

DIVISION 15A - PLUMBING

1.1 DESCRIPTION OF THE WORK
A. Work under this section includes, but is not necessarily limited to, furnishing and installing the following:
1. Plumbing fixtures, water heaters, and any other equipment necessary.
2. Cold and hot water piping and insulation.
3. DWV piping.
4. Natural gas piping.
5. Connection of all equipment; drain, vent, water, gas.
B. All work under this contract shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply.
1. The National Electrical Code.
2. 2018 N.C. Building Code: Plumbing, and all applicable category codes.
3. American Society of Sanitary Engineering Standard 1010.
4. All local codes and ordinances.
C. These codes are minimum standards. If codes require a more stringent method of construction than the specifications require, the codes shall govern.
D. The Plumbing Contractor shall be installed in compliance with the latest edition of the following codes and standards insofar as they apply.
1. The National Electrical Code.
2. 2018 N.C. Building Code: Plumbing, and all applicable category codes.
3. American Society of Sanitary Engineering Standard 1010.
4. All local codes and ordinances.
E. Obtain all permits, licenses, inspections, etc., required for the work, and pay for the same.
1.2 INTENT
A. The intent of these specifications and accompanying drawings is to convey as reasonably as possible the requirements for a complete job ready for the building to operate.
1.3 COORDINATION
A. Coordinate work with other contractors.
1.4 SHOP DRAWINGS
A. Shop drawings shall be submitted for plumbing fixtures and for pipe.
PART 2 - PRODUCTS
2.1 FIXTURES
A. Each fixture shall be properly supported from the building structure as required to the end effect that all fixtures and accessories will be held rigidly in place.

2.2 PIPING
A. Drain-Waste-Vent: All DWV piping shall be Schedule 40 PVC-DWV u.o.n., with the following exceptions:
B. Hot and cold water piping above grade: Type 'L' copper w/solder joints (ASTM-B88), hard drawn with wrought copper fittings (ANSI B16.22).
C. Cold water piping below grade: Type 'K' copper (ASTM-B8A) soft drawn.
D. Natural gas piping shall be black steel pipe with screwed or welded joints.
E. Hangers: Use pipe hangers where required on 8-foot centers with saddles to avoid crushing insulation.
F. Solder: 95/5. Lead free.
G. Unions: Provide unions where indicated on drawings, in long runs of piping (except drainage) and at equipment to provide convenient disassembly.
2.3 CLEANOUTS
A. Hex plugs in rough areas: Recessed plugs with cover plates in exposed locations.
2.4 SHOCK ARRESTERS
A. Provide shock arresters as required by codes, manufacturer's recommendations and accepted industry standards for quality construction.

3.3 ROUTING OF PIPING
A. Coordinate routing of piping with others, line up work true to or at right angle to adjacent surfaces and in a workmanlike manner.
3.4 INSULATION
A. All H/W and C/W piping shall be insulated with a min. of 1" inch elastomeric insulation (R-6.5 min.) in unconditioned areas.
3.5 INSPECTIONS AND TESTS
A. Before being concealed, all water, soil and vent piping shall be tested to determine if they are water- and air-tight.
3.6 STERILIZATION OF PIPING
A. Sterilize the new water piping thoroughly with a solution containing not less than 50 parts per million of available chlorine.
3.7 SERVICE PRESSURE
A. Provide approved water-pressure reducing valve (PRV) if service pressure exceeds 80 psi to reduce pressure to 80 psi static or less as required per NCSCB-Plumbing Sect. 604.8.
3.8 DRAINDOWN
A. Contractor to provide for complete plumbing system drain down.
3.9 CLEAN UP
A. During construction, keep the site clear of debris and upon completion, and before final inspection, clean up the premises to remove all evidence of his work.
3.10 GUARANTEES
A. Guarantee all materials and labor included in the plumbing work for a period of one year from date of final acceptance by the Owner.

System No. W-L-1001

March 28, 2003

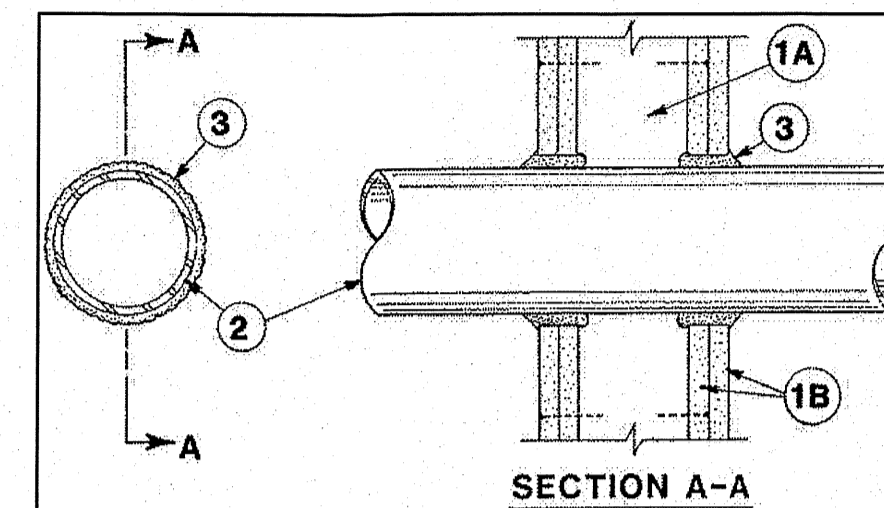
(Formerly System No. 147)

F Ratings -- 1, 2, 3 and 4 Hr (See Items 2 and 3)

T Ratings -- 0, 1, 2, 3, and 4 Hr (See Item 3)

L Rating At Ambient - less than 1 CFM/sq ft

L Rating At 400 F - less than 1 CFM/sq ft



1. Wall Assembly -- The 1,2,3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. Studs -- Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

B. Gypsum Board\* -- Nom 1/2 or 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in.

2. Through-Penetrant-- One metallic pipe, conduit or tubing installed either concentrically or eccentrically with the firestop system. The annular space between pipe, conduit, or tubing and periphery of opening shall be min of 0 in. (point contact) to max 2 in. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly.

A. Steel Pipe -- Nom 24 in. diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. Iron Pipe -- Nom 24 in. diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in. diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. Conduit -- Nom 6 in. diam (or smaller) steel conduit or nom 4 in diam (or smaller) steel electrical metallic tubing.

D. Copper Tubing -- Nom 6 in. diam (or smaller) Type L (or heavier) copper tubing.

E. Copper Pipe -- Nom 6 in. diam (or smaller) Regular (or heavier) copper tubing.

F. through Penetrating Product\* -- Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

TITLEFLEX CORP

A BUNDY CO

3. Nom 1 in diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG INC

3. Fill, Void or Cavity Material -- Caulk -- Min 5/8, 1-1/4, 1-7/8 and 2-1/2 in. thickness for caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. dia bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Table with 3 columns: Max Pipe or Conduit Diam In, F RATING Hr, T RATING Hr. Rows show ratings for diameters 1, 1, 4, 6, and 12 inches.

\*When copper pipe is used, T Rating is 0 h.

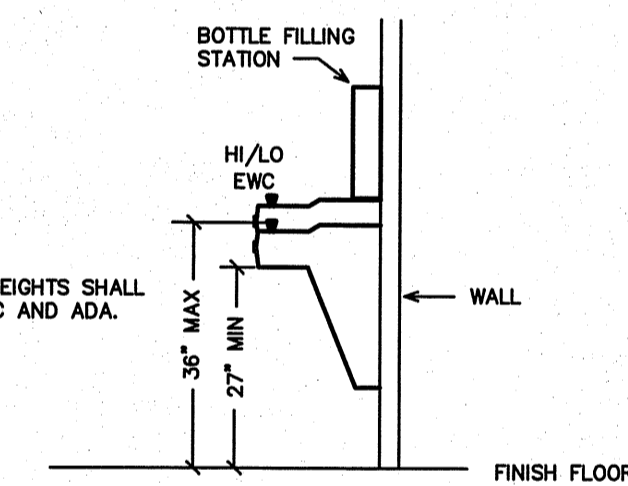
3M COMPANY -- CP 25WB+

\*Bearing the UL Classification Mark

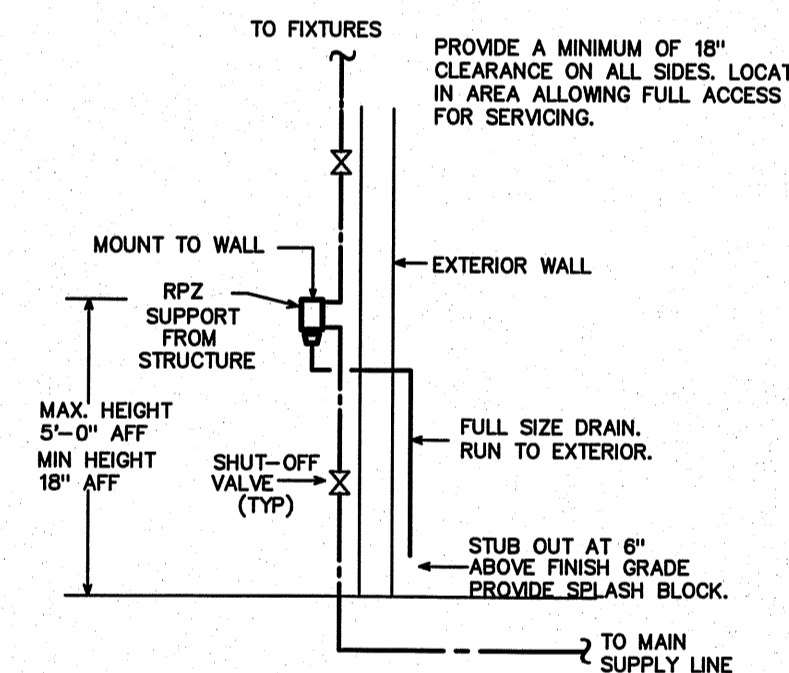
4 PENETRATION DETAIL

GENERAL NOTES - PLUMBING

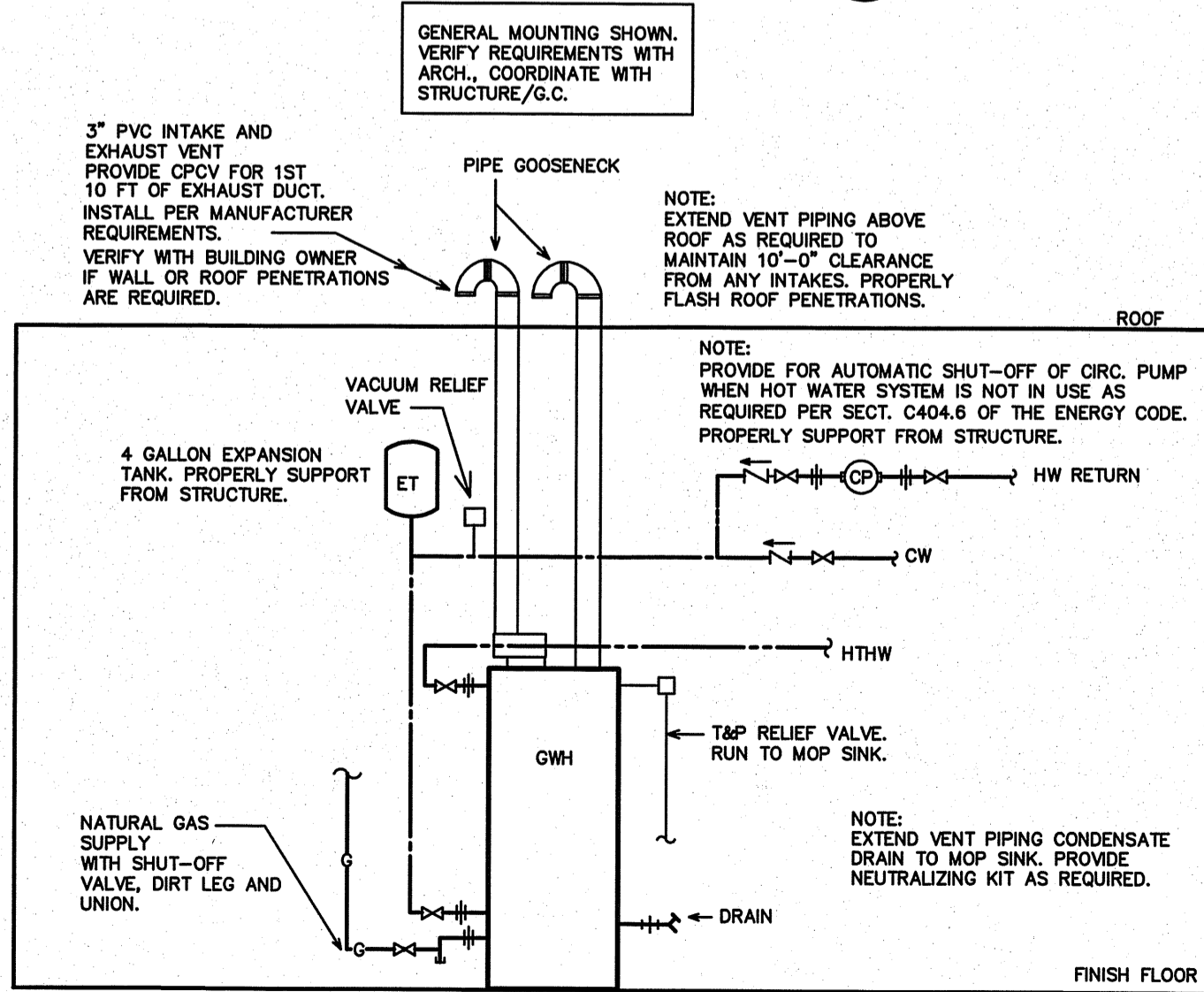
- 1. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE CODE, ALL LOCAL AND OTHER APPLICABLE CODES.
2. ALL WORK SHALL BE PERFORMED BY EXPERIENCED AND SKILLED CRAFTSMEN. THE PLUMBING CONTRACTOR (PC) SHALL COORDINATE ALL OF HIS WORK WITH THE GENERAL CONTRACTOR (GC).
3. THE PLUMBING PLANS AND SPECIFICATIONS SHALL BE THOROUGHLY REVIEWED PRIOR TO PURCHASING MATERIALS AND INSTALLATION AND ALL DISCREPANCIES OR INTERFERENCES BROUGHT TO THE ENGINEER'S ATTENTION.
4. THESE PLANS ARE DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. THE PC SHALL PROVIDE ALL MISC. ITEMS NEEDED FOR A COMPLETE SYSTEM REGARDLESS IF NOTED ON THE DRAWINGS OR NOT. FOR DIMENSIONS REFER TO ARCHITECTURAL PLANS.
5. THE GC SHALL PROVIDE ALL WALL, FLOOR AND ROOF OPENINGS OF THE SIZE AND LOCATION REQUIRED BY THE PC AND SHALL BE RESPONSIBLE FOR PAINTING AND FLOOR FINISHES. THE LOCATIONS.
6. ALL NEW WATER PIPING SHALL BE INSTALLED TIGHT TO STRUCTURE, ADEQUATELY SUPPORTED AND PROTECTED AND PROPERLY PITCHED TO ALLOW TOTAL DRAINAGE.
7. ALL WATER PIPING SHALL BE HYDROSTATICALLY TESTED FOR A MINIMUM OF 15 MINUTES AT A MINIMUM OF 100 PSIG BEFORE COVERING AND ALL LEAKS CORRECTED. THE ENTIRE WATER DISTRIBUTION SYSTEM SHALL BE DISINFECTED PRIOR TO PLACING IN SERVICE.
8. PROVIDE MIN. 18" SHOCK ABSORBERS WITH STOPS ON ALL HOT AND COLD WATER FIXTURE RUNS AS REQUIRED BY CODE.
9. VENT LINES SHALL SLOPE UP TO ALL STACKS AND TERMINATE A MIN. OF 12" ABOVE ROOF LINE.
10. PROVIDE CUT SHEETS ON ALL PLUMBING FIXTURES FOR ARCHITECT AND OWNER APPROVAL PRIOR TO ORDERING ANY FIXTURES.
11. PROVIDE/VERIFY HIGH TEMPERATURE HOT WATER (HTHW) AT 120 DEGREES F (MAX).
12. PROVIDE CLEANOUTS AS REQUIRED BY CODE. NOT MORE THAN 100 FEET FOR 4" DRAIN.
13. PROPERLY SEAL ALL PIPING PENETRATIONS PER APPLICABLE PENETRATION SYSTEM DETAIL (THIS SHEET) THROUGH FIRE BARRIER WALLS/FLOORS/Ceilings. ALL MAY NOT BE SHOWN, VERIFY RATINGS/BARRIERS W/ARCH. PROVIDE CAST IRON FOR ALL DWV PIPING THROUGH FIRE BARRIERS.



1 EWC DETAIL SCALE: NOT TO SCALE



2 RPZ-WB MOUNTING DETAIL SCALE: NOT TO SCALE



3 GWH DETAIL SCALE: NOT TO SCALE

LOAD SUMMARY - PLUMBING

Table with 3 columns: WASTE (FU), WATER (FU), WATER (GPM). Values: 55.0, 62.5, 32.7.

SYMBOL LEGEND - PLUMBING

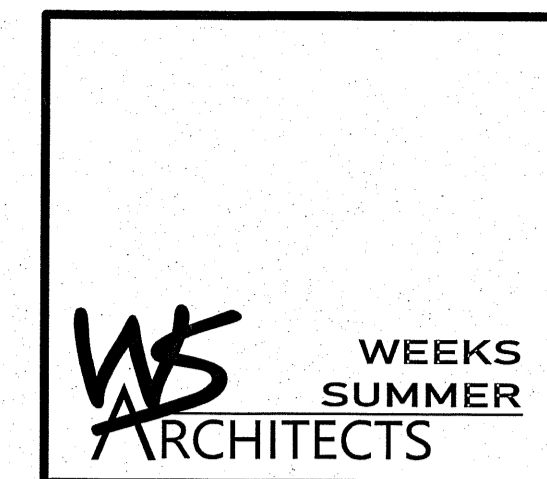
- SYMBOL DESCRIPTION (U.O.N.)
WASTE PIPING (W)
VENT PIPING (V)
COLD WATER PIPING (CW)
HOT WATER PIPING (HW)
HIGH TEMPERATURE HW PIPING (HTHW) 120 DEG. F
MEDIUM TEMPERATURE HW PIPING (MTHW) 110 DEG. F
LOW TEMPERATURE HW PIPING (LTHW) 85 DEG. F
HW RETURN PIPING (HWR)
NATURAL GAS PIPING (G)
CHECK VALVE
BALANCING VALVE
CIRCULATION PUMP
SHUT-OFF VALVE
DIELECTRIC UNION
CLEANOUT FINISH FLOOR
WALL/HORIZONTAL CLEANOUT
CLEANOUT FINISH GRADE--PROVIDE FLUSH CONCRETE COLLAR AND BRONZE COVER
VENT THRU ROOF (VTR)
AIR ADMITTANCE VALVE
ABOVE FINISHED FLOOR
UNLESS OTHERWISE NOTED
2 HOUR FIRE BARRIER
3 HOUR FIRE BARRIER

FIXTURE SCHEDULE - PLUMBING \*

- CP\* CIRCULATING PUMP
TACO MODEL 110, 115 VOLT, 1/12 HP. SECURELY SUPPORT FROM STRUCTURE. PROVIDE AQUASTAT, TIMER, CHECK VALVES AS REQUIRED.
ET\* EXPANSION TANK
AMTRCO MODEL ST-5, 2.0 GALLON, STEEL CONSTRUCTION, NON-ASME RATED.
EWC\* HIGH/LOW ELECTRIC WATER COOLER WITH BOTTLE FILLER
ELKAY DUAL LEVEL ELECTRIC WATER COOLER WITH FILTERED BOTTLE FILLER L2SL16SWSK, STAINLESS STEEL, ADA COMPLIANT. PIPE TO SINGLE DRAIN AND SUPPLY LINE. VERIFY INSTALLATION CLEARANCE REQUIREMENTS PRIOR TO ORDERING. VERIFY OPTIONS--H/L/O SIDE (COORDINATE MODEL NUMBER), ETC., WITH OWNER AND ARCHITECT.
EW\* EYEWASH (PROVIDE WITH LTHW)
BRADLEY BARRIER-FREE WALL MOUNT HALO EYEWASH S19-224. COORDINATE EXACT MODEL/MOUNTING LOCATION W/OWNER. PROVIDE W/BRADLEY NAVIGATOR EMERGENCY S19-2000 EPX MIXING VALVE. INSTALL IN ACCESSIBLE LOCATION. SET OUTFLOW TO SPECIFIED LTHW TEMPERATURE (85 DEG. F).
FD\* FLOOR DRAIN
ZURN MODEL Z415 WITH HEEL-PROOF TYPE B STRAINER, CAST IRON W/NICKEL BRONZE TOP, 5" STRAINER WITH 3" CONNECTION. PROVIDE TRAP PRIMER CONNECTION IF REQUIRED.
FPFH\* FREEZE PROOF HOSE BIBB
WOODFORD MODEL #19, FREEZE PROOF HOSE BIBB WITH BACKFLOW PREVENTER. COORDINATE MOUNTING W/TENANT. PROVIDE TEE KEY OR LOCK SL-17 IF REQUIRED. VERIFY MOUNTING LOCATION. COORDINATE STEM LENGTH PER WALL THICKNESS.
GWH\* NATURAL GAS WATER HEATER
AO SMITH MODEL BTXL-100, DIRECT VENT, 100,000 BTUH, 75 GALLON, 1" INLET AND OUTLET, 145 GPM RECOVERY AT 80 DEGREE RISE. PROVIDE EXHAUST AND INTAKE VENTS PER MANUFACTURER'S RECOMMENDATION. VERIFY INSTALLATION CLEARANCES PRIOR TO ORDERING.
HB\* WALL HOSE BIBB
WOODFORD MODEL #24 ANTI-SIPHON HOSE BIBB W/TEE KEY. COORDINATE MOUNTING W/TENANT. PROVIDE STEM LOCK SL-24 IF REQUIRED.
L1\* LAVATORY (WALL MOUNT)
KOHLER CHESAPEAKE LAVATORY, K-1728, VITREOUS CHINA, 4" CENTERS, ADA COMPLIANT. PROVIDE DELTA MODEL 523LF-HGMDF FAUCET, 0.5 GPM MAX WITH GRID STRAINER. PROVIDE P-TRAP AND SHUT-OFF VALVES.
MS\* MOP SINK BASIN WITH FAUCET
BASIN-- FLORESTONE MODEL MSR-3624 MOLDED MOP RECEPTOR, 3" DRAIN SIZE. INTERNAL DRAIN REQUIRES MINIMUM 6" DIAMETER X 1 1/2" DEEP RECESS IN SUBFLOOR. LEVEL AS NEEDED, USE WEDGE-LOCK SEAL PER MANUFACTURER'S SPECIFICATIONS. USE WATER TO CHECK FOR PROPER DRAINAGE UPON ATTACHING DRAIN PIPE AND PRIOR TO FINISHING WALLS. VERIFY SIZE PRIOR TO ORDERING. FAUCET-- SPEAKMAN MODEL MR-371 FAUCET WITH VACUUM BREAKER. PROVIDE 5' HOSE AND MOP HANGER.
RPZ-WB\* 1" REDUCED PRESSURE BACKFLOW PREVENTER FOR WASH BAY
WATTS MODEL #F009MQT, 1" REDUCED PRESSURE BACKFLOW PREVENTER, 'LEAD FREE' CONSTRUCTION, VERIFY INSTALLATION LOCATION/CLEARANCES.
S1\* BREAK ROOM SINK
ELKAY LR2918 DOUBLE BASIN STAINLESS STEEL SINK (MODEL LRAD2918 IF ADA COMPLIANCE REQUIRED), 18 GA., SELF-RIMMING, FURNISHED WITH THREE FAUCET HOLES AND CENTER DRAIN. PROVIDE ELKAY COMMERCIAL FAUCET MODEL LK1810AT08L2 WITH TWO LEVER HANDLES, CHROME PLATED BRASS P-TRAP AND SHUT-OFF VALVES. COORDINATE EXACT UNIT WITH OWNER AND GENERAL CONTRACTOR. COORDINATE SIZE WITH CABINetry UNIT TO ORDERING.
SHR\* ACCESSIBLE STALL, SHOWER HEAD/FAUCET/ADA ACCESSORIES
AQUATIC BATHWARE 6036BFSC PRE-FABRICATED FIBERGLASS SHOWER STALL. PROVIDE HAND-HELD SHOWER ASSEMBLY W/SIDE BAR, PRESSURE BALANCING MIXING VALVE AND ALL OTHER COMPONENTS REQUIRED FOR ADA COMPLIANCE. GRAB BAR, SEAT, CURTAIN/ROD, ETC. COORDINATE OPTIONS AND HANDING WITH ARCH. BEFORE ORDERING AND ROUTE ALL PLUMBING AS REQUIRED REGARDLESS OF HOW SHOWN ON PLANS.
US\* UTILITY SINK
FLORESTONE MODEL FM-1, FLOOR MOUNTED SINK TO COME WITH 4 HEAVY DUTY MOLDED LEGS, WITH 1 1/2" DRAIN OPENING, 20 GALLON CAPACITY. PROVIDE FAUCET, P-TRAP, AND SHUT-OFF VALVES.
VB\* ICE MAKER VALVE BOX
DATEY VALVE BOX WITH 3/8" BRONZE SHUT-OFF VALVE. FLUSH TO WALL.
WC\* WATER CLOSET (ADA FLUSH TANK)
KOHLER HIGHLINE WATER CLOSET, K-3979, ADA COMPLIANT 1.6 GPF. PROVIDE PROPER OPEN FRONT ADA SEAT, K-7637 SUPPLY AND STOP, WAX SEAL, CLOSET BOLT KIT. PROVIDE MODEL WITH FLUSH CONTROL ON SIDE OPPOSITE GRAB BAR.
YH\* FREEZE PROOF YARD HYDRANT
WOODFORD MODEL #Y1, FREEZELESS YARD HYDRANT WITH 1" INLET. VERIFY BURY DEPTH REQUIREMENT, COORDINATE LOCATION WITH OWNER/SITE. VERIFY FROST LINE DEPTH FOR DRAIN HOLE DEPTH/INSTALL REQUIREMENT. PROVIDE PROPER 'NONPOTABLE' SIGNAGE PER NCSCB-PLUMBING SECT. 608.7.

\* OR APPROVED EQUAL. SUBMIT ALL ITEMS FOR APPROVAL BY TENANT AND ARCHITECT PRIOR TO ORDERING.

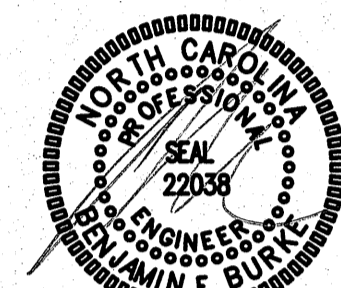
ALL OTHER PLUMBING FIXTURES SHOWN ARE PROVIDED BY THE TENANT AND INSTALLED BY THE PLUMBING CONTRACTOR. SEE PLANS FOR NUMBER AND LOCATION. COORDINATE ALL REQUIREMENTS WITH EQUIPMENT SUPPLIER.



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11/20/23

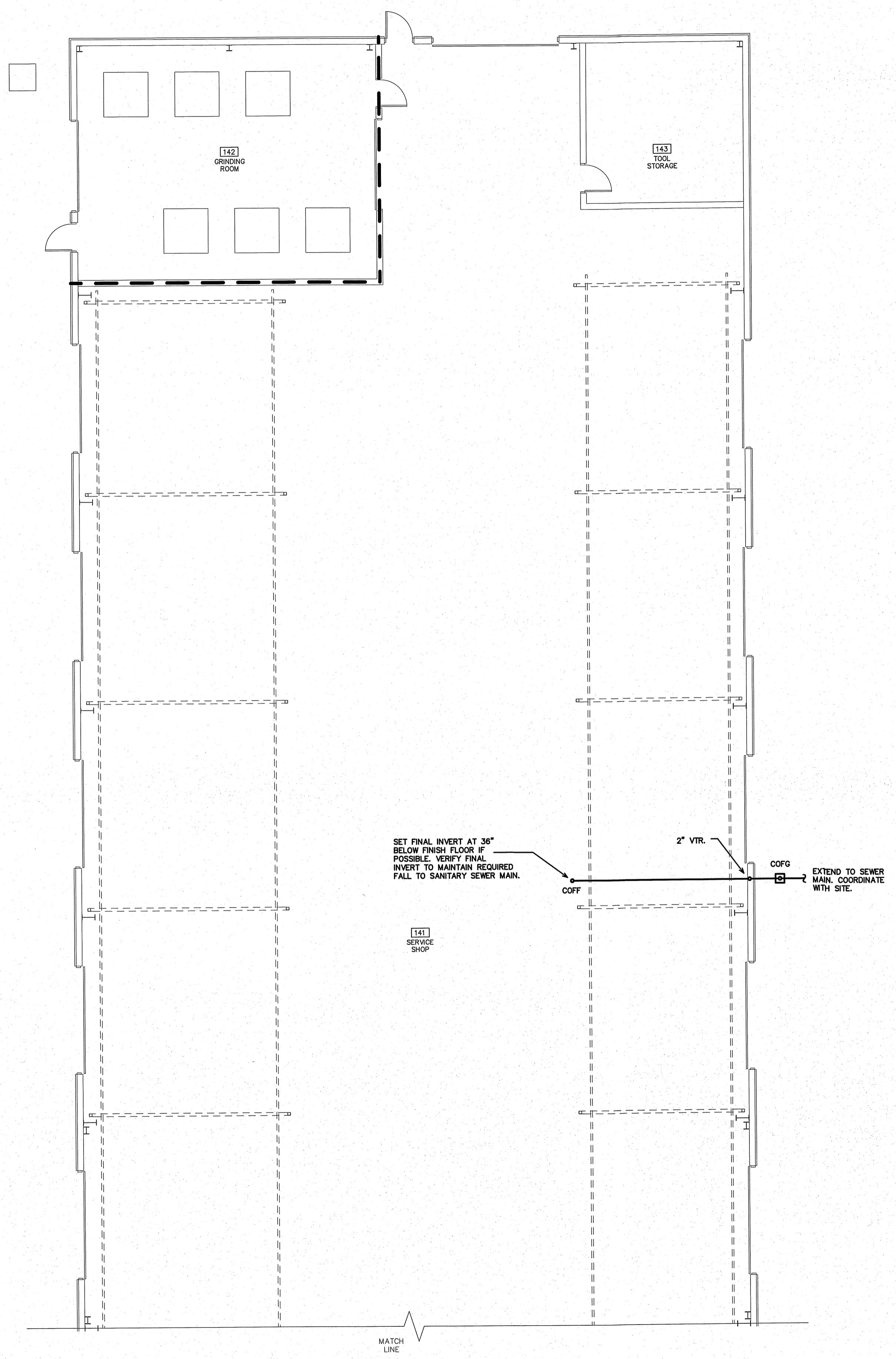
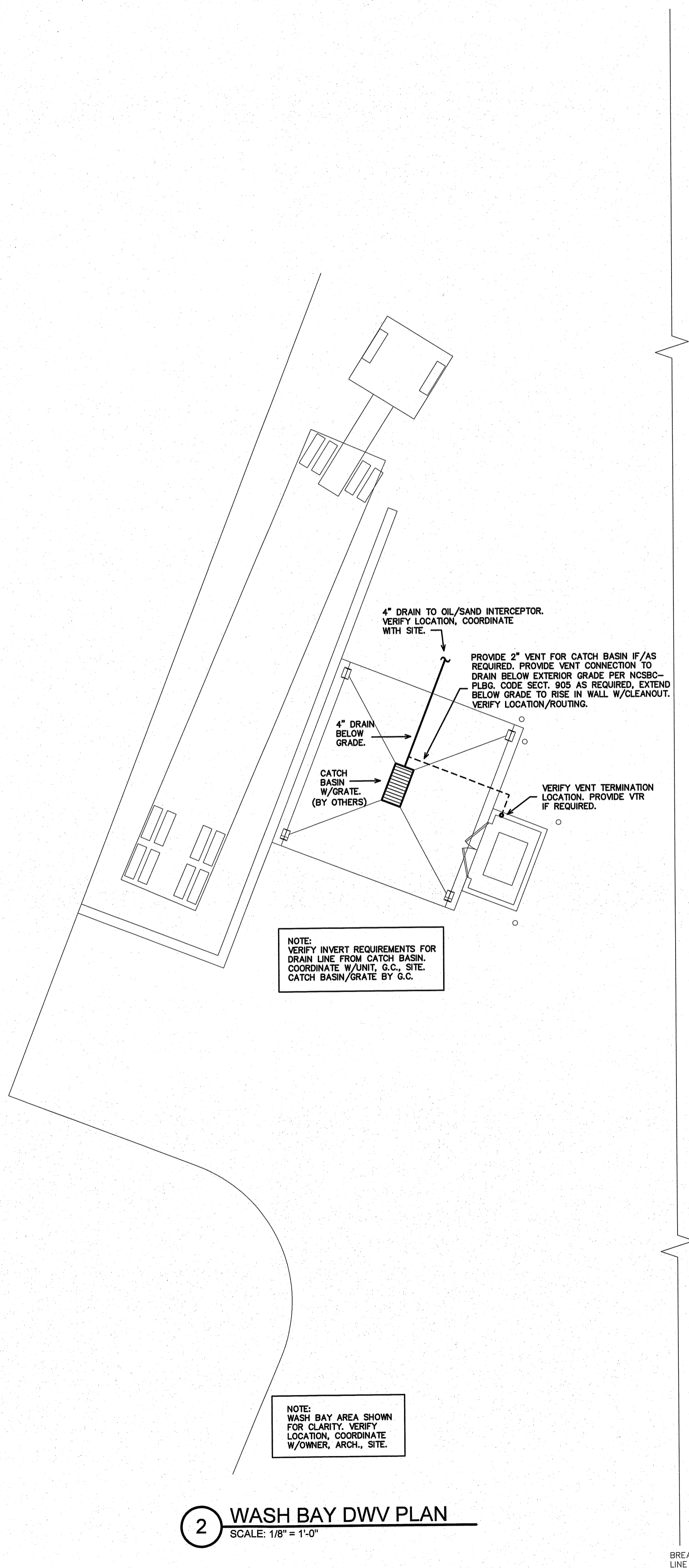
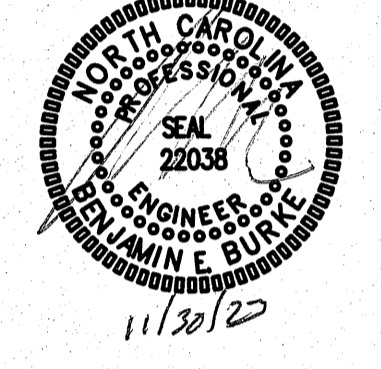
PROJECT TITLE
REVELS TURF & TRACTOR
RAULS CHURCH ROAD
QUAY-VARINA, NORTH CAROLINA

PROJECT NO.
2232
DRAWING TITLE
PLUMBING SPECIFICATIONS

PLOT DATE
12/01/23

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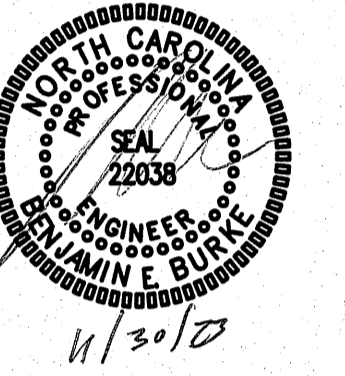


PROJECT TITLE  
REVELS TURF &  
TRACTOR  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

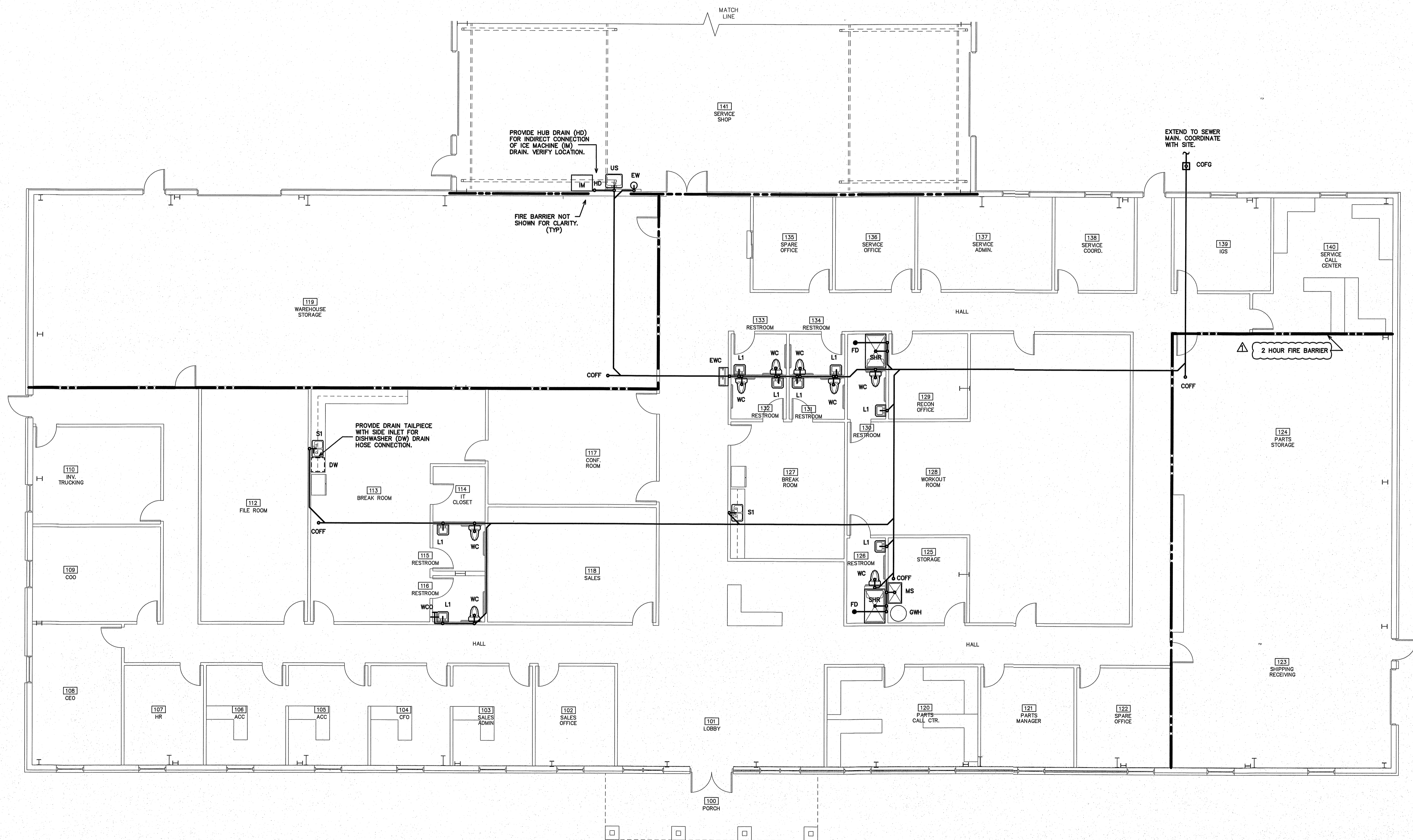
PROJECT NO.  
2232  
DRAWING TITLE  
NORTH DWV PLAN

P2.1

PLOT DATE 12/01/23



NOTE:  
VERIFY QUANTITY AND LOCATION OF ALL FLOOR DRAINS W/OWNER, ARCH.  
PROVIDE TRAP PRIMERS (NOT SHOWN) FOR ALL FLOOR DRAINS IN AREAS NOT SERVED BY HOSE BIBBS. (TYP)



1 SOUTH DWV PLAN  
SCALE: 1/8" = 1'-0"

PROJECT TITLE  
**REVELS TURF & TRACTOR**  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

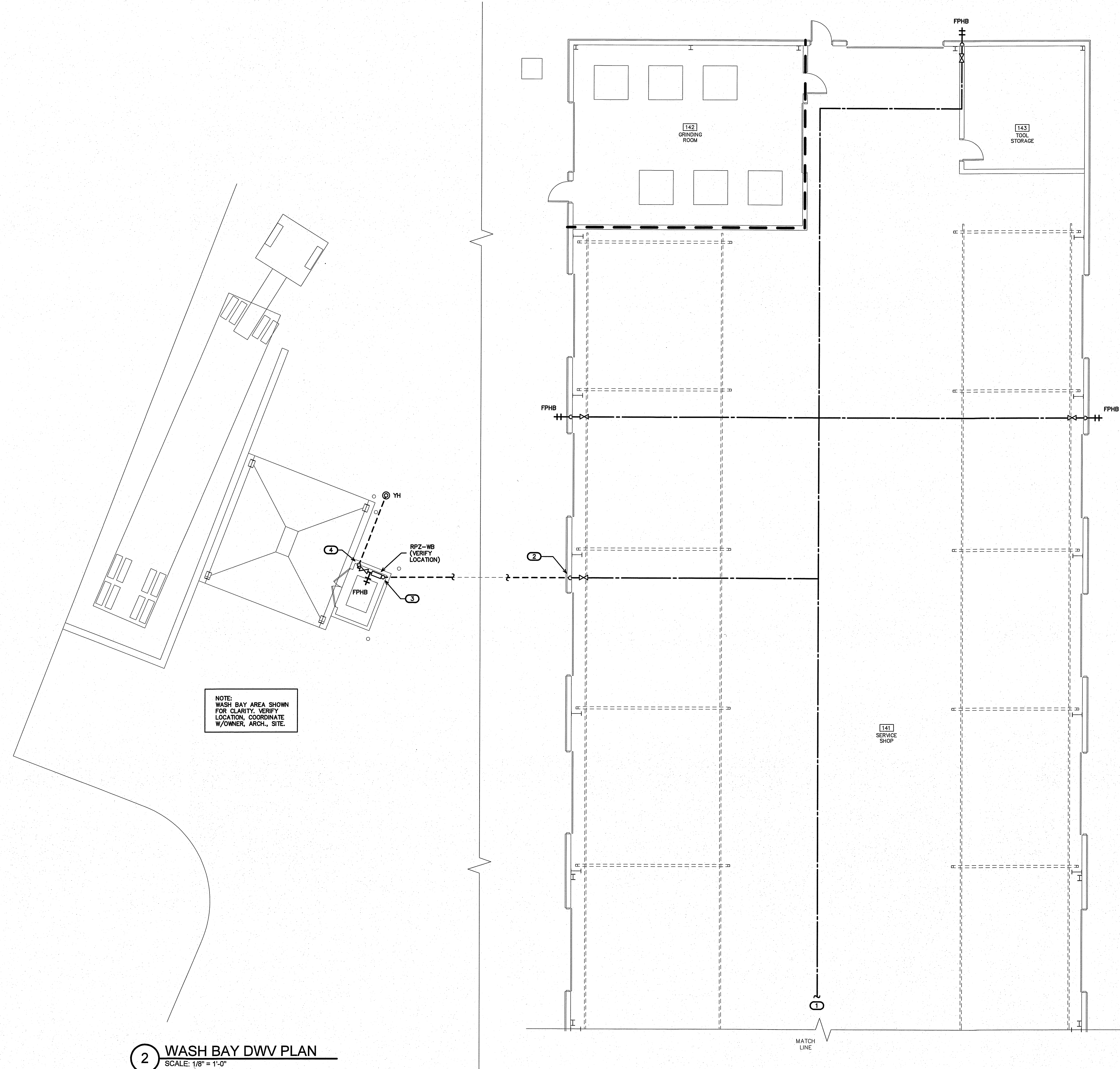
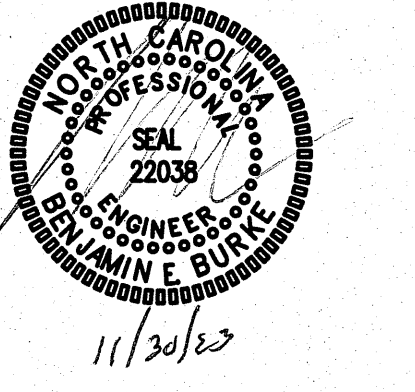
PROJECT NO.  
**2232**  
DRAWING TITLE  
**SOUTH DWV PLAN**

P2.2

PLOT DATE 12/01/23  
AHJ COMMENTS 11/30/23

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NOTE:  
PROPERLY PROTECT/INSULATE ALL PIPING IN UNCONDITIONED AREAS.  
VERIFY ROUTING OF WATER LINES W/ARCH. ALL LINES, VALVES, CP, ETC., SHOWN FOR CLARITY. VERIFY LOCATIONS OF ALL COMPONENTS. COORDINATE WITH ALL TRADES. COORDINATE W/DWY PLAN. PROVIDE TRAP PRIMERS (NOT SHOWN) FOR ANY FLOOR DRAINS IN AREAS NOT SERVED BY HOSE BIBBS. VERIFY QUANTITY/MOUNTING LOCATIONS OF ALL HB, FPHB, YH W/ARCH., OWNER. (TYP)

- KEY NOTES FOR SHEET P3.1
- 1 SEE SHEET P3.2 FOR CONTINUATION. VERIFY ROUTING IN SHOP AREA. COORDINATE WITH OWNER, ARCHITECT, G.C., STRUCTURE, ALL TRADES AND ANY OVERHEAD EQUIPMENT.
  - 2 DROP TO RUN 1" CW BELOW GRADE TO WASH BAY. VERIFY LOCATION. EXTEND 1" CW BELOW GRADE TO WASH BAY. VERIFY LOCATION/ROUTING. COORDINATE WITH OWNER, ARCHITECT, G.C., AND SITE.
  - 3 RISE TO MAIN SHUT-OFF VALVE A.F.F. VERIFY LOCATION. CONNECT TO RPZ-WB.
  - 4 DROP TO RUN BELOW GRADE TO YARD HYDRANT (YH). VERIFY LOCATION/ROUTING.

NOTE:  
WASH BAY AREA SHOWN FOR CLARITY. VERIFY LOCATION. COORDINATE W/OWNER, ARCH., SITE.

2 WASH BAY DWV PLAN  
SCALE: 1/8" = 1'-0"

1 NORTH WATER PLAN  
SCALE: 1/8" = 1'-0"

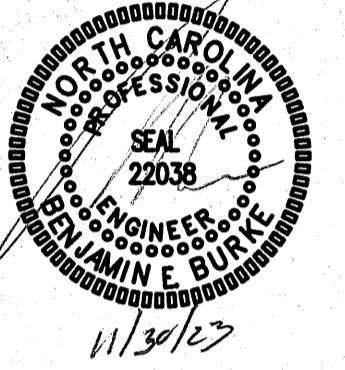
PROJECT TITLE  
**REVELS TURF & TRACTOR**  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.  
**2232**  
DRAWING TITLE  
**NORTH WATER PLAN**

**P3.1**

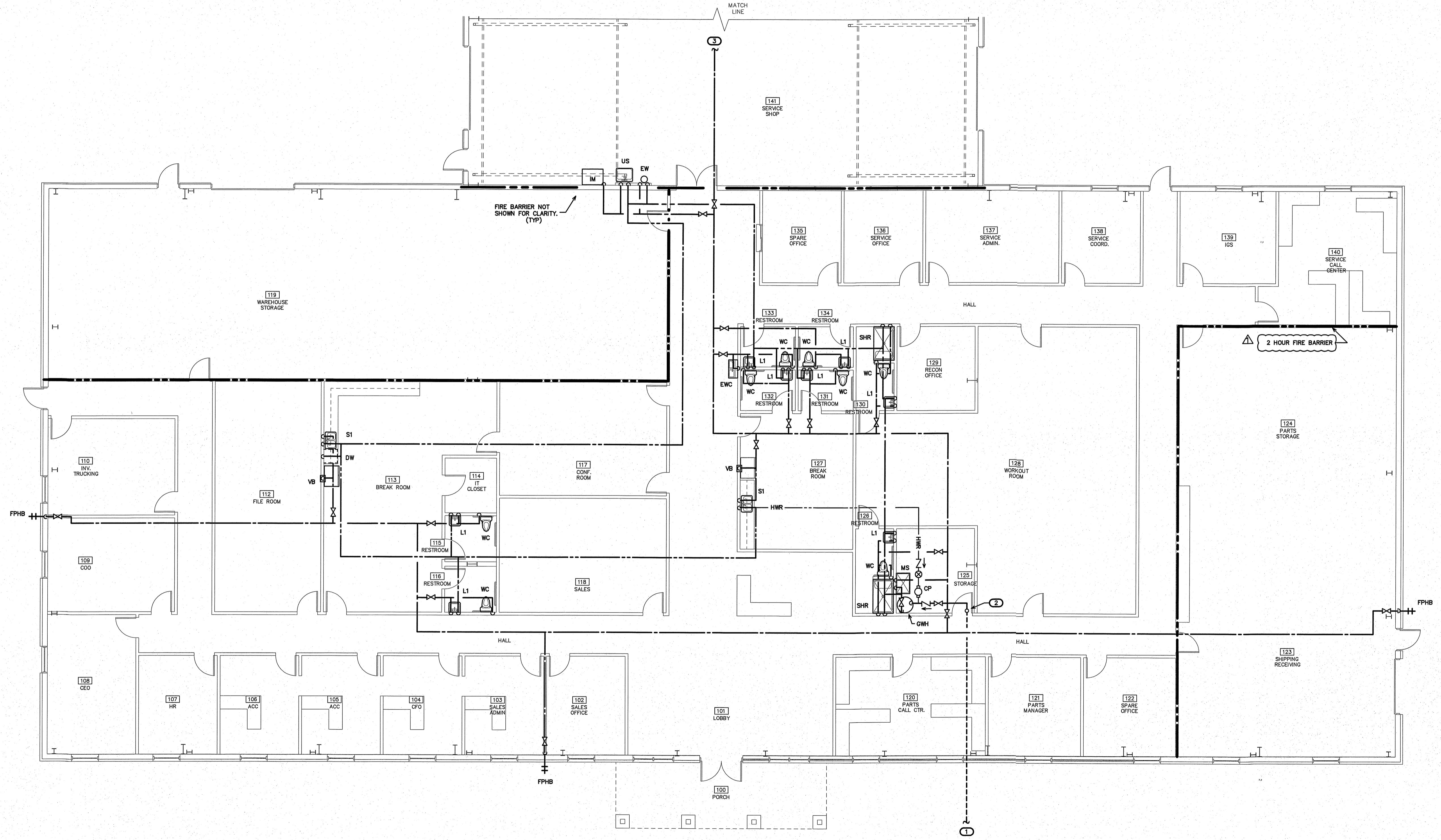
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NOTE:  
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- KEY NOTES FOR SHEET P3.2
- 1-1/2" CW BELOW GRADE TO RPZ/METER/ SUPPLY MAIN. COORDINATE WITH SITE.
  - RISE CW FROM BELOW GRADE TO MAIN SHUT-OFF VALVE A.F.F., RISE TO RUN CW MAIN ABOVE CEILING. VERIFY LOCATION, RISE IN WALL W/ACCESS DOOR IF REQUIRED.
  - SEE SHEET P3.1 FOR CONTINUATION. VERIFY ROUTING IN SHOP AREA. COORDINATE WITH OWNER, ARCHITECT, G.C. STRUCTURE, ALL TRADES AND ANY OVERHEAD EQUIPMENT.



1 SOUTH WATER PLAN  
SCALE: 1/8" = 1'-0"

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FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.  
**2232**  
DRAWING TITLE  
**SOUTH WATER PLAN**

P3.2

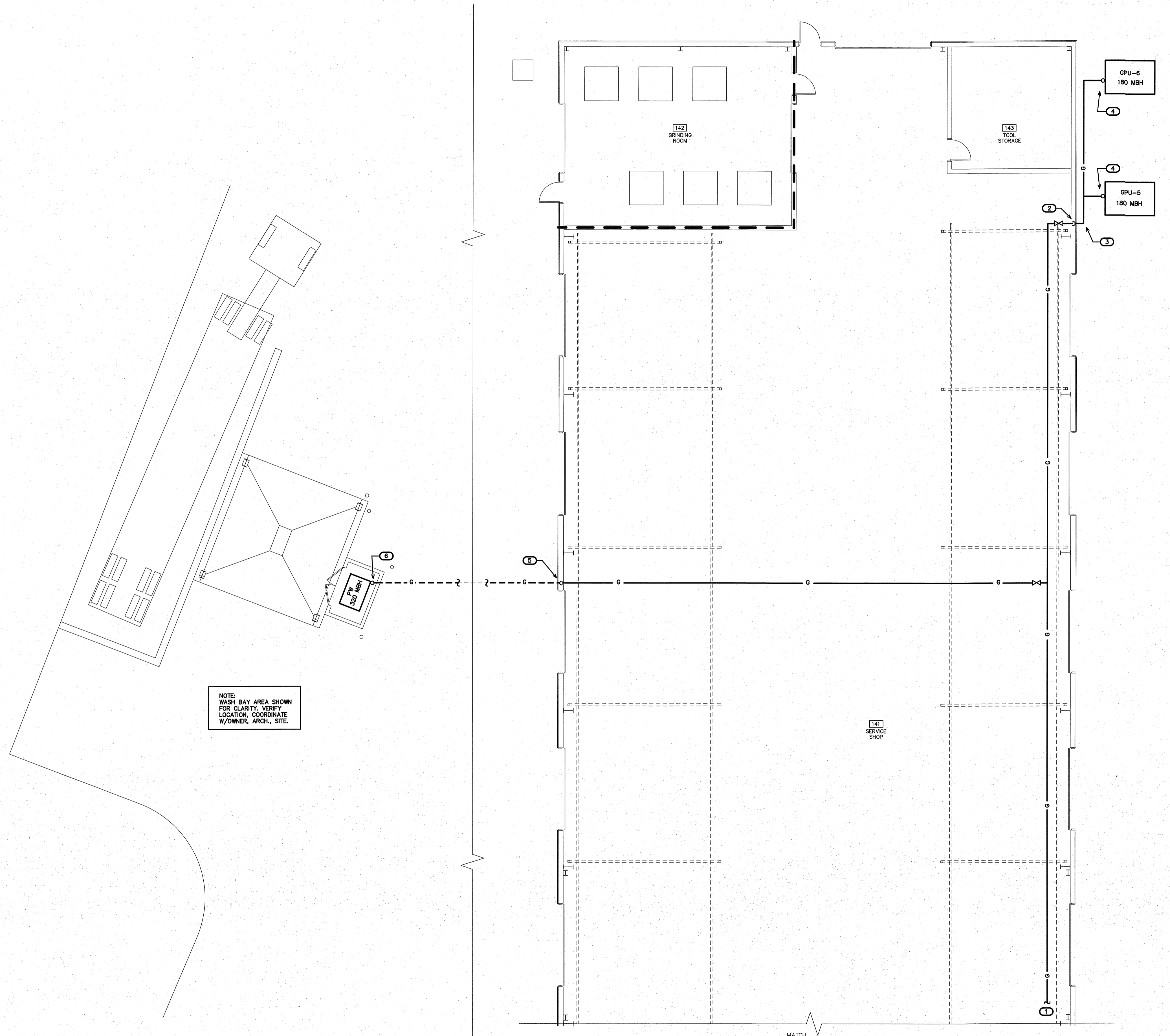
PLOT DATE 12/01/23  
AHJ COMMENTS 11/30/23

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11/30/23



NOTE:  
VERIFY ALL GAS EQUIPMENT LOAD TOTALS.  
VERIFY GAS METER LOCATION PRIOR TO  
BID. VERIFY LINE SIZES, TOTAL DEVELOPED  
LINE LENGTHS (TDL). NOTIFY ENGINEER OF  
ANY DISCREPANCIES FOR POSSIBLE REVIEW  
AND/OR RE-SIZING OF GAS LINES.

NOTE:  
ANY SHUT-OFF VALVES, HOOD FIRE SUPPRESSION  
VALVES, AND REGULATORS MUST BE ACCESSIBLE.  
VENT REGULATORS TO EXTERIOR IF AS REQUIRED.  
PAINT ANY INTERIOR OR EXTERIOR EXPOSED GAS  
LINES PER CODE AND BUILDING STANDARD. PROVIDE  
PROPER LABELING FOR ALL 2 PSI PIPING. PROVIDE  
PROPER STAND-OFFS/SUPPORTS FOR GAS LINES  
ON ROOF/EXTERIOR WALLS, BELOW ROOF, ETC.  
PROPERLY SEAL ROOF/EXT. WALL PENETRATIONS  
SO AS NOT TO VOID ANY EXISTING WARRANTIES.  
VERIFY ROUTING OF ALL GAS LINES, COORDINATE  
W/STRUCTURE, ALL TRADES, OWNER, ARCH., G.C.

KEY NOTES FOR SHEET P4.1

- 1 NATURAL GAS LINE BELOW ROOF STRUCTURE. SEE SHEET P4.2 FOR CONTINUATION. VERIFY ROUTING IN SERVICE SHOP AREA. COORDINATE WITH OWNER, ARCHITECT, G.C. STRUCTURE, ALL TRADES AND ANY OVERHEAD EQUIPMENT.
- 2 DROP TO RUN ABOVE GRADE TO EQUIPMENT. VERIFY LOCATION.
- 3 EXTEND BRANCH LINE ABOVE GRADE (ON WALL OR AS REQUIRED) TO EQUIPMENT. VERIFY ROUTING, COORDINATE W/OWNER, ARCH., G.C., ALL TRADES.
- 4 CONNECT TO HVAC GAS PACKAGE UNIT (GPU). VERIFY LOCATION. COORDINATE W/JUNIT, MECH. PLANS. PROVIDE PROPER REGULATOR.
- 5 DROP TO RUN GAS LINE BELOW GRADE TO WASH BAY PRESSURE WASHER. VERIFY LOCATION. EXTEND GAS LINE GRADE TO PRESSURE WASHER. VERIFY LOCATION/ROUTING. COORDINATE WITH OWNER, ARCHITECT, G.C., AND SITE.
- 6 RISE TO CONNECT TO PRESSURE WASHER (PW). VERIFY LOCATION. COORDINATE W/EQUIPMENT. PROVIDE PROPER REGULATOR.

UNDERGROUND STEEL GAS PIPING CORROSION PROTECTION:  
PIPE SHALL HAVE A FACTORY-APPLIED, ELECTRICALLY-INSULATING COATING. FITTINGS AND JOINTS BETWEEN SECTIONS OF COATED PIPE SHALL BE COATED IN ACCORDANCE WITH THE COATING MFR SPECS. UNDERGROUND PIPING SYSTEMS SHALL BE INSTALLED A MIN. DEPTH OF 12 INCHES BELOW GRADE, AND SHALL BE REPUBLIC STEEL X-TRU-COAT (OR EQUAL), PLASTIC COATED SCHEDULE 40 ASTM A-53 STEEL PIPE W/WELDED JOINTS, USING X-TRU-TAPE AND PRIMER AT EACH JOINT. WRAP JOINTS SPIRALLY WITH A MINIMUM OVERLAP OF 1/2 TAPE WIDTH. EXTEND WRAP NOT LESS THAN 3" ABOVE GRADE. PROVIDE HIGH VOLTAGE HOLIDAY DETECTOR TEST OF COATING TO CHECK FOR HOLIDAYS. PROVIDE CATHODIC PROTECTION TO MEET REQUIREMENTS OF NACE STANDARD RP0169. ALL UNDERGROUND GAS PIPING PROTECTION SHALL COMPLY WITH NCSCB FUEL GAS SECT. 404.

NOTE:  
WASH BAY AREA SHOWN FOR CLARITY. VERIFY LOCATION. COORDINATE W/OWNER, ARCH., SITE.

2 WASH BAY DWV PLAN  
SCALE: 1/8" = 1'-0"

1 NORTH NATURAL GAS PLAN  
SCALE: 1/8" = 1'-0"

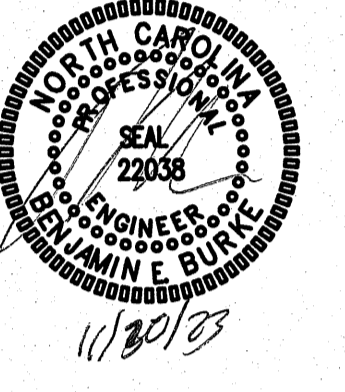
PROJECT TITLE  
**REVELS TURF & TRACTOR**  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.  
**2232**  
DRAWING TITLE  
**NORTH NATURAL GAS PLAN**

P4.1

PLOT DATE 12/01/23

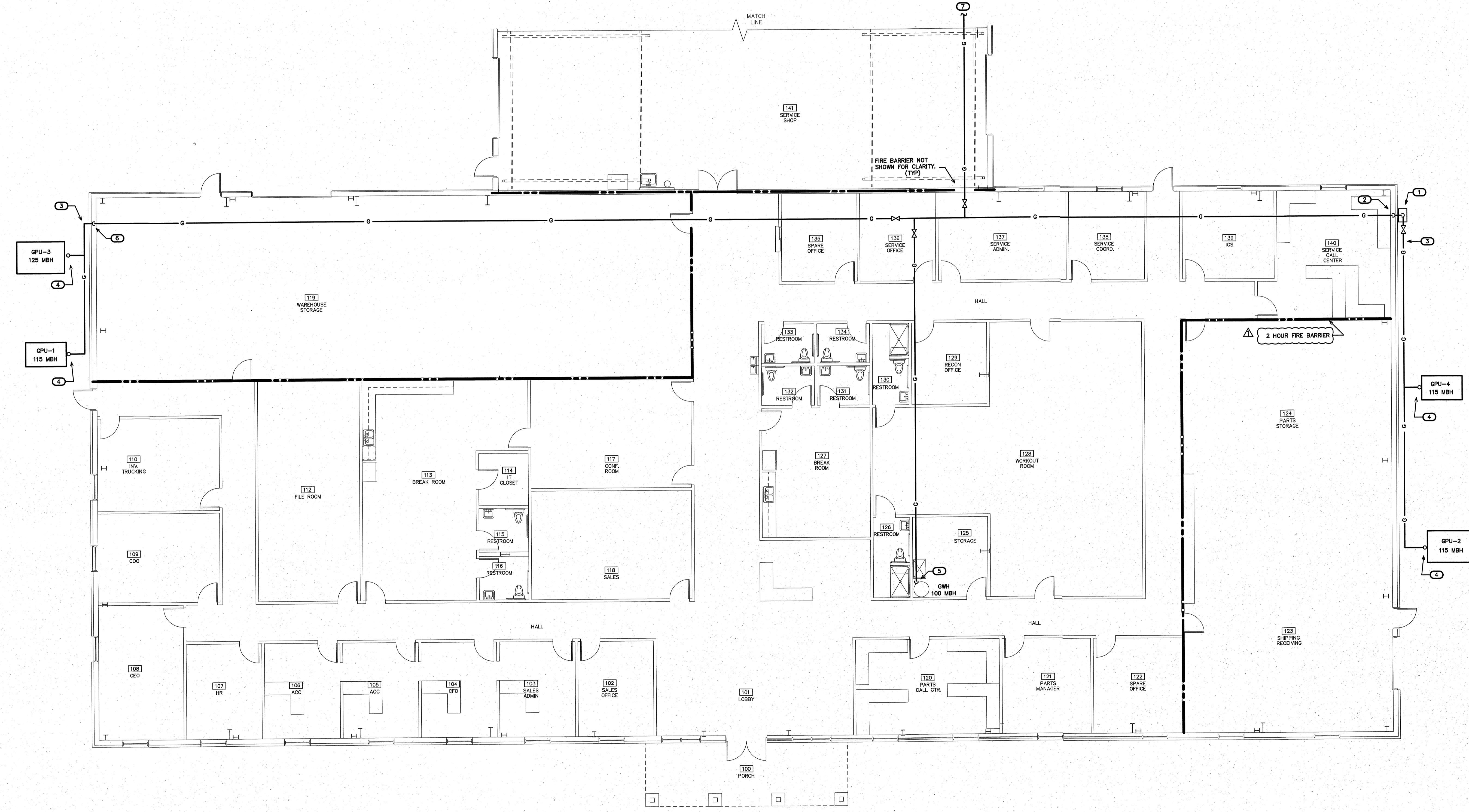
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NOTE:  
VERIFY ALL GAS EQUIPMENT LOAD TOTALS,  
VERIFY GAS METER LOCATION PRIOR TO  
BID. VERIFY LINE SIZES, TOTAL DEVELOPED  
LINE LENGTHS (TDL), NOTIFY ENGINEER OF  
ANY DISCREPANCIES FOR POSSIBLE REVIEW  
AND/OR RE-SIZING OF GAS LINES.

NOTE:  
ANY SHUT-OFF VALVES, HOOD FIRE SUPPRESSION  
VALVES, AND REGULATORS MUST BE ACCESSIBLE.  
VENT REGULATORS TO EXTERIOR IF/AS REQUIRED.  
PAINT ANY INTERIOR OR EXTERIOR EXPOSED GAS  
LINES PER CODE AND BUILDING STANDARD. PROVIDE  
PROPER LABELING FOR ALL 2 PSI PIPING. PROVIDE  
PROPER STAND-OFFS/SUPPORTS FOR GAS LINES  
ON ROOF/EXTERIOR WALLS, BELOW ROOF, ETC.  
PROPERLY SEAL ROOF/EXT. WALL PENETRATIONS  
SO AS NOT TO VOID ANY EXISTING WARRANTIES.  
VERIFY ROUTING OF ALL GAS LINES, COORDINATE  
W/STRUCTURE, ALL TRADES, OWNER, ARCH., G.C.

- KEY NOTES FOR SHEET P4.2
- 1 PROVIDE MEDIUM PRESSURE (2 PSI) NATURAL GAS METER/SERVICE FOR BUILDING MAIN. VERIFY LOCATION, COORDINATE WITH GAS COMPANY.
  - 2 RISE TO RUN ABOVE CEILING/BELOW ROOF STRUCTURE. VERIFY LOCATION/ROUTING.
  - 3 EXTEND BRANCH LINE ABOVE GRADE (ON WALL OR AS REQUIRED) TO EQUIPMENT. VERIFY ROUTING, COORDINATE W/OWNER, ARCH., G.C., ALL TRADES.
  - 4 CONNECT TO HVAC GAS PACKAGE UNIT (GPU). VERIFY LOCATION, COORDINATE W/UNIT, MECH. PLANS. PROVIDE PROPER REGULATOR.
  - 5 DROP/CONNECT TO NATURAL GAS WATER HEATER (GWH). VERIFY LOCATION, PROVIDE REGULATOR.
  - 6 DROP TO RUN ABOVE GRADE TO EQUIPMENT. VERIFY LOCATION.
  - 7 SEE SHEET P4.1 FOR CONTINUATION. VERIFY ROUTING IN SERVICE SHOP AREA. COORDINATE WITH OWNER, ARCHITECT, G.C. STRUCTURE, ALL TRADES AND ANY OVERHEAD EQUIPMENT.



**1 SOUTH NATURAL GAS PLAN**  
SCALE: 1/8" = 1'-0"

PROJECT TITLE  
**REVELS TURF & TRACTOR**  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

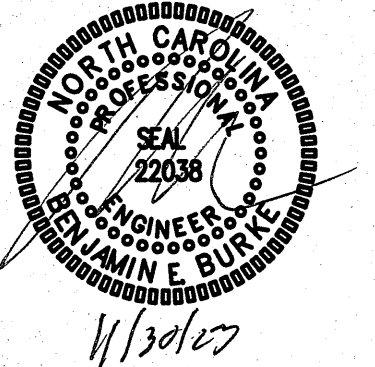
PROJECT NO.  
**2232**  
DRAWING TITLE  
**SOUTH NATURAL GAS PLAN**

**P4.2**

PLOT DATE 12/01/23  
AHJ COMMENTS 11/30/23

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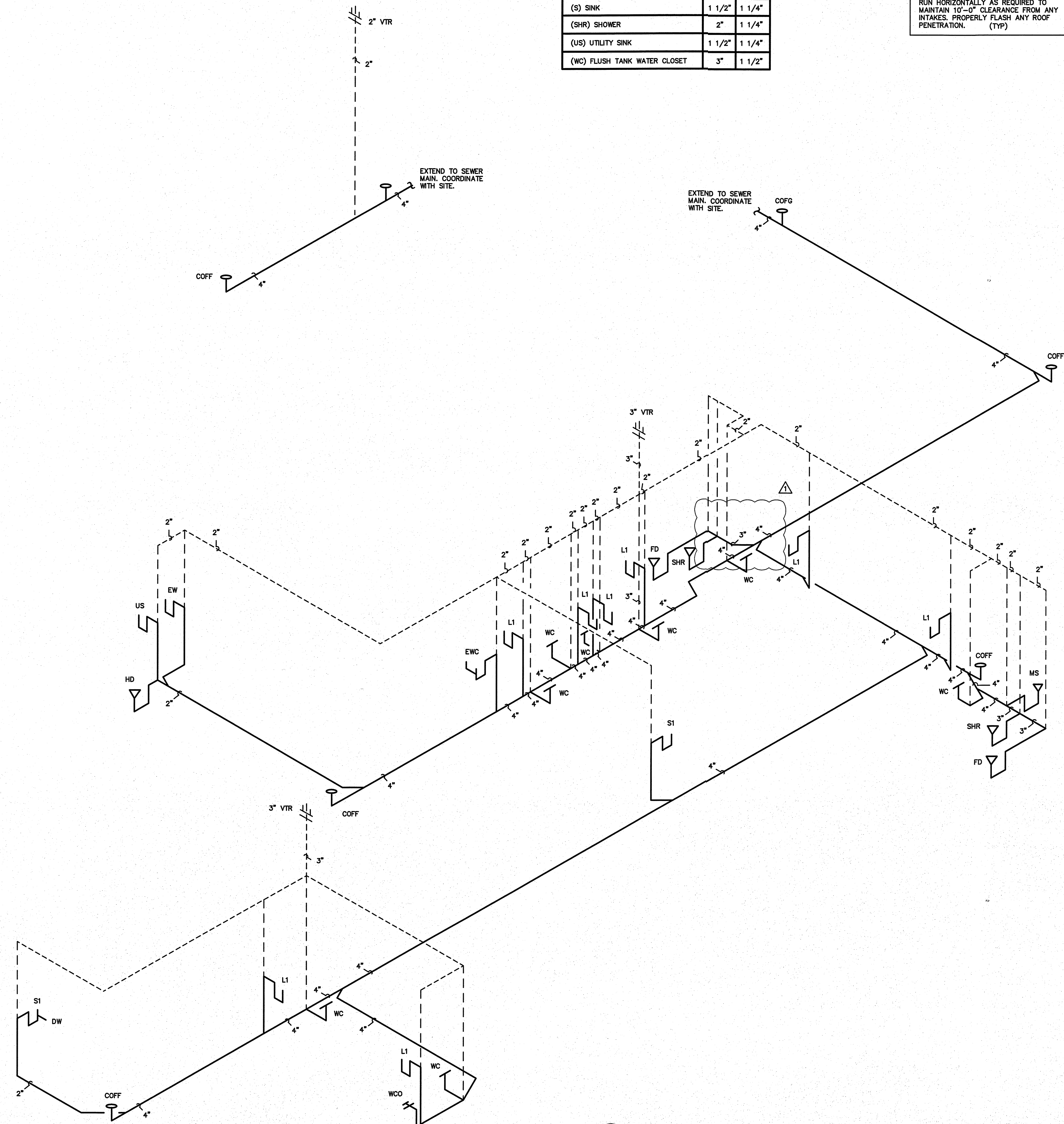


( VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN )

PIPE SIZING SCHEDULE		
FIXTURE TYPE	DRAIN	VENT
(DW) DISHWASHER	3/4"	-
(EWC) ELECTRIC WATER COOLER	1 1/4"	1 1/4"
(EW) EYEWASH	1 1/4"	1 1/4"
(FD) FLOOR DRAIN	3"	1 1/2"
(HD) HUB DRAIN	1 1/2"	1 1/4"
(L) LAVATORY	1 1/2"	1 1/4"
(MS) MOP SINK	3"	1 1/2"
(S) SINK	1 1/2"	1 1/4"
(SHR) SHOWER	2"	1 1/4"
(US) UTILITY SINK	1 1/2"	1 1/4"
(WC) FLUSH TANK WATER CLOSET	3"	1 1/2"

**RISER NOTES:**  
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE. SEE PIPE SIZING SCHEDULE.  
MINIMUM 2" DRAIN LINE SIZE UNDER SLAB.  
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.  
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.

**NOTE:**  
PROVIDE PROPER VENT THRU ROOF (VTR).  
RUN HORIZONTALLY AS REQUIRED TO MAINTAIN 10'-0" CLEARANCE FROM ANY INTAKES. PROPERLY FLASH ANY ROOF PENETRATION. (TYP)



**1 DWV RISER**  
SCALE: NOT TO SCALE

PROJECT TITLE  
**REVELS TURF & TRACTOR**  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

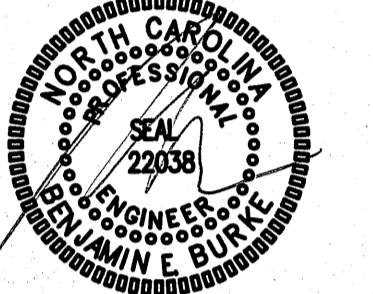
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**2232**  
DRAWING TITLE  
**DWV RISER**

**P5**

PLOT DATE 12/01/23  
AHJ COMMENTS 11/30/23

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( VERIFY ALL EQUIPMENT REQUIREMENTS PRIOR TO ROUGH-IN )

PIPE SIZING SCHEDULE		
FIXTURE TYPE	CW	HW
(DW) DISHWASHER	1/2" *	-
(EWC) ELECTRIC WATER COOLER	1/2" *	-
(EW) EYEWASH	1/2" *	1/2" *
(FPHB) FREEZE PROOF HOSE BIBB	3/4"	-
(HB) HOSE BIBB	3/4"	3/4"
(IM) ICE MACHINE	1/2" *	-
(L) LAVATORY	1/2"	1/2"
(MS) MOP SINK	1/2"	1/2"
(S) SINK	1/2"	1/2"
(SHR) SHOWER	1/2"	1/2"
(US) UTILITY SINK	1/2"	1/2"
(VB) VALVE BOX	1/2" *	-
(WC) FLUSH TANK WATER CLOSET	1/2"	-

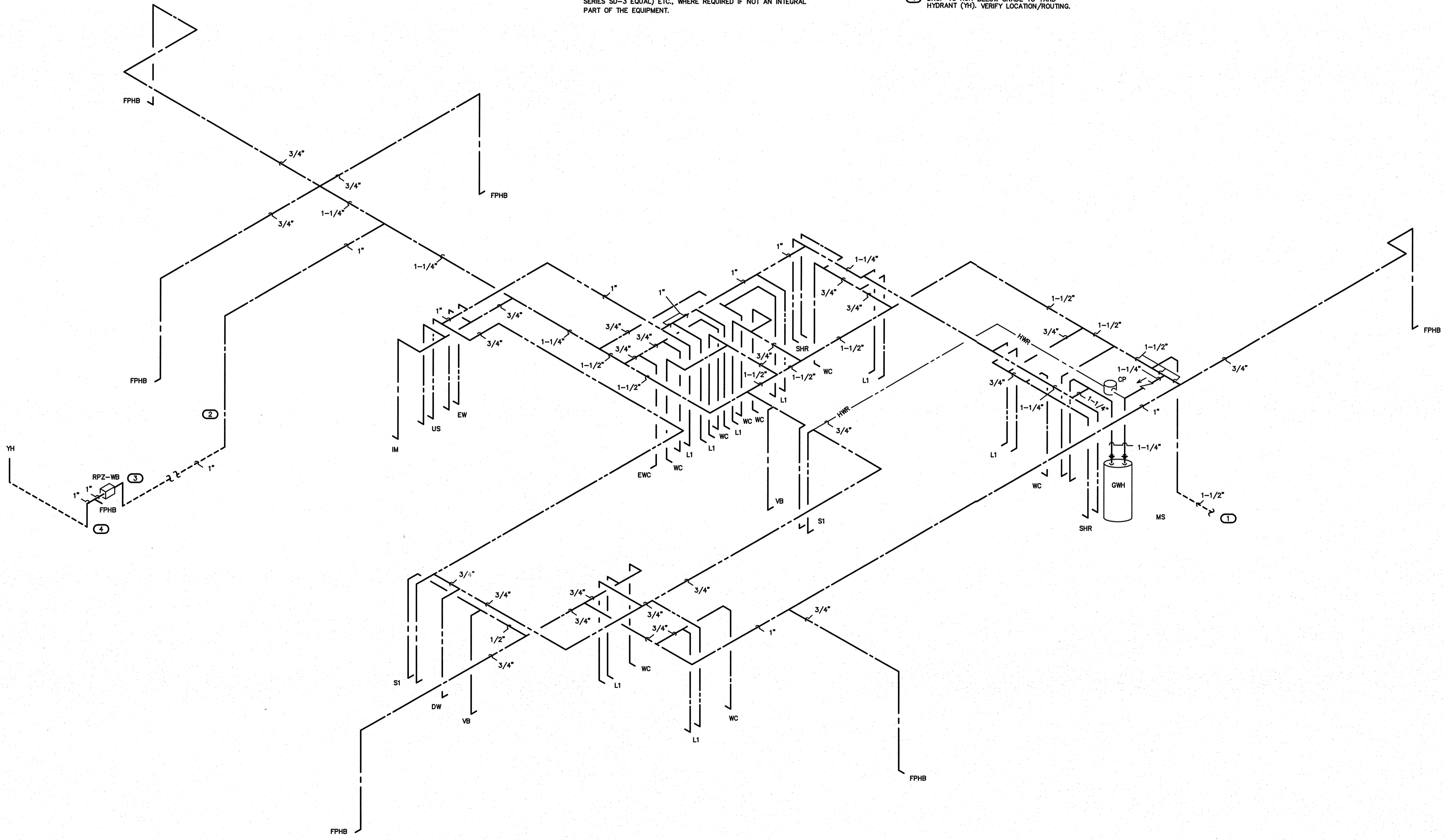
**RISER NOTES:**  
REPRESENTATIVE SIZES ARE GIVEN FOR EACH TYPE OF FIXTURE.  
SEE PIPE SIZING SCHEDULE.  
MAINTAIN PIPE SIZES SHOWN UNTIL LARGER SIZE IS REACHED.  
PIPE SIZES ARE MINIMUMS FOR INDIVIDUAL FIXTURES U.O.N.

**NOTE:**  
SEE PLAN FOR SHUT-OFF VALVE LOCATIONS.  
COORDINATE LOCATION AND NUMBER  
WITH LOCAL INSPECTIONS DEPARTMENT.  
PROVIDE ACCESS DOORS IF REQUIRED.

**KEY NOTES FOR SHEET P6**

- 1-1/2" CW BELOW GRADE TO RPZ/METER/  
SUPPLY MAIN. COORDINATE WITH SITE.
- DROP TO RUN 1" CW BELOW GRADE TO  
WASH BAY. VERIFY LOCATION. EXTEND 1"  
CW BELOW GRADE TO WASH BAY. VERIFY  
LOCATION/ROUTING. COORDINATE WITH  
OWNER, ARCHITECT, G.C., AND SITE.
- RISE TO MAIN SHUT-OFF VALVE A.F.F.,  
VERIFY LOCATION. CONNECT TO RPZ-WB.
- DROP TO RUN BELOW GRADE TO YARD  
HYDRANT (YH). VERIFY LOCATION/ROUTING.

\* PROVIDE BACKFLOW PREVENTER PER NC80C-PLUMBING SECT. 608.3,  
EX: ASSE 1024 (WATTS SERIES 7 OR EQUAL) ASSE 1022 (WATTS  
SERIES 50-3 EQUAL) ETC., WHERE REQUIRED IF NOT AN INTEGRAL  
PART OF THE EQUIPMENT.



**1 WATER RISER**  
SCALE: NOT TO SCALE

PROJECT TITLE  
**REVELS TURF &  
TRACTOR**  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

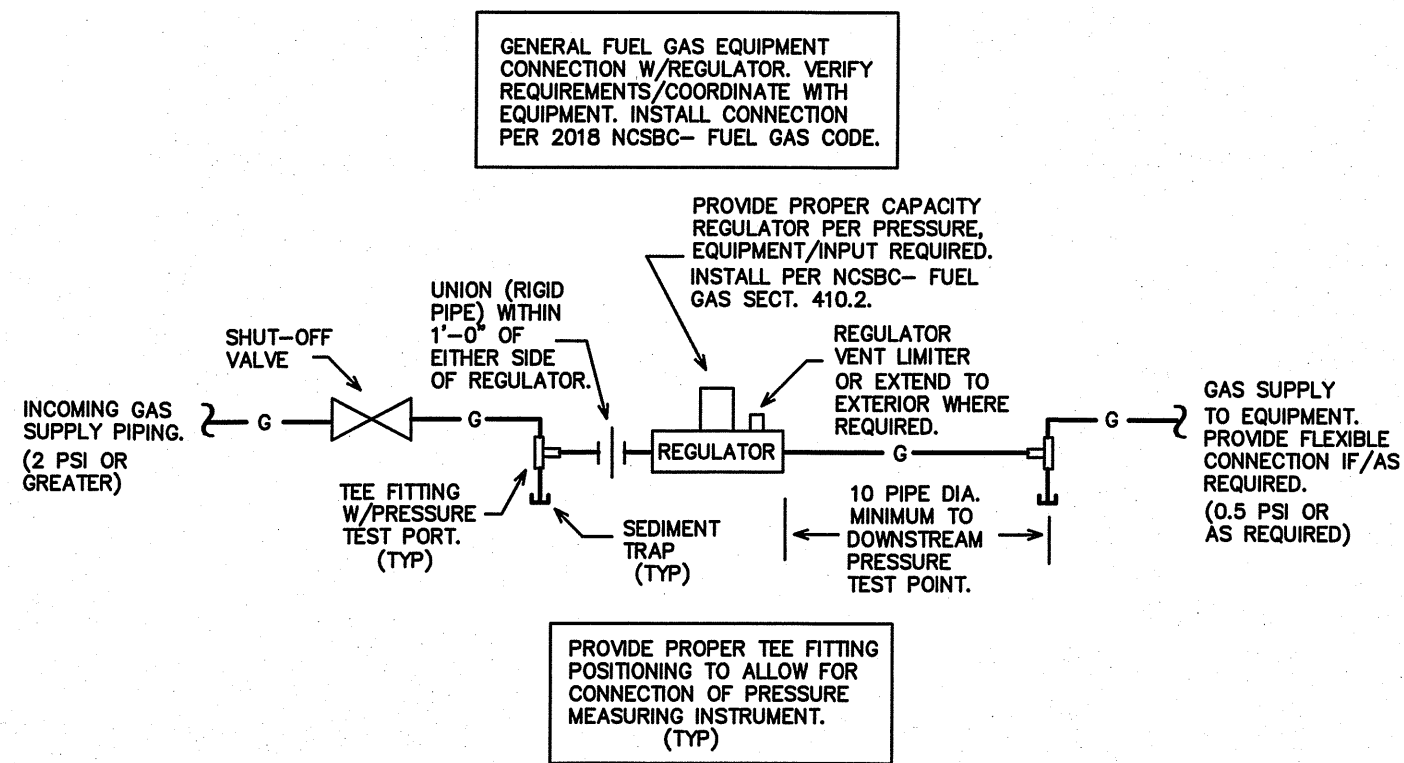
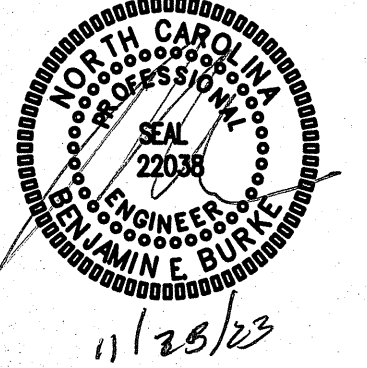
PROJECT NO.  
**2232**  
DRAWING TITLE  
**WATER RISER**

**P6**

PLOT DATE 12/01/23

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**2** EQUIPMENT CONNECTION DETAIL  
SCALE: NOT TO SCALE

**NATURAL GAS PIPING LOAD SUMMARY**

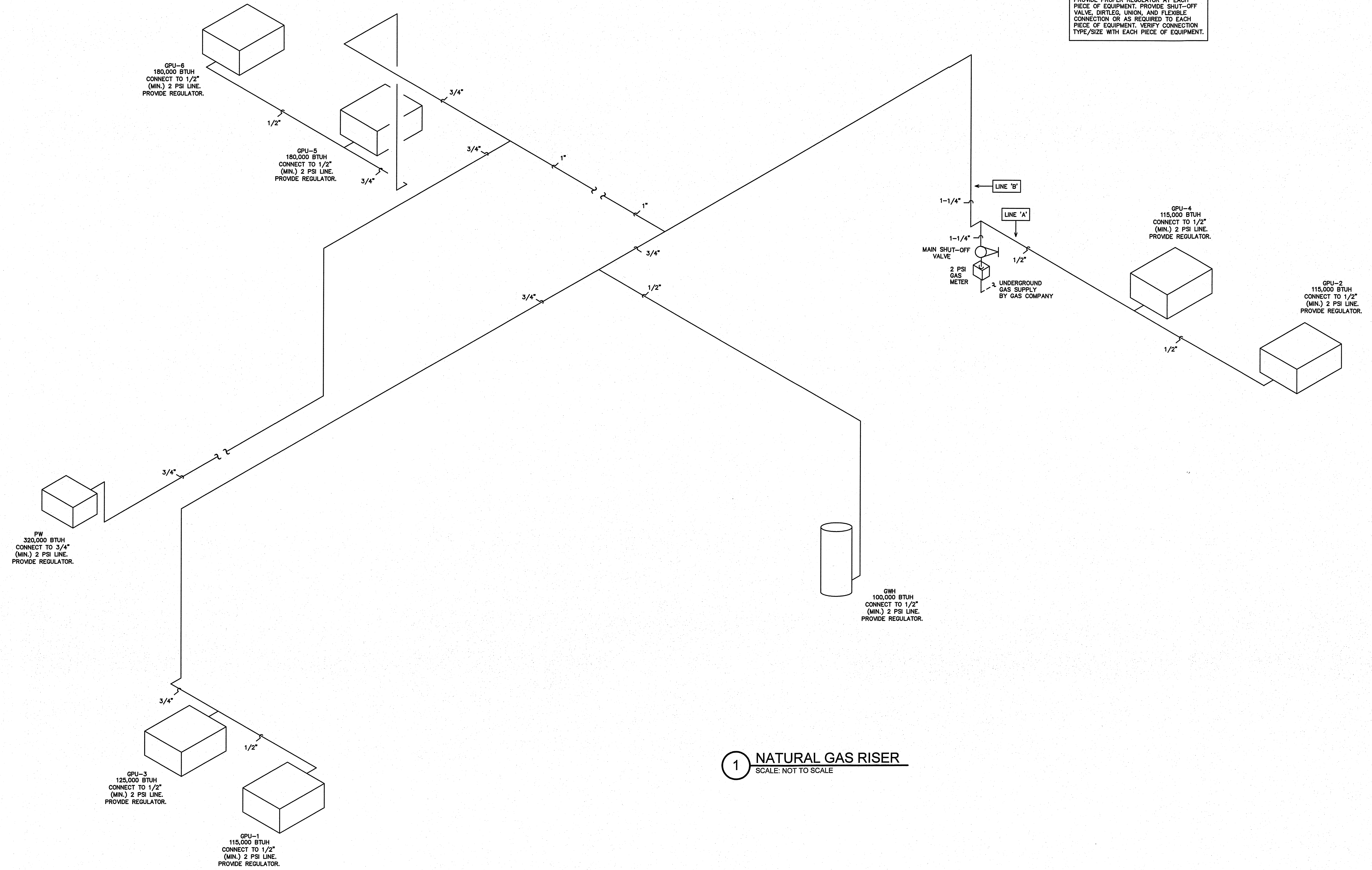
LINE SEGMENT (SEE GAS RISER)	CONNECTED GAS LOAD (BTUH)	MAX. DEVELOPED LENGTH (FT.)
A	230,000	60
B	1,020,000	400

PER 2018 NCSBG, FUEL GAS CODE, TABLE 402.4(5) - PIPE SIZES ARE BASED UPON A INITIAL PRESSURE OF 2 PSI AND A PRESSURE DROP OF 1 PSI. ALL GAS PIPE SIZES SHOWN ON RISER ARE NOMINAL INSIDE DIAMETER. TOTAL CONNECTED LOAD (OVERALL) = 1,250,000 BTUH

NOTE: VERIFY ALL GAS EQUIPMENT LOAD TOTALS. VERIFY GAS METER LOCATION PRIOR TO BID. VERIFY LINE SIZES, TOTAL DEVELOPED LINE LENGTHS (TDL). NOTIFY ENGINEER OF ANY DISCREPANCIES FOR POSSIBLE REVIEW AND/OR RE-SIZING OF GAS LINES.

NOTE: NAT. GAS PRESSURE FOR THE BUILDING MAIN IS TO BE AT 2 PSI. PROVIDE PROPER REGULATORS AT EACH PIECE OF GAS EQUIPMENT. VENT REGULATORS TO EXTERIOR IF REQUIRED. PROVIDE PROPER LABELING ON 2 PSI PIPING. PROVIDE REGULATOR/CONNECTION PER NCSBG- FUEL GAS SECT. 410.2 AND ALL OTHER APPLICABLE SECTIONS. EQUIPMENT CONNECTIONS/REGULATORS NOT SHOWN ON RISER- SEE CONNECTION DETAIL THIS SHEET.

NOTE: PROVIDE PROPER REGULATOR AT EACH PIECE OF EQUIPMENT. PROVIDE SHUT-OFF VALVE, DIRTLES, UNION, AND FLEXIBLE CONNECTION OR AS REQUIRED TO EACH PIECE OF EQUIPMENT. VERIFY CONNECTION TYPE/SIZE WITH EACH PIECE OF EQUIPMENT.



**1** NATURAL GAS RISER  
SCALE: NOT TO SCALE

PROJECT TITLE  
**REVELS TURF & TRACTOR**  
RAWLS CHURCH ROAD  
FUQUAY-VARINA, NORTH CAROLINA

PROJECT NO.  
2232  
DRAWING TITLE  
**NATURAL GAS RISER**

P7

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