

**LABORATORY BUILDING AND EFFLUENT STORAGE TANK STRUCTURAL NOTES:**

**DIVISION 1 - GENERAL**

- 1.1 THE CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGN AND ERECTION OF ALL TEMPORARY BRACING, FORM WORK, SHEETING, SHORING AND UNDERPINNING NECESSARY TO PERFORM THE WORK.
- 1.2 THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR SAFETY PRECAUTIONS AND PROGRAMS AS THEY RELATE TO THE WORK ON THIS PROJECT.
- 1.3 ALL CONSTRUCTION MATERIAL, WORKMANSHIP AND DESIGN SHALL CONFORM TO THE 2000 INTERNATIONAL BUILDING CODE AND OTHER LOCAL CODES PREVAILING DURING TIME OF CONSTRUCTION.
- 1.4 THE CONTRACTOR SHALL NOT SCALE DRAWINGS. IF THE GENERAL CONTRACTOR FINDS A CONFLICT WITH THE PLANS, THEN THE GENERAL CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY.
- 1.5 THE CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE DRAWINGS.

**DIVISION 2 - FOUNDATION AND SITE PREPARATION**

- 2.1 THE SURFACE OF EXPOSED SUBGRADE SHALL BE INSPECTED BY PROBING OR TESTING TO CHECK FOR POCKETS OF SOFT OR UNSUITABLE MATERIAL. EXCAVATE AS REQUIRED TO REMOVE UNSTABLE SOIL.
- 2.2 PROPER SITE DRAINAGE SHALL BE MAINTAINED IN ORDER TO PROTECT THE SITE FROM EXCESS SURFACE MOISTURE DURING CONSTRUCTION. PROTECTION OF THE SITE SHALL INCLUDE THE CONSTRUCTION OF TEMPORARY DITCHES, BERMS OR OTHER SURFACE WATER DIVERSION DEVICES IN ORDER TO DIVERT SURFACE WATER FROM AND NOT ACROSS THE SITE.
- 2.3 STRIP ALL TOPSOIL FROM AREAS TO BE COVERED BY STRUCTURES OR PAVEMENT. FILL FOR BUILDINGS OR PAVEMENT SHALL CONTROLLED FILL. CONTROLLED FILL SHALL BE TYPE SM OR BETTER, PLACED IN 8" LOOSE LIFTS AND COMPACTED TO 95 % OR BETTER OF MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD PROCTOR (ASTM D 698).
- 2.4 BASE SLAB SHALL BE FOUNDED ON SOIL HAVING A MINIMUM BEARING CAPACITY OF 2500 PSF. ACS DESIGN RECOMMENDS THE OWNER EMPLOY A GEOTECHNICAL TESTING COMPANY TO PERFORM A SUBSURFACE INVESTIGATION OF THE PROPOSED SITE AND PREPARE A WRITTEN REPORT STATING ALLOWABLE BEARING PRESSURES, SETTLEMENT EXPECTED, FOUNDATION RECOMMENDATIONS, SUBGRADE PREPARATION AND ANY OTHER PERTINENT INFORMATION. A COPY OF THIS REPORT SHOULD BE SUBMITTED TO OUR OFFICE TO VERIFY FOUNDATION DESIGN.

**DIVISION 3 - CONCRETE**

- 3.1 ALL REINFORCING STEEL SHALL BE BILLET STEEL ASTM A615, GRADE 60. TIES STIRRUPS SHALL BE GRADE 60.
- 3.2 UNLESS OTHERWISE REQUIRED, PROVIDE 3/4" CHAMFER ON ALL CONCRETE CORNERS EXPOSED TO VIEW.
- 3.3 CONCRETE PROTECTION FOR REINFORCING STEEL AND OTHER GENERAL REQUIREMENTS FOR FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE "AMERICAN CONCRETE INSTITUTE BUILDING CODE" (ACI 318) UNLESS OTHERWISE NOTED.
- 3.4 ALL CONCRETE SHALL BE 4000 PSI. ALL MATERIALS AND PROCESSES TO THIS END SHALL CONFORM TO ACI RECOMMENDED PRACTICE FOR THE DESIGN OF CONCRETE MIXES, (ACI-613 LAST REVISED).
- 3.5 CONTRACTOR SHALL PLACE 1/2" EXPANDABLE FILLER IN JOINTS OF CONCRETE SLAB ON GRADE AGAINST VERTICAL SURFACES AND DISSIMILAR MATERIALS.
- 3.6 ALL REINFORCING MARKED AS CONTINUOUS (CONT.) ON THE PLANS AND DETAILS SHALL BE LAPPED 36 BAR DIAMETERS AT SPLICES UNLESS OTHERWISE NOTED.

**DIVISION 6 - WOOD**

- 6.1 WOOD CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION (NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION).
- 6.2 WOOD TRUSSES SHALL BE DESIGNED BY THE MANUFACTURER TO SUPPORT THE LIVE AND DEAD LOADS SHOWN ON THESE DRAWINGS. DESIGN SHALL COMPLY WITH THE NATIONAL FOREST PRODUCT ASSOCIATION.
  - A. MATERIAL SHALL BE NO. 2 GRADE SOUTHERN PINE, DOUGLAS FIR, LARCH, K.D. DRESSED AND USED AT 19 % MAXIMUM MOISTURE CONTENT OR AS REQUIRED TO SATISFY STRESS REQUIREMENTS.
  - B. WOOD TRUSS JOINTS SHALL BE DESIGNED AND FABRICATED IN ACCORDANCE WITH THE LATEST TRUSS PLATE INSTITUTE PUBLICATION. EACH UNIT SHALL BEAR THE TRADEMARK OF THE FABRICATOR. TRUSSES SHALL HAVE PANEL TYPE CONNECTIONS WITH STEEL TOOTH PLATES ASSEMBLED WITH PRESS JIGS.
  - C. ROOF TRUSS DESIGN CRITERIA :
    - TOP CHORD - LIVE LOAD = LIVE AND SNOW
    - TOP CHORD - DEAD LOAD = CALC. FROM DWGS.
    - BOTTOM CHORD - LIVE LOAD = 0 PSF (20 PSF WHERE 42" BETWEEN TOP AND BOTTOM CHORDS)
    - BOTTOM CHORD - DEAD LOAD = 10 PSF
  - E. HURRICANE CLIPS AND ANCHORS SHALL BE SIMPSON/STRONG-TIE.

- 6.3 WOOD TREATMENT: PRESSURE TREAT ALL SILLS AND PLATES AND ANY OTHER WOOD IN CONTACT WITH MASONRY, CONCRETE OR GROUND, AND AS SHOWN ELSEWHERE ON DRAWINGS. PRESSURE TREATMENT SHALL COMPLY WITH AWPB STANDARDS C2 AND LP-22.
- 6.4 ALL HEADERS IN LOAD-BEARING WALLS SHALL BE (2) 2X10 WITH TWO LAYERS OF 1/2" PLYWOOD UNLESS OTHERWISE NOTED.
- 6.5 UNLESS OTHERWISE NOTED, ALL NAILING SHALL CONFORM TO THE "FASTENING SCHEDULE" TABLE 2304.9.1 OF 2000 INTERNATIONAL BUILDING CODE.
- 6.6 EXTERIOR WALLS SHALL BE NOMINAL 2" X 4" @ 16" O.C., UNLESS OTHERWISE NOTED. INTERIOR WALLS SHALL BE NOMINAL 2" X 4" @ 16" O.C., UNLESS OTHERWISE NOTED.
- 6.7 ALL STRUCTURAL LUMBER SHALL BE A MINIMUM NO. 2 GRADE SPRUCE/PINE/FIR (SPF) AND USED AT 19 % MAXIMUM MOISTURE CONTENT OR EQUAL.
- 6.8 EXTERIOR STUD WALLS SHALL BE CONTINUOUSLY BRIDGED AT MID-HEIGHT WITH WOOD BLOCKING. PROVIDE CONTINUOUS DOUBLE 2 X TOP PLATE, TYPICAL IN ALL WALLS.
- 6.9 SHEATHING SHALL CONFORM TO APA SPECIFICATIONS. END JOINTS SHALL OCCUR OVER SUPPORTS OR PROVIDE ALUMINUM PANEL CLIPS BETWEEN SHEETS. PANELS SHALL BE STAGGERED ON HALF PANEL LENGTH FROM ADJACENT PANELS. PROVIDE 1/8 INCH SPACE AT PANEL ENDS.
- 6.10 ROOF SHEATHING SHALL BE 1/2 INCH "APA RATED SHEATHING", 48/24 PANEL SPAN RATING, EXPOSURE 1. ALL PANELS SHALL BE NAILED WITH 8D COMMON NAILS AT 6 INCHES ON CENTER AT ALL ENDS AND EDGES AND AT 12 INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS.
- 6.11 EXTERIOR WALL SHEATHING SHALL BE 1/2 INCH "APA RATED SHEATHING", 24/16 PANEL SPAN RATING, EXPOSURE 1. ALL PANELS SHALL BE NAILED WITH 8D COMMON NAILS AT 6 INCHES ON CENTER UNLESS OTHERWISE NOTED AT ALL ENDS AND EDGES AND AT 12 INCHES ON CENTER AT ALL INTERMEDIATE SUPPORTS. INCLUDE SILL PLATE INSULATION, CAULKING OF SILLS AND PLATES.

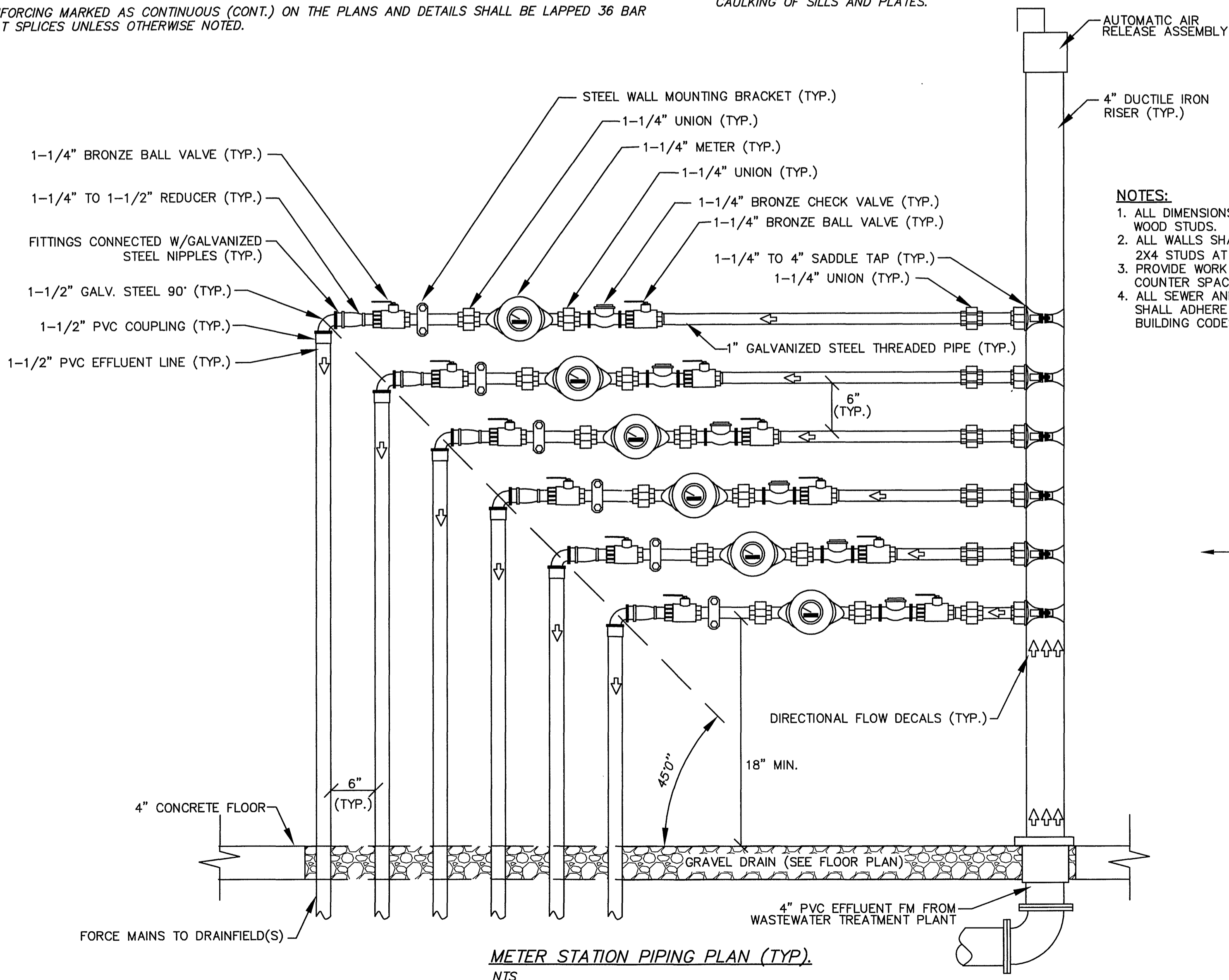
**GENERAL NOTES:**

1. IN ACCORDANCE WITH VSUBC, THIS BUILDING SHALL RECEIVE A 200 AMP ELECTRICAL SERVICE. SINCE THE ELECTRICAL SERVICE IS LESS THAN 800 AMP, THIS PROJECT DOES NOT REQUIRE MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS SIGN AND SEALED BY A LICENSED ENGINEER.
2. THIS BUILDING IS BEING CONSTRUCTED AS AN ACCESSORY UTILITY BUILDING FOR THE SANITARY SEWER OPERATIONS OF THE SUBDIVISION (A PRIVATE ENTITY). THIS STRUCTURE SHALL PROVIDE THE HOUSING FOR DRAINFIELD METERS AND VALVES FOR THE SEWAGE TREATMENT PLANT. THIS BUILDING IS AN INDEPENDENT STRUCTURE. THERE SHALL BE NO OTHER BUILDING STRUCTURE WITH OCCUPANTS WITHIN 20' FROM THIS BUILDING.
3. THIS BUILDING SHALL NOT HAVE ANY FULL-TIME OCCUPANTS. TESTING STAFF SHALL PERIODICALLY VISIT THE COMPLEX IN ORDER TO MONITOR THE OPERATIONS OF THE SANITARY SEWER.
4. SINCE THIS BUILDING IS A PRIVATE STRUCTURE, FOR PRIVATE USE ONLY, IT SHALL NOT BE REQUIRED TO COMPLY WITH THE HANDICAP ACCESSIBILITY REQUIREMENTS OF CABO ANSI A117.1.
5. THE FLOOR SHALL RECEIVE SEALED CONCRETE FINISH. THE WALLS SHALL RECEIVE PAINTED GYPSUM BOARDS. THE CEILING SHALL RECEIVE PAINTED GYPSUM BOARD.
7. THE BUILDING SHALL RECEIVE HEATING, AIR-CONDITIONING AND VENTILATION FOR ALL SPACES IN ACCORDANCE WITH APPLICABLE CODES.
8. ALL OTHER MATERIALS AND FINISHES USED ON THIS PROJECT SHALL BE STANDARD COMMERCIAL GRADE PRODUCTS AND SYSTEMS AS APPROVED FOR SIMILAR USE.

**BUILDING CODE ANALYSIS**

APPLICABLE CODES: IBC 2000, VIRGINIA UNIFORM STATE WIDE BUILDING CODE, CABO ANSI A117.1  
 USE GROUP: U, UTILITY (IBC 312)  
 CONSTRUCTION CLASS: TYPE VB, UNPROTECTED WOOD FRAMED (IBC 601)  
 ALLOWABLE AREA: 5,500 S.F. (IBC 503)  
 PROPOSED AREA: 320 S.F.  
 ALLOWABLE HEIGHT: 1 STORY AND 40 FEET (IBC 503)  
 ACTUAL BUILDING HEIGHT: 1 STORY AND 11 FEET (MEAN ROOF HEIGHT)  
 PLUMBING FIXTURE ANALYSIS (INTERNATIONAL PLUMBING CODE, SECTION 403)  
 OCCUPANT LOAD: 1. STORAGE USE = 1 OCCUPANT  
 WATER CLOSETS: REQUIRED = N/A  
 SINKS: REQUIRED = N/A  
 DRINKING FOUNTAIN: REQUIRED N/A  
 SERVICE SINK: REQUIRED = N/A

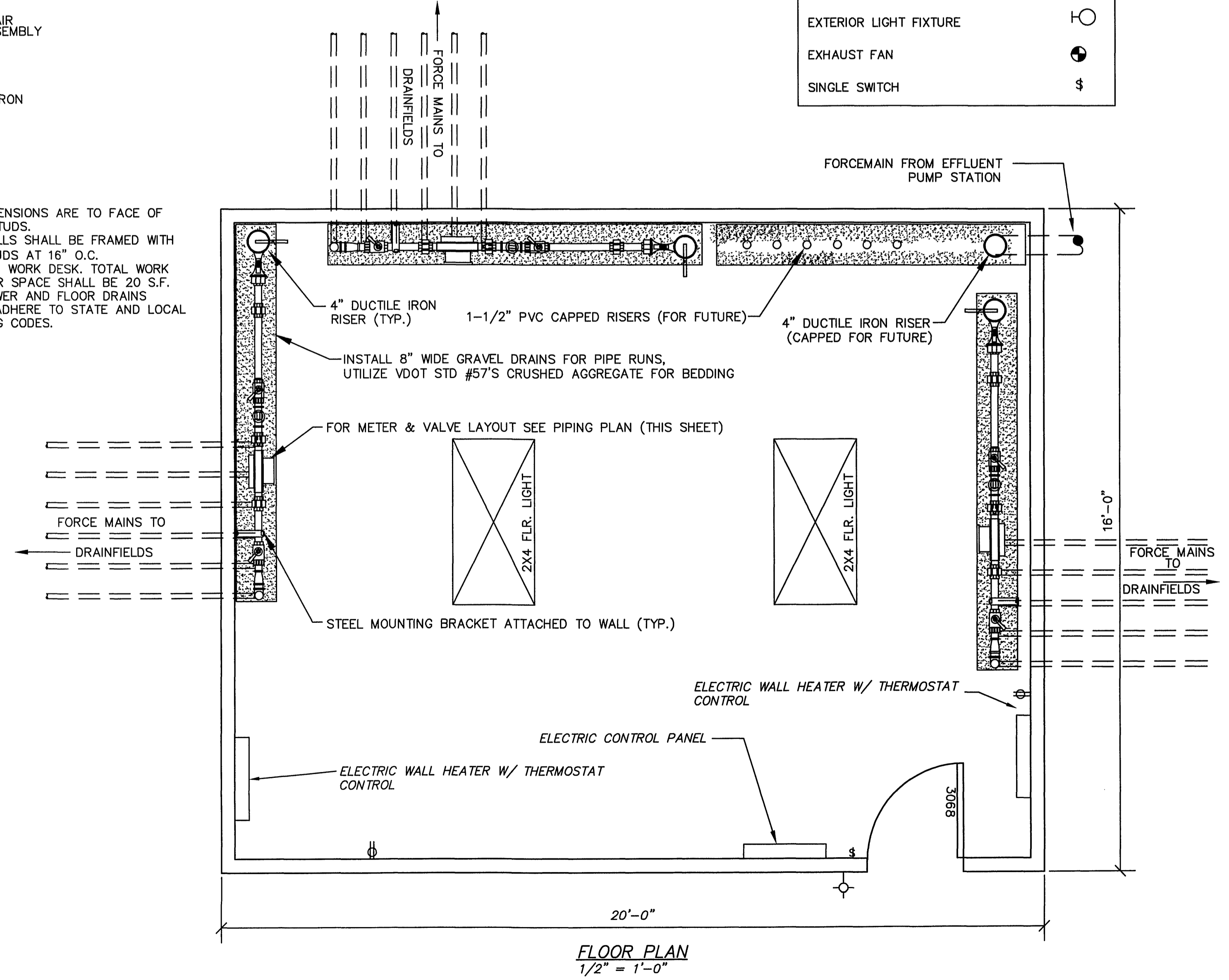
ELECTRICAL LEGEND	
OUTLET 16" A.F.F.	⊕
GROUND FAULT OUTLET 42" A.F.F.	⊕ OF
EXTERIOR LIGHT FIXTURE	⊕
EXHAUST FAN	⊕
SINGLE SWITCH	\$



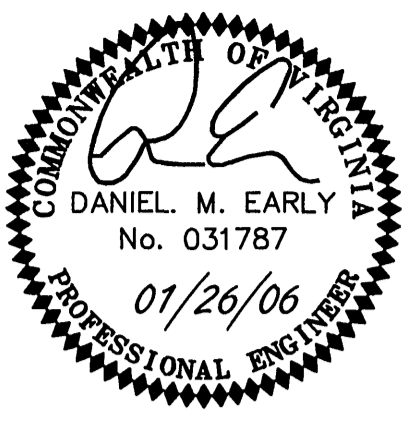
**METER STATION PIPING PLAN (TYP.)**  
NTS

**NOTES:**

1. ALL DIMENSIONS ARE TO FACE OF WOOD STUDS.
2. ALL WALLS SHALL BE FRAMED WITH 2X4 STUDS AT 16" O.C.
3. PROVIDE WORK DESK. TOTAL WORK COUNTER SPACE SHALL BE 20 S.F.
4. ALL SEWER AND FLOOR DRAINS SHALL ADHERE TO STATE AND LOCAL BUILDING CODES.



**FLOOR PLAN**  
1/2" = 1'-0"



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**LAKEWATCH PLANTATION  
COMMUNITY SEWER SYSTEM  
PHASE 1  
FRANKLIN COUNTY, VIRGINIA**

DRAWN BY: C.E.K.  
 DESIGNED BY: C.E.K.  
 CHECKED BY:  
 DATE: JAN. 26, 2006  
 SCALE: AS SHOWN

REVISIONS	DATE	COMMENT

SHEET No. **C1.21**  
EFFLUENT METER  
BUILDING FLOOR PLAN  
AND SPECIFICATIONS  
JOB No. 05076