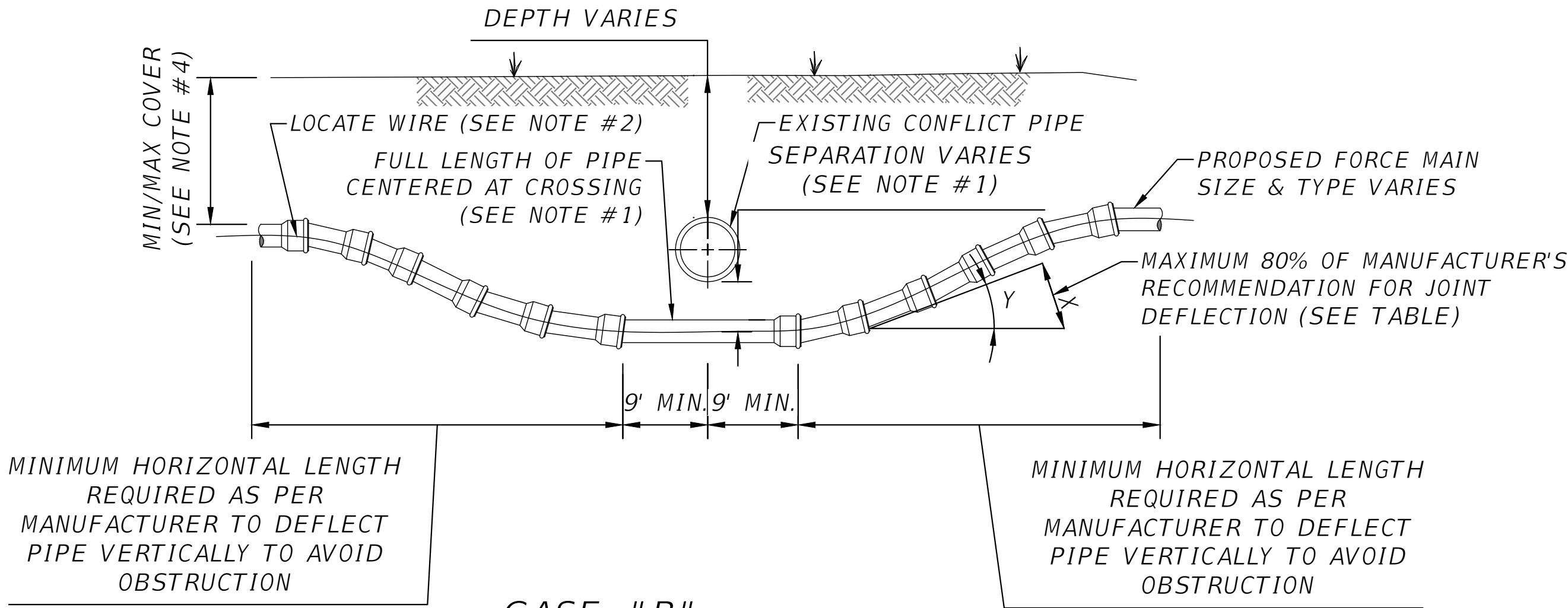
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MISCELLANEOUS DETAILS
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET
NO.
C12



CASE "A"
CROSSING



CASE "B"
CROSSING

NOTES:

1. IF EXISTING CONFLICT PIPE IS A WATER MAIN, 12-INCHES OF SEPARATION IS REQUIRED. A FULL LENGTH OF PIPE SHALL BE CENTERED OVER EXISTING UTILITY MAIN TO PROVIDE MAXIMUM JOINT SPACING FOR ALL CROSSING.
2. FOR MINIMUM VERTICAL SEPARATION REQUIREMENTS SEE WT08.
3. LOCATING WIRE REQUIRED, SEE DETAIL WT25.
4. THE COVER OVER ALL PIPING LESS THAN 24" SIZE SHALL BE A MINIMUM OF 30" IN UNPAVED AREAS AND 36" IN PAVED AREAS WITH A MAXIMUM COVER OF 60". COVER FOR PIPING 24" SIZE AND LARGER SHALL BE MINIMUM OF 36" (PAVED AND UNPAVED) AND MAXIMUM OF 84". THE SOILS BETWEEN THE NEW MAIN AND THE CONFLICT PIPE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS DETERMINED BY THE LABORATORY MODIFIED PROCTOR TEST ASTM D 1557.

MAXIMUM ALLOWED OFFSET FOR PIPE BY JOINT
DEFLECTION

PVC PIPE			
PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS (FT)
2	30	7°	158
4	10	2.4°	480
6	10	2.4°	480
8	10	2.4°	480
10	10	2.4°	480
12	8.50	2°	480
14-24	5	1.2°	960
30-48	3.25	0.8°	1477

DUCTILE IRON PIPE (MECHANICAL JOINT)

PIPE SIZE (IN.)	(X) MAX. OFFSET (IN.)	(Y) ANGLE AT ONE BELL	RESULTING RADIUS OF CURVE WITH 20FT. LENGTHS (FT)
-	-	-	-
4	27	6.5°	177
6	24	5.7°	200
8 - 12	17.5	4.2°	273
14 - 16	12	2.9°	400
18 - 20	10	2.4°	477
24 - 30	8	1.9°	600
36	7.00	1.7°	687
42 - 48	6.7	1.6°	716

ADJUSTMENT OVER/UNDER EXISTING UTILITIES -
PIPE JOINT DEFLECTION CASES "A" & "B"
SCALE: N.T.S.

WT23

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WATER DETAILS
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET
NO.

C13



- (WT02) METER BOX ASSEMBLY
SCALE: N.T.S



- WT16 VALVE BOX
SCALE: N.T.S



1. FOR UNPAVED LOCATIONS, A PRECAST CONCRETE VALVE PAD SHALL BE PROVIDED AND INSTALLED FLUSH WITH GRADE. CONCRETE PAD IS NOT REQUIRED FOR VALVE LOCATED IN THE ROADWAY, UNLESS SHOWN OR NOTED OTHERWISE. IN LIEU OF PRECAST CONCRETE PAD, A 6" THICK X 24" (ROUND OR SQUARE) POURED CONCRETE PAD W/2 - #4 REBAR AROUND PERIMETER, MAY BE USED.
2. LOCATING WIRE IS REQUIRED ON ALL PRESSURE PIPING.
3. A "V" CUT SHALL BE CARVED IN THE CONCRETE CURB (ASPHALT IF NO CURB) CLOSEST/ADJACENT TO ALL BELOW GRADE VALVES. THE "V" CUT SHALL BE PAINTED BLUE (POTABLE WATER.) OR PURPLE (RECLAIMED WATER).
4. IN PAVED AREAS, INSTALL VALVE AT A DEPTH TO ALLOW A 12" MIN. DISTANCE BETWEEN THE VALVE COVER PLATE AND THE TOP OF THE VALVE OPERATING NUT. OUTSIDE OF PAVED AREAS (GRASS), INSTALL VALVE AT A DEPTH TO ALLOW A 6" MINIMUM DISTANCE BETWEEN THE VALVE COVER AND THE TOP OF THE VALVE OPERATING NUT. OPERATING NUT/STEM EXTENSION SHALL BE PROVIDED (WHERE APPLICABLE) SO THAT THE OPERATING NUT WILL BE NO MORE THAN 30 INCHES BELOW FINISHED GRADE.
5. FOR NEW CONSTRUCTION, THE VALVE BOX SHALL BE ADJUSTED TO MIDRANGE TO ALLOW FOR FUTURE BOX ADJUSTMENTS. ROUTE LOCATE WIRES THRU A "V" CUT IN THE TOP OF THE 6" PVC RISER PIPE FOR LOCATE WIRE ACCESS INTO VALVE BOX. THE LOCATE WIRES, WITH A 24" LONG PIG-TAIL AT THE TOP, SHALL BE CONNECTED TOGETHER WITH A WIRE NUT.
6. BRASS IDENTIFICATION TAG INDICATING "WATER", VALVE SIZE, DIRECTION AND TURNS TO OPEN & VALVE TYPE. PROVIDE A 1/4" HOLE IN BRASS TAG AND ATTACH TAG (TWIST WIRE AROUND TAG) TO THE END OF THE LOCATE WIRE. TAGS ARE NOT REQUIRED ON VALVES INSTALLED ON HYDRANT LATERALS.
7. GRAVEL SHALL BE PROVIDED UNDER ALL VALVES 20" AND LARGER. THE MINIMUM VERTICAL LIMIT OF GRAVEL IS 12" UNDER THE VALVE UP TO 1/3 THE OVERALL HEIGHT OF THE VALVE.
8. ALL VALVES SHALL BE INSTALLED WITH AN ELECTRIC LOCATE MARKER. MARKER SHALL BE 4" DIA. COLOR CODED BALL MARKER (3M-1403XR FOR WATER)

WT05 VALVE INSTALLATION
SCALE: N.T.S

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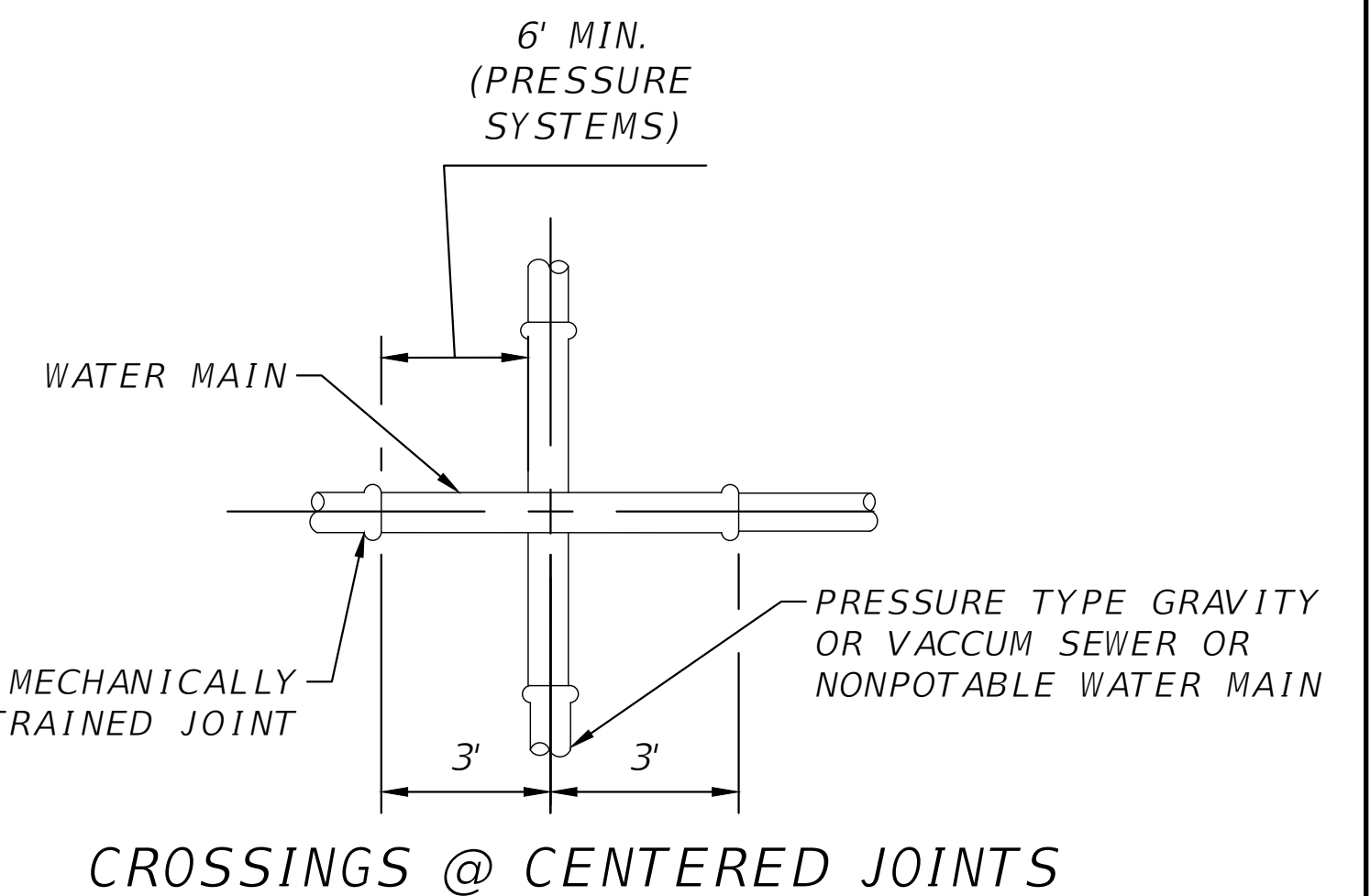
C14



- (WT25) LOCATE WIRE BOX
SCALE: N.T.S



- WT11 TRENCH AND BACKFILL
SCALE: N.T.S



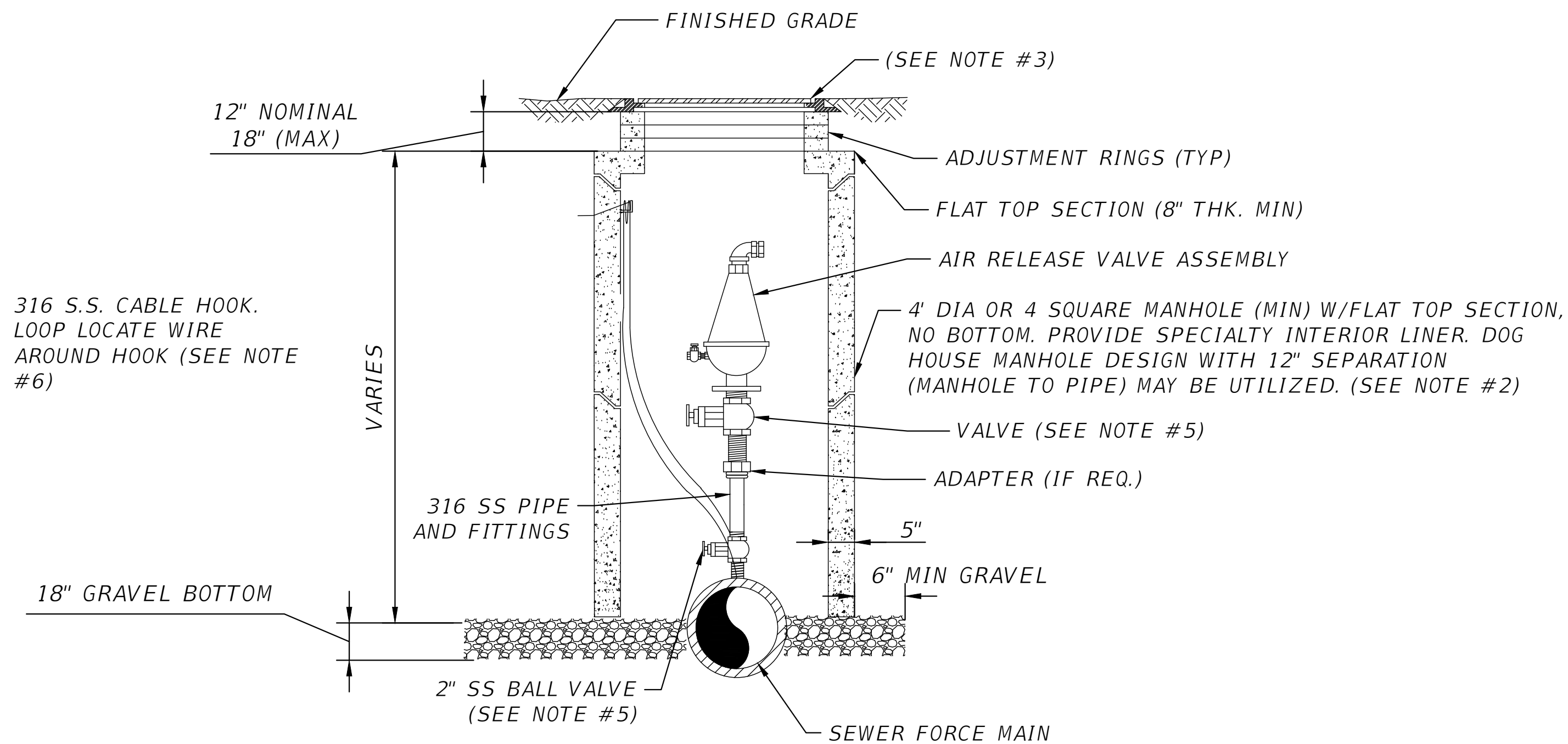
- NOTES:

- (WT08) WATER/SEWER SEPARATION
SCALE: N.T.S

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P.E. NO.:
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NO.**

C15



NOTES:

1. THE AIR RELEASE VALVE ASSEMBLY MANHOLE SHALL BE LOCATED OUTSIDE OF THE ROADWAY PAVEMENT AREA (I.E., LOCATED IN NON-TRAFFIC AREAS).
2. THE CONCRETE MANHOLE SHALL INCLUDE A SECTION TOP AND THE ADJUSTMENT RINGS. A BITUMINOUS WATERPROOFING MATERIAL SHALL BE PROVIDED ON THE INSIDE SURFACES OF THE MANHOLE.
3. THE COVER SHALL HAVE NO GASKET TO ALLOW AIR TO EXIT VAULT. THE COVER (WHEN FLIPPED OPEN) MUST CLEAR THE AIR RELEASE VALVE ASSEMBLY AT ALL TIMES OR A SQUARE TOP WITH ALUMINUM DOOR SHALL BE PROVIDED (NON-TRAFFIC LOCATIONS ONLY).
4. SET COVER FLUSH IN PAVED AREAS, AND 1" ABOVE FINISHED GRADE IN UNPAVED AREAS.
5. FOR PIPE SIZES 4 INCH AND LARGER, PROVIDE A FLANGE GATE VALVE (WHEEL OPERATOR) OR PLUG VALVE. (LEVER ARM OPERATOR) SEE SPECIFICATION FOR ADDITIONAL REQUIREMENTS.
6. FOR A 2" AIR RELEASE VALVE, PROVIDE 2" STAINLESS STEEL BALL VALVE AT THE MAIN. FOR AIR VALVES LARGER THAN 2" SIZE, PROVIDE A TAPPING SLEEVE OR DUCTILE IRON TEE FITTING. ALSO, FOR OFF-SET PIPING LARGER THAN 2 INCH SIZE, PROVIDE A GATE VALVE (INSTALLED VERTICALLY NEAR MAIN). SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
7. LOCATE WIRE SHALL HAVE ENOUGH SLACK TO REACH 4' ABOVE FINAL GRADE.

SN08 AIR RELEASE VALVE MANHOLE IN RIGHT-OF-WAY
SCALE: N.T.S

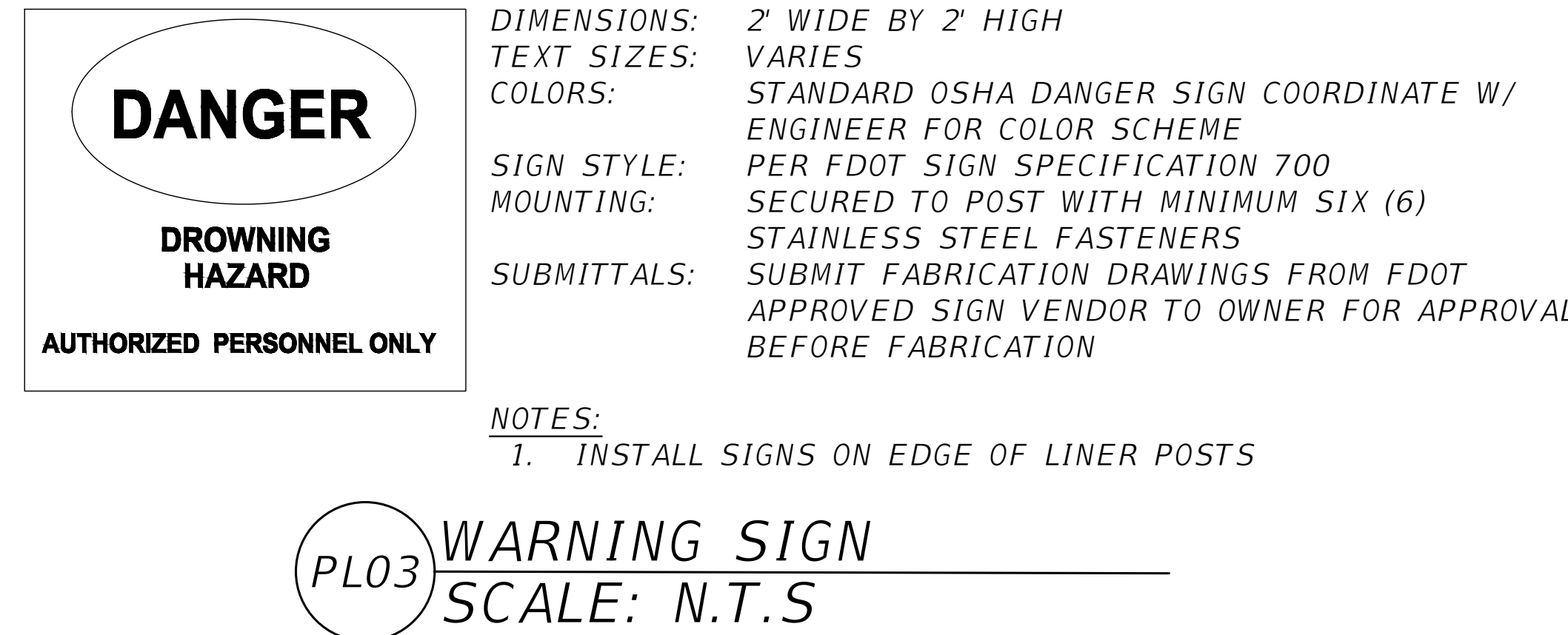
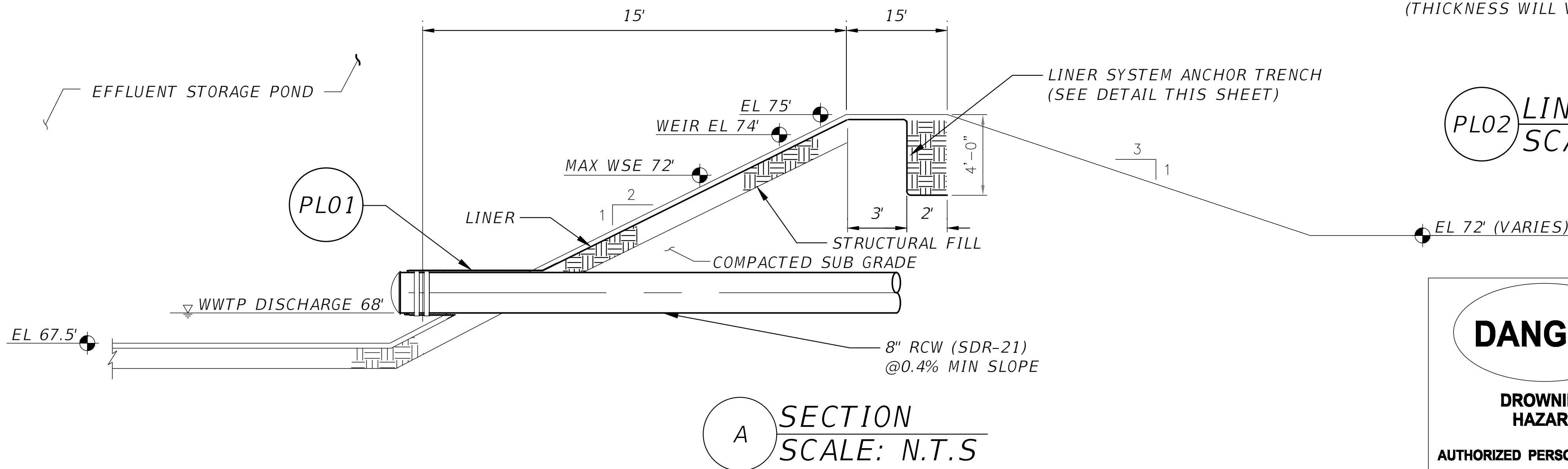
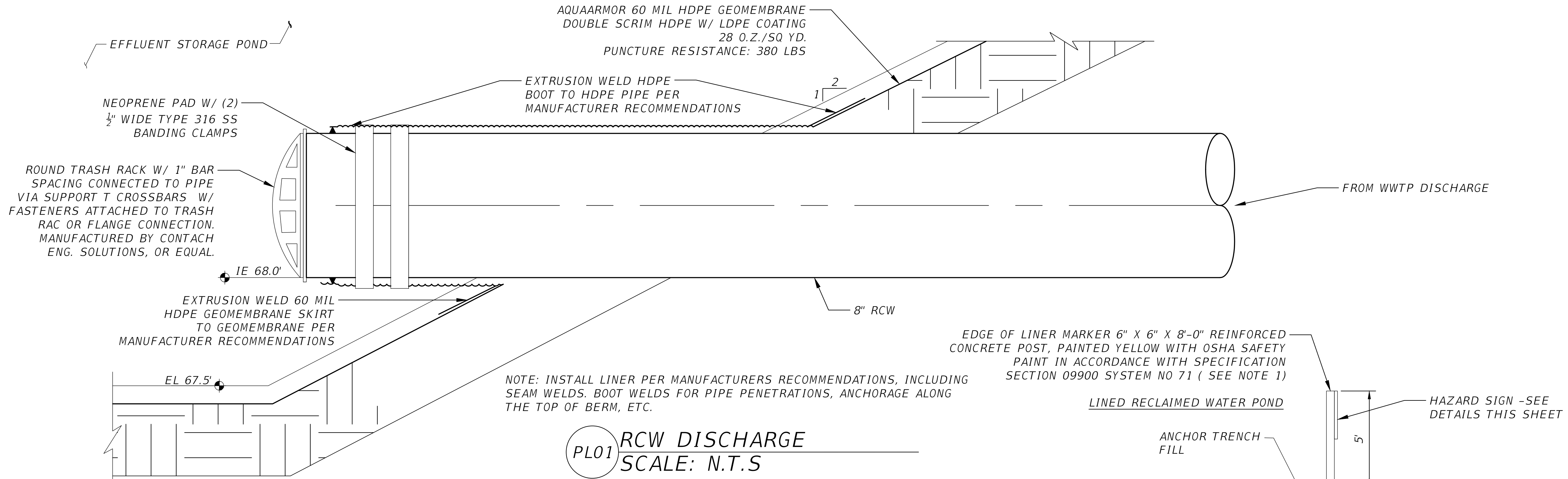
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DATE	DESCRIPTION				
					C16

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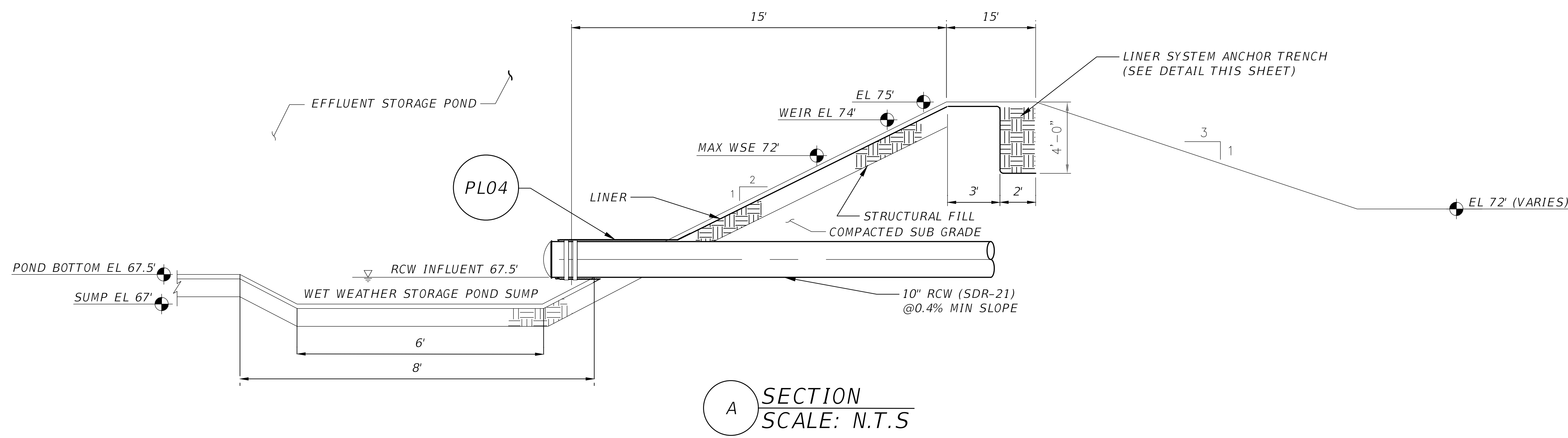
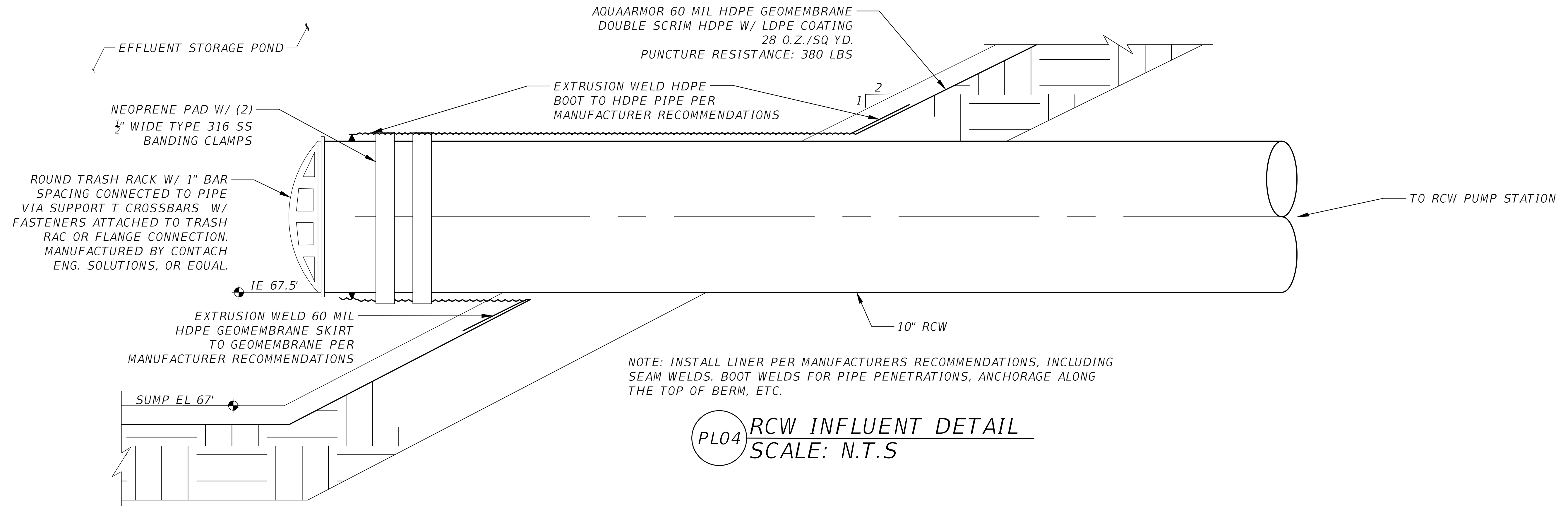
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DATE	DESCRIPTION						

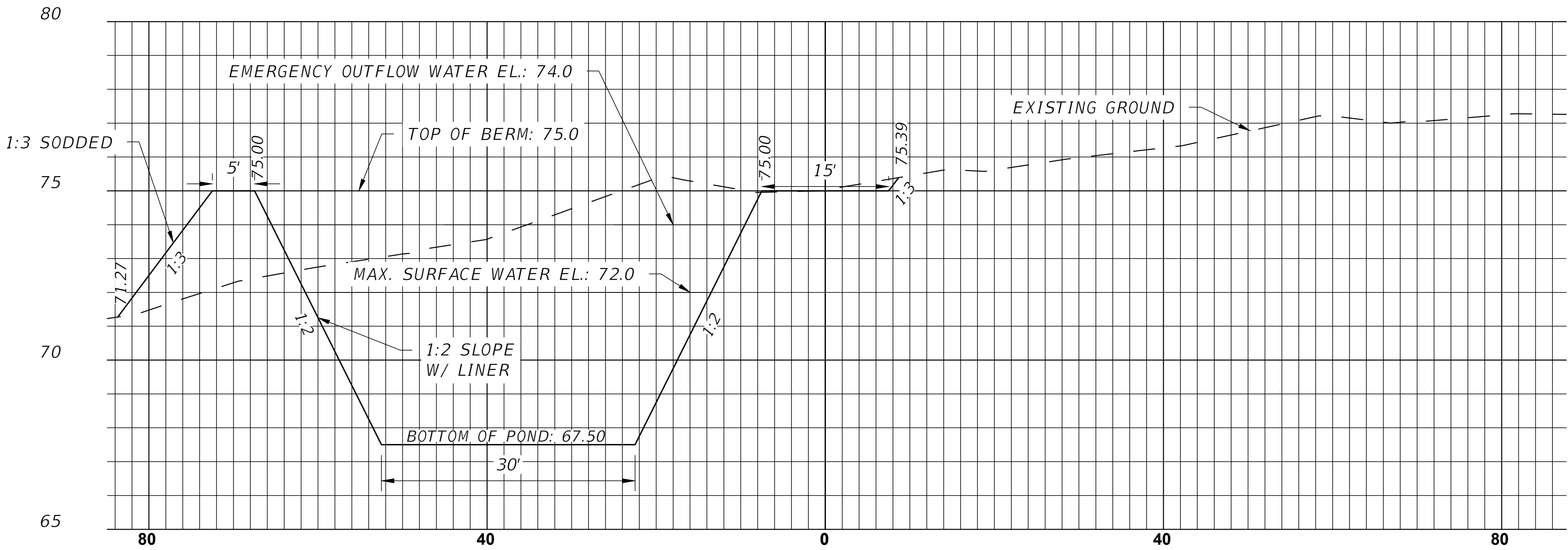
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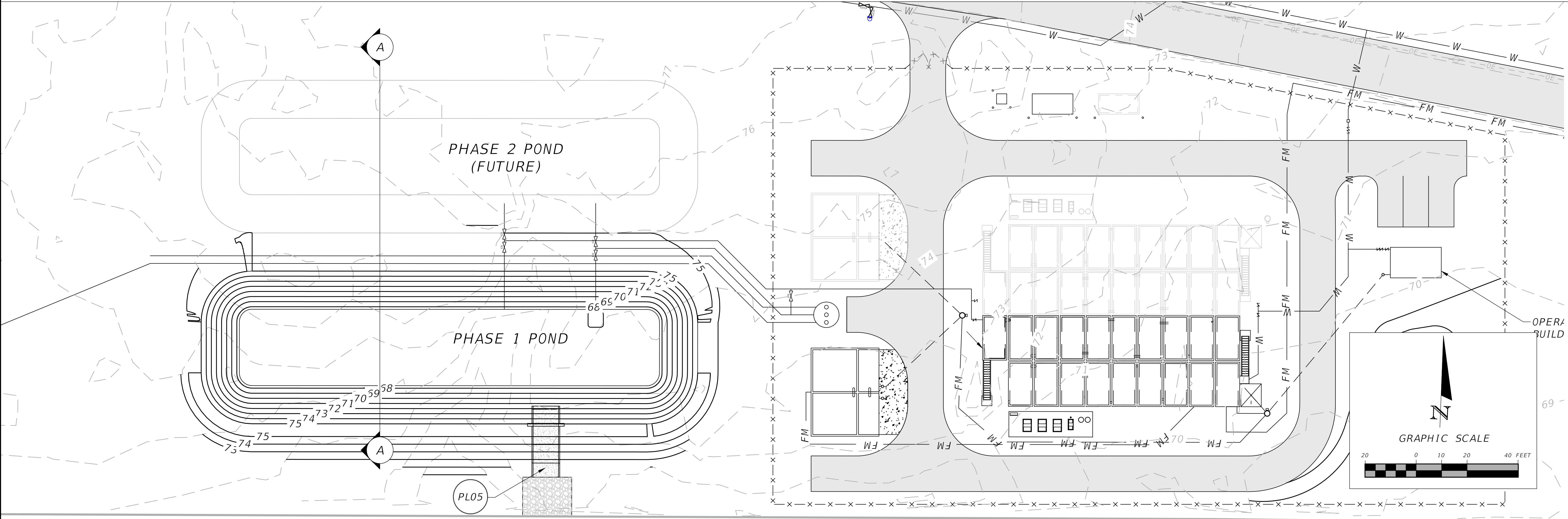
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EFFLUENT STORAGE POND SECTION A-A



HORIZ. 1" = 40'
VERT. 1" = 10'



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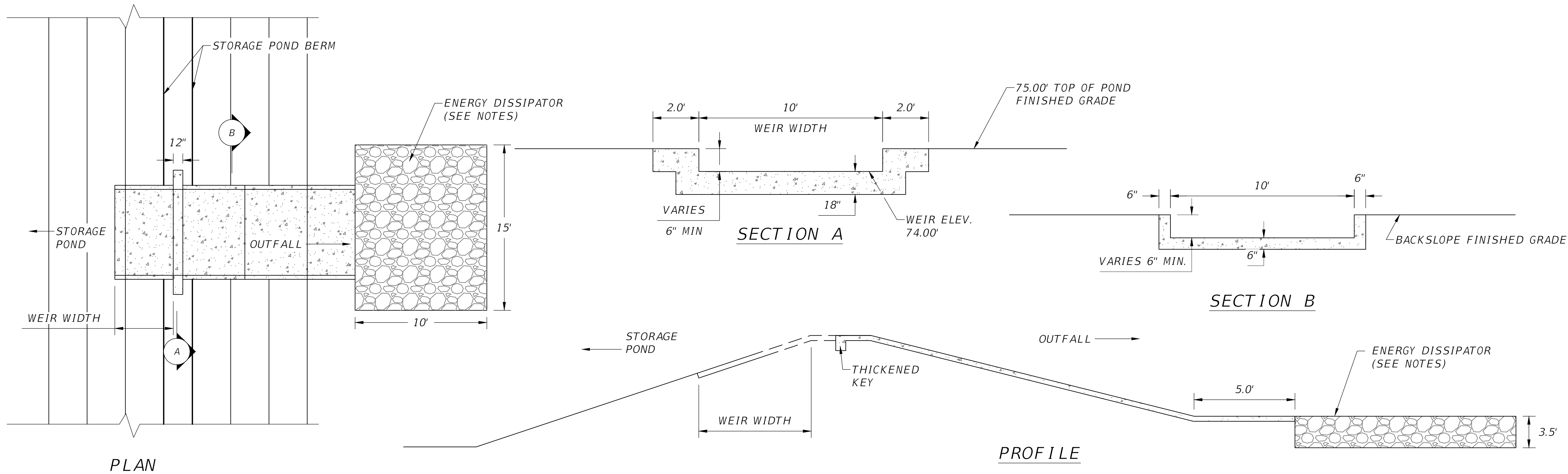
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45239

STORAGE POND PLAN & DETAILS
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.

C19



- NOTES:
1. F&I ENERGY DISSIPATOR PER FDOT STANDARD SPECIFICATIONS SECTION 530.
 2. MATERIALS SHALL INCLUDE TYPE D-2 GEOTEXTILE FABRIC, A 1' THICK LAYER OF BEDDING STONE, AND A 2.5' THICK LAYER OF RIPRAP (BANK AND SHORE PROTECTION).

PL05 EMERGENCY OVERFLOW STRUCTURE
SCALE: N.T.S.

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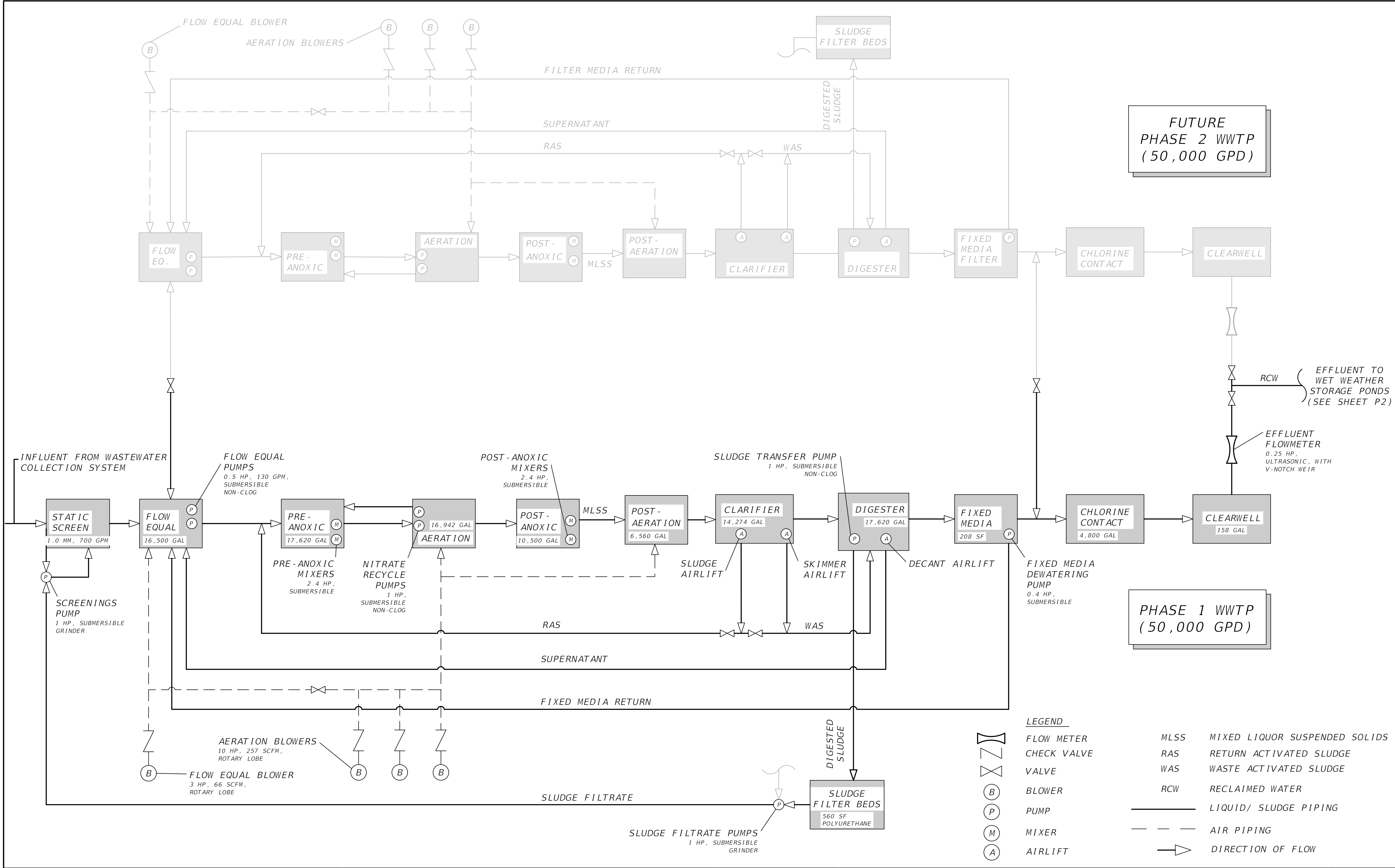
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FUTURE STORAGE POND PLAN & DETAILS
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

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C20



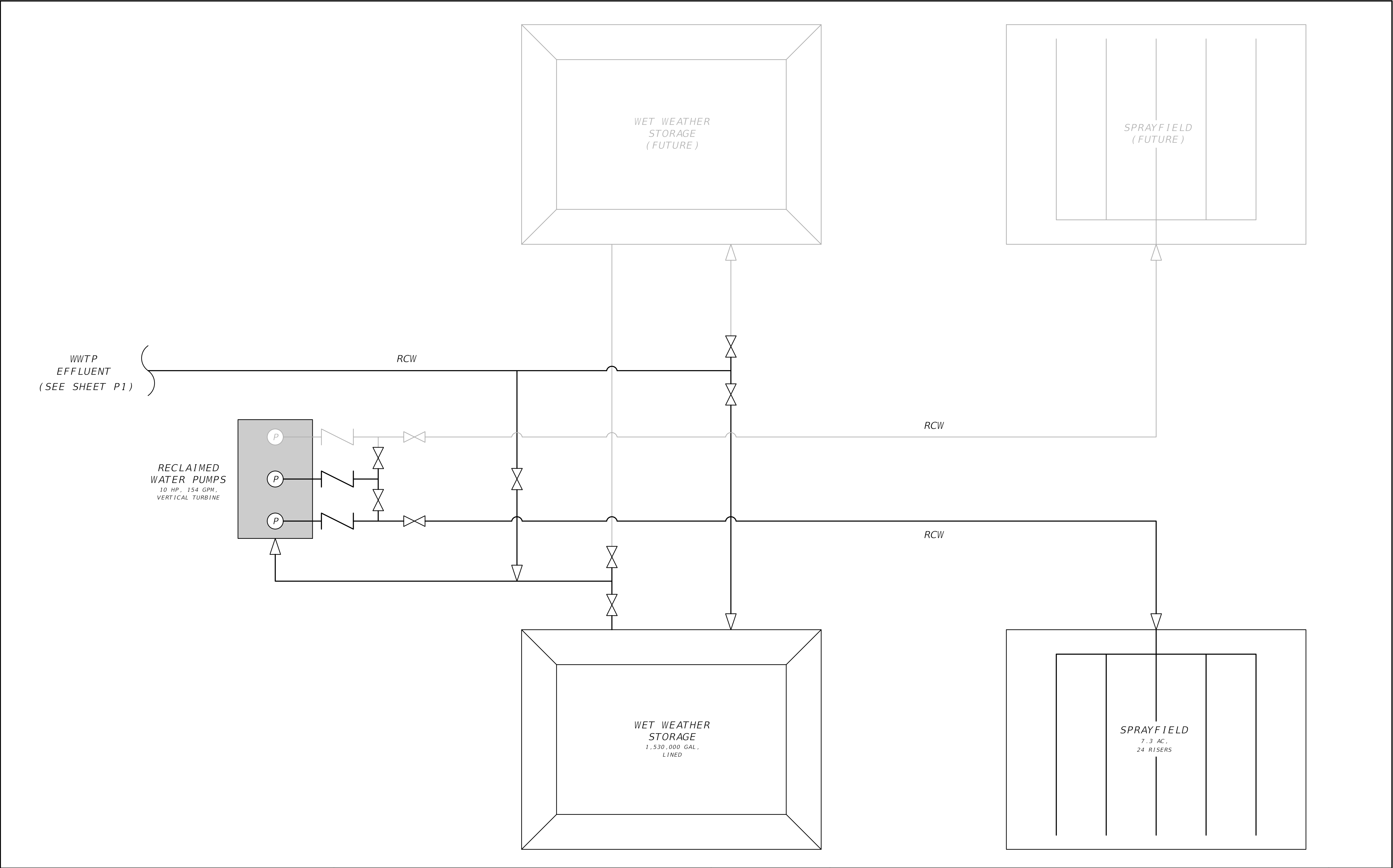
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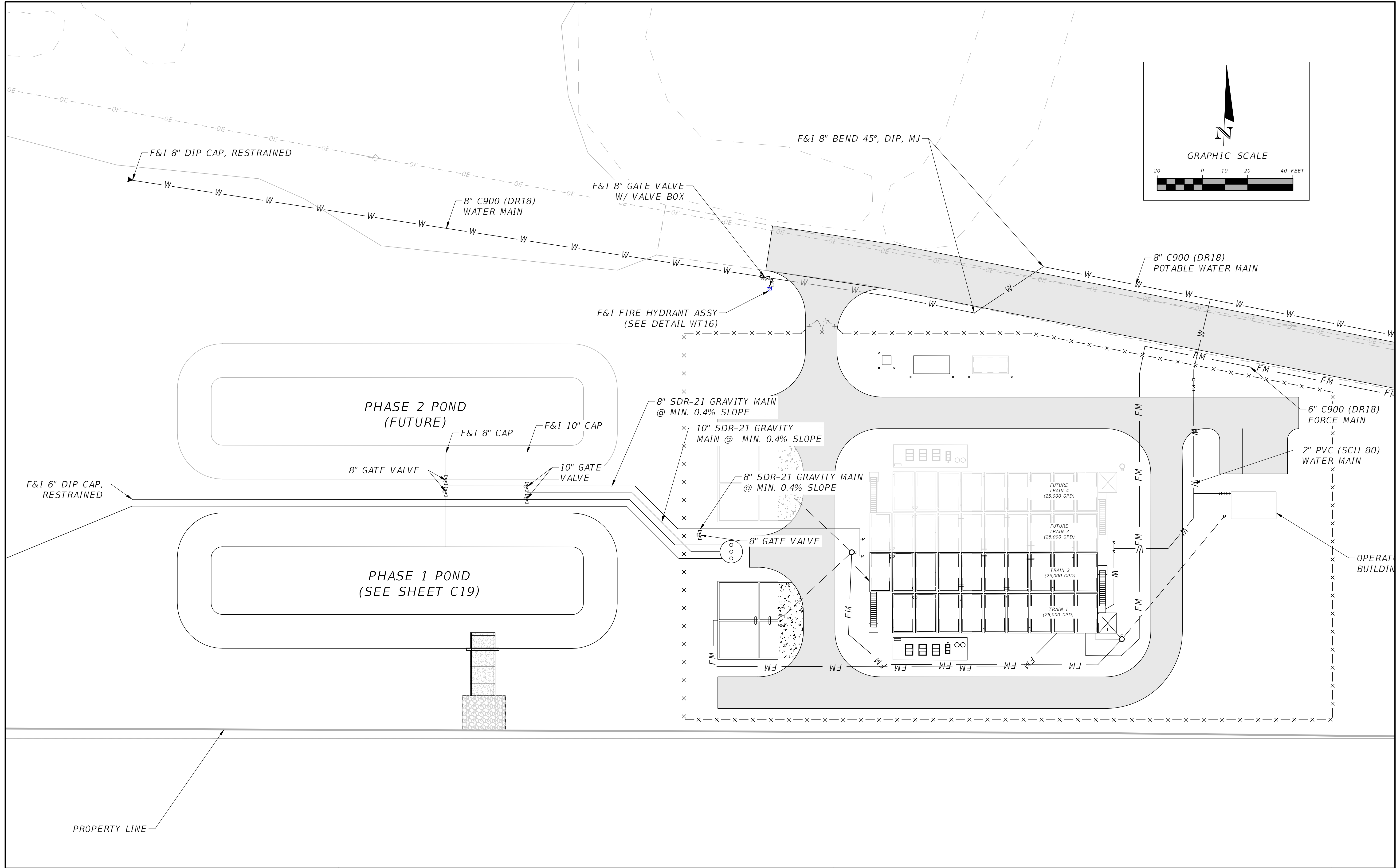
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WWTP PROCESS FLOW DIAGRAM
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

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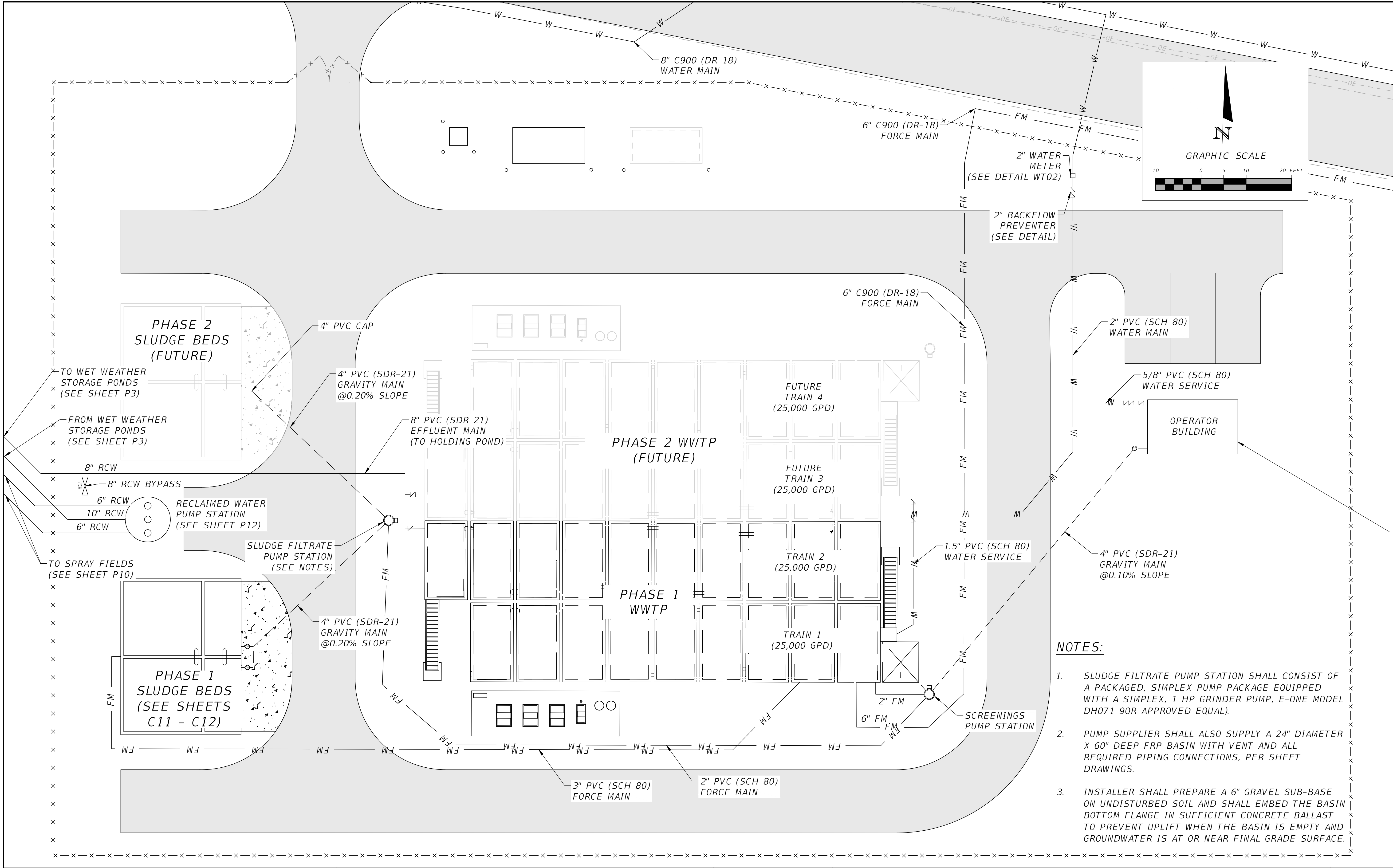
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WWTP OFFSITE PIPING PLAN
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.

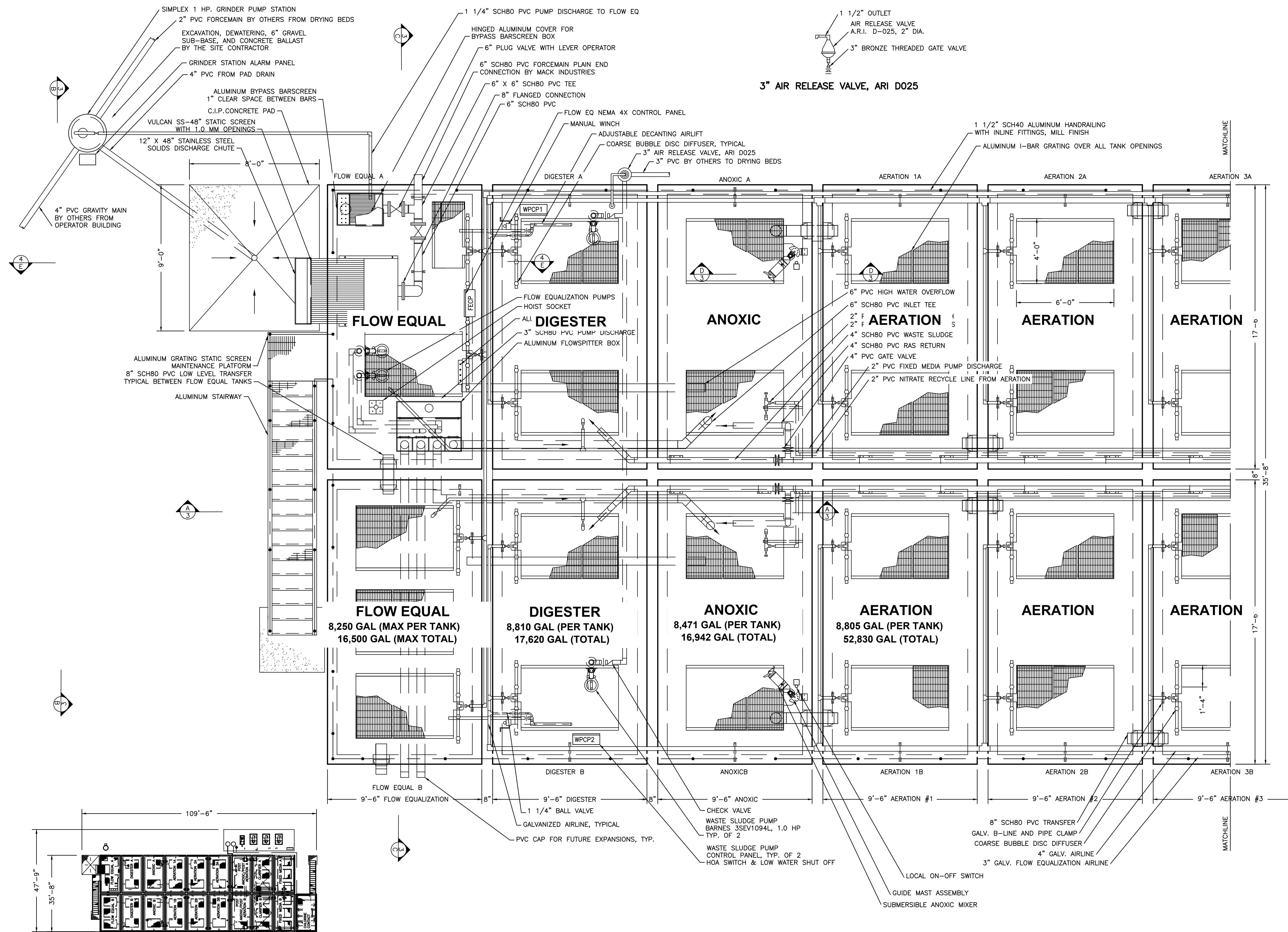
P3



- NOTES:**
- SLUDGE FILTRATE PUMP STATION SHALL CONSIST OF A PACKAGED, SIMPLEX PUMP PACKAGE EQUIPPED WITH A SIMPLEX, 1 HP GRINDER PUMP, E-ONE MODEL DH071 90R APPROVED EQUAL).
 - PUMP SUPPLIER SHALL ALSO SUPPLY A 24" DIAMETER X 60" DEEP FRP BASIN WITH VENT AND ALL REQUIRED PIPING CONNECTIONS, PER SHEET DRAWINGS.
 - INSTALLER SHALL PREPARE A 6" GRAVEL SUB-BASE ON UNDISTURBED SOIL AND SHALL EMBED THE BASIN BOTTOM FLANGE IN SUFFICIENT CONCRETE BALLAST TO PREVENT UPLIFT WHEN THE BASIN IS EMPTY AND GROUNDWATER IS AT OR NEAR FINAL GRADE SURFACE.

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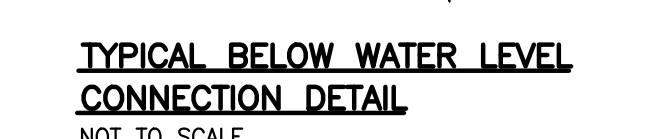
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WWTP PLAN
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.

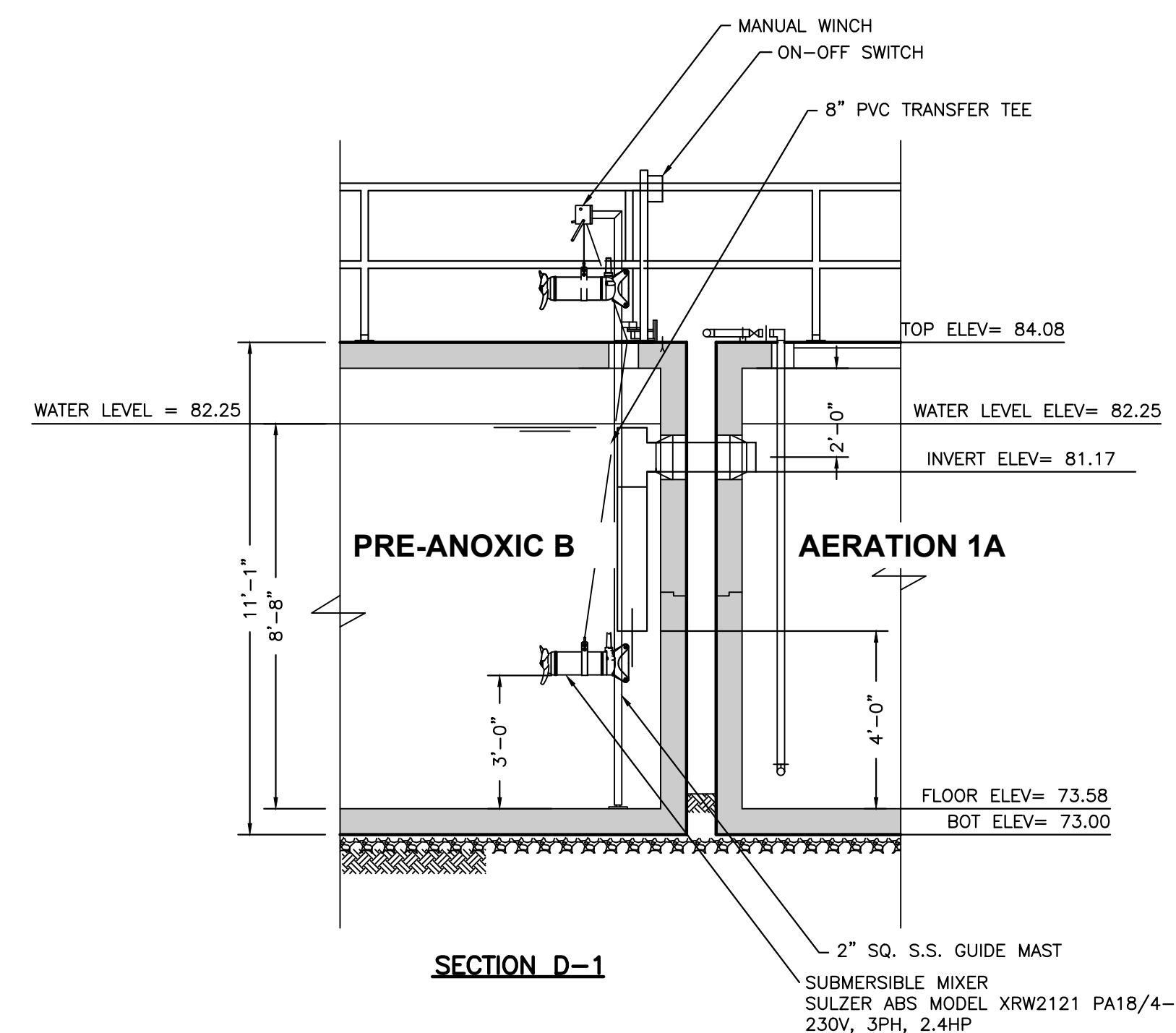
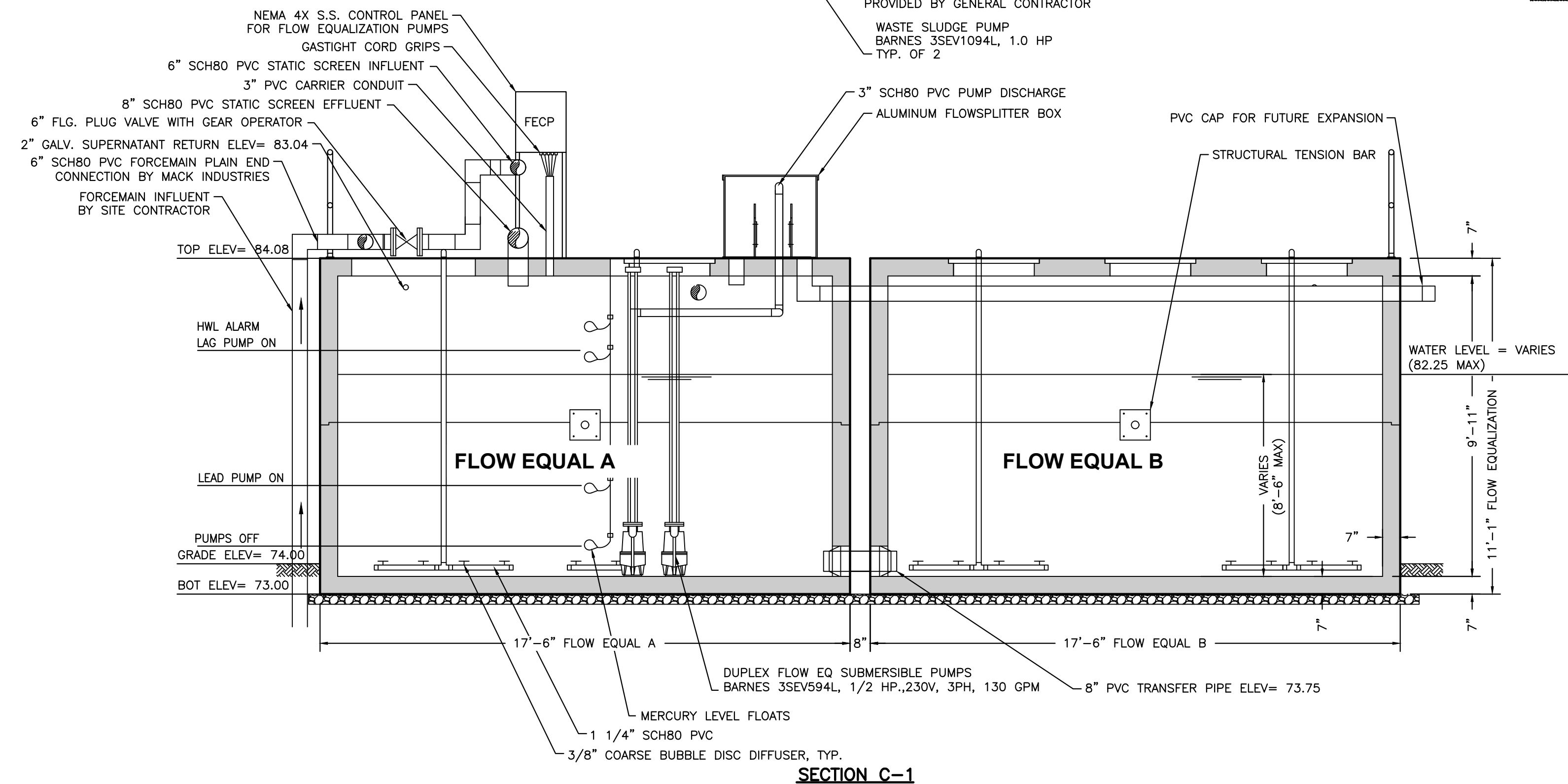
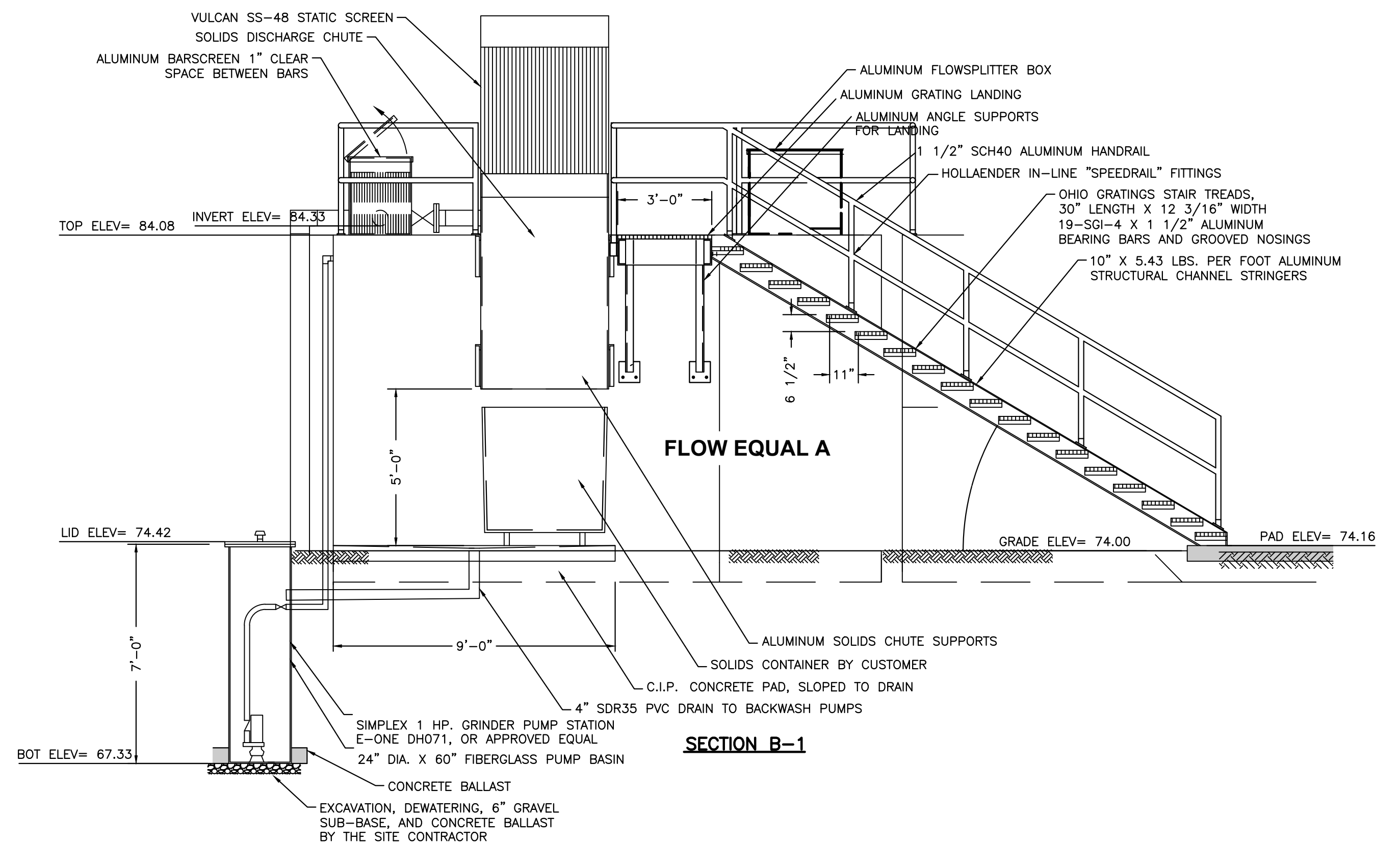
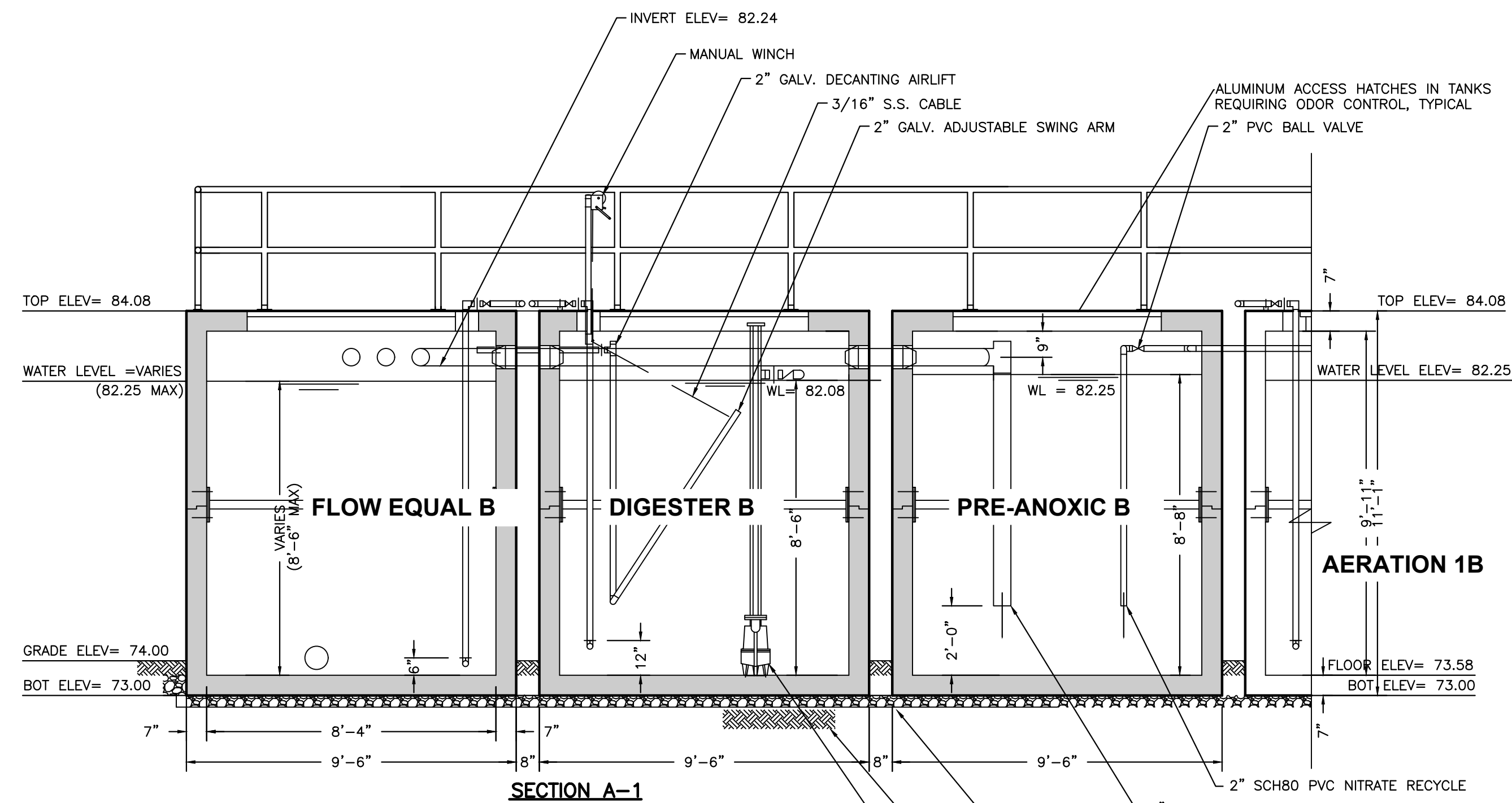
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EOR:
RICKY L. HENDRIX
P.E. NO.:
45239

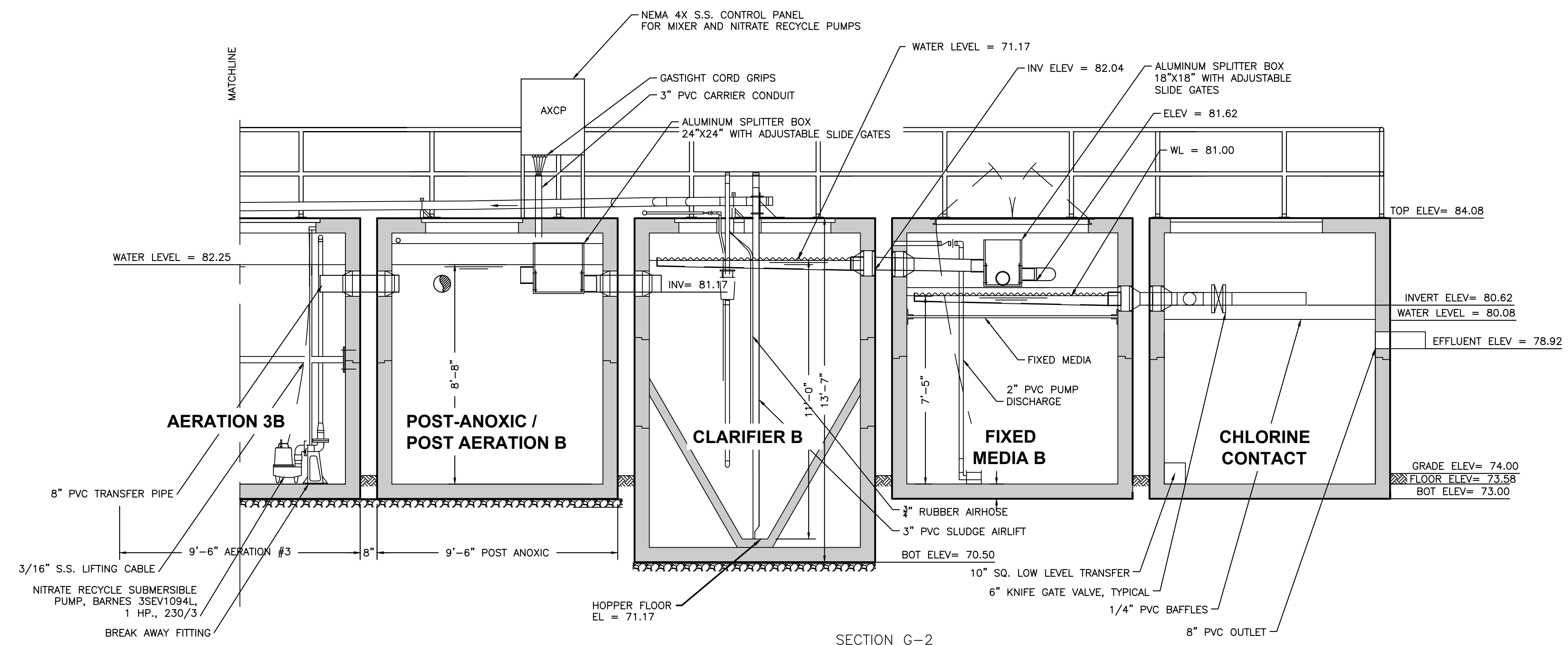
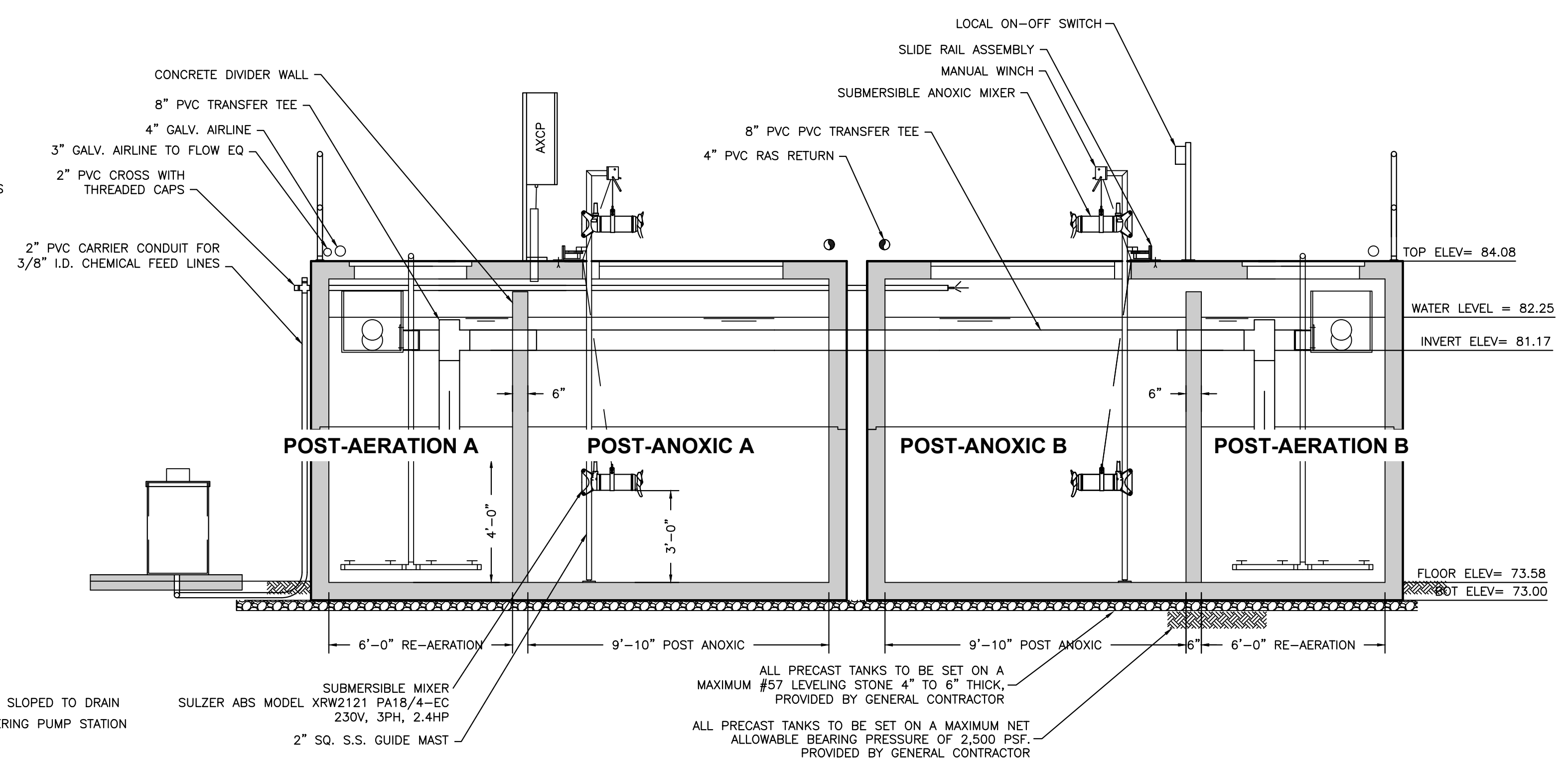
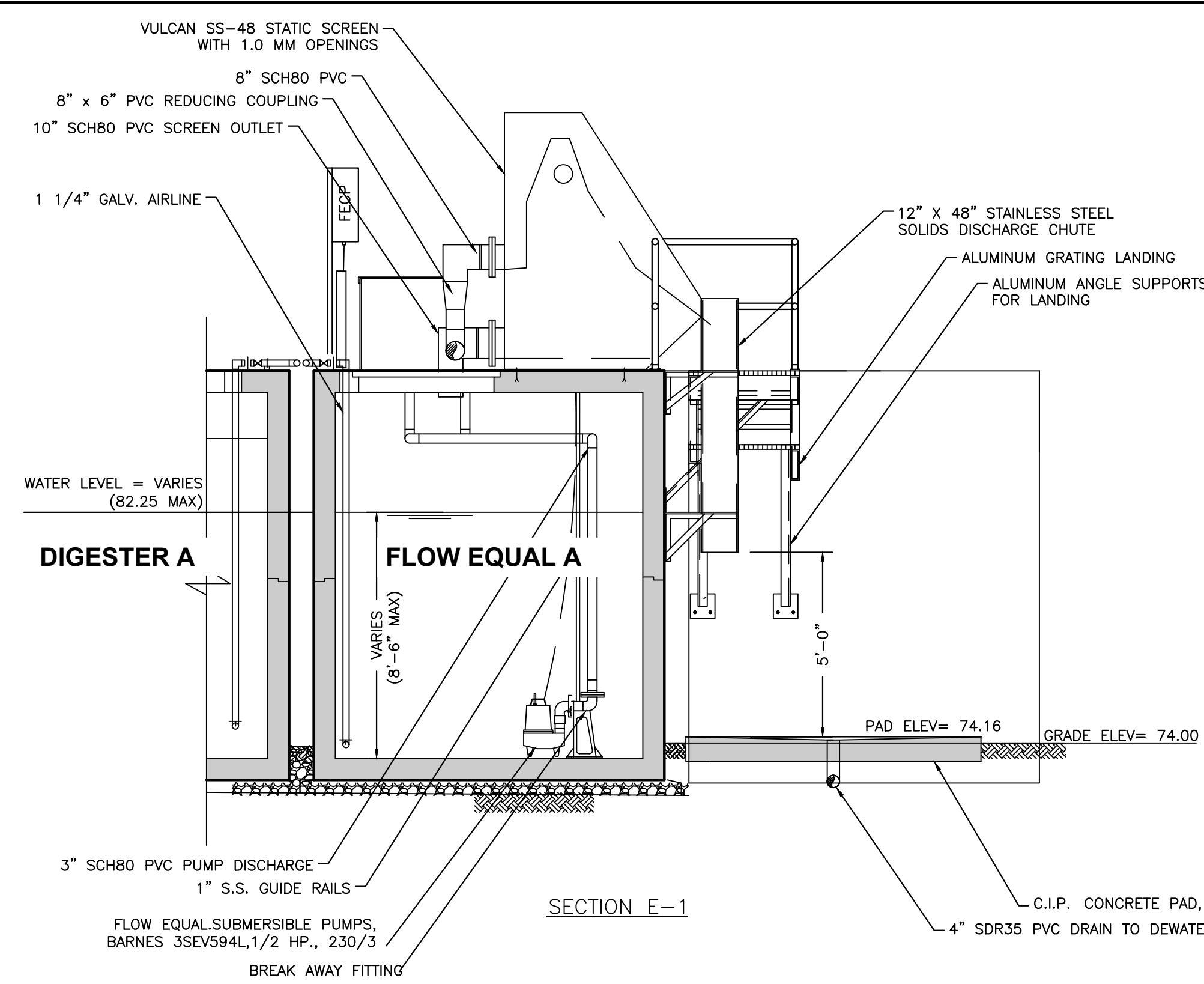
WWTP SECTION & DETAILS

FT WHITE PHASE 1- WASTEWATER TREATMENT

COLUMBIA COUNTY, FLORIDA

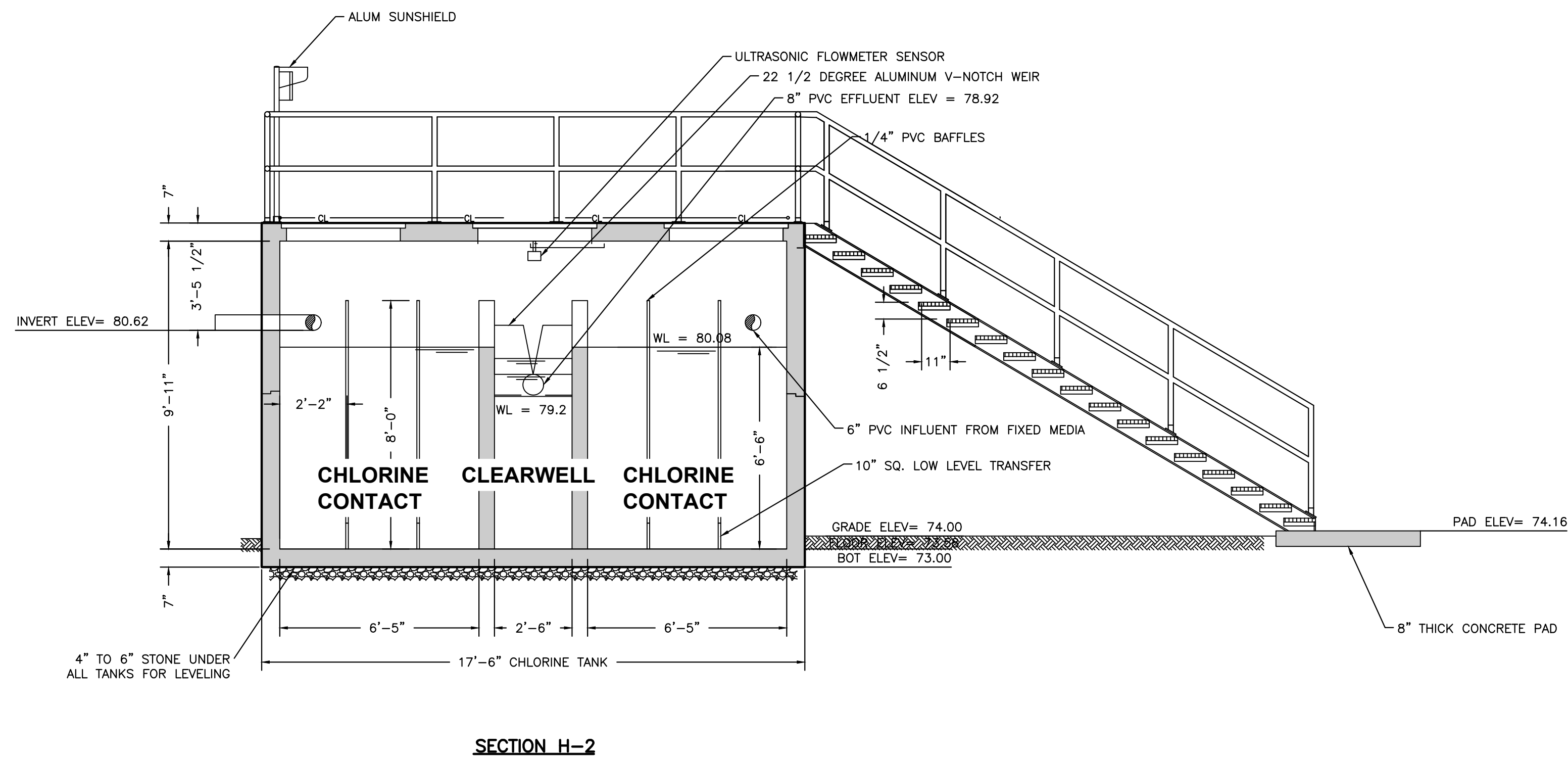
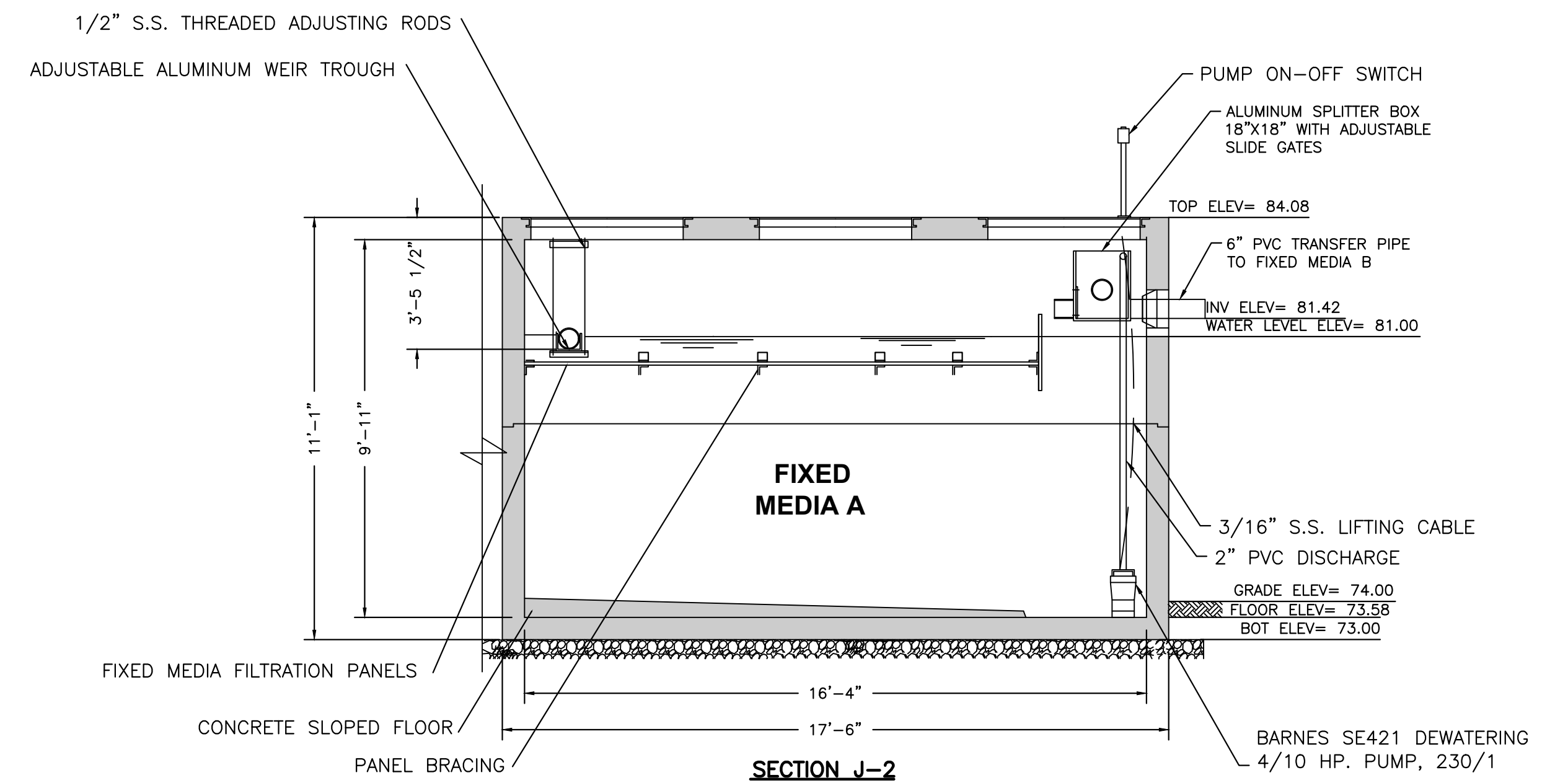
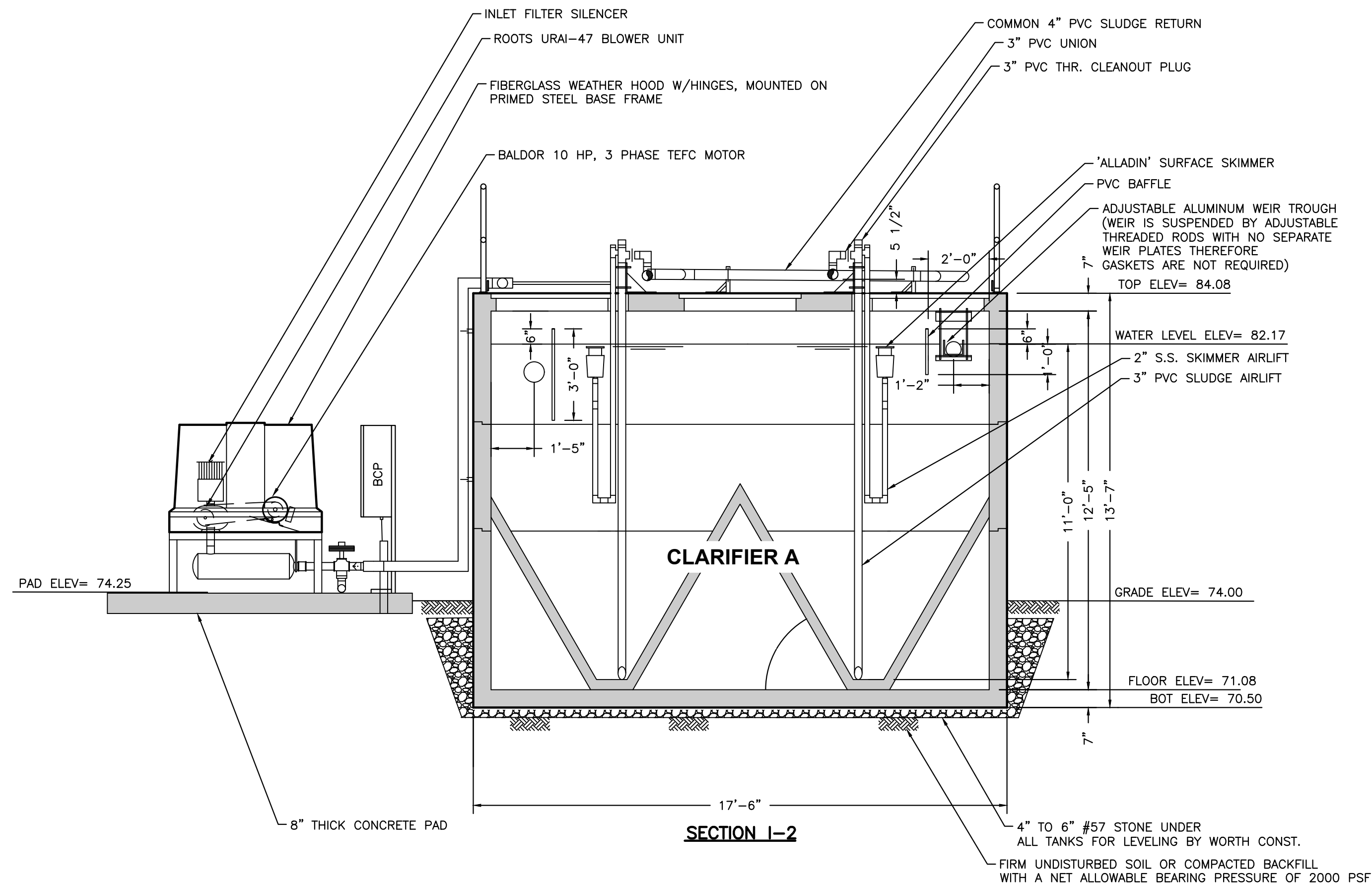
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P7



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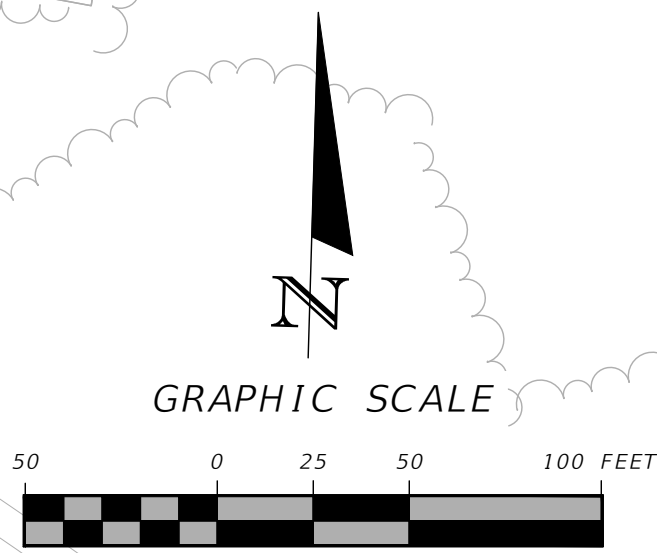
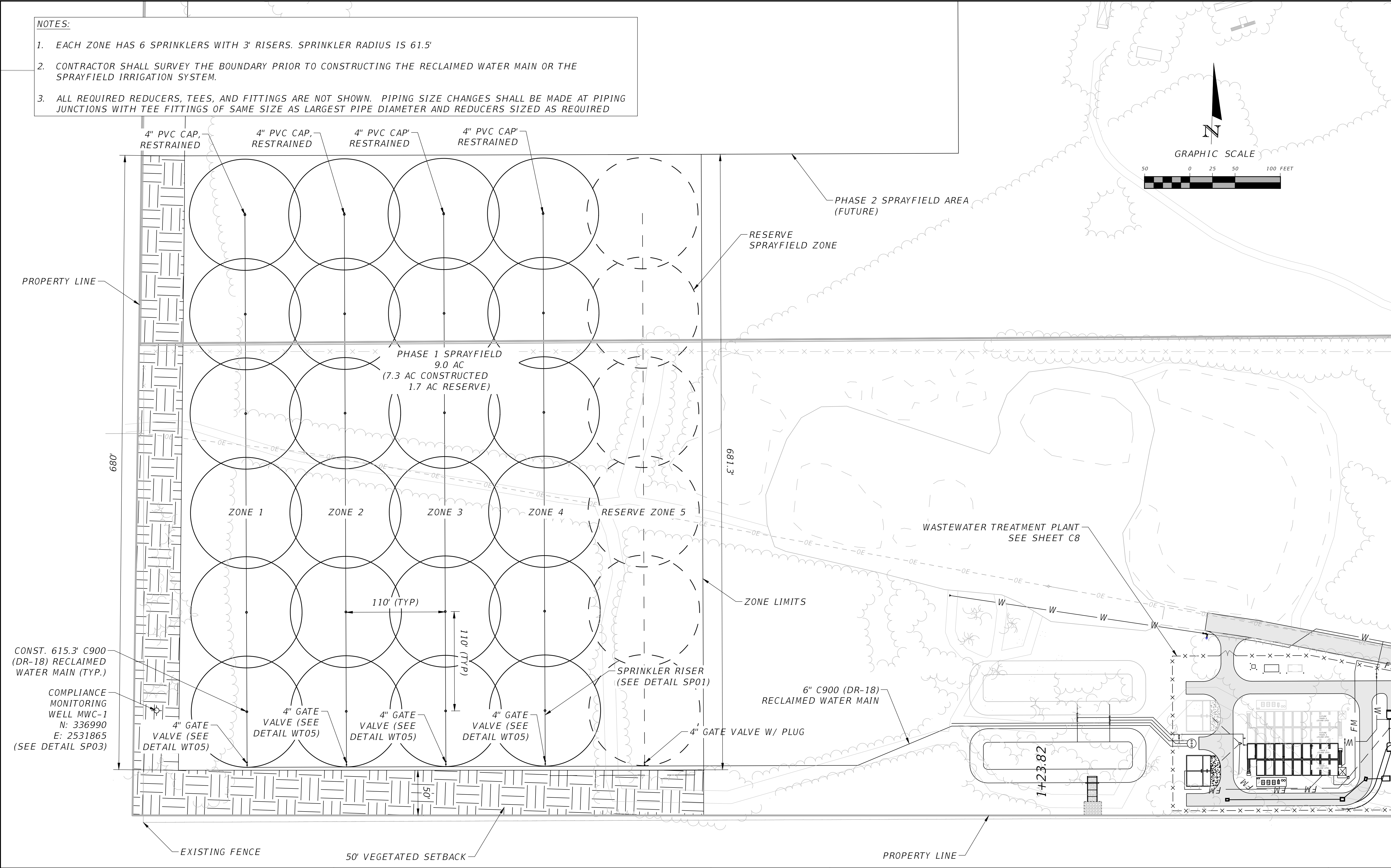
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DATE	DESCRIPTION					

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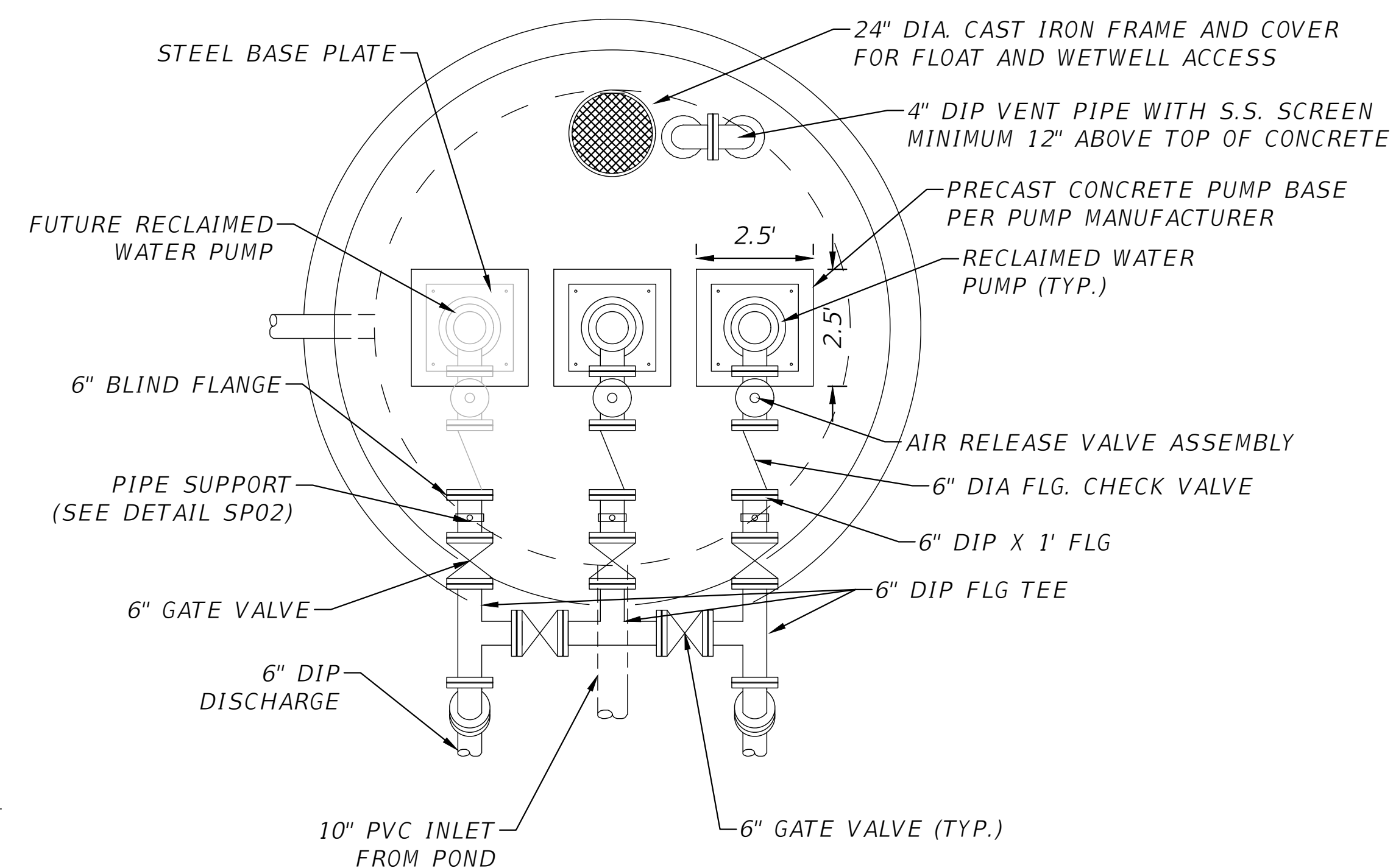
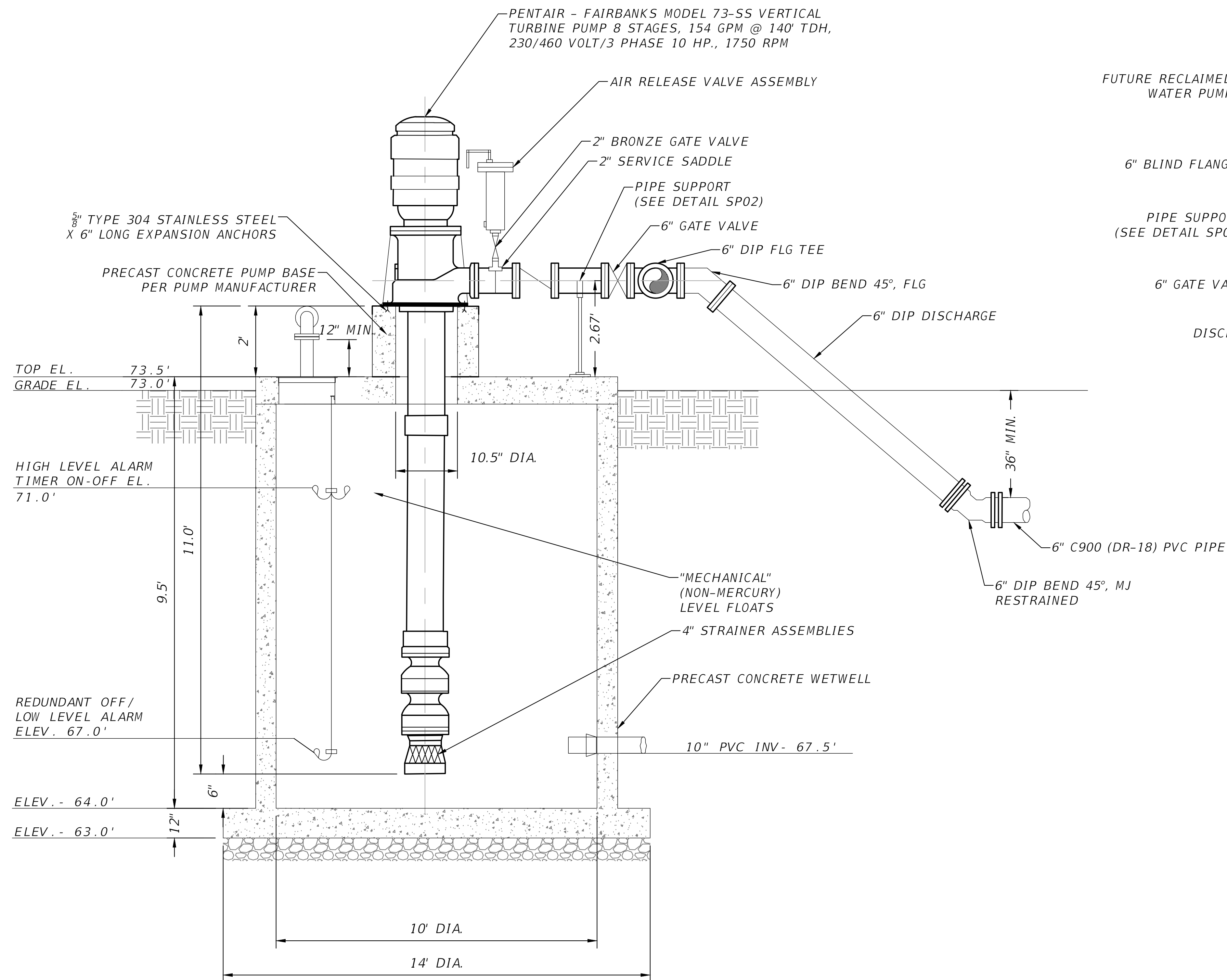
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PH. 386-752-4675
LIC NO. LB8356

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WWW.NFPS.NET
CA# 29011

JOB NUMBER:
L220209FOR
EOR:
RICKY L. HENDRIX
P.E. NO.:
45239

SPRAYFIELD PIPING PLAN
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.
P10



<u>PUMP SPECIFICATIONS</u>	
PUMPS REQ'D	2
MANUFACTURER (OR EQUIVALENT)	PENTAIR/FAIRBANKS
MODEL NUMBER	7M-SS
PUMP DISCHARGE (INCH)	6
CAPACITY EACH (GPM)	154
TOTAL HEAD (FEET)	140
MOTOR HP REQ'D	10
SPEED (RPM)	1750
ELECTRICAL (VOLTAGE)	230 V/3 PH

SECTION VIEW

SP03 RECLAIMED WATER PUMP STATION
SCALE: N.T.S

REVISIONS	
DATE	DESCRIPTION



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LAKE CITY, FL 32056 TALLAHASSEE, FL 32301
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LIC NO. LB8356 CA# 29011

JOB NUMBER:
L220209FOR
EOR:
RICKY L. HENDRIX
P.E. NO.:
45239

RCW PUMP STATION & SPRAYFIELD DETAILS

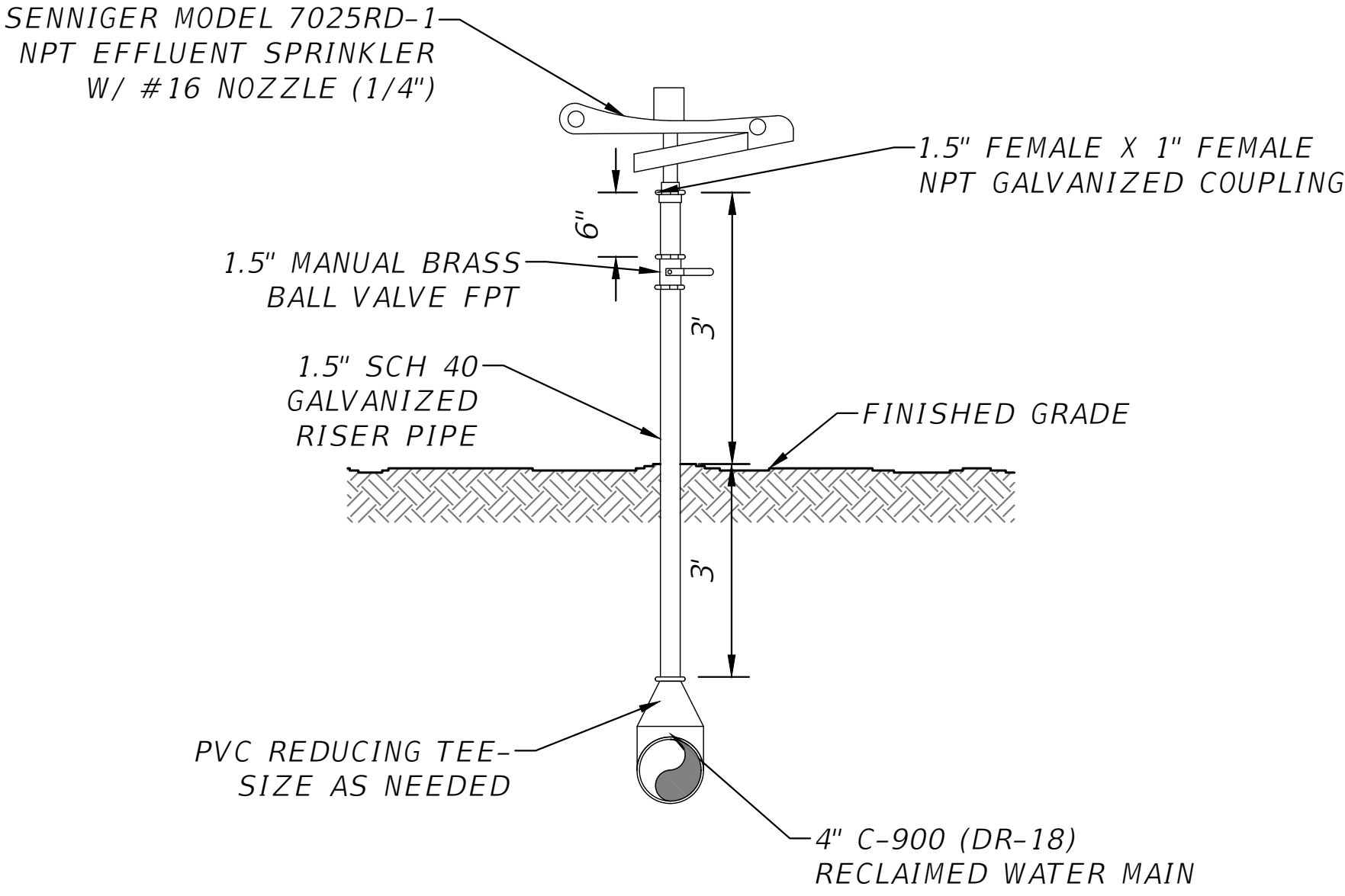
FT WHITE PHASE 1- WASTEWATER TREATMENT

COLUMBIA COUNTY, FLORIDA

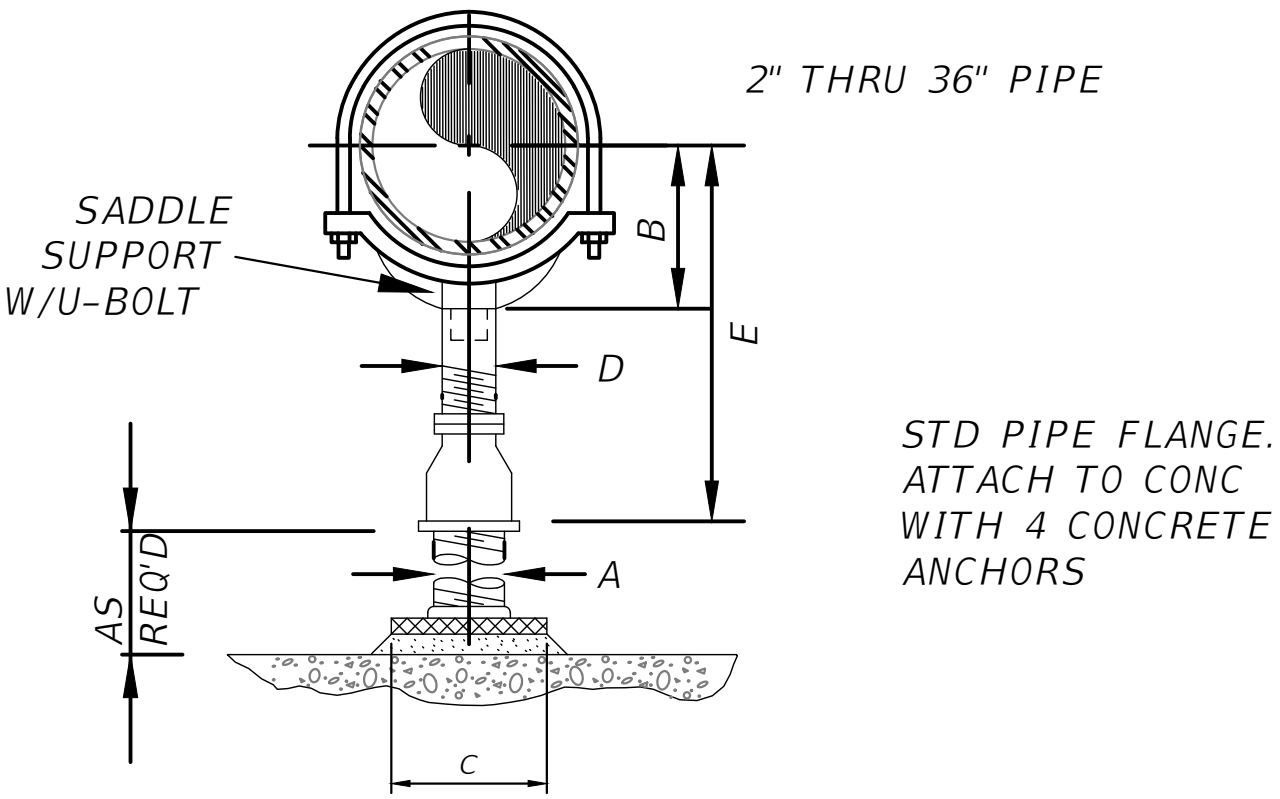
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SP01 SPRINKLER RISER/HEAD
SCALE: N.T.S



- NOTES:
- 1. PROVIDE HALF ROUND RIGID INSULATION AND INSULATION PROTECTION SHIELD, WHERE PIPING IS INSULATED.
 - 2. PROVIDE NEOPRENE WAFFLE ISOLATION PAD, UNDER SUPPORT FOOT WHEN PIPING IS ISOLATED OR SUPPORT IS ADJACENT TO MECHANICAL EQUIPMENT.
 - 3. FOR BASE, HEIGHT AND FLANGE DIMENSIONS, SEE TABLE.

DIMENSION TABLE						
PIPE SIZE	A	B	C	D	E	
					MIN.	MAX.
2 - 1/2"	2 - 1/2"	3 - 1/2"	9"	1 - 1/2"	8"	13"
3"	2 - 1/2"	3 - 3/4"	9"	1 - 1/2"	8 - 1/4"	13 - 1/4"
3 - 1/2"	2 - 1/2"	4"	9"	1 - 1/2"	8 - 1/2"	13 - 1/2"
4"	3"	4 - 1/4"	9"	2 - 1/2"	9 - 1/4"	14"
5"	3"	4 - 7/8"	9"	2 - 1/2"	10"	14 - 3/4"
6"	3"	5 - 1/2"	9"	2 - 1/2"	10 - 1/2"	15 - 1/4"
8"	3"	6 - 7/8"	9"	2 - 1/2"	11 - 3/4"	16 - 1/2"
10"	3"	8 - 1/2"	9"	2 - 1/2"	13 - 1/2"	18 - 1/4"
12"	3"	9 - 15/16"	9"	2 - 1/2"	15"	19 - 3/4"

SP02 PIPE SUPPORT
N.T.S

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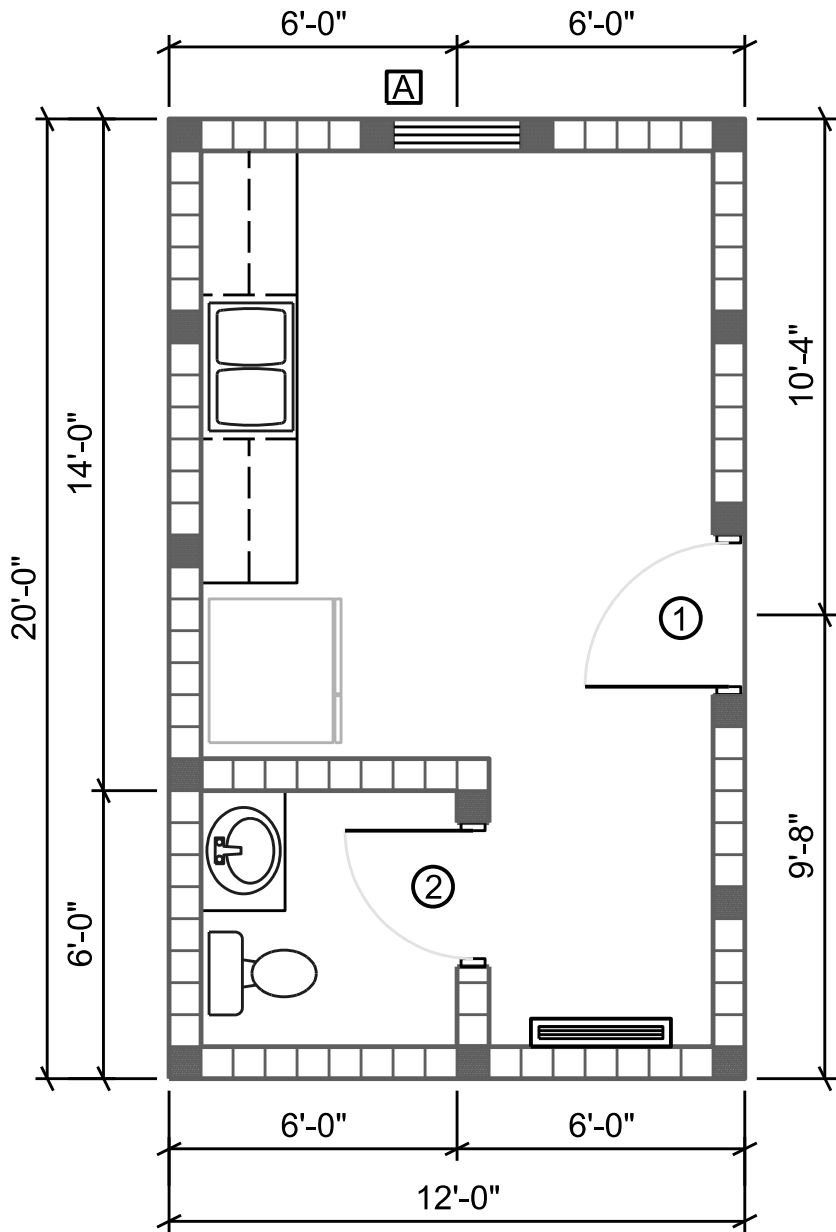
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L220209FOR
EOR:
RICKY L. HENDRIX
P.E. NO.:
45239

RCW PUMP STATION & SPRAYFIELD DETAILS
FT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.

P12



FLOOR PLAN

ELECTRICAL SYMBOLS	
TYPE	DESCRIPTION
	STANDARD DUPLEX RECEPTACLE
	GROUND FAULT INTERRUPTER RECEPTACLE
	STANDARD DOUBLE DUPLEX RECEPTACLE
	DATA/COMMUNICATION RECEPT w/ CONDUIT INTO ATTIC
	SWITCH W/ MOTION SENSOR, ON/OFF PUSH BUTTON
	STANDARD SINGLE POLE SWITCH
	THREE-WAY SWITCH
	FOUR-WAY SWITCH
	LED LIGHT FIXTURE
	LED LIGHT (RECESSED, CANLESS) 100 WATT MIN.
	EXHAUST FAN/LIGHT COMBINATION (EF-1)
	SPECIAL PURPOSE RECEPTACLE (240)
	METER BASE (400 AMP MINIMUM)
	SMOKE DETECTOR, INTERCONNECTED
	DISCONNECT (SIZE VARIES)
	LED FIXTURE (SEE NOTES)
	ELECTRICAL PANEL (100 AMP MAIN)
	EMERGENCY LIGHT
	EXIT LIGHT
	FIRE EXTINGUISHER - TYPE ABC, 10 LBS MINIMUM

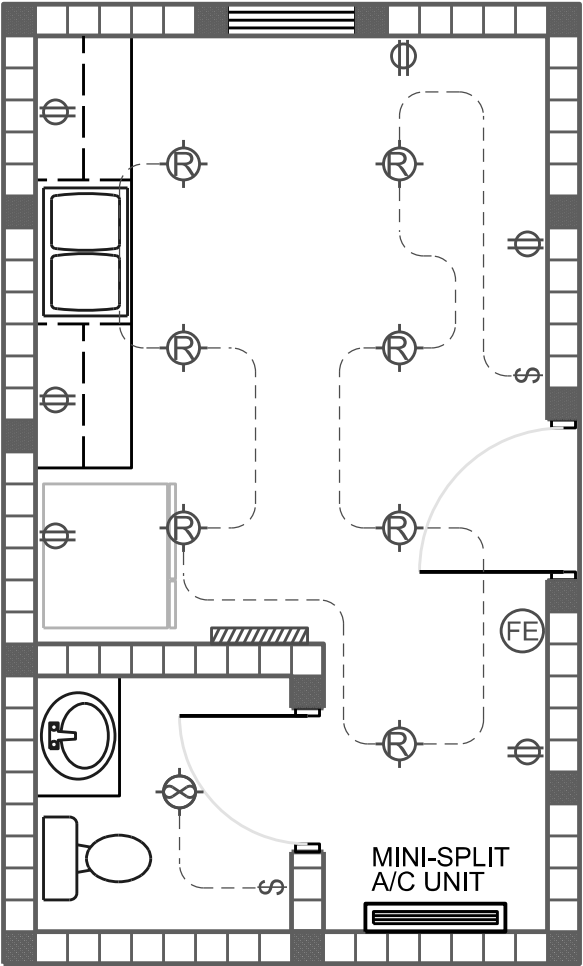
NOTE: THIS ELECTRICAL PLAN IS INTENDED TO SHOW SCHEMATICALLY THE LAYOUT OF THE ELECTRICAL COMPONENTS. THE FINAL LOCATION AND SIZING OF THESE COMPONENTS SHALL BE THE RESPONSIBILITY OF A LICENSED ELECTRICAL CONTRACTOR. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES.

EXHAUST FAN
EF1 - 75 CFM FAN/LIGHT COMBO
LESS THAN 2.0 SONES
EXAMPLE: BROAN A80

HVAC MINI-SPLIT
20 SEER2, 12,000 BTU
1 TON DUCTLESS MINI-SPLIT
AIR CONDITIONER WITH
HEAT PUMP (115V)

ELECTRICAL NOTES

1. THIS TRADE SHALL COORDINATE FULLY WITH ALL OTHER TRADES ASSOCIATED WITH THIS PROJECT TO VERIFY THE LOCATION AND ELEVATION OF ALL EQUIPMENT, PIPES, CONDUITS, AND DUCTS TO PREVENT CONFLICTS DURING CONSTRUCTION. ANY RELOCATION OR REROUTING OF EQUIPMENT, PIPES, CONDUITS, OR DUCT RESULTED FROM A LACK OF COORDINATION BETWEEN TRADES SHALL BE AT THE CONTRACTORS EXPENSE.
2. EQUIPMENT ROUGH-INS ARE ACCURATE TO THE BEST OF THE DESIGNERS KNOWLEDGE, HOWEVER IN SOME INSTANCES THE OWNER OR SUPPLIER MAY SUBSTITUTE OR THE EQUIPMENT ITEM MAY VARY FROM WHAT IS SHOWN ON THE PLANS. THE CONTRACTOR OR HIS TRADESMAN SHALL VERIFY ALL CRITICAL DIMENSIONS WITH THE OWNER OR SUPPLIER PRIOR TO BEGINNING CONSTRUCTION. FAILURE OF THE CONTRACTOR TO VERIFY THESE DIMENSIONS SHALL PLACE THE RESPONSIBILITY FOR ANY SUBSEQUENT RELOCATION DIRECTLY ON THE CONTRACTOR.
3. THE SUBMISSION OF A PROPOSAL BY THE CONTRACTOR OR A TRADESMAN SHALL BE CONSTRUED AS EVIDENCE THAT THE CONTRACTOR OR TRADESMAN HAS FAMILIARIZED HIMSELF WITH THE PLANS AND EXISTING SITE CONDITIONS. ANY SUBSEQUENT CLAIMS FOR AN INCREASE IN THE COST OF MATERIALS AND/OR LABOR RESULTING FROM DIFFICULTIES THAT COULD HAVE BEEN REASONABLE FORSEEN HAD A PROPER EXAMINATION BEEN MADE WILL BE DENIED.
4. THE CONTRACTOR AND HIS TRADES SHALL VISIT THE SITE AND THOROUGHLY INSPECT ALL EXISTING CONDITIONS TO ASSURE THAT THE WORK REPRESENTED IN THE PLANS AND SPECIFICATIONS AND EQUIPMENT PURCHASED WILL FIT INTO THE SPACE ALLOCATED AND CAN BE INSTALLED AS INDICATED.
5. THE CONTRACTOR SHALL OBTAIN AN PAY FOR ALL PERMITS, LICENSES, DOCUMENTS AND SERVICES RELATED TO THE INSTALLATION OF THE WORK.



ELECTRICAL PLAN

6. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL CODES HAVING JURISDICTION.
7. THE CONTRACTOR SHALL PROVIDE A COMPLETE ELECTRICAL SYSTEM TO INCLUDE LABOR, MATERIALS (INCLUDING BULBS), EQUIPMENT AND TOOLS NECESSARY FOR A COMPLETELY OPERATIONAL SYSTEM, INCLUDING ANY APPURTENANCES CUSTOMARILY INCLUDED IF NOT SPECIFICALLY CALLED OUT. AT THE COMPLETION OF THE INSTALLATION, THE ELECTRICAL CONTRACTOR SHALL THOROUGHLY TEST THE SYSTEM TO ENSURE IT IS OPERATING PROPERLY.
8. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND ALL APPLICABLE INDUSTRY STANDARDS.
9. ALL ELECTRICAL WORK SHALL BE LOCATED SO AS TO AVOID CONFLICT WITH OTHER TRADES AND PROVIDE ADEQUATE CLEARANCES FOR THE ARCHITECTURAL DESIGN ELEMENTS AND PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT.
10. THE ELECTRICAL CONTRACTOR SHALL PROVIDE A STATUTORY AFFIDAVIT AS PROVIDED BY THE OWNER. HE SHALL WARRANT AND GUARANTEE ALL HIS MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE.
11. DO NOT SCALE DIMENSIONS FROM ELECTRICAL PLAN. REFER TO FLOOR PLAN FOR BUILDING DIMENSIONS.
12. ALL WIRING SHALL BE COPPER.
13. PROVIDE TWO CONDUITS TO THE EXTERIOR OF THE BUILDING FOR COMMUNICATION AND FUTURE USE.

REVISIONS	
DATE	DESCRIPTION



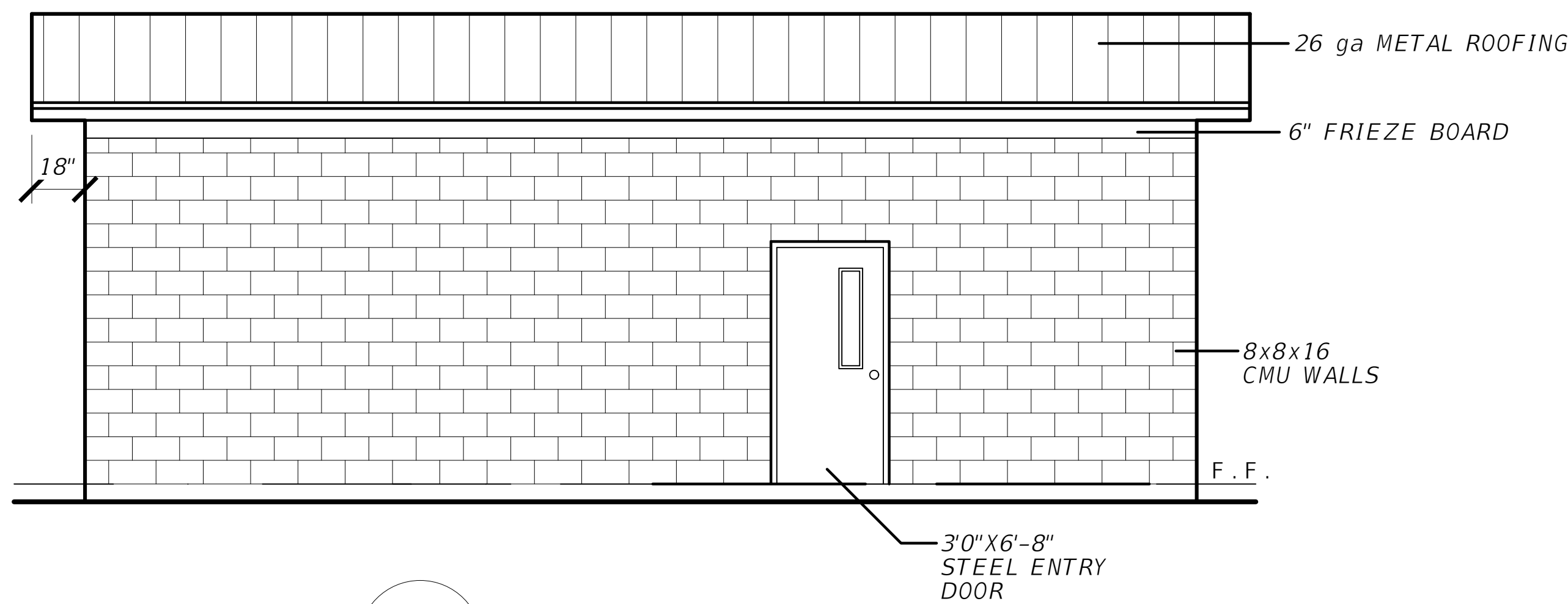
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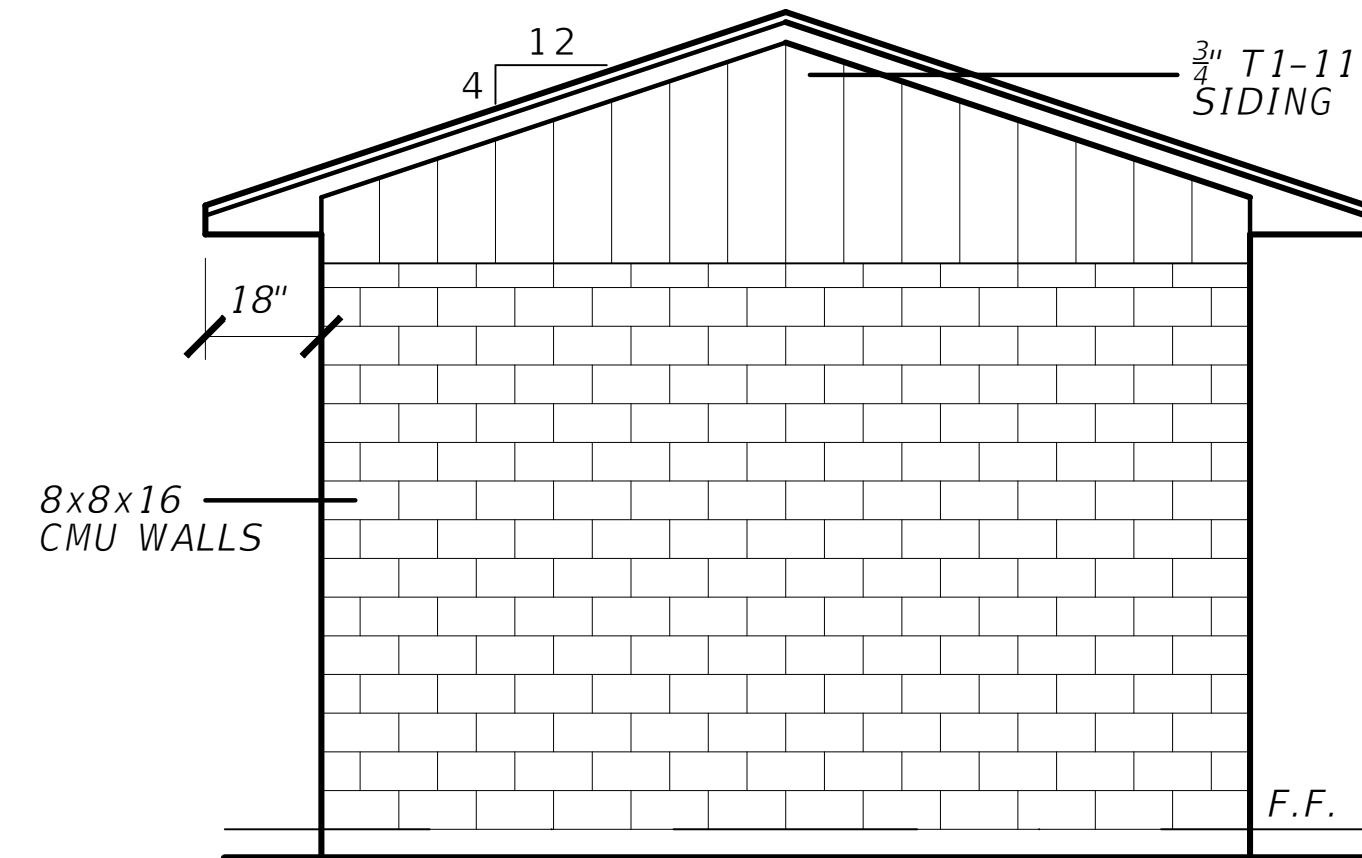
JOB NUMBER:
L2200209FOR
EOR:
ROBERT P. BISHOP
P.E. NO.:
38546

FLOOR PLAN/ELECTRICAL PLAN
FT WHITE PHASE 1 - WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

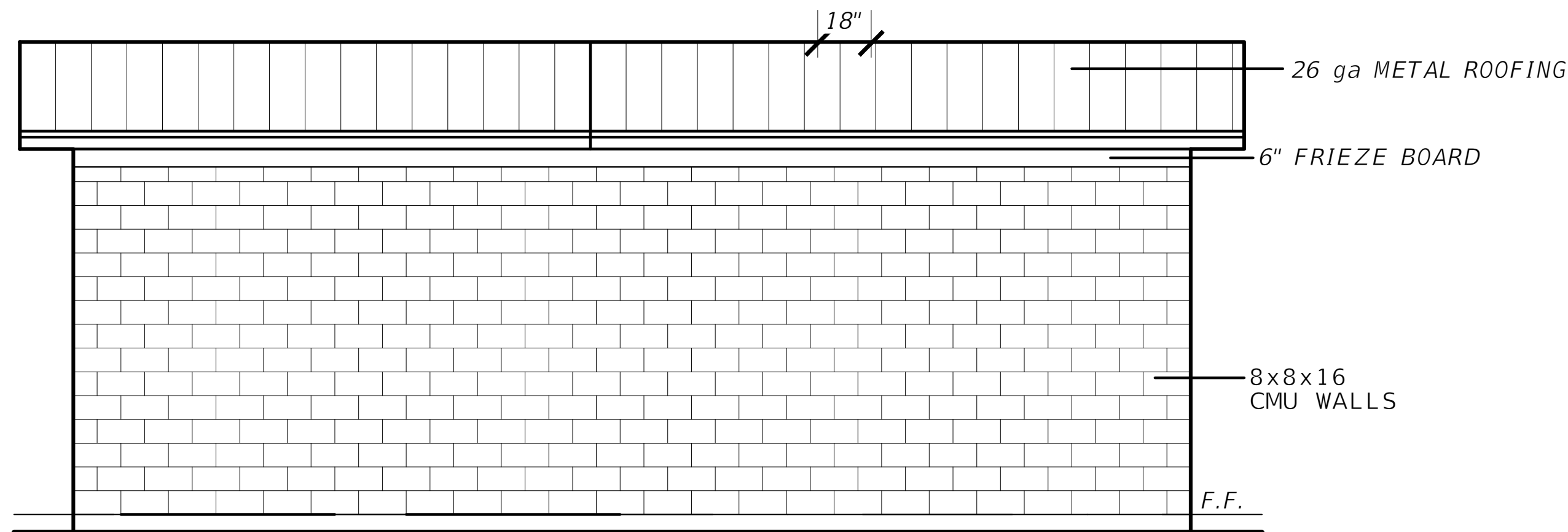
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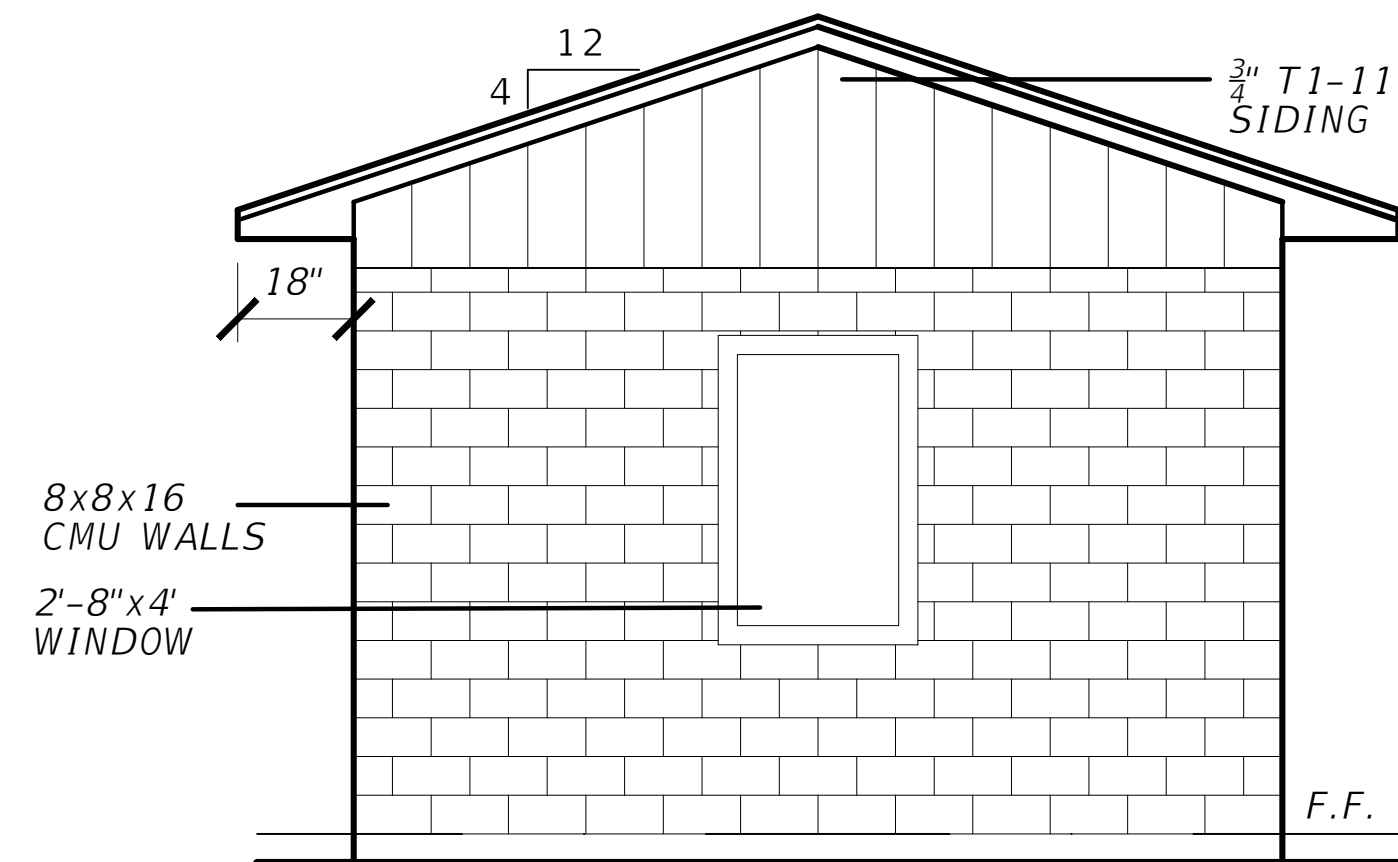
1 NORTH ELEVATION



2 EAST ELEVATION



3 SOUTH ELEVATION



4 WEST ELEVATION

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DATE	DESCRIPTION					
						B2

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7/8/2025 6:30:55 PM

X:\2022\L220209FOR\H.CADD-2\Struct\DSGMRD01.dwg B2 BLDG ELEVATIONS

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GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS SHOWN. NOTIFY THE ENGINEER OF ANY CHANGES OR MODIFICATIONS TO THE PLANS.
2. ALL PRE-FABRICATED BUILDING ELEMENTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, SPECIFICATIONS AND REGULATIONS AND TO SUPPORT LOADS INDICATED IN THE STRUCTURAL DESIGN NOTES AND ANY CONCENTRATED LOADS. ALL REQUIRED BRACING (TEMPORARY AND PERMANENT) SHALL BE DESIGNED AND NOTED ON ERECTION DRAWINGS BY THE MANUFACTURER. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PRE-FABRICATED ELEMENTS FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD.
3. ALL FRAMING LUMBER SHALL BE SET AND SPACED AS INDICATED, SECURELY ATTACHED, NAILED, BRIDGED AND BLOCKED TO FORM A RIGID STRUCTURE. ALL WORK IS TO BE SECURELY SET, INCLUDING ANCHORING TO MASONRY AND CONCRETE.
4. PROVIDE BLOCKING, NAILERS, PLATES AND OTHER MISCELLANEOUS WHERE SHOWN AND REQUIRED. SECURELY FASTEN BLOCKING IN PLACE. PLACE BOLTS IN CONCRETE, MASONRY AND STEEL FOR THE FASTENING OF BLOCKING AND PLATES WHERE SHOWN AND/OR REQUIRED.
5. ALL WOOD OR METAL STUDS SHALL BE SPACED AT 16" O.C., UNLESS OTHERWISE NOTED ON THE PLANS, WITH A SINGLE SOLE PLATE, DOUBLE TOP PLATE AND A CONTINUOUS ROW OF SOLID GIRTS AT THE CENTER OF HEIGHT. ALL OPENINGS SHALL HAVE WOOD NAILERS AT EACH JAMB AND HEADER.
6. ALL WALLS AND OTHER STRUCTURAL MEMBERS SHALL BE TEMPORARILY BRACED UNTIL PERMANENT BRACING IS IN PLACE.
7. ALL WINDOW AND DOOR HEADERS WITH A MAXIMUM SPAN OF 6'-0" IN A NON-BEARING STUD WALL SHALL BE 2' - 6" METAL HEADERS FOR 4" WALLS.

PAINTING NOTES:

1. ALL MATERIALS USED UNDER THE PAINTING CONTRACT SHALL BE BY AN APPROVED MANUFACTURER AND DELIVERED TO THE JOB SITE IN ORIGINAL, UNOPENED CONTAINERS.
2. ALL PAINT SURFACES SHALL RECEIVE ONE COAT OF PRIMER AND AT LEAST ONE FINISH COAT.
3. EXTERIOR SURFACE PREPARATION: REMOVE ALL DIRT, OIL, GREASE, AND OTHER CONTAMINANTS FROM THE SURFACE PRIOR TO APPLYING ANY PAINT.
4. EXTERIOR SURFACE PREPARATION: WASH AND THOROUGHLY DRY ALL SURFACES FREE OF DIRT, OILS, GREASE, WAX, SOAP, OR OTHER CONTAMINANTS. REPAIR ANY CRACKS OR SURFACE IMPERFECTIONS WITH TO APPLYING AND PAINT.
5. COLORS AND FINISH TO BE DETERMINED BY THE OWNER.
6. APPROVED MANUFACTURERS:
SHERWIN WILLIAMS
BENJAMIN MOORE
GLIDDEN

ARCHITECTURAL NOTES

1. ALL DRYWALL SHALL BE 1/2" GYPSUM WALLBOARD UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. ALL CONSTRUCTION, EQUIPMENT AND FINISHES SHALL MEET OR EXCEED ALL LOCAL CODES, SOUTHERN BUILDING CODE, NFPA 101 LIFE SAFETY CODE AND ALL OTHER GOVERNING CODES AND REVISIONS.
3. ALL INTERIOR STUD WALLS ARE TO BE OF 2x4 (#2 SPF) WOOD @ 16" O.C. UNLESS OTHERWISE NOTED ON THE PLANS. EXTERIOR STUD WALLS ARE TO BE 2x6 WOOD (#2 SPF) STUDS @ 16" O.C. UNLESS OTHERWISE NOTED ON THE PLANS.
4. ROOF SLOPES SHALL BE AS NOTED ON THE PLANS. METAL ROOFING, UNDERLAYMENT, FLASHING, DIP MOLDING AND VENTILATION SHALL BE AS SPECIFIED BY THE ROOFING MANUFACTURER.
5. DO NOT USE ANY MATERIALS CONTAINING ASBESTOS.
6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS SHOWN AND NOTIFY THE ENGINEER OF ANY CHANGES OR MODIFICATIONS.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS AT THE JOB SITE TO INSURE THAT ALL NEW WORK WILL FIT IN THE MANNER INTENDED AND ON THE PLANS. SHOULD ANY CONDITIONS EXIST THAT ARE CONTRARY TO THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF SUCH DIFFERENCES IMMEDIATELY AND PRIOR TO PROCEEDING WITH THE WORK.
8. ANY WOOD OR TIMBER THAT COMES IN CONTACT WITH CONCRETE OR MASONRY SHALL BE PRESSURE TREATED.
9. SEE STRUCTURAL DRAWINGS FOR ALL SIZES, SHAPES AND CONDITIONS OF ALL STRUCTURAL MEMBERS, CONNECTIONS FOOTINGS, BRACING, AND REINFORCING
10. ALL INTERIOR FINISHES SHALL MEET THE REQUIREMENTS OF THE FLORIDA BUILDING CODE AND LIFE SAFETY CODE, SECTION 6-5.1.5.
11. ALL FLOOR FINISHES SHALL BE LEVEL AND SHALL AVOID ANY CHANGES IN ELEVATION GREATER THAN 1/2" INCLUDING DOOR THRESHOLDS AND STEP DOWNS AT EXTERIOR AND INTERIOR DOORS.
12. ALL FASCIAS AND SOFFIT VENTS (IF ANY REQ'D) ARE TO BE OF ALUMINUM WITH SOFFIT VENTS HAVING 2" CONTINUOUS VENTILATION, SCREENED. COLOR SHALL BE AS SPECIFIED BY OWNER/CONTRACTOR.
13. FOUNDATION WATER-PROOFING AND MOISTURE BARRIER TO CONSIST OF 6-MIL PLASTIC POLYETHYLENE. ALL LAPS SHALL BE A MINIMUM OF 12".
14. FINAL LOCATION, SIZE AND PLACEMENT OF ALL PLUMBING, ELECTRICAL AND MECHANICAL COMPONENTS SHALL BE DETERMINED BY A LICENSED ELECTRICAL OR MECHANICAL CONTRACTOR IN ACCORDANCE WITH CHAPTER 471.003 2(i).
15. THE HEATING, AIR CONDITIONING AND VENTILATING SYSTEM SHALL HAVE MINIMUM SEER, EER AND COP AS SPECIFIED BY THE LATEST EDITION OF THE 'ENERGY DEPARTMENT OF COMMUNITY AFFAIRS.

MILL WORK AND VINYL BASE

1. KITCHEN CABINETS AND VANITY CABINETS SHALL HAVE 1/2" PLYWOOD BOXES WITH SOLID BIRCH HARDWOOD FACE FRAMES. ALL DOORS SHALL HAVE RAISED PANELS WITH FULLY CONCEALED SELF CLOSING HINGES. ALL DRAWERS SHALL HAVE HARDWOOD FACE PLATES ON PLYWOOD BOXES WITH FULL ACCESS, SELF CLOSING DRAWER GLIDES. ALL SHELVES SHALL BE 3/4" THICK ENGINEERED WOOD WITH PVC EDGE BANDING. ALL BASE CABINETS SHALL BE 24" DEEP BY 36" HIGH (TO OF THE COUNTERTOPS) AND WALL CABINETS SHALL BE 12" DEEP BY 42" HIGH. THE BATHROOM VANITY SHALL BE 19" DEEP BY 30" HIGH. ALL COUNTERTOPS SHALL HAVE A PLYWOOD SUBSTRATE WITH A LAMINATE SURFACE. THE VANITY TOP SHALL BE CULTURED MARBLE WITH AN INTEGRAL SINK BASE.
2. THE VINYL COVE BASE SHALL BE FLEXCO OR EQUAL AND SHALL BE A MINIMUM OF 1/8" THICK BY 4" HIGH AND SHALL BE A CONTINUOUS ROLL NO 4 FOOT LENGTHS WILL BE ALLOWED. CONTRACTOR SHALL PROVIDE COLOR SAMPLES FOR FINAL SELECTION BY THE OWNER.

BUILDING DESIGN INFORMATION	
OCCUPANCY CLASSIFICATION	B
BUILDING CONSTRUCTION TYPE	IIIA
RISK CATEGORY	II

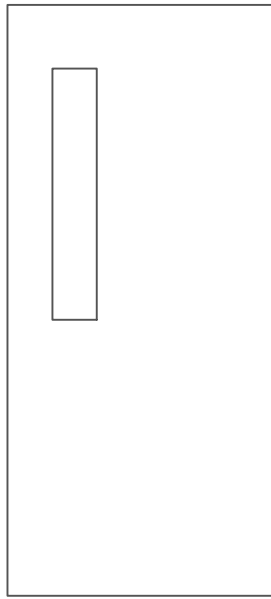
THESE PLANS PREPARED IN
ACCORDANCE WITH THE 2023
FLORIDA BUILDING CODE

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DATE	DESCRIPTION						
							B3



TYPE II

SOLID CORE, FLUSH WITH
STEEL FRAME (PAINT GRADE)



TYPE III

18 GA. STEEL WITH STEEL
FRAME, (PAINT FINISH)
SIDE LITE, THRESHOLD, AND
WEATHER STRIPPING

HARDWARE LIST

A - PRIVACY LOCK

B - KEYED LOCK

C - PANIC DEVICE

D - CLOSER

NOTE:
DOOR HARDWARE TO HAVE BRONZE FINISH AND COMPLY
WITH REQUIREMENTS OF FLORIDA ACCESSIBILITY CODE.

DOOR SCHEDULE						
MARK	SIZE		TYPE	MAT'L	FINISH	HARDWARE
	WIDTH	HEIGHT				
1	3'-0"	6'-8"	III	STEEL	PAINT	B/D
2	3'-0"	6'-8"	I	WOOD	PAINT	B

FINISH SCHEDULE LEGEND

CMU	--	CONCRETE MASONRY UNIT
VB	--	VINYL BASE, CONTINUOUS ROLL
GWB	--	GYP SUM WALLBOARD (1/2")
HARD	--	HARD COATED PLASTER FINISH, LIGHT TEXTURE
CB	--	CEMENT BOARD (1/2")
KD/P	--	KNOCK DOWN TEXTURE, PAINTED
P	--	PAINT
EP	--	EPOXY PAINT

FINISH SCHEDULE							
ROOM NAME	FLOOR	BASE	WALLS		CEILING		
OFFICE/ LAB	CONC	VINYL	PAINT	CMU	G.W.B.	H.C.	PAINT
RESTROOM	CONC.	VINYL	PAINT	CMU	G.W.B.	H.C.	PAINT

WINDOW SCHEDULE					
MARK	ROUGH OPEN.		TYPE	FRAME	FINISH
	WIDTH	HEIGHT			
1	2'-8"	3'-4"	FIXED	ALUM.	BRONZE

REVISIONS

DATE	DESCRIPTION



NORTH FLORIDA
PROFESSIONAL SERVICES, INC.

P.O. BOX 3823
LAKE CITY, FL 32056
PH. 386-752-4675
LIC NO. LB8356

1450 SW STATE ROAD 47
LAKE CITY, FL 32025
WWW.NFPS.NET

JOB NUMBER:
L220209FOR
EOR:
ROBERT P. BISHOP
P.E. NO.:
38546

BLDG NOTES AND SCHEDULES

FORT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.

B4

Grace Pearson

7/8/2025 6:27:38 PM

X:\2022\L220209FOR\H.CADD-2\Struct\DSGNRD01.dwg B4 BLDG NOTES & SCHEDULES

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GENERAL NOTES

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND DETAILS SHOWN. NOTIFY THE ENGINEER OF ANY CHANGES OR MODIFICATIONS TO THE PLANS.
2. ALL PRE-FABRICATED BUILDING ELEMENTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, SPECIFICATIONS AND REGULATIONS AND TO SUPPORT LOADS INDICATED IN THE STRUCTURAL DESIGN NOTES AND ANY CONCENTRATED LOADS. ALL REQUIRED BRACING (TEMPORARY AND PERMANENT) SHALL BE DESIGNED AND NOTED ON ERECTION DRAWINGS BY THE MANUFACTURER. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS OF ALL PRE-FABRICATED ELEMENTS FOR REVIEW AND APPROVAL BY THE ENGINEER OF RECORD.
3. ALL FRAMING LUMBER SHALL BE SET AND SPACED AS INDICATED, SECURELY ATTACHED, NAILED, BRIDGED AND BLOCKED TO FORM A RIGID STRUCTURE. ALL WORK IS TO BE SECURELY SET, INCLUDING ANCHORING TO MASONRY AND CONCRETE.
4. PROVIDE BLOCKING, NAILERS, PLATES AND OTHER MISCELLANEOUS WHERE SHOWN AND REQUIRED. SECURELY FASTEN BLOCKING IN PLACE. PLACE ANCHOR BOLTS IN CONCRETE, MASONRY AND STEEL FOR THE FASTENING OF BLOCKING AND PLATES WHERE SHOWN AND/OR REQUIRED.

STRUCTURAL NOTES

STRUCTURAL DESIGN CRITERIA

1. ALL WORK HAS BEEN DESIGNED FOR THE FOLLOWING LOADS AND SPECIFICATIONS APPLIED IN ACCORDANCE WITH THE 2023 FLORIDA BUILDING CODE, ACI 318-19, TMS 402/602-16, AND NDS 2018.
2. DESIGN LOADS:
- 2.1 SUPERIMPOSED DEAD LOAD (ROOF, CEILING, M.E.P. EQUIPMENT/DUCTS) = 10 PSF
- 2.2 LIVE LOAD(ROOF)= 20 PSF
- 2.3 WIND LOADS=
- | | |
|---|----------------------|
| a. ULTIMATE DESIGN WIND SPEED, 3 SECOND GUST, VuIt. | 125 MPH |
| b. HURRICANE PRONE REGION | YES |
| WINDBORNE DEBRIS REGION | NO |
| c. BUILDING RISK CATEGORY | II |
| d. WIND EXPOSURE CATEGORY | C |
| e. WIND TOPOGRAPHIC FACTOR (Kzt) | 1.0 |
| f. GROUND ELEVATION FACTOR (Ke) | 1.0 |
| g. ENCLOSURE CATEGORY | PARTIALLY ENCLOSED |
| h. INTERNAL PRESSURE COEFFICEINT | +/-0.55 |
| i. MEAN ROOF HEIGHT | 15 FEET |
| j. WIND DIRECTIONALITY FACTOR (Kd) | .85 |
| k. VELOCITY PRESSURE COEFFICIENT (Kh) | .85 |
| l. ULTIMATE VELOCITY PRESSURE (qh) | 34.0 PSF |
| m. COMPONENTS & CLADDING WIND PRESSURES | SEE TABLE NEXT SHEET |
| n. DIMENSION "a" | 3 FT |
- 2.4 RAIN LOADS: DESIGN RAIN INTENSITY IS 4.5 INCHES PER HOUR

WOOD

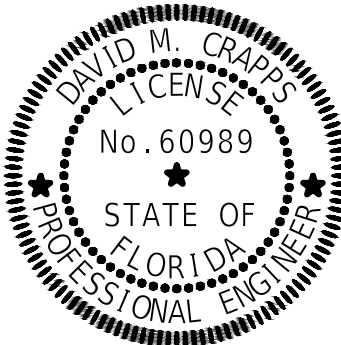
1. STRUCTURAL FRAMING PLANS DEPICT THE PRIMARY STRUCTURAL FRAMING SYSTEM. CONTRACTOR SHALL PROVIDE SECONDARY AND MISCELLANEOUS FRAMING AS REQUIRED TO COMPLETE THE PROJECT.
2. DRESSED SEASONED LUMBER: S4S, 19% MAXIMUM MOISTURE CONTENT AT TIME OF DRESSING.
- 2.1. COLUMNS AND STUD FRAMING: SOUTHERN PINE NO.2 OR STRONGER.
- 2.2. LINTELS, FLOOR JOISTS AND BEAMS: SOUTHERN PINE, NO.2 GRADE
- 2.3. WOOD IN CONTACT WITH CONCRETE OR MASONRY OR EXPOSED TO WEATHER: ABOVE GRADE PRESSURE-TREATED (AWPA-UC3A OR UC3B) OR GROUND CONTACT RATED PRESSURE TREATED (AWPA-UC4A). GROUND CONTACT RATED WOOD IS RECOMMENDED AT THE CRAWLSPACE AND DECK AREAS (IF PRESENT). USE HOT-DIP GALVANIZED NAILS IN PRESSURE TREATED WOOD.
3. STRUCTURAL PANELS
- 3.1. WALL PANELS: 5/8" APA RATED SHEATHING.
- 3.2. ROOF PANELS: 5/8" APA RATED SHEATHING.
4. WOOD SHEAR WALLS
- 4.1. PANELS SHALL BE ORIENTED WITH THE LONG DIMENSION IN THE VERTICAL DIRECTION.
- 4.2. SOLID 2x BLOCKING SHALL BE PROVIDED AT UNSUPPORTED, HORIZONTAL PANEL EDGES.
- 4.3. NAIL PANELS WITH 8d HOT-DIPPED GALVANIZED RINGSHANK NAILS SPACED AT 6" AT THE PERIMETER OF THE PANELS AND AT 12" AT INTERMEDIATE SUPPORTS, UON.
- 4.4. DOUBLE 2x FRAMING STUDS SHALL BE USED AT THE ENDS OF EACH SHEAR WALL, UON.
- 4.5. CONNECTIONS FOR STRUCTURAL TIMBER: GALVANIZED STRONG-TIE CONNECTORS BY THE SIMPSON STRONG TIE COMPANY OR APPROVED EQUAL.
5. LAMINATED VENEER LUMBER (LVL) SHALL BE WEYERHAUSER/TRUS JOIST MICROLLAM LVL (OR EQUAL) WITH F'b NOT LESS THAN 2,600 PSI AND MINIMUM 2.0E.
6. BOLTED CONNECTIONS SHALL CONSIST OF ASTM A307 BOLTS, FASTENED TO A SNUG-TIGHT CONDITION.

CONCRETE NOTES

1. ALLOWABLE SOIL BEARING= 2000 PSF
2. FILL AND COMPACTION:
- ALL FILL MATERIAL SHALL BE CLEAN, WELL DRAINED SAND WITH NOT MORE THAN 10% PASSING THE No. 200 STANDARD SIEVE. ALL FILL MATERIAL SHALL BE COMPACTED TO 95% OF THE MODIFIED MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 1557.
3. CONCRETE COMPRESSIVE STRENGTH AND SLUMP:
- THE MINIMUM 28-DAY COMPRESSIVE STRENGTH AND SLUMP OF CONCRETE SHALL BE AS FOLLOWS:
- FOUNDATIONS AND FLOOR SLAB: f'c'= 3000 PSI SLUMP: 3"-5"
- ALL CONCRETE SHALL BE MIXED IN ACCORDANCE WITH THE LATEST EDITIONS OF ACI 315 AND ACI 318.
4. REINFORCING STEEL:
- ALL LAP SPLICES SHALL BE A MINIMUM OF 48 BAR DIAMETERS OR AS SPECIFIED ON THE PLANS.
- REINFORCING STEEL BARS - ASTM A-615 GRADE 60
- WELDED WIRE FABRIC - ASTM A-185(LAP MESH 1 GRID SPACE PLUS 2")
5. CHAIR SUPPORTS FOR REINFORCING SHALL BE PLASTIC OR RUBBER TIPPED. DO NOT USE UNCOATED STEEL CHAIRS.

PRE-ENGINEERED WOOD TRUSSES

1. DESIGN OF METAL CONNECTED ROOF TRUSSES SHALL COMPLY WITH: 2023 FLORIDA BUILDING CODE. TRUSS PLATE INSTITUTE'S DESIGN FOR LIGHT METAL PLATE CONNECTED ROOF TRUSSES.
2. PRE-ENGINEERED PRE-FABRICATED WOOD TRUSSES AND THEIR CONNECTIONS TO EACH OTHER SHALL BE DESIGNED FOR THE LOADS INDICATED IN THESE NOTES ABOVE.
3. SIGNED AND SEALED SHOP DRAWINGS SHOWING TRUSS CONFIGURATION WITH MEMBER SIZES AND CONNECTIONS, DESIGN LOADS, DURATION FACTORS AND ERECTION DETAILS MUST BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION. IF REQUIRED, SUBMIT COPIES TO THE BUILDING DEPARTMENT AT TIME OF PERMITTING.
4. PRE-FABRICATED WOOD TRUSSES SHALL BE FABRICATED FROM SOUTHERN PINE (SPIB) KILN DRIED #2 OR BETTER FOR CHORDS AND #3 GRADE OR BETTER FOR WEBS.
5. NO WANE, SKIPS OR OTHER DEFECTS SHALL OCCUR IN THE PLATE CONTACT AREA OR SCARIFIED AREA OF WEB MEMBERS. PLATES SHALL BE CONNECTED WITH ONE REQUIRED EACH SIDE OF TRUSS.
6. TRUSSES SHALL BE DESIGNED FOR MINIMUM LIVE LOADS SHOWN IN THESE NOTES.
7. HANDLING, ERECTION AND BRACING OF WOOD TRUSSES SHALL BE IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE, LATEST EDITION, AND AS NOTED BELOW.
8. AMOUNT AND TYPE OF TRUSS UPLIFT STRAPPING SHALL BE VERIFIED W/ TRUSS ENGINEER'S SHOP DRAWINGS AND CALCULATION AND ADJUSTED ACCORDINGLY, TO A HIGHER WIND UPLIFT RATED PART, AS NEEDED.
9. PROPER ERECTION BRACING SHALL BE INSTALLED TO HOLD THE TRUSSES TRUE AND PLUMB AND IN SAFE CONDITION UNTIL PERMANENT TRUSS BRACING AND BRIDGING CAN BE SOLIDLY NAILED IN PLACE TO FORM A STRUCTURALLY SOUND FRAMING SYSTEM. ALL ERECTION AND PERMANENT BRACING SHALL BE INSTALLED AND ALL COMPONENTS PERMANENTLY FASTENED BEFORE THE APPLICATION OF ANY LOADS TO THE TRUSSES. ALL BRACING SHALL BE DESIGNED BY MANUFACTURER AND INDICATED ON SHOP DRAWINGS. CONTRACTOR SHALL COORDINATE WITH TRUSS FABRICATOR TO ENSURE THAT ALL BRACING IS PROVIDED INCLUDING BOTTOM CHORD BRACING BY WAY OF CEILING SHEATHING OR SPECIFIC BRACES AT PREDETERMINED LOCATIONS (AT DROPPED SUSPENDED CEILING). ALL PREFABRICATED WOOD TRUSSES ARE TO BE INSTALLED IN ACCORDANCE WITH BRACING WOOD TRUSSES COMMENTARY, "HANDLING AND ERECTING WOOD TRUSSES", AS PUBLISHED BY THE TRUSS PLATE INSTITUTE. PROVIDE STRONG BACK BRACING AT TRUSSES PER REQUIREMENTS FROM TRUSS DESIGNER. COMPONENT-TO-COMPONENT CONNECTIONS SHALL BE SPECIFIED ON PRE-ENGINEERED TRUSS DESIGN SUBMITTAL.



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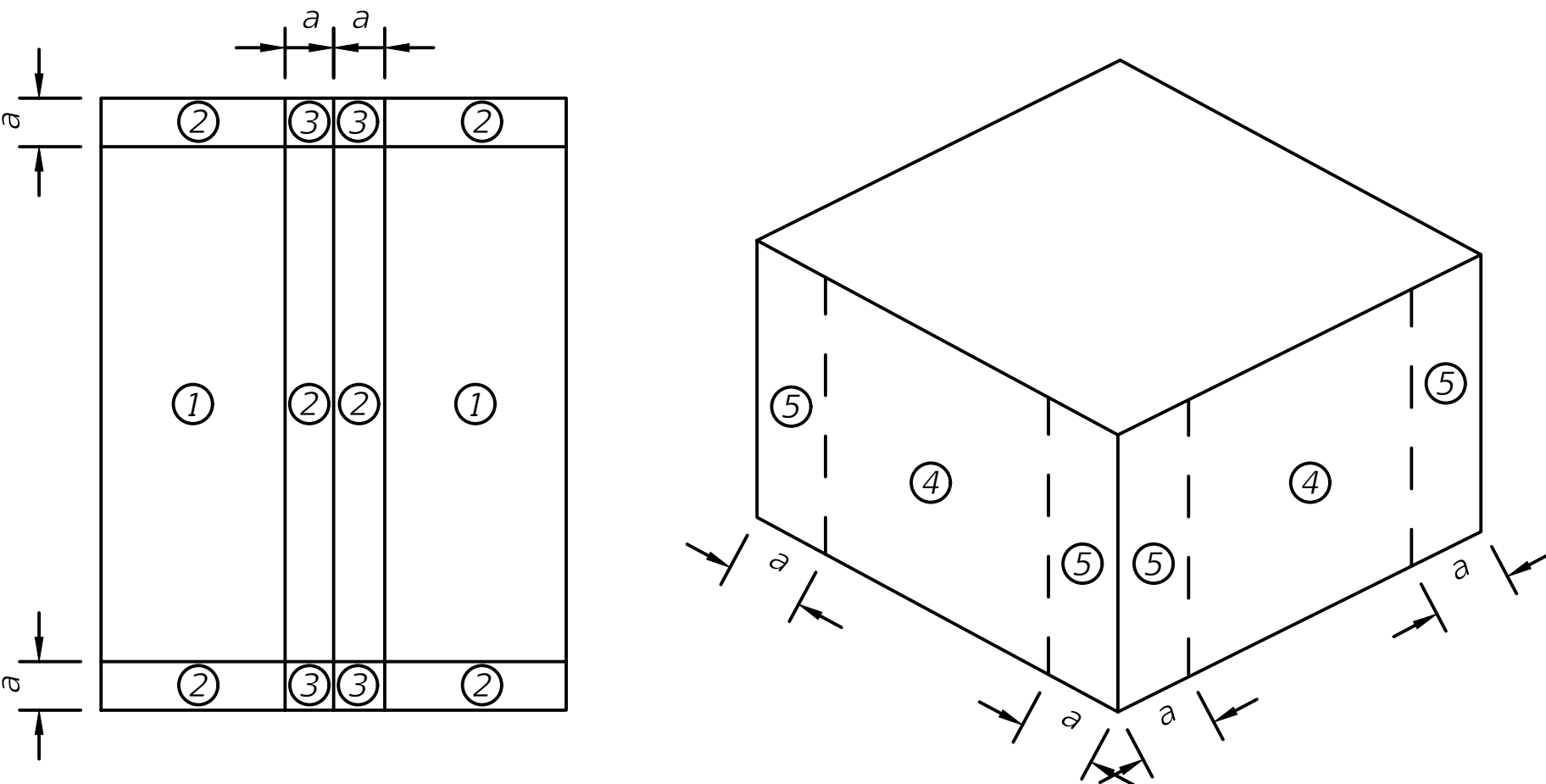
REVISIONS			NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356	1450 SW STATE ROAD 47 LAKE CITY, FL 32025 WWW.NFPS.NET	JOB NUMBER: L220209FOR EOR: DAVID M. CRAPPS P.E. NO.: 60989	STRUCTURAL GENERAL NOTES FORT WHITE PHASE 1- WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA	SHEET NO.
DATE	DESCRIPTION						
							S1

CONCRETE MASONRY

- CONCRETE MASONRY WORK SHALL CONFORM TO TMS 402/602-16, BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES.
- LOAD BEARING, NON-LOAD BEARING, AND BACKUP WALL CONCRETE MASONRY CONSTRUCTION SHALL CONFORM TO THE FOLLOWING STANDARDS:
 - CONCRETE BLOCK:ASTMC90, NORMAL WEIGHT (MINIMUM 125 PCF) (MINIMUM 28 DAY COMPRESSIVE STRENGTH 2,000 PSI FOR TYPE S MORTAR)
 - MORTAR:ASTM C270, TYPE S PORTLAND CEMENT / LIME ONLY BY PROPORTION
 - GROUT:ASTM C476 BY PROPORTION (MINIMUM 28 DAY COMPRESSIVE STRENGTH 2,000 PSI)
 - REINFORCEMENT:ASTM A615, GRADE 60
 - JOINT REINFORCEMENT:ASTM A82, LADDER TYPE SPACED AT 16" O.C.
 - EXTERIOR JOINT REINFORCEMENT:GALVANIZE PER ASTM A153
 - INTERIOR JOINT REINFORCEMENT:GALVANIZE PER ASTM A153
 - ADHESIVE ANCHORS:HIT-HY 270 BY HILTI, TULSA, OK
- MATERIAL SHALL CONFORM TO THE FOLLOWING, HOT DIPPED GALV. EXCEPT AS NOTED
 - PLATE AND BENT BAR ANCHORS:ASTM A36
 - SHEET METAL ANCHORS AND TIES:ASTM A366/A366M
 - WIRE MESH TIES:STM A 185 OR ASTM A 497.
 - WIRE TIES AND ANCHORS:ASTM A 82, AND ASTM A167
 - ANCHOR BOLTS:ASTM F1554, GRADE 36
- HAND MIXING MORTAR IS NOT ALLOWED.
- PIGMENTS WILL NOT BE ALLOWED IN MORTAR MIX UNLESS OTHERWISE SPECIFIED.
- PROVIDE HORIZONTAL JOINT REINFORCEMENT WITH NO. 9 GAGE HOT-DIP GALVANIZED LONGITUDINAL WIRES AT 16" VERTICALLY, UNLESS NOTED OTHERWISE. PROVIDE SPECIAL STRENGTH ACCESSORIES FOR CORNERS, INTERSECTIONS, ETC. LAP ALL JOINT REINFORCEMENT 6" MIN.
- THE MINIMUM COMPRESSIVE STRENGTH OF THE MASONRY (f'm) SHALL BE 2,000 PSI UON, VERIFIED BY THE UNIT STRENGTH METHOD IN ACCORDANCE WITH THE ABOVE REFERENCED SPECIFICATIONS.
- CALCIUM CHLORIDE SHALL NOT BE USED IN MORTAR OR GROUT.
- PROVIDE FULL FACE SHELL MORTAR COVERAGE ON MASONRY UNIT HORIZONTAL AND VERTICAL (BED AND HEAD) FACE SHELL JOINTS.
- PROVIDE FULL MORTAR COVERAGE ON WEBS.
- LAY MASONRY UNITS IN RUNNING BOND UON WITH UNITS DESIGNED TO ALIGN WITH WEBS IN EACH COURSE.
- IF TEMPERATURE FALLS BELOW 40 DEG F. OR EXCEEDS 100 DEG. F SPECIAL CONSTRUCTION MEASURES SHALL BE TAKEN AS PER TMS 402/602-16.
- GROUT PLACEMENT STOPPED FOR ONE HOUR OR MORE SHALL BE STOPPED 1 1/2" BELOW THE TOP OF THE MASONRY UNIT TO PROVIDE A SHEAR KEY FOR SUBSEQUENT GROUTING.
- SHORE ALL BEAMS AND LINTELS, PREFERABLY FOR NOT LESS THAN ONE WEEK, UNTIL CURED MASONRY STRENGTH REACHES 2,000 PSI.
- STRUCTURAL INSPECTIONS BY TESTING AGENCY SHALL INCLUDE PRE-POUR INSPECTION OF THE CMU WALL REINFORCING AND FOUNDATION DOWELS PRIOR TO GROUTING.

WIND PRESSURE DIAGRAM

- DESIGN WIND PRESSURES TO BE USED IN THE DESIGN OF ALL COMPONENTS AND CLADDING ELEMENTS.
- REFER TO WIND PRESSURE DIAGRAM FOR ZONE LOCATIONS AND EXTENTS.
- POSITIVE PRESSURES ACT TOWARD COMPONENT SURFACES AND NEGATIVE PRESSURES ACT AWAY FROM COMPONENT SURFACES.
- LINEAR INTERPOLATION BETWEEN EFFECTIVE WIND AREAS MAY BE USED TO OBTAIN THE REQUIRED COMPONENT AND CLADDING DESIGN WIND PRESSURE.
- WIND PRESSURES SHOWN ARE UNFACTORED. MULTIPLY BY A FACTOR OF 0.6 FOR ALLOWABLE STRESS DESIGN (ASD). MULTIPLY BY A FACTOR OF 1.0 FOR LOAD AND RESISTANCE FACTOR DESIGN (LRFD).



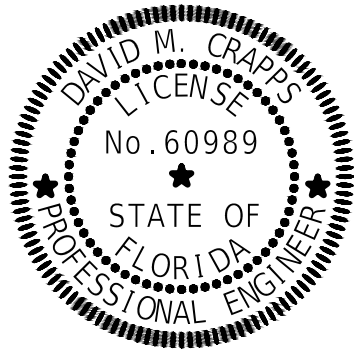
COMPONENTS AND CLADDING WIND PRESSURES ON ROOF AND WALLS (PSF)								
ZONE	1,2,3	1	2	3	4		5	
TRIB AREA	(+)	(-)	(-)	(-)	(+)	(-)	(+)	(-)
10	33	-74	-94	-120	45	-48	45	-56
20	32	-65	-83	-105	44	-47	44	-53
50	29	-53	-68	-84	42	-44	42	-49
100	27	-45	-57	-68	40	-43	40	-47
200	25	-30	-45	-68	38	-41	38	-43
500	25	-30	-45	-68	36	-39	36	-39

WINDOWS, DOORS, AND ROOFS

- FOR THE SELECTION OF WINDOW, DOOR, AND ROOF PRODUCTS, TABULATED VALUES ARE NORMALLY MULTIPLIED BY 0.6 PRIOR TO COMPARISON WITH THE POSITIVE AND NEGATIVE PRESSURE RATINGS PROVIDED IN EACH FLORIDA PRODUCT APPROVAL. IT IS RECOMMENDED THAT THE MANUFACTURER'S REPRESENTATIVE REVIEW THESE DRAWINGS FOR VERIFICATION.
- FOR DETERMINATION OF COMPONENTS AND CLADDING WIND PRESSURES, THE TRIBUTARY AREA FOR ROOFING PRODUCTS IS TYPICALLY CONSIDERED TO BE 10 SQUARE FEET OR LESS. FOR WINDOWS AND DOORS, THE TRIBUTARY AREA IS THE SURFACE AREA OF THE WALL OPENING.

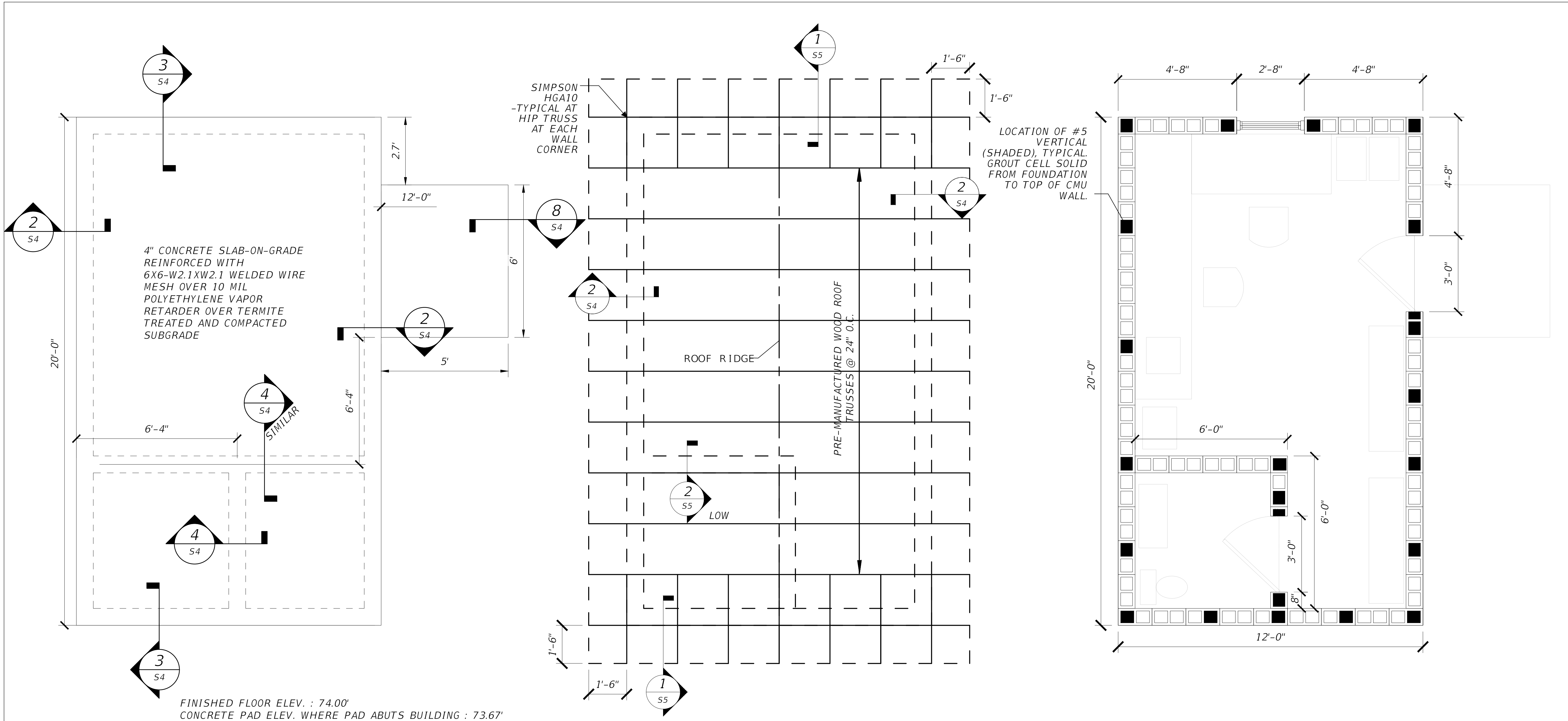
ROOF OVERHANG PRESSURES

- ROOF OVERHANG PRESSURES ARE DETERMINED BY SUMMING THE ABSOLUTE VALUE OF THE NEGATIVE ROOF ZONE (1, 2, OR 3) PRESSURE AND THE POSITIVE WALL ZONE (4 OR 5) PRESSURE, BASED ON THE APPLICABLE TRIBUTARY AREA. THE SUM IS THEN MULTIPLIED BY -1 TO GET THE CORRESPONDING ROOF OVERHANG UPLIFT PRESSURE.



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DATE	DESCRIPTION					
						S2



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

FOUNDATION PLAN NOTES:

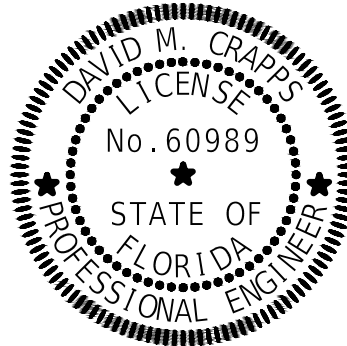
1. LOCATE EXISTING UTILITIES PRIOR TO EXCAVATION FOR NEW FOOTINGS.
2. NEW FOUNDATIONS SHALL BE ALLOWED TO SETTLE PRIOR TO COMMENCEMENT OF WALL CONSTRUCTION.
3. MAINTAIN POSITIVE SLOPE FOR FINISHED GRADE AWAY FROM NEW FOUNDATIONS PER CODE.
4. FIELD VERIFY DIMENSIONS AS REQUIRED.
5. SLAB ELEVATIONS SHOWN ARE RELATIVE TO AN ARBITRARY SET REFERENCE DATUM OF 0'-0". SEE THE CIVIL DRAWINGS OR LICENSED SURVEY FOR THE ACTUAL ELEVATION.

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

ROOF FRAMING PLAN NOTES:

1. FIELD VERIFY DIMENSIONS AS REQUIRED.
2. ROOF SHEATHING SHALL BE 5/8" APA RATED PLYWOOD OR OSB WITH 8d X 2-1/2" LONG HOT DIPPED GALVANIZED RINGSHANK NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. IN FIELD OF PANEL. PROVIDE 1/8" GAP BETWEEN ADJACENT PANELS AND/OR USE SIMPSON PSCL CLIPS.
3. GABLE END WALL SHEATHING SHALL BE 5/8" APA RATED PLYWOOD OR OSB WITH 8d X 2-1/2" LONG HOT DIPPED GALVANIZED RINGSHANK NAILS @ 6" O.C. AT PANEL EDGES AND 12" O.C. IN FIELD OF PANEL. PROVIDE SOLID 2X BLOCKING AT ALL HORIZONTAL EDGES.

3 **CMU WALL REINFORCING PLAN**
SCALE: 1/4" = 1'-0"



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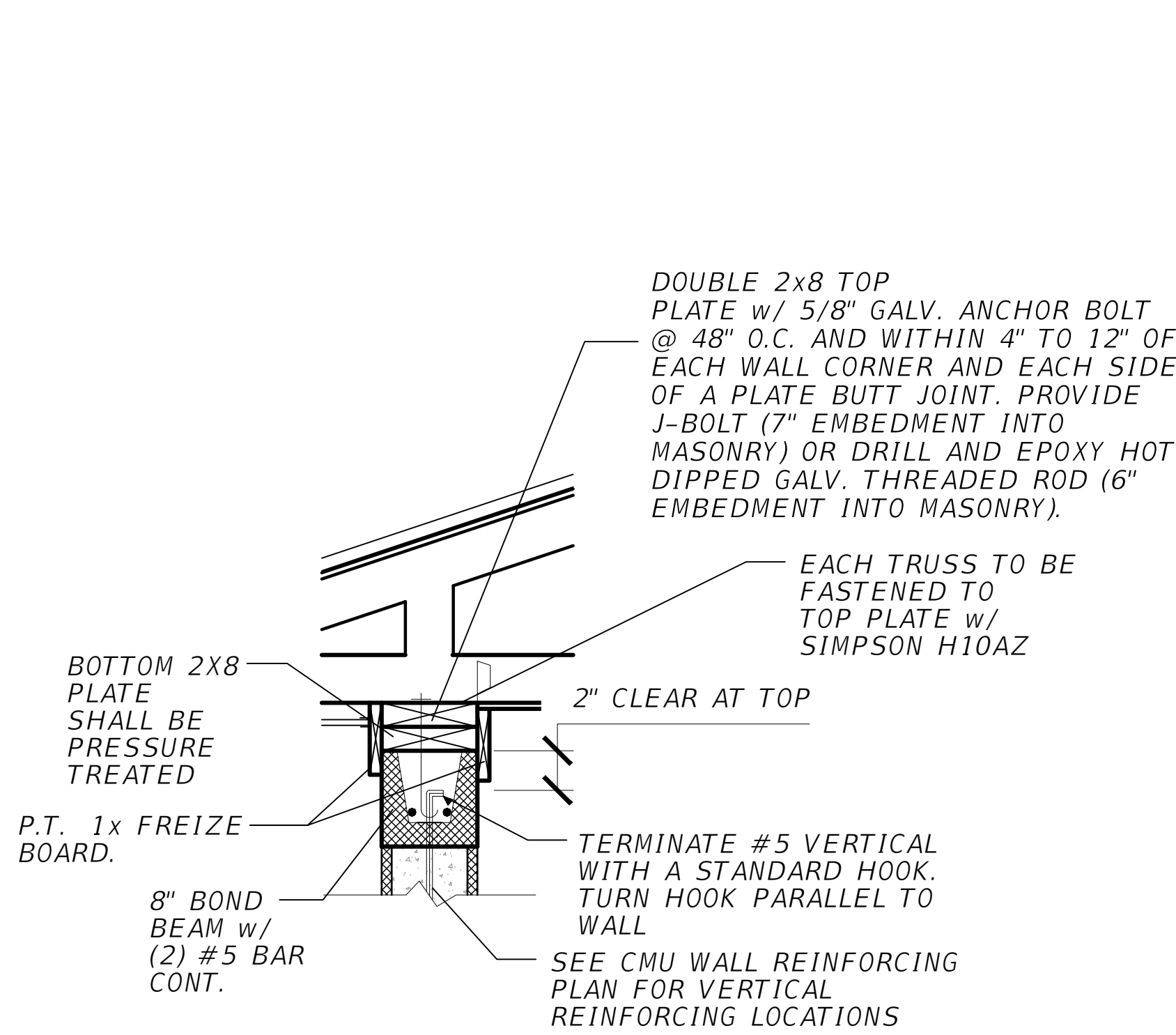
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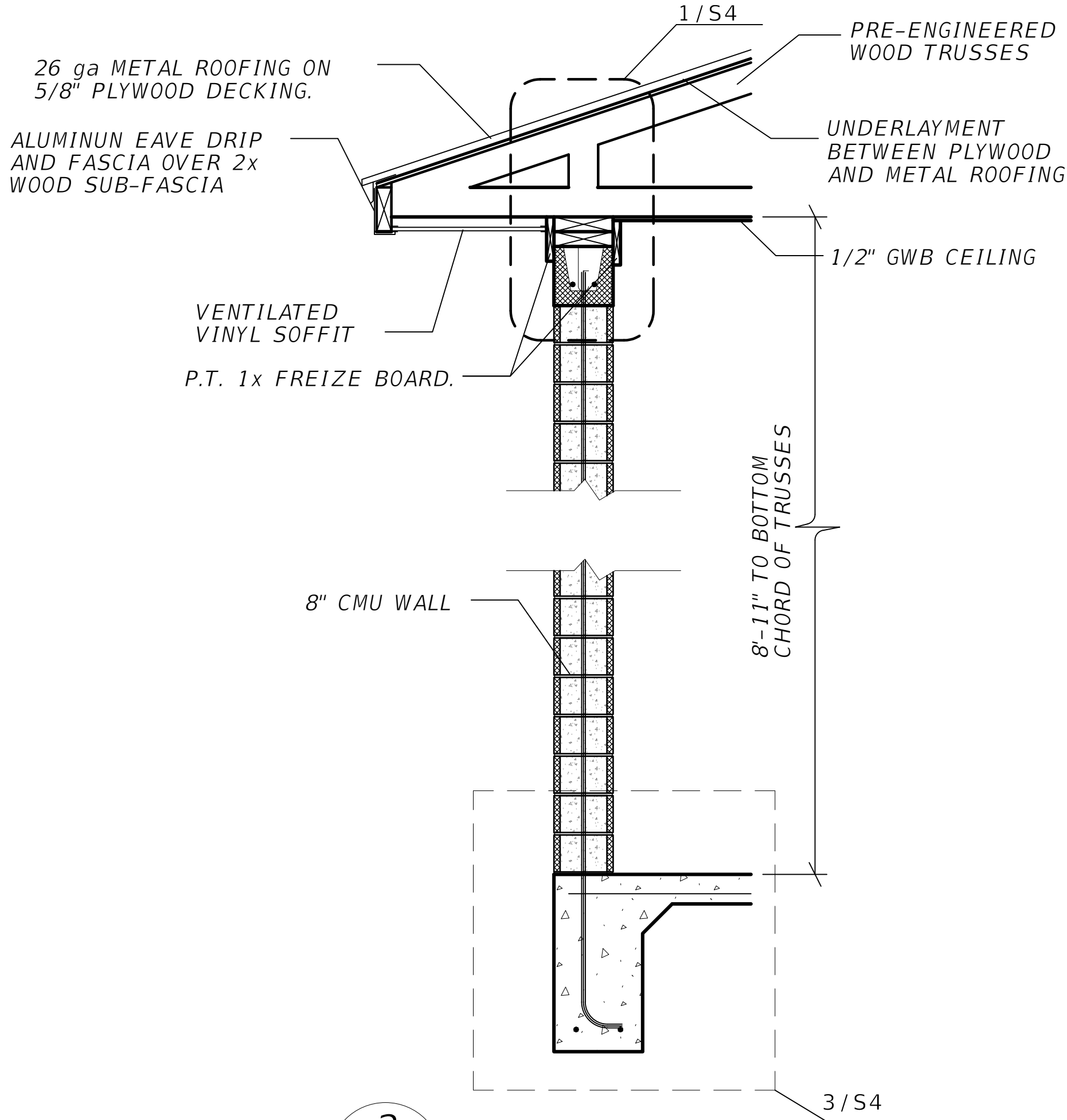
BUILDING PLANS
FORT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET
NO.

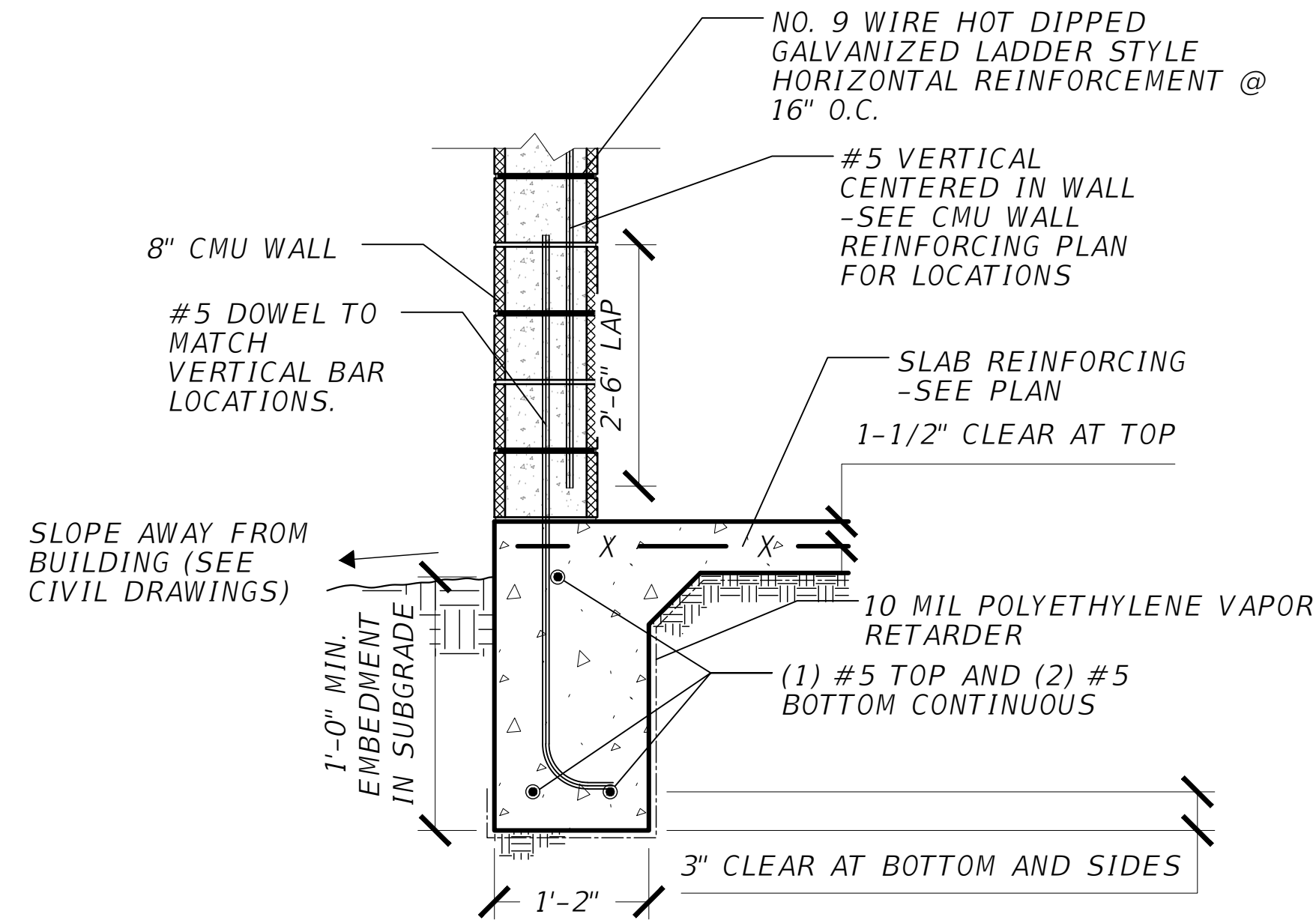
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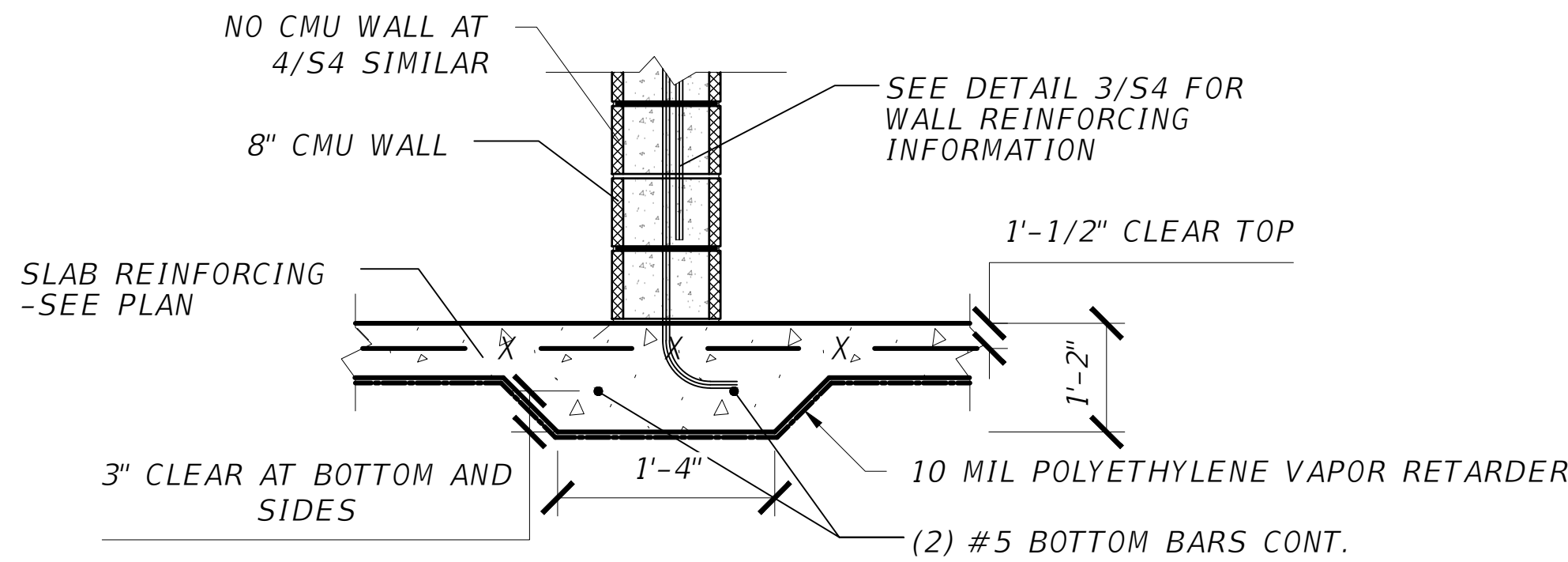
1 TRUSS AT LOADBEARING WALL
S4 SCALE: N.T.S.



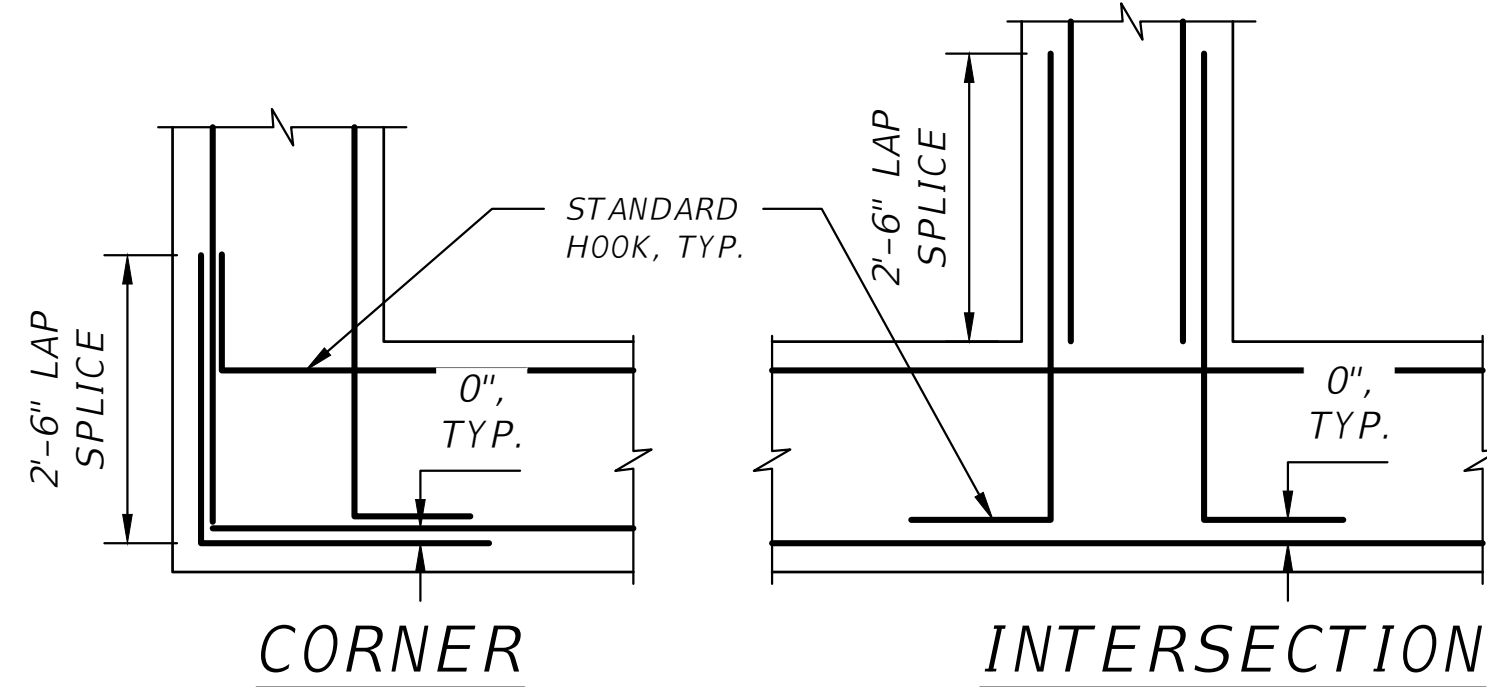
2 WALL SECTION
S4 SCALE: N.T.S.



3 PERIMETER FOUNDATION
S4 SCALE: N.T.S.

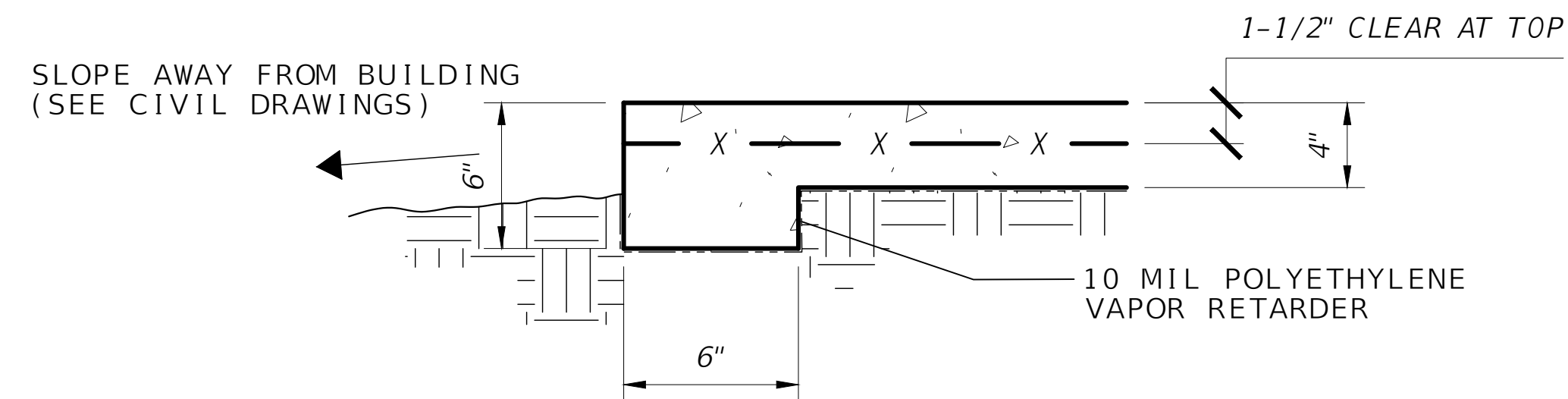


4 INTERIOR FOUNDATION
S4 SCALE: N.T.S.

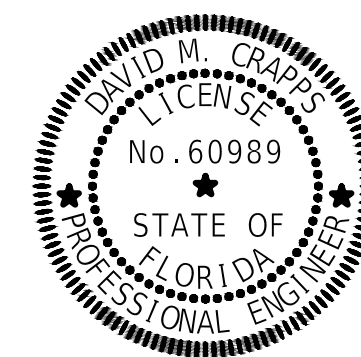


NOTE:
 PROVIDE MATCHING CORNER BARS FOR ALL HORIZONTAL REINFORCING AT INTERSECTIONS & CORNERS OF ALL FOOTINGS, THICKENED SLABS ON GRADE, AND HORIZONTAL WALL REINFORCEMENT UNLESS NOTED OTHERWISE.

5 TYPICAL REINFORCEMENT DETAIL
S4 SCALE: N.T.S.



8 CONCRETE PAD DETAIL
S4 SCALE: N.T.S.



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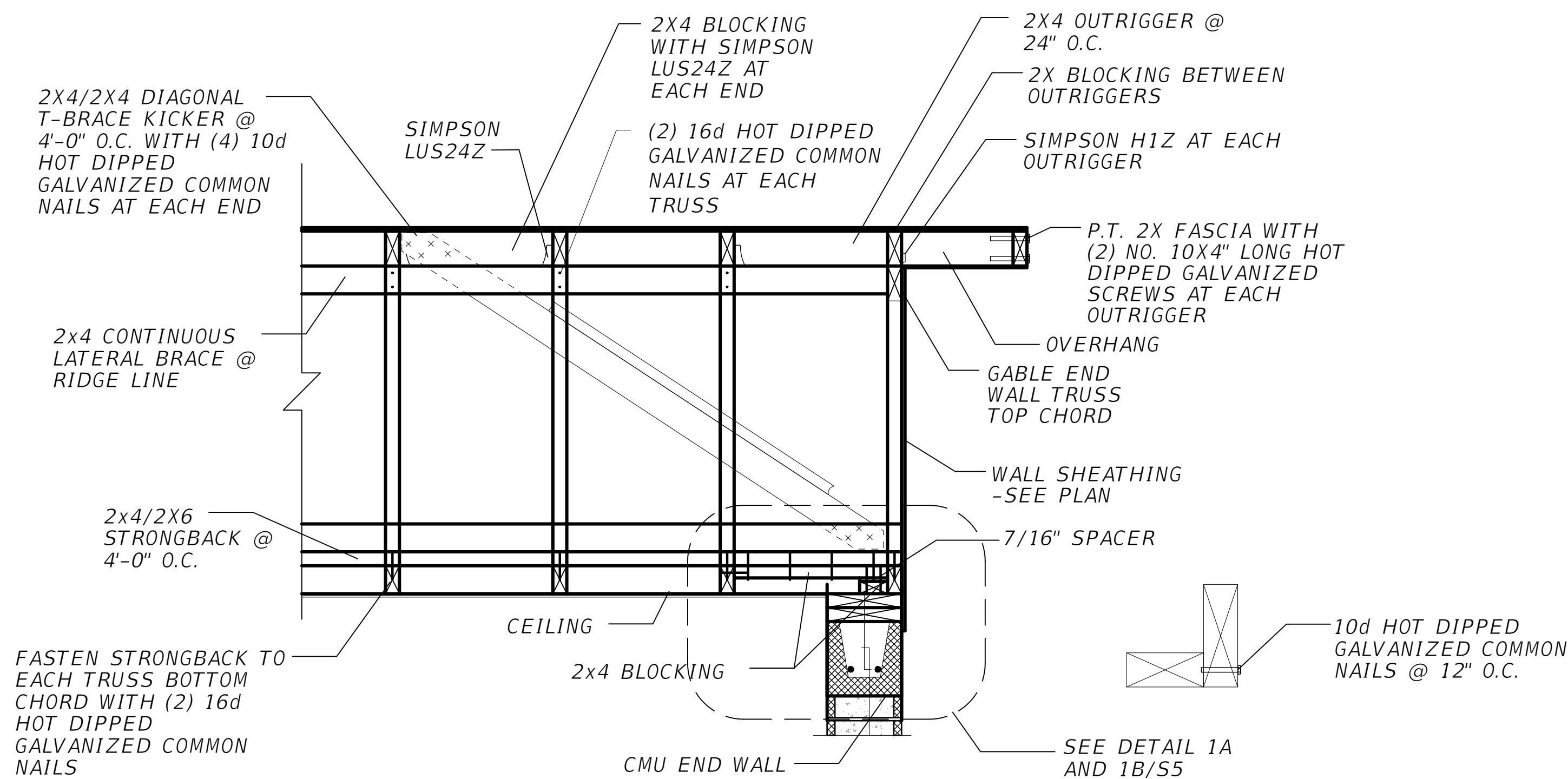
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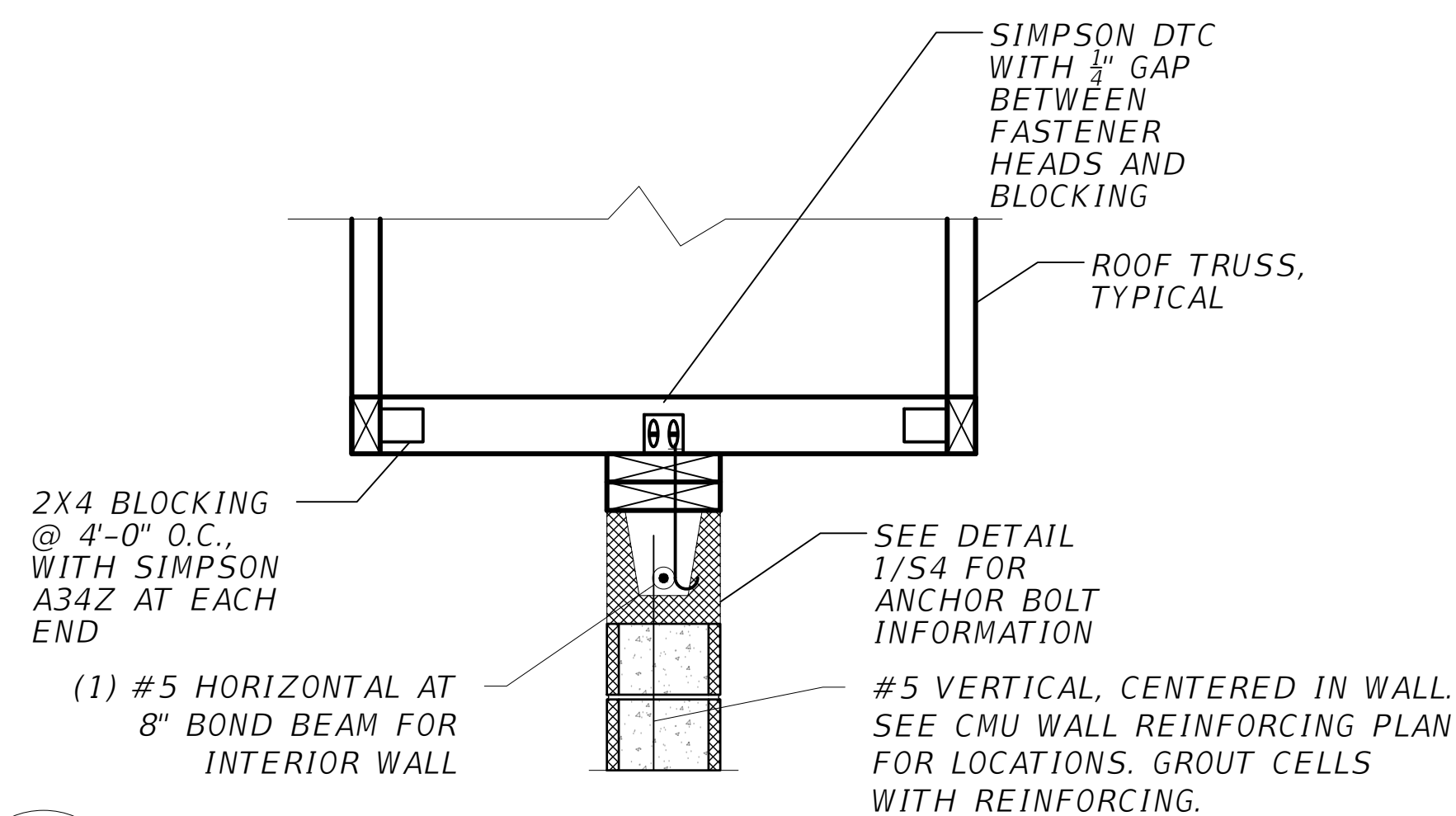
BUILDING STRUCTURAL DETAILS
FORT WHITE PHASE 1- WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.

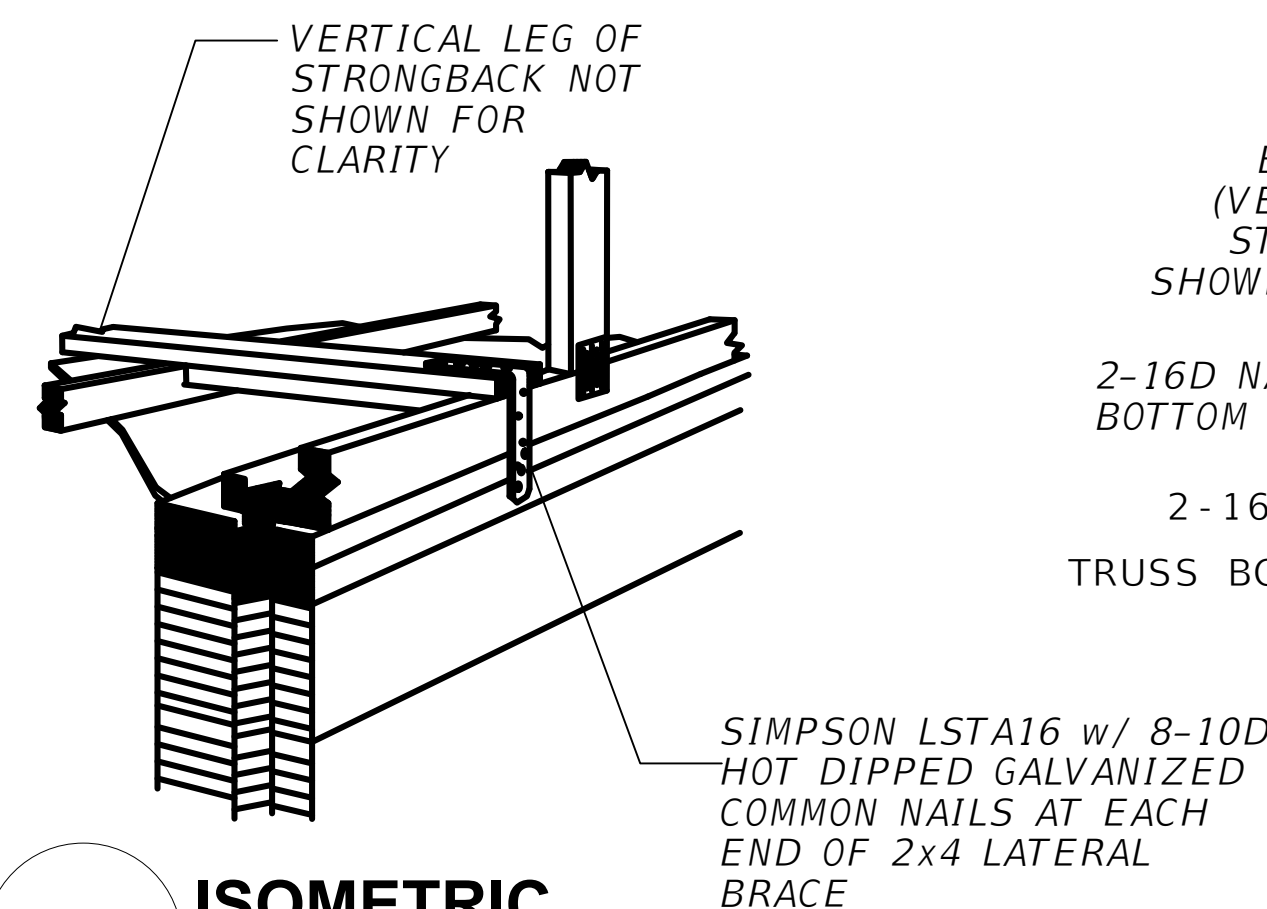
S4



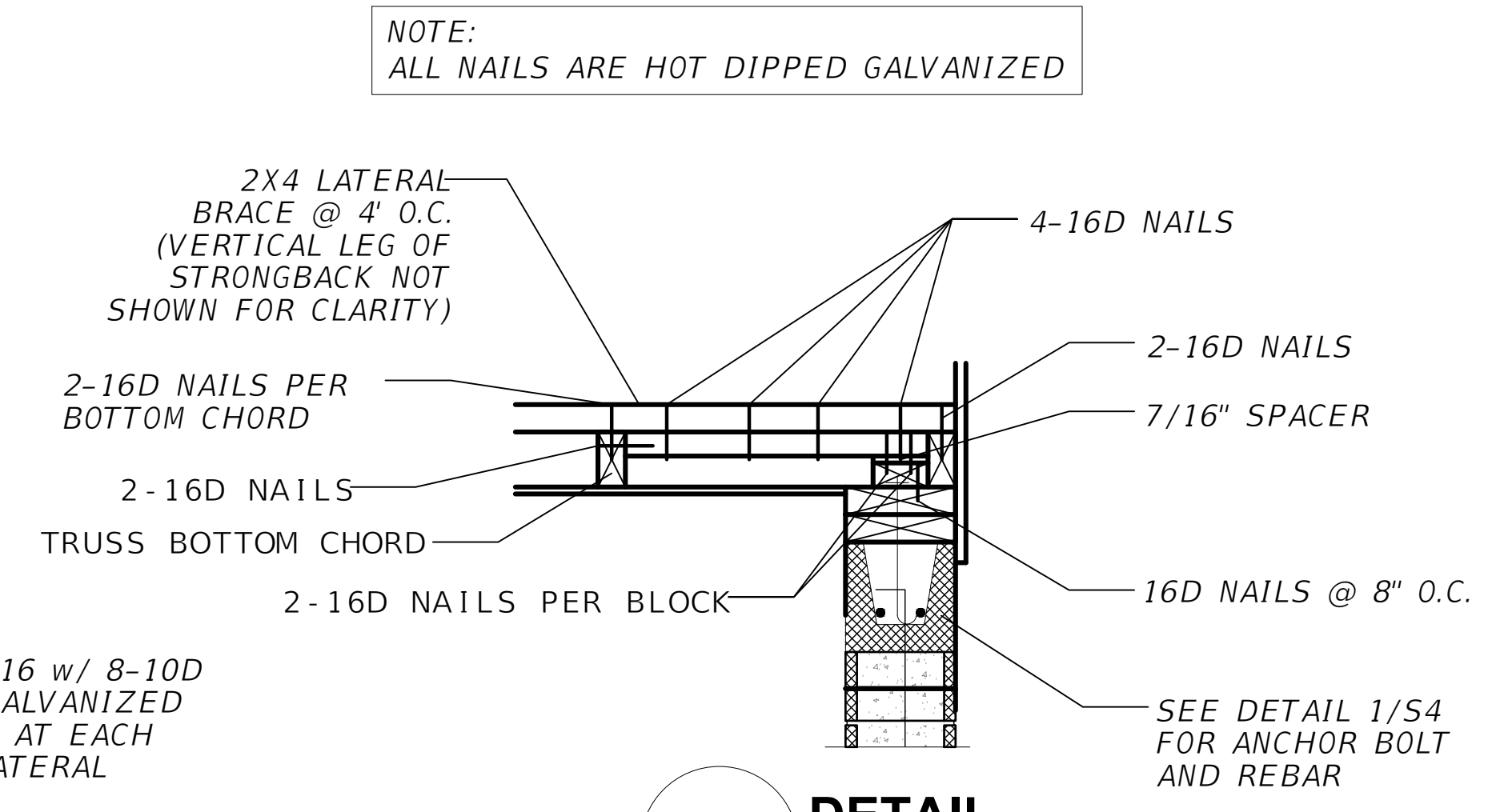
1
S5 **GABLE END WALL DETAIL**
SCALE: N.T.S.



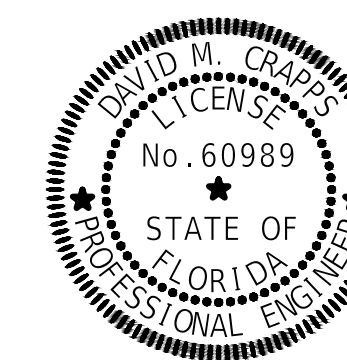
2
S5 **INTERIOR WALL BRACE DETAIL**
SCALE: N.T.S.



1A **ISOMETRIC**
SCALE: N.T.S.



1B **DETAIL**
SCALE: N.T.S.



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60989

BUILDING STRUCTURAL DETAILS

FORT WHITE PHASE 1- WASTEWATER TREATMENT

COLUMBIA COUNTY, FLORIDA

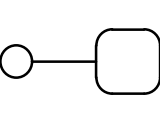
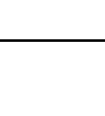
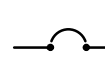
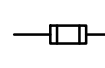
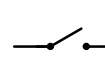
SHEET
NO.

S5

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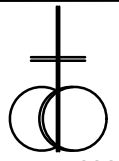
GENERAL NOTES	
A. REFER TO CIVIL DRAWINGS FOR MAPS, LOCATION PLANS, ADDITIONAL WET WELL & WASTE WATER TREATMENT PLANT DETAILS, AND ADDITIONAL SPECIFICATIONS. B. EUC: DUKE ENERGY C. NOT ALL ABBREVIATIONS AND SYMBOLS ARE USED. D. CONTRACTOR SHALL PROVIDE CIRCUITING AS REQUIRED TO POWER THE LIGHT OLES AND RECEPTACLES DEPICTED ON THE DRAWINGS FROM PANEL P1. BRANCH CIRCUITING FOR LIGHT POLES AND RECEPTACLES SHALL COMPRISE NOT SMALLER THAN #10 AWG CONDUCTORS (UNLESS OTHERWISE REQUIRED TO BE LARGER BY SPECS DUE TO DISTANCE).	

ABBREVIATIONS			
A	AMPERE	NTS	NOT TO SCALE
AFC	AVAILABLE FAULT CURRENT	OAE	OR APPROVED EQUAL
AFG	ABOVE FINISHED GRADE	OE	OR EQUAL
AHJ	AUTHORITY HAVING JURISDICTION	OEM	ORIGINAL EQUIPMENT MANUFACTURER
AWG	AMERICAN WIRE GAUGE	OH	OVERHEAD
BFG	BELOW FINISHED GRADE	OL	OVERLOAD
BJ	BONDING JUMPER	P	POLE
BKR	BREAKER	PB	PULL BOX
C	CONDUIT	PC	PHOTOCELL
CCWWSH	COLUMBIA COUNTY WATER AND WASTEWATER SYSTEMS HANDBOOK	PH, Ø	PHASE
CKT	CIRCUIT	PNL	PANEL
CONC	CONCRETE	PRI	PRIMARY
COORD	COORDINATE	REC	RECEPTACLE
CPT	CONTROL POWER TRANSFORMER	RECEPT	RECEPTACLE
CRI	COLOR RENDITION INDEX	RGS	RIGID GALVANIZED STEEL
CTRL	CONTROL	SBJ	SYSTEM BONDING JUMPER
Cu	COPPER	SEC	SECONDARY
DEF	DIESEL EXHAUST FUEL	SPD	SURGE PROTECTIVE DEVICE
DISC	DISCONNECT	SW	SWITCH
DGR	DRIVEN GROUND ROD	TC	TIMECLOCK
EA	EACH	TYP	TYPICAL
EBJ	EQUIPMENT BONDING JUMPER	UG	UNDERGROUND
EGC	EQUIPMENT GROUNDING CONDUCTOR	UNO	UNLESS NOTED OTHERWISE
EM	EMERGENCY	V	VOLT
ENCL	ENCLOSURE, ENCLOSED	VA	VOLT-AMPERE
EUC	ELECTRIC UTILITY COMPANY	VAC	VOLTS ALTERNATING CURRENT
EX	EXISTING	W	WIRE OR WATT
EXIST	EXISTING	W/	WITH
G, GND	GROUND	WP	WEATHERPROOF
GEC	GROUNDING ELECTRODE CONDUCTOR	XFMR	TRANSFORMER
GFI	GROUND FAULT INTERRUPT	~	APPROXIMATELY
HD	HEAVY DUTY	Δ	DELTA
HOA	HAND-OFF-AUTO	>	GREATER THAN
JB	JUNCTION BOX	≥	GREATER THAN OR EQUAL TO
K	KELVIN	<	LESS THAN
KVA	KILO-VOLT AMPERE	<<	MUCH LESS THAN
KW	KILO-WATT	≤	LESS THAN OR EQUAL TO
LED	LIGHT EMITTING DIODE		
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT		
LS	LIFT STATION		
LTG	LIGHTING		
LTS	LIGHTS		
MBJ	MAIN BONDING JUMPER		
MCB	MAIN CIRCUIT BREAKER		
MIN	MINIMUM		
MLO	MAIN LUGS ONLY		
MTD	MOUNTED		
N	NEUTRAL		
NEC	NATIONAL ELECTRICAL CODE		
NF	NON-FUSED		

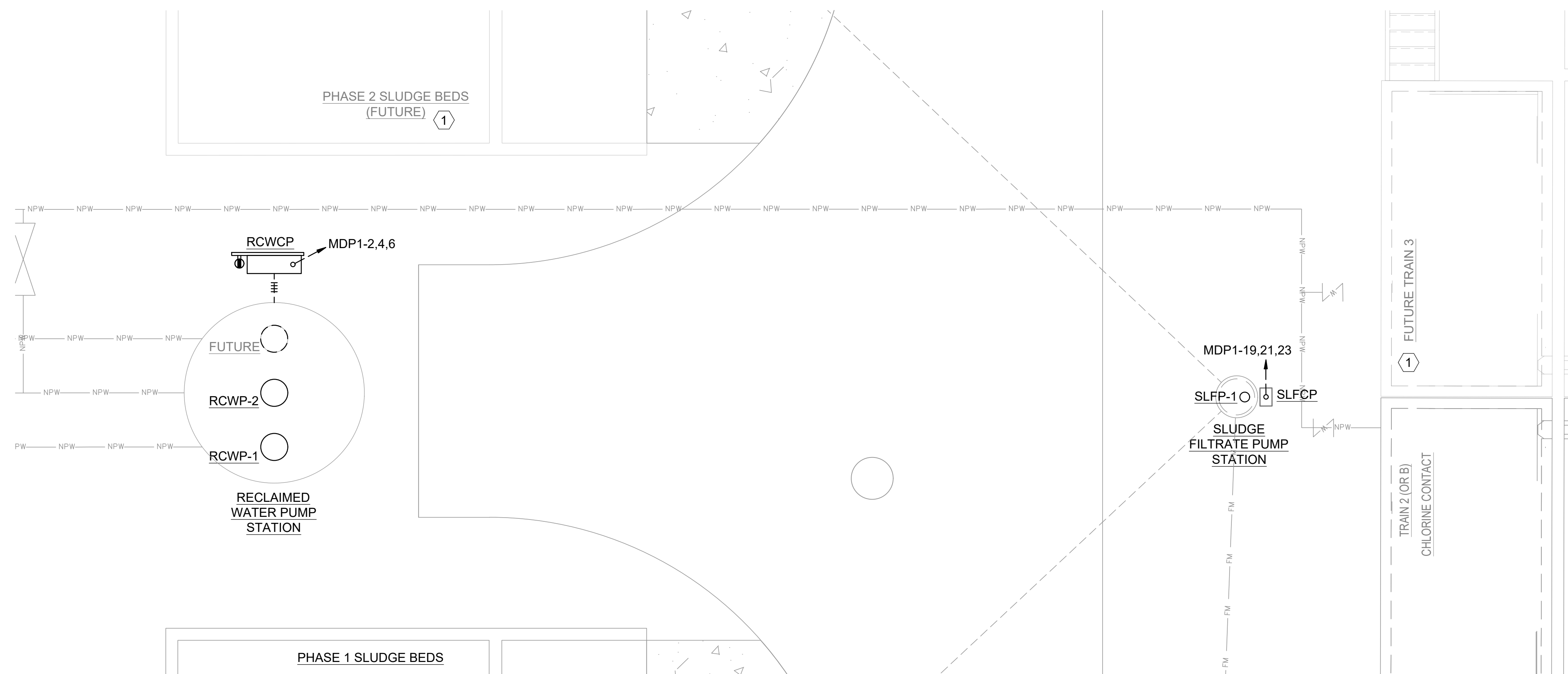
SYMBOL LEGEND			
	DUPLEX RECEPTACLE, WEATHERPROOF GFCI		KEYNOTE SYMBOL
	JUNCTION BOX		REVISION SYMBOL
	DISCONNECT SWITCH		EMERGENCY PUSH BUTTON
	PANELBOARD		ANTENNA
	ELECTRIC MOTOR		PHOTOCELL
	UTILITY METER		LIGHT SWITCH
	HOMERUN		POLE & POLE-MOUNTED LIGHT
	CIRCUIT CONTINUATION		
	CONDUIT		
	CONDUIT UNDERGROUND		
	CABLE TO SUBMERSIBLE ITEM		
	CONDUIT STUB-UP OR STUB-OUT		
	DRIVEN GROUND ROD		
	GROUND INSPECTION WELL		
	CIRCUIT BREAKER		
	FUSE		
	SWITCH		

ELECTRICAL SHEETS	
E1	ABBREVIATIONS & SYMBOLS
E2	ELECTRICAL SITE PLAN
E3	ELECTRICAL EQUIPMENT AREA PLAN
E4	PUMP STATIONS ELECTRICAL PLAN
E5	TRAINS 1 & 2 ELECTRICAL PLAN
E6	ELECTRICAL RISER DIAGRAM
E7	PANEL SCHEDULE
E8	EQUIPMENT & FEEDER SCHEDULES
E9	DETAILS
E10	DETAILS
E11	SPECIFICATIONS
E12	SPECIFICATIONS

REVISIONS			NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356 2551 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CA# 29011	JOB NUMBER: NFPS: L220815HAM CA: 2353 EOR: CHAD J. FRALICK FL P.E. NO.: 73811	ABBREVIATIONS & SYMBOLS FT WHITE PHASE 1 - WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA	SHEET NO. E1
DATE	DESCRIPTION					

 COBURN AND ASSOCIATES CONSULTING ENGINEERS P.O. BOX 577 HIGH SPRINGS, FL 32655 (386)464-3748 FLORIDA EE 0003887 CA PROJ NO. 2353

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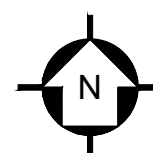
SHEET NOTES

A. IN ADDITION TO POWER CONDUITS, PROVIDE SEPARATE 1" C. FROM EACH CONTROL PANEL BACK TO THE MAIN PLANT CONTROL PANEL FOR TELEMETRY AND CONTROL. COORDINATE WITH WWTP VENDOR AND OWNER.

SHEET KEYNOTES

1. DO NOT ROUTE ANY FEEDERS, CIRCUITING, OR CONTROL CONDUITS UNDER FOOTPRINTS OF FUTURE PHASE 2 ITEMS.

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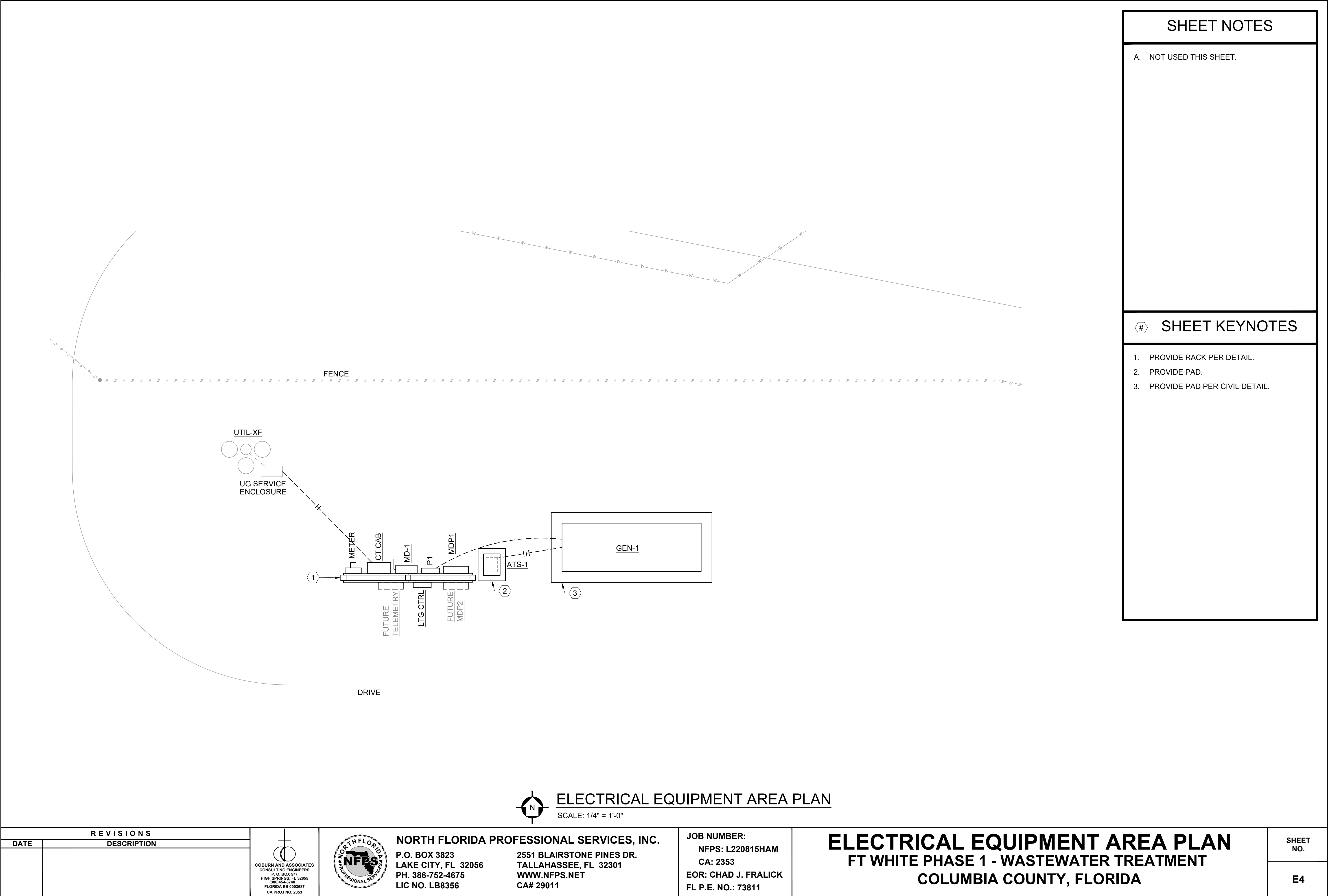


PUMP STATIONS PLAN

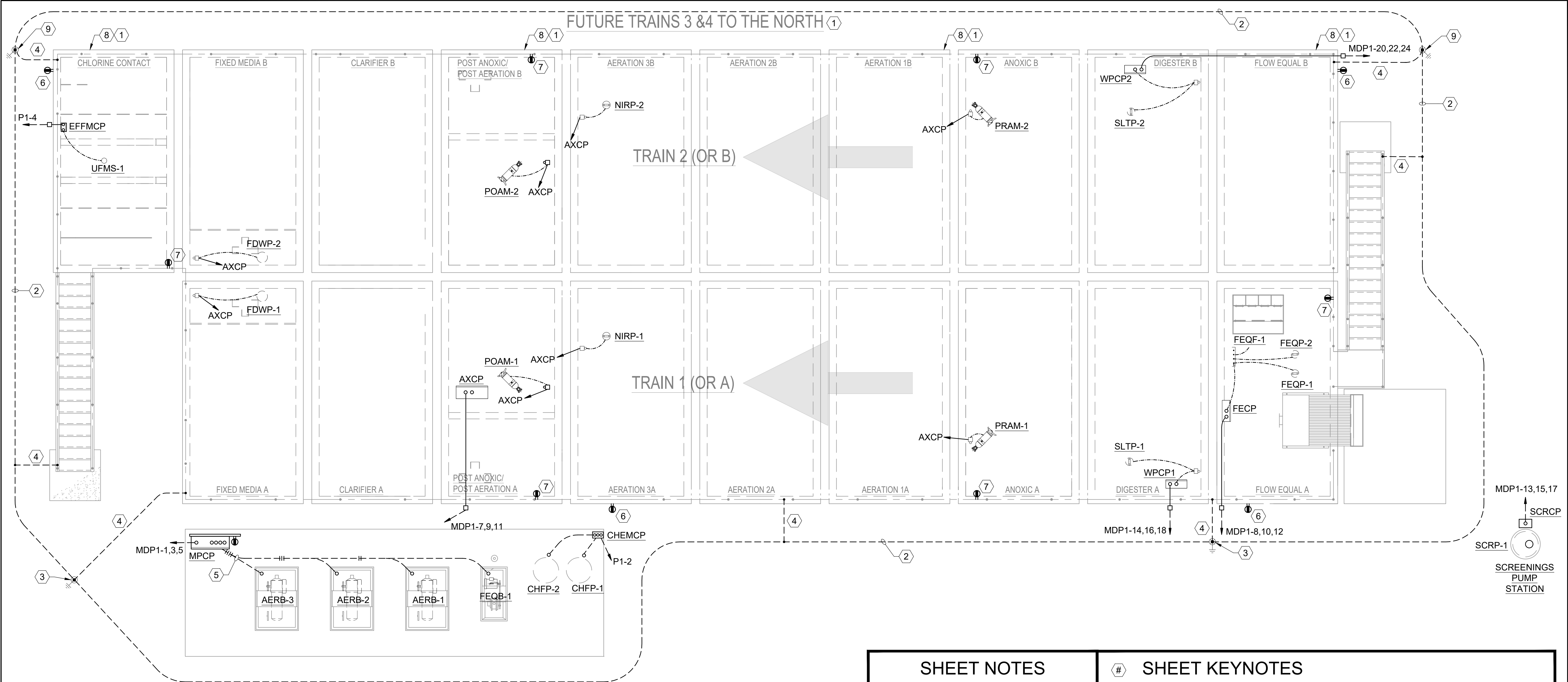
SCALE: 1/4" = 1'-0"

REVISIONS		 COBURN AND ASSOCIATES CONSULTING ENGINEERS P.O. BOX 577 HIGH SPRINGS, FL 32655 (904) 642-3746 FLORIDA EB 0003687 CA PROJ NO. 2353	 NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356	2551 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CA# 29011	JOB NUMBER: NFPS: L220815HAM CA: 2353 EOR: CHAD J. FRALICK FL P.E. NO.: 73811	PUMP STATIONS PLAN FT WHITE PHASE 1 - WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA	SHEET NO.
DATE	DESCRIPTION						E3

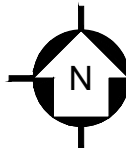
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SHEET NOTES	#	SHEET KEYNOTES
A. DRIVEN GROUND RODS SHALL BE 5/8" DIAM. X 20' LONG COPPER CLAD STEEL.	1.	DO NOT ROUTE ANY FEEDERS, CIRCUITING, OR CONTROL CONDUITS UNDER FOOTPRINTS OF FUTURE PHASE 2 ITEMS.
B. CONDUIT SHALL NOT BE MOUNTED TO OR BELOW REMOVEABLE GRATINGS. IF CONDUIT ROUTING IS REQUIRED BELOW TOP SURFACE OF TANKS, CONDUIT SHALL BE SECURED TO STRUCTURE.	2.	DIRECT BURIED 4/0 COPPER GROUND LOOP, 36" MIN. FROM PERIMETER OF STRUCTURE.
C. IN ADDITION TO DEPICTED CONDUITS, CONTRACTOR SHALL PROVIDE (1)1"C. FROM MPCP TO EACH CONTROL PANEL AND PUMP CONTROLLER, AND (1)2"C. FROM MPCP TO THE "FUTURE TELEMETRY" SPACE ON THE ELECTRICAL SERVICE ENTRANCE RACK.	3.	GROUND INSPECTION WELL AND DRIVEN GROUND ROD BONDED TO GROUND LOOP.
	4.	BOND METALLIC HANDRAILING TO GROUND LOOP VIA COPPER BONDING JUMPER.
	5.	INSTALL RUNS BELOW SLAB. TURN UP UNDER ENCLOSURES. COORDINATE WITH EQUIPMENT SHOP DRAWINGS.
	6.	MOUNT TO WALL AT 48" AFG.
	7.	MOUNT TO RAIL AT 24" ABOVE DECK.
	8.	DO NOT ROUTE EXPOSED CONDUIT ALONG NORTH ELEVATION OF TRAIN 2.
	9.	DRIVEN GROUND ROD, GROUND INSPECTION WELL, & FUTURE GROUND LOOP INTERCEPT POINT.



TRAINS 1 & 2 ELECTRICAL PLAN

SCALE: 1/4" = 1'-0"

REVISIONS	
DATE	DESCRIPTION



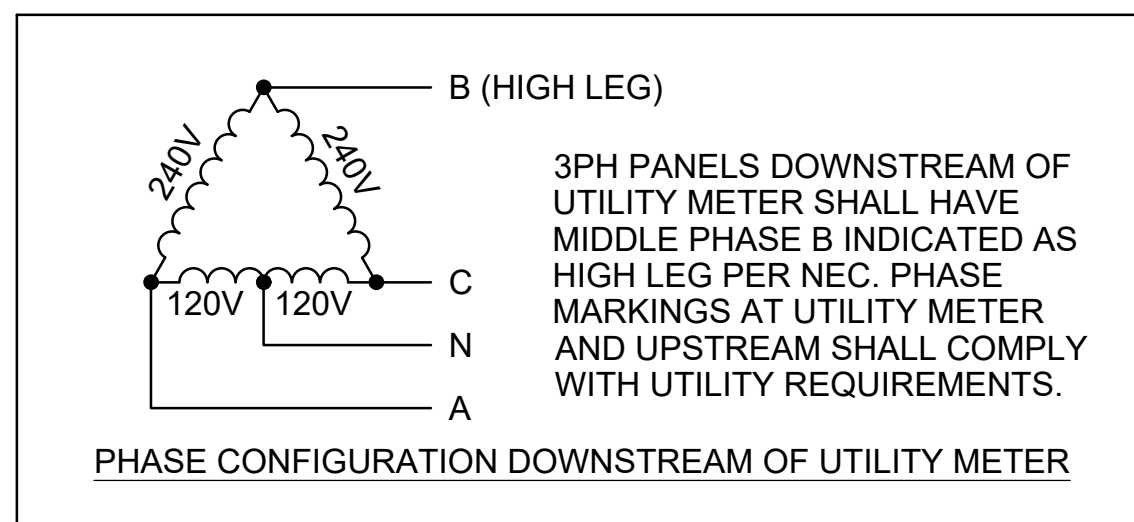
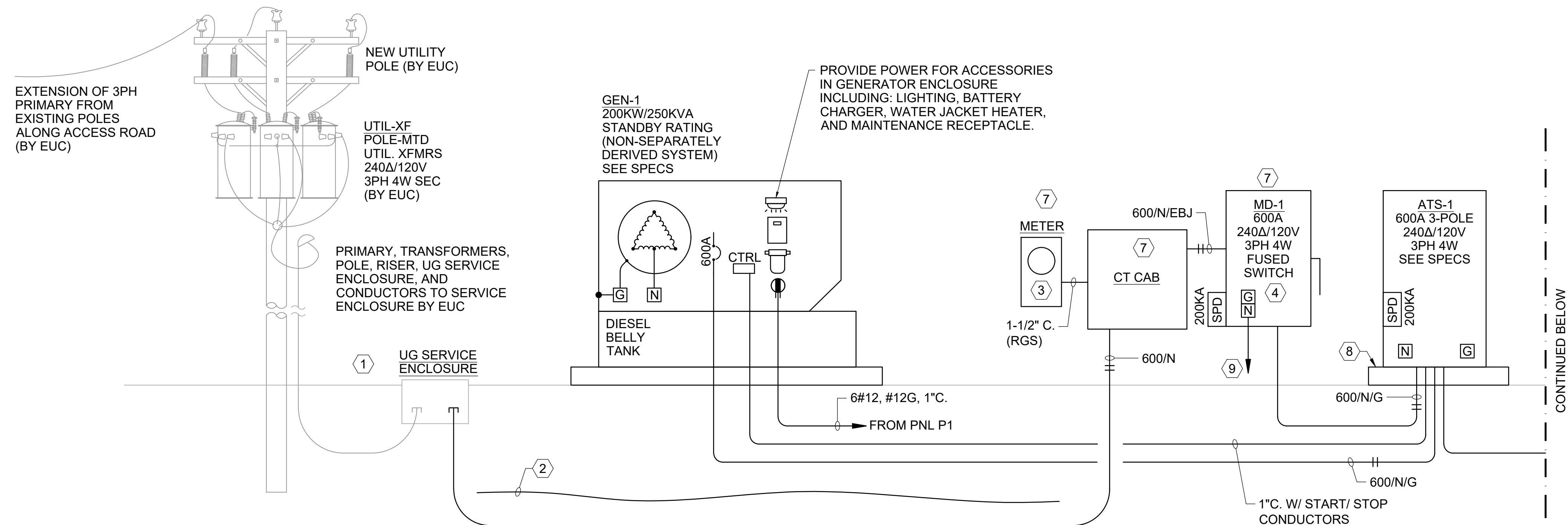
NORTH FLORIDA PROFESSIONAL SERVICES, INC.
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JOB NUMBER:
NFPS: L220815HAM
CA: 2353
EOR: CHAD J. FRALICK
FL P.E. NO.: 73811

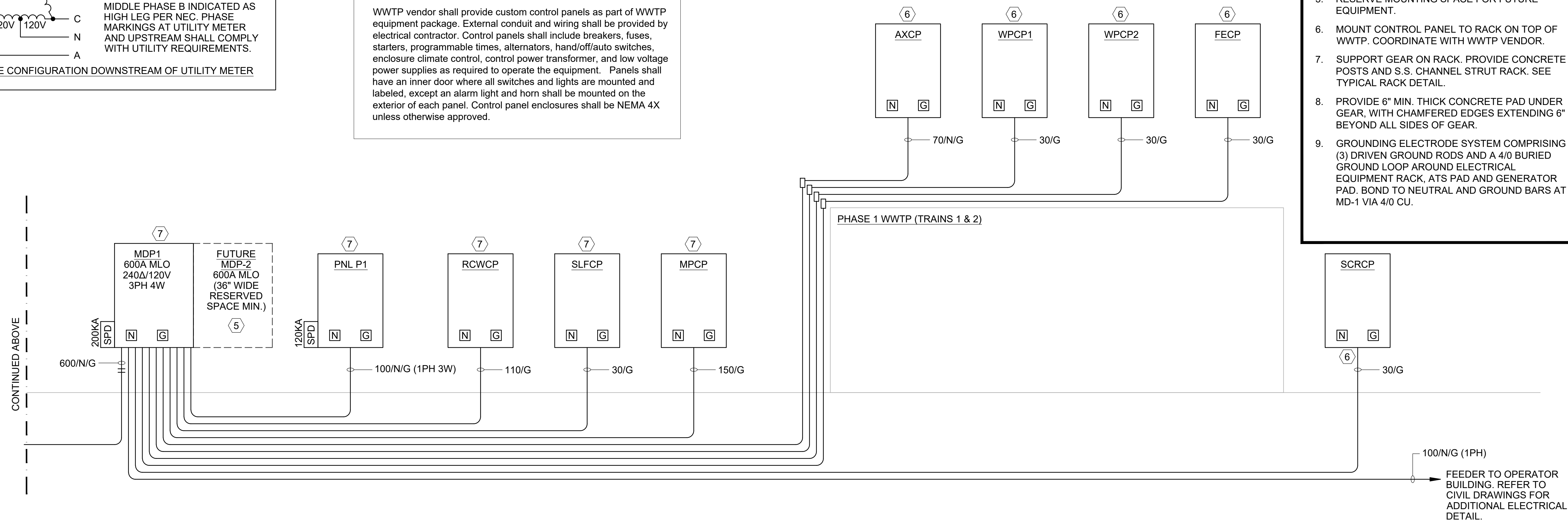
TRAINS 1 & 2 ELECTRICAL PLAN
FT WHITE PHASE 1 - WASTEWATER TREATMENT
COLUMBIA COUNTY, FLORIDA

SHEET NO.
E5

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WWTP vendor shall provide custom control panels as part of WWTP equipment package. External conduit and wiring shall be provided by electrical contractor. Control panels shall include breakers, fuses, starters, programmable times, alternators, hand/off/auto switches, enclosure climate control, control power transformer, and low voltage power supplies as required to operate the equipment. Panels shall have an inner door where all switches and lights are mounted and labeled, except an alarm light and horn shall be mounted on the exterior of each panel. Control panel enclosures shall be NEMA 4X unless otherwise approved.



ELECTRICAL RISER

REVISIONS		 COBURN AND ASSOCIATES CONSULTING ENGINEERS P.O. BOX 877 HIGH SPRING, FL 32909 (386)454-3748 FLORIDA EIS 000387 CA PROJ NO. 2363	 NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356	2551 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CA# 29011	JOB NUMBER: NFPS: L220815HAM CA: 2353 EOR: CHAD J. FRALICK FL P.E. NO.: 73811	ELECTRICAL RISER FT WHITE PHASE 1 - WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA	SHEET NO. E6
DATE	DESCRIPTION						



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PH. 386-752-4675 WWW.NFPS.NET
LIC NO. LB8356 CA# 29011

JOB NUMBER:
NFPS: L220815HAM
CA: 2353
EOR: CHAD J. FRALICK
FL P.E. NO.: 73811

EQUIPMENT & FEEDER SCHEDULES

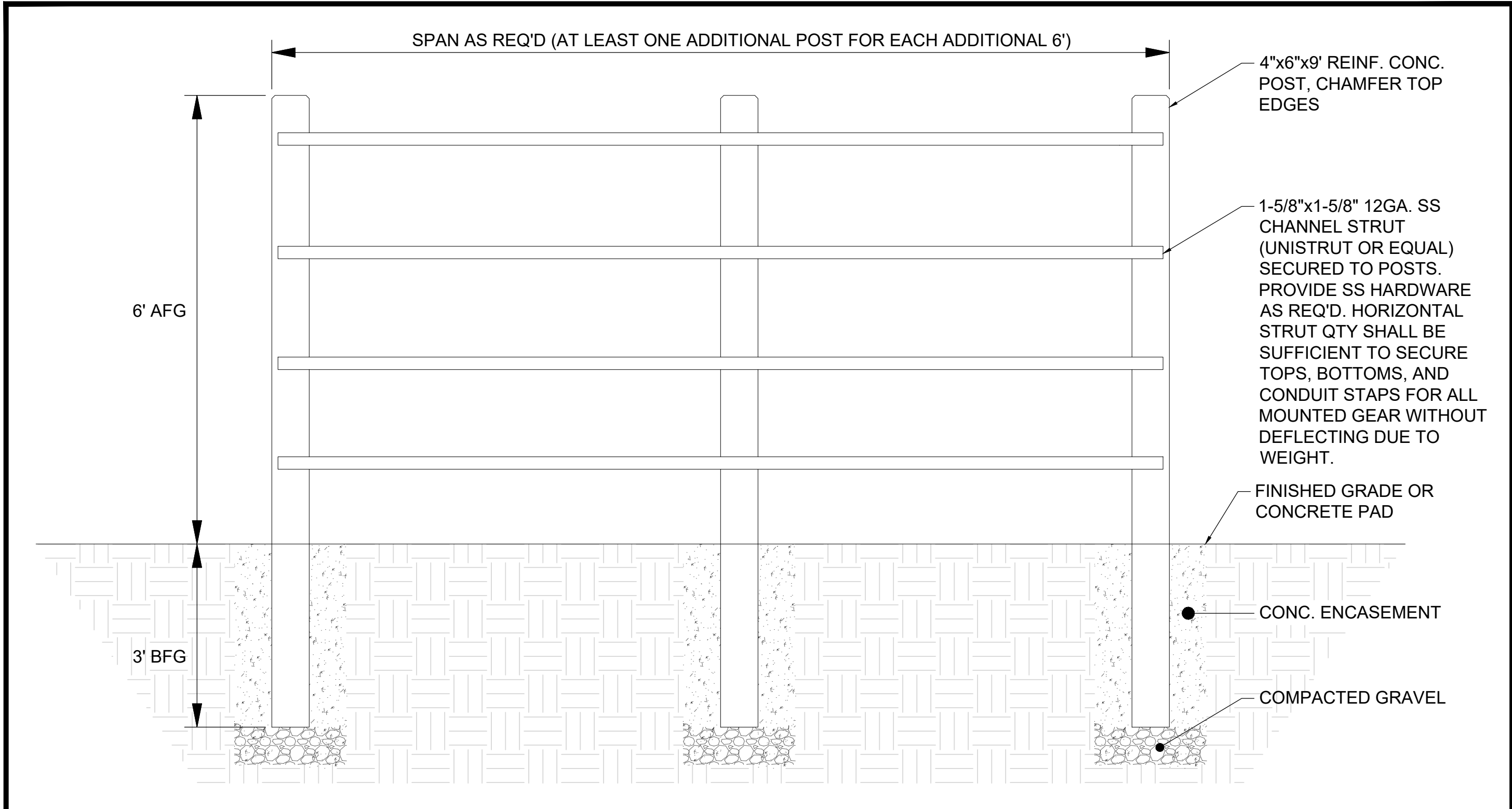
FT WHITE PHASE 1 - WASTEWATER TREATMENT

COLUMBIA COUNTY, FLORIDA

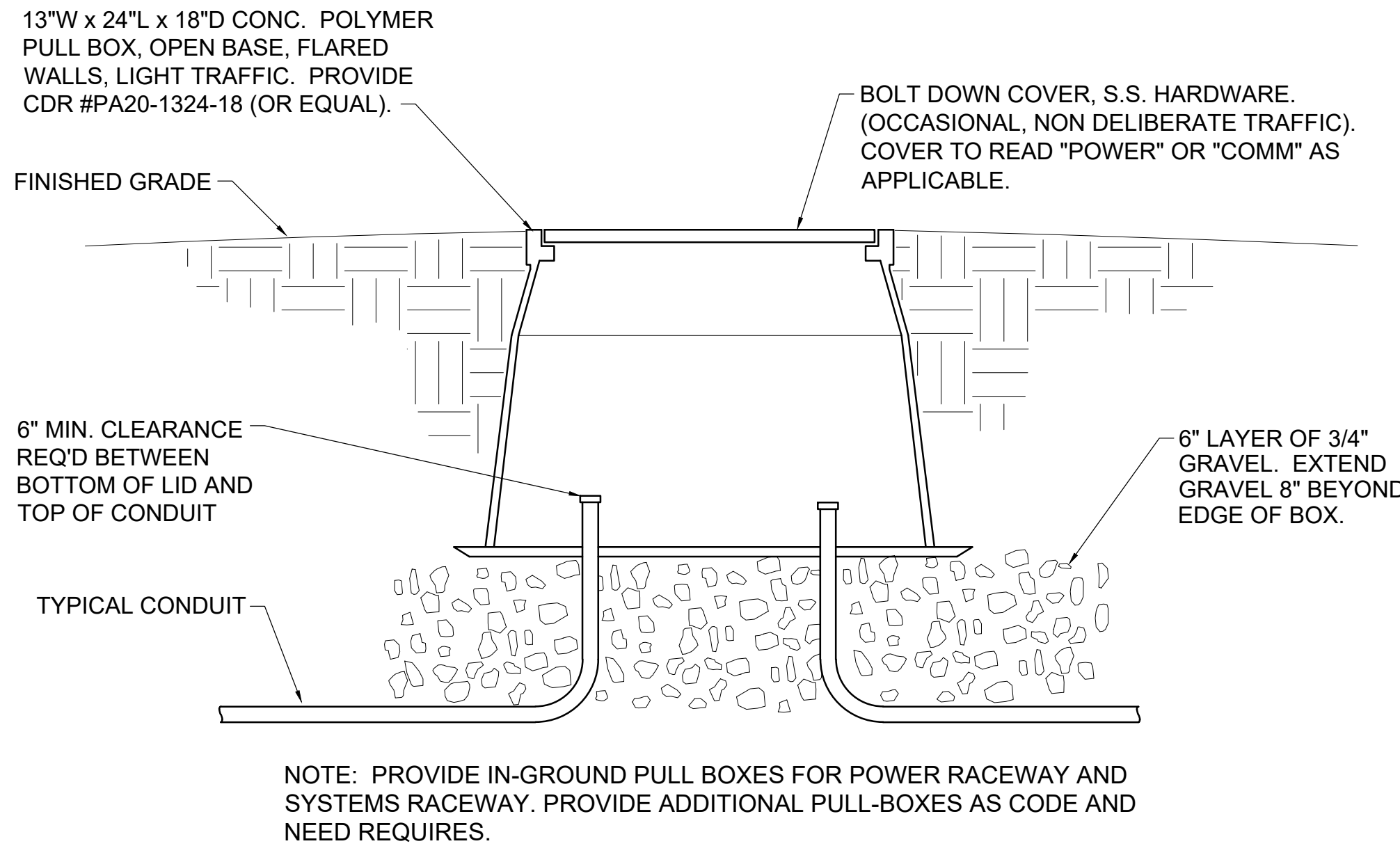
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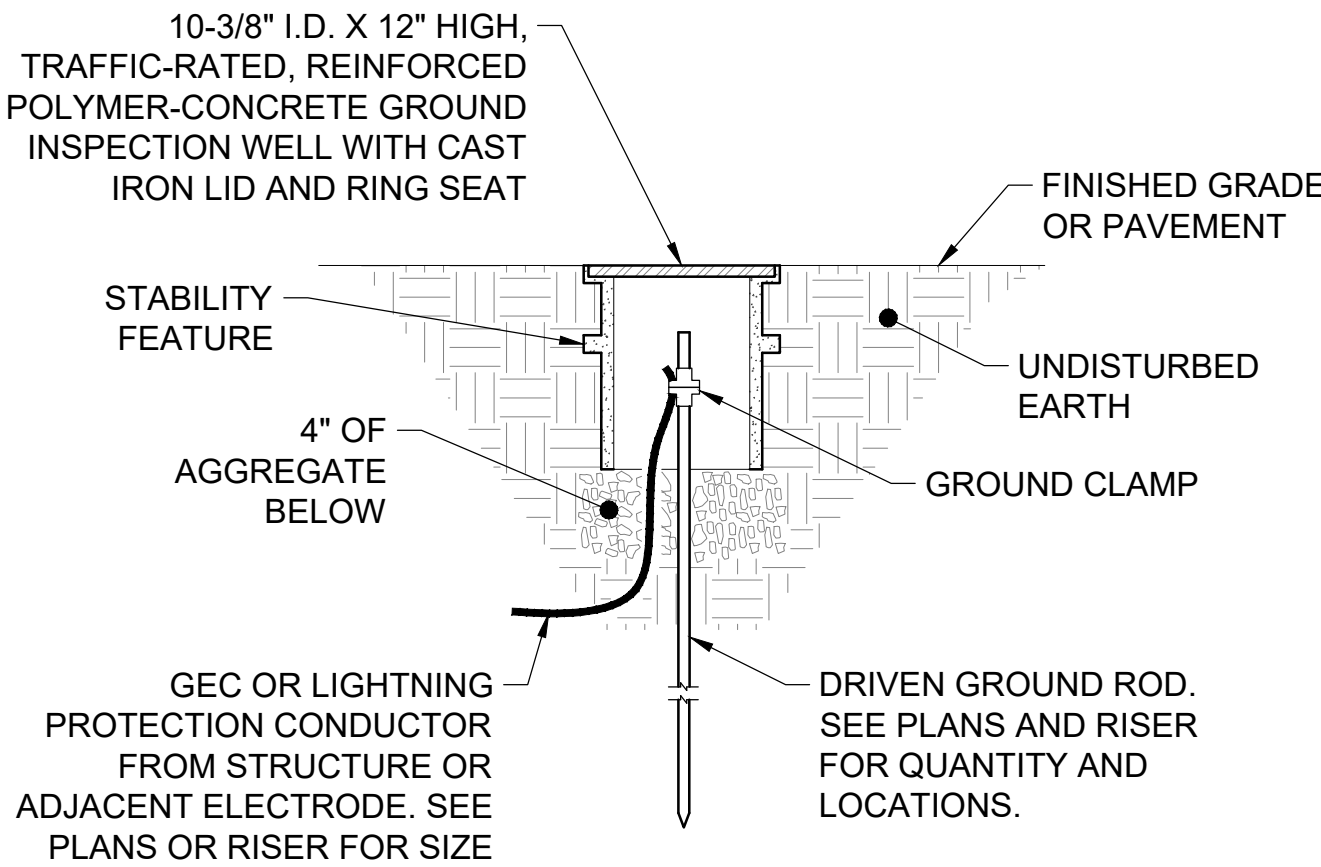
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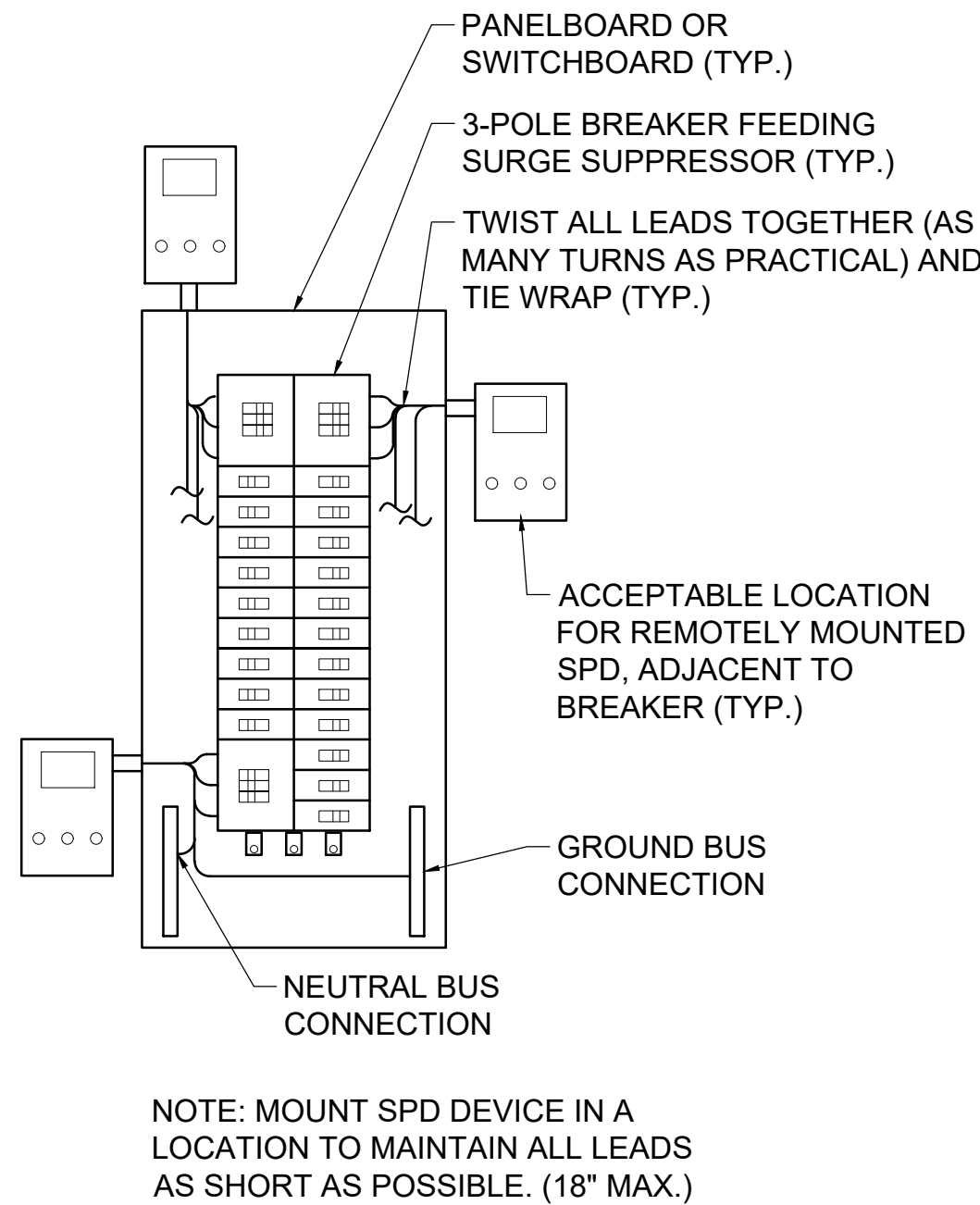
TYPICAL SUPPORT RACK DETAIL (TYP. FOR EQUIP ON GROUND)



UNDERGROUND PULLBOX DETAIL (NON-DELIBERATE TRAFFIC)



GROUND INSPECTION WELL DETAIL



REMOTE-MOUNT SPD DETAIL

REVISIONS	
DATE	DESCRIPTION



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DETAILS

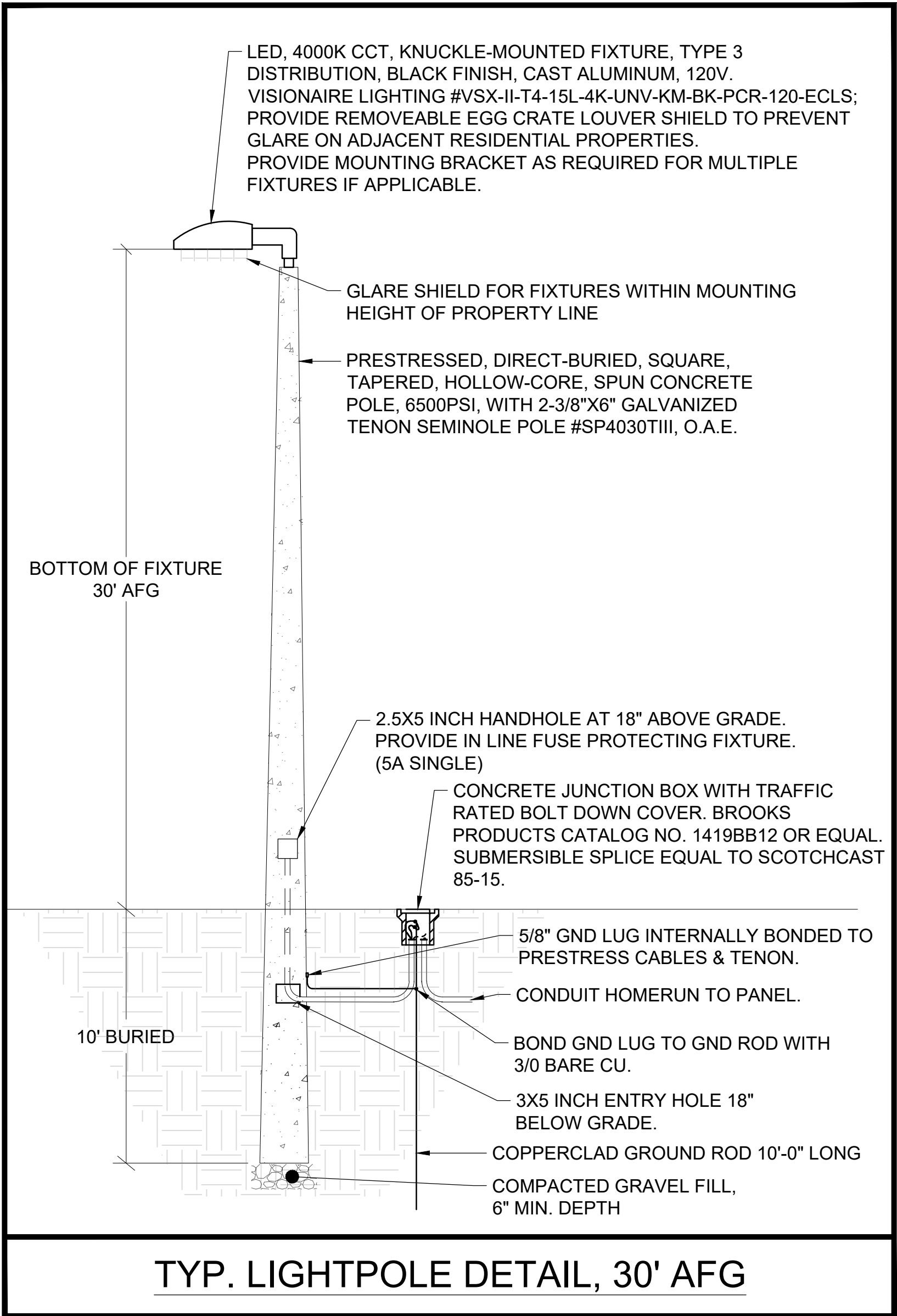
FT WHITE PHASE 1 - WASTEWATER TREATMENT

COLUMBIA COUNTY, FLORIDA

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DATE	DESCRIPTION						
							E10

ELECTRICAL SPECIFICATIONS GENERAL		O. Shop drawings and product data shall be submitted on all equipment, fixtures, etc. Shop drawings shall be labeled in the same designation as individual piece of equipment for which they are being submitted; the proper designation shall be the designation used on the various equipment schedules and/or in other Sections of this Specification, i.e. Fixture A, Panel B, MDP, etc. Each submittal package shall be combined into a single PDF file and emailed (or otherwise electronically transmitted) to Engineer. Unmarked catalog sheets or submittals otherwise insufficient to determine compliance with contract documents will be returned without review.		ELECTRICAL SERVICE ENTRANCE		in sufficient quantity and in such a manner to enable the Engineer and Owner to accurately discern the raceway routing and materials used.	
A. All work shall be performed or installed in strict accordance with the following (each contractor and subcontractor shall be responsible for compliance):		P. Job condition shall be determined prior to bidding in the following manner:		1. Site visit to determine:		W. Use of LFMC shall be limited to 6' lengths.	C. Conductors AWG No. 8 or smaller may be solid or stranded; larger sizes shall be stranded. Stranded conductors shall be used for final connections to vibrating equipment (such as motors).
B. Furnish all labor, materials, fixtures, equipment, tools, service, transportation, insurance, and temporary protection necessary for delivery, off-loading, installation, testing, and adjusting of all electrical systems. Electrical systems shall be furnished and installed in compliance with the Drawings, Specifications, and any Addenda thereto.		2. Examine all Contract Drawings and Specifications to determine:		2. Measurements shall not be scaled from Drawings and used as definite dimensions for layout or fitting of work in place.		X. Use of ENT, LFNC, FMC, EMIT, and IMC are prohibited.	D. All conductors for general wiring shall be insulated with THWN-2 insulation.
C. Systems Guarantee: Contractor shall provide a one-year guarantee to the owner for any defective workmanship or material which has been provided under this contract at no additional cost to the owner. Duration of guarantee period shall commence at date of substantial completion of system, as documented in writing from the owner.		3. Do not make final layouts until shop or equipment drawings are approved and job conditions verified.		4. Layout of equipment, as shown on the plan, shall be checked and exact location determined by dimension of equipment approved by the Architect/Civil Engineer.		Y. Exact routing of conduit shall be determined by contractor in the field for ease of installation provided that the following criteria is met:	E. Conductors shall be designated with specific colors as noted on the details (based on voltage and phase), and shall be in compliance with the N.E.C. NEC-compliant phase identification shall be observed at every accessible observable wiring location .
D. Contractor shall give all notices, file all plans, pay all fees, coordinate all inspections, and obtain all permits from authorities having jurisdiction. Fees shall be included in bid price.		4. Coordination:		5. Work shall be coordinated between all Contractors, Subcontractors, Installers, Suppliers, Trades, etc. to:		1. All conduit, home runs, and circuits are made to the end and intermediate points specified on the drawings, unless specifically noted to be routed via a control device (such as a switch, contactor, or time clock).	F. Grounding conductors, if insulated, shall have green solid-colored insulation.
E. All equipment and materials provided shall meet or exceed specification requirements, be new and unused without defects (unless furnished by the owner), listed under an UL category, and shall be a product of a manufacturer regularly engaged in producing such equipment and materials for at least five years.		5. Insure a neatly fitted installation		6. Maintain maximum headroom and clearances		2. Conduit runs shall comply with NEC.	G. All wiring shall be installed in conduit, except in wet well.
F. Drawings and Specification shall be understood to cover, according to their intent and meaning, complete electrical systems. Work shown on the drawings yet not specified, and work specified yet not shown on the drawings shall be performed as though mentioned in both		7. Continue work on items which are not in conflict.		8. Notify the Architect immediately.		3. Conduits shall not conflict with other trades.	H. Conductors shall be sized according to the N.E.C., yet not smaller than shown on the drawings.
G. Minor items and accessories reasonably inferred as necessary for the complete and proper operation of any system shall be provided by contractor or subcontractor for such system whether or not they are specifically called for.		9. Architect's decision shall be final as to any relocation, rerouting, removal, or change.		10. No additional compensation will be allowed for removal, relocation, repairs or changes required by interferences.		4. Conduits shall not encroach on spaces dedicated for clearance or accessibility.	I. Minimum conductor size for 20A receptacle and lighting circuits shall be No. 12 AWG. Where one-way circuit distance from panelboard to furthest circuit load exceeds 65 feet, use No. 10 AWG minimum; over 100 feet, use No. 8 AWG.
H. The most stringent requirements shall prevail where a conflict exists between specifications, drawings, codes, or AHJ requirements.		11. Clear away all debris, surplus materials, etc. resulting from work. Maintain job and equipment in clean, first-class condition.		12. Clean all panel boards, switches, boxes, etc., and leave them in a ready-to-use condition.		5. Routing shall not render covers or doors inaccessible or non-removeable.	J. All wiring shall be fully polarized throughout using white (or gray depending on voltage) wires for neutral and making all switching connections in colored hot wires.
I. The Electrical Contractor shall include in his bid the cost of furnishing, installing, maintaining, and removing all material and equipment required to provide temporary lights and power to perform the work of all trades during construction and until work is completed. Adequate lighting and receptacle outlets for operation of hand tools shall be provided throughout the project - including shanties, trailers, field offices, and temporary toilet enclosures - and shall be extended as construction progresses.		13. Protect finished floors from chips and cutting oil by use of metal chip receiving pan and oil-proof floor cover.		14. Protect surfaces and items from over-spray and drops due to painting and finishing work associated with electrical work.		6. Conduits shall not be routed under areas specifically designated for future construction (such as phase 2 waste water treatment plant).	K. No conductors shall be drawn into conduits until all work which may cause damage is completed; only approved cable lubricants shall be used.
J. IDENTIFICATION		15. Protect grills, diffusers, parts, openings, and vents as necessary to prevent intrusion of smoke, dust, and debris into devices, equipment, and systems. Ensure protection of heat-generating equipment does not cause equipment to overheat.		16. Stored equipment shall be covered to exclude dust and moisture, shall be protected from weather, shall be protected from entry of foreign materials, and shall be protected from theft and vandalism		7. Conduits shall be provided with appropriate bends.	L. As far as practical, all feeder cables shall be continuous from feeder source to load termination without using splices at intermediate pull boxes.
K. Furnish all equipment and personnel and conduct all tests required to secure approval of the installation.		17. Concrete pads shall be provided as indicated on plans. Refer to Civil drawings for additional pad details and concrete specs. Pads shall be cast with 1/2" chamfered top perimeter edges. Pads shall extend at least 12" beyond outside extents of equipment above (regardless of a smaller support base), unless larger dimensions are indicated.		18. Contractor shall be responsible for ensuring that the following items are safely observable - with covers removed or easily removable - during substantial inspection: incoming feeder terminations at main disconnecting means, main bonding jumper, grounding electrode connection(s) at each system (main and separately derived), transfer switch terminations, transformer terminations, system bonding jumper(s) as applicable, isolated neutral at downstream equipment, panels, switchboards, switchgear, motor control centers, starters, disconnects, and pull-boxes.		AC. SPECIFIC CONDUIT TO BE USED	M. All cable terminals, taps, and splices shall be made with solderless, pressure type connectors; connectors shall be Type QA-B or Q2A as manufactured by Burndy, Okonite, McJunkin or equal.
L. Safety Tests		19. Each penetration of a rated assembly by a pipe, tube, wire, conduit, or cable tray shall be protected by a UL listed fire-stop system (tested per ANSI/UL 1479 or ASTM E814) with a rating no less than the rating of the assembly, and in no case less than 1-hour.		20. Each penetration of a rated assembly by a pipe, tube, wire, conduit, or cable tray shall be protected by a UL listed fire-stop system (tested per ANSI/UL 1479 or ASTM E814) with a rating no less than the rating of the assembly, and in no case less than 1-hour.		1. All conduit and fittings shall be in new, unused condition, shall be free from rust, dirt, moisture, kinks, flats, cuts, or other distortions of shape.	N. The minimum free length of conductor at each box for the connection of a fixture, switch or receptacle shall be 8".
M. Upon completion of each part of the electrical system, the contractor shall demonstrate to the Engineer that each item on that system is installed with proper covers, safeties, controls, etc., and that all are in proper working order.		21. All systems shall test free from short circuits and grounds, shall be free from mechanical and electrical defects, and shall show an insulation resistance between phase conductors and ground of not less than that specified by the cable manufacturer.		22. All systems shall show proper neutral connections.		2. Straight conduit embedded in or below concrete shall be PVC with waterproof joints or PVC-coated RMC.	O. Each branch circuit requiring a neutral connection shall be provided with a dedicated neutral conductor, even if multiple branch circuits share the same raceway. No shared neutrals permitted.
N. A set of "red-lined" electrical drawings shall be carefully maintained at the job site. Actual conditions are to be put legibly on the drawings in red on a daily basis so the drawings will continuously show locations and routings of cable trays, conduits, pull boxes, circuit numbers, and other information required by the Owner and Engineer.		23. Key-operated interlock mechanisms shall be demonstrated to perform as intended.		24. Key-operated interlock mechanisms shall be demonstrated to perform as intended.		3. UNLESS NOTED OTHERWISE, ABOVE GRADE CONDUIT SHALL BE SCHED. 80 UV RESISTANT PVC	P. Boxes for light switches or other lighting control devices shall be provided with a neutral conductor from each branch circuit brought to devices in the box.
O. Shop drawings and product data shall be submitted on all equipment, fixtures, etc. Shop drawings shall be labeled in the same designation as individual piece of equipment for which they are being submitted; the proper designation shall be the designation used on the various equipment schedules and/or in other Sections of this Specification, i.e. Fixture A, Panel B, MDP, etc. Each submittal package shall be combined into a single PDF file and emailed (or otherwise electronically transmitted) to Engineer. Unmarked catalog sheets or submittals otherwise insufficient to determine compliance with contract documents will be returned without review.		25. Plastic engraved nameplates shall engraved with letter size no less than 3/8 inch in height. Exterior labels shall be UV resistant and attached in a weatherproof manner.		26. All identification and labeling shall be in English language.		4. Underground straight conduit shall be PVC with waterproof joints.	Q. Panels shall not be supported by conduit alone.
P. Job condition shall be determined prior to bidding in the following manner:		27. Arc flash danger/warning labels shall be applied to switchboard, panelboards, and equipment controllers per NEC.		28. Neatly handwritten or laser-printed labels shall be provided on covers of boxes 4"x4" and smaller, wireways, and outlet boxes.		5. Undergound bends, penetrations through slabs-on-grade, and stub-ups from final bends up to equipment shall be PVC-coated or Bitumastic coated RGS with radius of bend no less than 8x trade size of conduit.	R. Panelboards shall be internally and externally clean and shall be free from dust, debris, and non-intentional markings. Panelboards shall be vacuummed and wiped down (internally and externally) prior to substantial inspection.
Q. General		29. Provide a permanent label on all panelboards, switchboards, switchgear, motor controls, and distribution panels which reads "DO NOT WORK ON EQUIPMENT WHILE ENERGIZED. LOCK-OUT TAG-OUT REQUIRED".		30. Furnish all equipment and personnel and conduct all tests required to secure approval of the installation.		6. Final connections to vibrating equipment shall be via LFMC.	S. Neutral and equipment grounding terminals shall be electrically isolated, unless specifically noted otherwise.
R. Coordination:		31. All systems shall test free from short circuits and grounds, shall be free from mechanical and electrical defects, and shall show an insulation resistance between phase conductors and ground of not less than that specified by the cable manufacturer.		32. All systems shall show proper neutral connections.		7. Conduits shall be provided with appropriate bends.	T. Panelboard cover shall be provided with engraved phenolic plastic identification and wiring color code nameplates. Refer to detail on drawings.
S. Clear away all debris, surplus materials, etc. resulting from work. Maintain job and equipment in clean, first-class condition.		33. Protect finished floors from chips and cutting oil by use of metal chip receiving pan and oil-proof floor cover.		34. Protect surfaces and items from over-spray and drops due to painting and finishing work associated with electrical work.		8. Conduits shall not be routed under areas specifically designated for future construction (such as phase 2 waste water treatment plant).	U. Mount a typewritten directory behind glass or plastic on the inside of each panel door, showing panel information, circuit number, and complete description of all outlets on each circuit. Handwritten edits are not acceptable. Directory shall be installed prior to substantial inspection
T. Clean all panel boards, switches, boxes, etc., and leave them in a ready-to-use condition.		35. Protect grills, diffusers, parts, openings, and vents as necessary to prevent intrusion of smoke, dust, and debris into devices, equipment, and systems. Ensure protection of heat-generating equipment does not cause equipment to overheat.		36. Stored equipment shall be covered to exclude dust and moisture, shall be protected from weather, shall be protected from entry of foreign materials, and shall be protected from theft and vandalism		9. Conduits in floors or below grade shall be swabbed free of debris and moisture before wires are pulled.	V. Underground raceway shall be thoroughly photographed by the contractor prior to backfill or concrete pours. The photos shall be taken
U. All panelboard and junction box covers shall be secured with proper screws or bolts.		37. Contractor shall be responsible for ensuring that the following items are safely observable - with covers removed or easily removable - during substantial inspection: incoming feeder terminations at main disconnecting means, main bonding jumper, grounding electrode connection(s) at each system (main and separately derived), transfer switch terminations, transformer terminations, system bonding jumper(s) as applicable, isolated neutral at downstream equipment, panels, switchboards, switchgear, motor control centers, starters, disconnects, and pull-boxes.		38. Each penetration of a rated assembly by a pipe, tube, wire, conduit, or cable tray shall be protected by a UL listed fire-stop system (tested per ANSI/UL 1479 or ASTM E814) with a rating no less than the rating of the assembly, and in no case less than 1-hour.		10. Conduit noted as "SPARE", "EMPTY", or "FOR FUTURE USE" shall be provided with nylon pullstrung and readily removable caps. Such conduit shall be labeled on both ends of run.	WIRE AND CABLES
V. Where factory finish is provided on equipment, each marred or damaged surface shall be touched-up or refinished in accordance with manufacturer recommendations.		39. Concrete pads shall be provided as indicated on plans. Refer to Civil drawings for additional pad details and concrete specs. Pads shall be cast with 1/2" chamfered top perimeter edges. Pads shall extend at least 12" beyond outside extents of equipment above (regardless of a smaller support base), unless larger dimensions are indicated.		40. Contractor shall be responsible for ensuring that the following items are safely observable - with covers removed or easily removable - during substantial inspection: incoming feeder terminations at main disconnecting means, main bonding jumper, grounding electrode connection(s) at each system (main and separately derived), transfer switch terminations, transformer terminations, system bonding jumper(s) as applicable, isolated neutral at downstream equipment, panels, switchboards, switchgear, motor control centers, starters, disconnects, and pull-boxes.		11. Conduit shall be properly supported per NEC and as specified herein.	A. All wire used throughout work shall be soft drawn copper of not less than 98% conductivity. Aluminum is not acceptable.
W. In addition to provisions and stipulation set forth in other Sections of these Specifications, provide various types of protection as follows:		41. Protect finished floors from chips and cutting oil by use of metal chip receiving pan and oil-proof floor cover.		42. Protect surfaces and items from over-spray and drops due to painting and finishing work associated with electrical work.		12. Straight conduit embedded in or below concrete shall be PVC with waterproof joints or PVC-coated RMC.	B. Wire and cable shall be new; and manufacturer's name permanently
X. Concrete pads shall be provided as indicated on plans. Refer to Civil drawings for additional pad details and concrete specs. Pads shall be cast with 1/2" chamfered top perimeter edges. Pads shall extend at least 12" beyond outside extents of equipment above (regardless of a smaller support base), unless larger dimensions are indicated.		43. Contractor shall be responsible for ensuring that the following items are safely observable - with covers removed or easily removable - during substantial inspection: incoming feeder terminations at main disconnecting means, main bonding jumper, grounding electrode connection(s) at each system (main and separately derived), transfer switch terminations, transformer terminations, system bonding jumper(s) as applicable, isolated neutral at downstream equipment, panels, switchboards, switchgear, motor control centers, starters, disconnects, and pull-boxes.		44. Each penetration of a rated assembly by a pipe, tube, wire, conduit, or cable tray shall be protected by a UL listed fire-stop system (tested per ANSI/UL 1479 or ASTM E814) with a rating no less than the rating of the assembly, and in no case less than 1-hour.		13. UNLESS NOTED OTHERWISE, ABOVE GRADE CONDUIT SHALL BE SCHED. 80 UV RESISTANT PVC	SPECIFICATIONS
Y. Contractor shall be responsible for ensuring that the following items are safely observable - with covers removed or easily removable - during substantial inspection: incoming feeder terminations at main disconnecting means, main bonding jumper, grounding electrode connection(s) at each system (main and separately derived), transfer switch terminations, transformer terminations, system bonding jumper(s) as applicable, isolated neutral at downstream equipment, panels, switchboards, switchgear, motor control centers, starters, disconnects, and pull-boxes.		45. Provide a permanent label on all panelboards, switchboards, switchgear, motor controls, and distribution panels which reads "DO NOT WORK ON EQUIPMENT WHILE ENERGIZED. LOCK-OUT TAG-OUT REQUIRED".		46. Furnish all equipment and personnel and conduct all tests required to secure approval of the installation.		14. Underground straight conduit shall be PVC with waterproof joints.	SHEET NO.
Z. Each penetration of a rated assembly by a pipe, tube, wire, conduit, or cable tray shall be protected by a UL listed fire-stop system (tested per ANSI/UL 1479 or ASTM E814) with a rating no less than the rating of the assembly, and in no case less than 1-hour.		47. All systems shall test free from short circuits and grounds, shall be free from mechanical and electrical defects, and shall show an insulation resistance between phase conductors and ground of not less than that specified by the cable manufacturer.		48. All systems shall show proper neutral connections.		15. Conduits shall be provided with appropriate bends.	E11

THIS ITEM HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY CHAD J. FRALICK, PE, ON THE DATE ADJACENT TO THE SEAL USING A DIGITAL SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC DOCUMENTS. IF THERE IS ANY DOUBT AS TO THE AUTHENTICITY OF THIS DOCUMENT, THE ORIGINAL IS ON FILE IN THE ENGINEER'S OFFICE.

CIRCUIT BREAKERS		stranded: ASTM B8.		PERMANENT GENERATOR SPECS (PAD MOUNTED, WWTP):		OUTPUT STATUS TO OWNER TELEMETRY SYSTEM TO SIGNAL "ENGINE RUN" CONDITION, AND "GENERATOR FAIL" CONDITIONS		GENERATOR AND ATS TESTING:									
A. Breakers shall be of the size specified on the Panel Schedules.		F. All metallic raceway shall be bonded to the equipment grounding conductor.		A. Generator set shall be provided with characteristics and accessories as noted below and all necessary standard items not listed, to provide a fully functional standby power system. Acceptable manufacturers include: Cummins, Caterpillar, Generac, Gillete. Other manufactures shall be pre-approved prior to bid. Contractor may submit alternate manufacturers to owner for brand pre-approval.		27.WARRANTY: 2 YEAR MIN.		A. Upon complete installation and manufacturer testing of generator, ATS, wet wells, pumps, controllers, operator building, and waste water treatment plant; contractor shall coordinate the following demonstration/test while supervised by owner.									
B. Breakers rated at 10,000 AIC shall be plug-on.		G. Metallic raceway shall not be used alone as equipment grounding means.		C. Generator shop drawing submittal shall include the following:		28.UL LISTING: 2200		1. Full power outage shall be simulated by manually opening service entrance disconnect.									
C. Breakers rated greater than 10,000 AIC shall be bolt-on.		H. Provide driven ground rod(s) as close as possible to the service entrance location.		1. Itemized bill of material indicating Manufacturer, model, and components.		B.O.D:		2. Generator shall automatically start and transfer within 60 seconds of normal power outage.									
D. Breakers shall have visual trip indicators.		I. Bolted connectors for conductors and pipes shall be copper or copper-alloy, bolted pressure-type, with at least 2 bolts. Pipe connectors shall be clamp-type, appropriately size for the pipe.		2. Fact sheets of engine, alternator, control panel, governor, voltage regulator, and generator breaker.		1. BRAND, MODEL, ENGINE: GENERAC, SD200		3. Generator shall continue to successfully supply power to all loads during plant restart and plan run - at full plant capacity.									
E. Breaker sizes shall be verified against equipment it serves.		J. Mechanical Equipment		3. Data for Base and vibration isolators, Lube oil and intake air filters, coolant heater, battery charger, battery, Remote shut off button, and all accessories.		2. ALTERNATOR: 200KW STANDARD		4. Reclaim water pumps shall be manually stopped and started (successfully) while on generator power.									
F. Furnish and install all circuits breakers as described on the panel schedules and drawings.		1. All mechanical equipment motors shall have grounded cases.		4. Enclosure including dimensional drawings, sound data, wind ratings		3. FUEL CONSUMPTION RATES at 100%, 50%, 25% IN GPH: 14.8, 11.9, 8.3, 4.4		5. Normal power disconnect shall manually be closed to simulate power restoration (after not less than 1 hour demonstration).									
G. Unconnected, spare, and breakers for future use shall be switched to and remain in the "OFF" (open) position.		2. All equipment shall have its metallic enclosure, frame, etc. bonded to the circuit equipment grounding conductor.		5. System schematic diagram		G. Manufacturer's services: Provide authorized manufacturer's service at the jobsite for installation, modifications, and testing. Provide 8 HOURS instruction/training to owner's personnel in operation and maintenance of equipment. Schedule for training shall be coordinated with owner.		6. Generator and ATS shall automatically detect acceptable normal power and transfer back to normal power after a programmed delay.									
FUSES (26 28 14)		SURGE PROTECTION DEVICE (SPD)		6. Factory test report (prototypical) and emissions data				7. Generator shall continue to run unloaded for a cool down period (length as recommended by manufacturer).									
A. Fuses shall have voltage rating at or exceeding circuit voltage.		A. NEMA 4X enclosure, u.n.o.		7. Manufacture's warranty and the name and location of parts and service facility				8. Generator shall shutoff.									
B. General duty fuses for service entrance, feeders, and other branch circuits shall be class L, J, RK5, or RK1 if not noted.		B. Provide SPD with integral audible and visible alarm features to indicate loss of protection.		8. Fuel consumption rates at 100%, 75%, 50%, and 25% rated capacity				B. If any manual input is required during the test (apart from the manual actions noted above), the contractor shall coordinate with owner to schedule a re-test, after corrections/repairs are made. If any breakers trip upon re-transfer to normal power, ATS delay and/or in-phase transfer settings shall be adjusted and retested.									
C. Motor circuit fuses and compressor fuses shall be class RK5 time delay.		C. MOV TYPE meeting UL-1449, TYPE 1 and 2 listing.		9. Manufacturer's recommended maintenance schedule													
D. Control circuit fuses shall be class CC, time delay.		1. 200KA Surge Current Rating (L-L and L-G) (unless lower is indicated)		10.Generator thermal damage curve, current decrement curve, and impedances													
E. Fuses shall comply with NEMA FU 1 and NEC.		2. 20KA Nominal Discharge Current.		E. Generator shall have characteristics as noted below:													
F. Fuses shall be installed such that rating information is readable without removing fuse.		3. 200KA SCRC (Short Circuit Current Rating)		1. NEC DESIGNATION: OPTIONAL STANDBY													
		4. 150V MCOV (Maximum Continuous Operating Voltage) for 120/240V and 208Y/120V systems, 320V MCOV for 480Y/277V systems.		2. POWER RATING: 200KW/250KVA													
DISCONNECTS		PUMP STATION CONTROLLER		3. RATED AMPS AT .8PF: 601 FLA													
A. Approved manufacturers: Square D, Siemens, Eaton.		A. Refer to civil drawings for addition requirements and wet well details.		4. OUTPUT VOLTAGE: 240/120V 3PH 4W 60HZ (12-LEAD)													
B. Ampere-rated for general disconnects.		B. Enclosure shall be NEMA 4X Stainless Steel (TYPE 304, 14 GAUGE, OR BETTER). Door shall be pad-lockable.		5. OUTPUT BREAKER AT GENERATOR: YES													
C. Horsepower-rated for motor disconnects.		C. Control panel enclosure shall regulate temperature and moisture in interior of enclosure as necessary to maintain suitable operational environment for all enclosed components through-out all seasons.		6. FUEL SOURCE: DIESEL													
D. Meet Federal Spec. W-S-865c for Heavy Duty Switches. Meets NEMA KSI-1975 for Type HD. and be UL Listed.		D. Control panels shall include breakers, motor starters, programmable timers, alternators, HOA switches, indicator lamps, etc. as required to operate the duplex pumping station automatically and manually.		7. TANK CAPACITY: 70-HOUR MINIMUM RUN-TIME BASED ON FUEL CONSUMPTION WHEN GENERATOR IS OPERATING AT 50% RATED CAPACITY, BUT IN NO CASE LESS THAN 580 GALLONS (USEABLE CAPACITY). FUEL TANK SHALL BE EQUIPPED WITH ALL MONITORING AND SAFETY FEATURES TO COMPLY WITH STATE OF FLORIDA REGULATORY REQUIREMENTS FOR ABOVE GROUND STORAGE TANKS.													
E. Stainless steel Nema 4X enclosure.		1. Enclosure shall be provided and sized to accommodate components to operate noted initial and future pumps.		8. MOTOR STARTING CAPABILITY: AS REQUIRED TO START LARGEST PUMP WITH ALL OTHER LOADS ALREADY RUNNING (INCLUDING PHASE 2 ESTIMATED LOADS), WITH <30% VOLT DROP AND <5HZ FREQUENCY DIP; PROVIDE UPSIZED ALTERNATOR TO ACHIEVE REQUIRED STARTING CHARACTERISTICS IF NOT ACHIEVABLE WITH STANDARD ALTERNATOR.													
F. Quick-make/quick-break operating mechanism, Visible handle.		E. A vapor proof red light and horn shall be mounted on top of the panel and shall activate upon high level alarm. Provide alarm silence button which automatically resets to normal alarm operation when alarm condition returns to normal.		9. ALTERNATOR: 2/3 PITCH, CLASS H INSULATION													
G. Disconnects furnished as an integral part of any piece of equipment shall be acceptable in lieu of a safety switch.		F. If station has multiple pump motors which may run simultaneously, automatic delay relays/logic shall be provided in motor control circuits to prevent simultaneous automatic starting of pumps (to minimize voltage drop on system and to minimize impact on generator). Refer to civil drawings for sequence of operation for each pump station.		10.EXCITATION: PERMANENT MAGNET													
H. Switches shall be fused where shown on drawings.		G. All control power for interior control panel items shall be derived from the load side of control panel main breakers. Control power transformer(s) shall be sized to accommodate all control power loads including worst case starting and alarming conditions.		11.ENGINE: 8.7L, 6-CYLINDER, TURBO-CHARGED, 1800RPM.													
I. Disconnect switches shall be provided with machine-produced labels (on front cover) to indicate circuit source, circuit number, and load served.		H. All circuit breakers, control switches, indicator pilot lights and other control devices shall be identified with permanently affixed legend plates, corresponding to manufacturer-provided shop drawings.		12.ENGINE COOLING: CLOSED LIQUID-TYPE SYSTEM, WITH PUMP, FAN, AND RADIATOR													
		I. All wiring within the enclosure shall be neatly routed and identified. Wiring on the rear of the inner door shall be neatly bundled with nylon ties and include sufficient loop across the hinges to prevent wire damage. Terminal points of all terminal strips shall be permanently identified. All terminal numbers and identifying nomenclature shall correspond to and be shown on the electrical diagrams provided by the control panel manufacturer.		13.STARTER BATTERY: (2)12V BATTERIES FOR 24VDC STARTER SYSTEM; TYPE & CAPACITY NOT LESS THAN AS RECOMMENDED BY GENERATOR MANUF.													
WIRING DEVICES (26 27 26)		J. Local surge protection shall be included with each control panel and wired to protect motors and control equipment from lightning induced line surges.		14.BATTERY CHARGER: 120VAC INPUT													
A. ALL 120V 20A RECEPTACLES ON PROJECT (DEPICTED ON E-DRAWINGS) SHALL BE WP GFCI TYPE, U.N.O.		K. Temperature and moisture sensors inside pump motors shall be connected such that control panel will de-energize associated pump motor upon overheating or moisture intrusion, and indicate condition to telemetry system.		15.Vibration isolation shall be provided by installing isolators designed for the purpose in one or more of the following locations: At all contact points between the generator set base and concrete pad. And/Or at all contact points between the generator/engine frame and the generator set assembly base.													
B. Model or part number listed below are for reference and establishing quality.		L. Submersible cables shall be continuous without splices from pump casing to control panel.		16.CONTROLLER: MOUNTED AT GENERATOR BY OEM. INCLUDES 3-POSITION SWITCH, E-STOP BUTTON, AND STANDARD FIELD ADJUSTABLE SETTINGS.													
C. In so far as practical, all wiring devices shall be of the same manufacturer.		M. Control panel shall startup and sequence pumps in response to float switches in wet well. Coordinate sequence with civil engineer.		17.ENCLOSURE: LEVEL 2 WP SOUND-ATTENUATED ALUM, EPOXY PAINTED, WITH REMOVEABLE/OPENABLE COVERS AND PANELS TO ENABLE ACCESS TO ENGINE, GENERATOR, BATTERY, AND CONTROLS.													
D. All catalog numbers listed are Hubbell unless noted.		N. FUTURE TELEMETRY EQUIPMENT WILL BE FURNISHED BY OTHERS. CONTRACTOR SHALL PROVIDE CONTACT POINTS TO ENABLE FUTURE TELEMETRY INTERCONNECTIONS . COORDINATE WITH OWNER. Unless directed otherwise by owner, monitoring points shall include: Pump run, Pump flow, Seal fail, High temp, AC power fail, Pump run time, High wet well, Tamper/intruder detect, and spares as requested.		18.ENCLOSURE WIND RATING: 150MPH													
E. Acceptable manufacturers shall be Hubbell, Pass and Seymour, Leviton, or Arrow-Hart.				19.MUFFLER: LEVEL 2 CRITICAL GRADE													
F. General Purpose Receptacles and single appliance type receptacles.				20.COOLANT HEATER WITH INTEGRAL THERMOSTAT													
1. General purpose receptacles shall be specification grade, 120 volt AC, 20 amp, NEMA 5-20R, grounding type, capable of accepting 15A and 20A plugs.				21.E-STOP SWITCH: RESETTABLE E-STOP BUTTION FOR IMMEDIATE FUEL SHUTOFF & GENERATOR SHUTDOWN MOUNTED TO GENERATOR PACKAGE													
G. Receptacles in exterior or non-conditioned spaces shall be of the weather-resistant type.				22.REMOTE E-STOP SWITCH: DUPLICATE AND SAME FUNCTION AS E-STOP SWITCH, EXCEPT MOUNTED REMOTELY FROM GENERATOR PACKAGE													
H. Switches				23.RECEPTACLE: (1) 120V NEMA 5-20R AT UNIT													
1. General light switches shall be specification grade, 125-277 volt, 20 amp, heavy duty.				24.LIGHTING: PROVIDE ENCLOSURE WITH LIGHTING (CONNECT TO RECEPTACLE CIRCUIT)													
2. Catalog number shall be: SPST 1221				25.ENCLOSURE SHALL BE COMPLETELY RODENT PROOF.													
I. Cover plates				26.AUXILIARY OUTPUT RELAYS: CONFIGURED TO PROVIDE													
1. Exterior receptacles shall be provided with metallic, gasketed, weatherproof while-in-use covers.																	
2. Contractor shall provide adhesive label on each cover plate to indicate source panel and circuit number. Also, circuit number shall be written on back side of cover plate.																	
GROUNDING AND GROUND FAULT PROTECTION (26 05 27)																	
A. Equipment and circuits shall be grounded and bonded in accordance with the NEC.																	
B. Provide ground fault protection for all circuits noted on the drawings as GFI, all receptacles indicated on the drawings via GFI receptacle symbol, all restroom/bathroom receptacles, all receptacles in exterior locations, and for all locations required by N.E.C. Standard receptacles shall be considered ground fault protected if in series with the GFI protection provided in an upstream GFI receptacle or GFI breaker.																	
C. Provide ground fault protection on all temporary construction circuits as required by OSHA or the National Electrical Code.																	
D. All non-service-entrance conduits shall contain a continuous "green" solid-colored insulated equipment grounding conductor, sized in accordance with the N.E.C. (but not less than shown on drawings). Size shall be increased per NEC if associated phase conductor(s) are increased due to voltage drop.																	
E. Conductors used for grounding and bonding shall be copper, unless noted otherwise. If insulated: 600V rated. If bare solid: ASTM B3. If bare																	
R E V I S I O N S								NORTH FLORIDA PROFESSIONAL SERVICES, INC. P.O. BOX 3823 LAKE CITY, FL 32056 PH. 386-752-4675 LIC NO. LB8356		2551 BLAIRSTONE PINES DR. TALLAHASSEE, FL 32301 WWW.NFPS.NET CA# 29011		JOB NUMBER: NFPS: L220815HAM CA: 2353 EOR: CHAD J. FRALICK FL P.E. NO.: 73811		SPECS FT WHITE PHASE 1 - WASTEWATER TREATMENT COLUMBIA COUNTY, FLORIDA		SHEET NO.	
DATE	DESCRIPTION																
		E12															

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