## **GENERAL PLUMBING NOTES:**

- ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE. ALL FEDERAL. STATE. AND CITY CODES. ORDINANCES. AND STANDARDS.
- 2. PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL NEW EQUIPMENT.
- PROVIDE OPERATION AND MAINTENANCE MANUALS FOR ALL NEW EQUIPMENT TO OWNER.
- 4. IT IS THE INTENT OF THESE DOCUMENTS THAT THE CONTRACTOR PROVIDE ALL LABOR, MATERIAL, EQUIPMENT AND TOOLS FOR THE COMPLETE INSTALLATION OF ALL WORK SHOWN ON THE PLANS AND/OR DESCRIBED HEREIN, INCLUDING ALL DEVISES AND CONTROLS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM.
- ALL WORK PROVIDED UNDER THIS CONTRACT INCLUDING ALL MECHANICAL EQUIPMENT, MATERIALS, AND LABOR SHALL BE PROVIDED WITH A 1 YEAR WARRANTY.
- THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE. NOT ALL FITTINGS, OFFSETS, VENTS, OR DRAINS ARE SHOWN. THE CONTRACTOR SHALL INCLUDE ALL OFFSETS, VENTS, AND DRAINS AS REQUIRED FOR A FULLY FUNCTIONING SYSTEM.
- PROVIDE UL RATED FIRE STOPPING AROUND ALL PIPES THAT PENETRATE REATED WALL AND/OR FLOORS PROVIDE CAULKED SEAL AROUND ALL DUCT AND/OR PIPING PENETRATIONS THROUGH NON RATED FULL HEIGHT WALLS TO MINIMIZE SOUND TRANSFER.
- WHERE PIPE CONNECTIONS ARE SHOWN CONNECTING TO EXISTING, CONTRACTOR SHALL DETERMINE EXACT LOCATIONS AND CONNECTION SIZES BY FIELD VERIFICATION PRIOR TO INSTALLATION. SLOPES AND INVERT ELEVATIONS OF EXISTING SEWER SHALL BE ESTABLISHED AND VERIFIED BY CONTRACTOR BEFORE ANY PIPING IS INSTALLED IN ORDER THAT PROPER SLOPE WILL BE MAINTAINED AND NECESSARY INVERT ELEVATIONS OBTAINED.
- ALL PIPING SHALL BE LABELED FOR ITS USAGE.
- 10. ALL PIPES SHALL BE COORDINATED WITH OTHER NEW AND EXISTING DUCTS, PIPES, LIGHTS, STRUCTURAL SYSTEM. CEILING SUPPORTS AND FRAMING BEFORE INSTALLATION. MINOR PIPE OFFSETS SHALL BE PROVIDED AS REQUIRED. MEASUREMENTS FOR VERTICAL CLEARANCES SHALL BE TAKEN AT THE JOB SITE BEFORE INSTALLATION OF ANY PIPING.
- 11. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL PANELS. COORDINATE INSTALLATION OF PIPES WITH ELECTRICAL PANELS WHEN SHOWN NEAR PANELS OR OVER ELECTRICAL ROOMS.
- 12. PROVIDE NEW WALL CARRIERS FOR ALL NEW WALL HUNG EQUIPMENT INCLUDING LAVATORIES AND URINALS.
- 13. CONTRACTOR SHALL COORDINATE WITH KITCHEN EQUIPMENT AND KITCHEN SINKS. PROVIDE ALL WATER, GAS, AND DRAINAGE SYSTEMS AS REQUIRED, COORIDNATE PURCHASE AND INSTALLATION WITH OWNER AND GENERAL CONTRACTOR.
- 14. REFER TO MECHANICAL CRAWL SPACE PLAN (M300) FOR SUMP PIT LOCATIONS AND PROVIDE CRAWL SPACE DRAIN AROUND BUILDING PERIMETER. FOUNDATION DRAINS SHALL BE ROUTED TO SUMP PIT/PUMP.

## PLUMBING EQUIPMENT SCHEDULE:

CONNECTIONS, INTERNAL TRAP, REMOVABLE BAFFLE, GASKETED NON-

SKID COVER AND FLOW CONTROL FITTING, 100 GPM FLOW RATE.

AMTROL THERM-X-TROL MODEL #ST-5 THERMAL EXPANSION

TANK, 2.0 GALLONS MAXIMUM ACCEPTANCE VOLUME, BUTYL

AMTROL THERM-X-TROL MODEL #ST-5 THERMAL EXPANSION

TANK. 2.0 GALLONS MAXIMUM ACCEPTANCE VOLUME. BUTYL

DIAPHRAM, FACTORY PRECHARGED AT 40 PSI, SET EQUAL TO

B&G SERIES PL-30 CIRCULATING PUMP, 1/6 HP., 115V/1PH, 2 GPM AT 17 FT.

OF HEAD, ALL BRONZE CONSTRUCTION. RECIRCULATION SYSTEM IS TO

CONTROLS THAT (1) STOP THE PUMP WHEN WATER IN THE CIRCULATION

FUNCTION AS A DEMAND RECIRCULATION WATER SYSTEM WITH

LOOP IS AT THE DESIRED TEMPERATURE; (2) START THE PUMP IN

RESPONSE TO THE FLOW OF HOT WATER TO A FIXTURE, FITTING, OR

APPLIANCE; AND (3) LIMITS THE TEMPERATURE OF WATER ENTERING

MODEL SPAC-257-ALM-P1, 1/3 HP SUMP PUMP, 18" X 22" POLYETHYLENE

TRENCH DRAIN, ZURN MODEL ZS890, 7" WIDE REVEAL TRENCH DRAIN

A 4" THROAT. MODULAR CHANNEL SECTIONS ARE MADE OF 16 GA.

CHANNELS HAVE 10GA. BOLTED, FLANGED CONNECTION BETWEEN

CHANNEL SECTIONS THAT WILL NOT SEPARATE DURING THE

ZURN 6" WIDE REVEAL FABRICATED STAINLESS STEEL GRATE

DEPTH. GRATE HAS AN OPEN AREA OF 12.00 SQ. IN PER FT.

FLOOR SINK, ZURN MODEL Z1900, 12"X12"X6" DEEP CAST IRON

BODY AND SQUARE, LIGHT DUTY GRATE WITH 1/2" SLOTTED

INTERIOR AND TOP, WITH WHITE ABS ANTI SPLASH INTERIOR

OPENINGS, WHITE ACID RESISTING PORCELAIN ENAMEL

BOTTOM DOME STRAINER. PROVIDE WITH 1/2 GRATE TOP

A PER THE DIN EN1433 TOP LOAD CLASSIFICATION. SUPPLIED IN 40"

INJECTED MOLDED SUMP PIT AND COVER WITH GASKET AND HARDWARE

1-1/2" SCHEDULE 40 PVC DISCHARGE PIPE, REFER TO MECHANICAL CRAWL

SYSTEM WITH "V" BOTTOM. CHANNELS ARE 80" LONG, 7" WIDE AND HAVE

FABRICATED STAINLESS STEEL CONFORMING TO ASTM A-240 (TYPE 304).

INSTALLATION, GASKETS AVAILABLE, CHANNELS WEIGH LESS THAN 2.31

BOTTOM. CHANNELS HAVE FEET FOR PATTY POUR OR LEVELING STUDS

STANDARD TO SECURE TRENCH IN ITS FINAL LOCATION. CHANNELS ARE PROVIDED WITH STANDARD FS GRATES THAT LOCK DOWN TO FRAME.

CONFORMING TO ASTM SPECIFICATION A-240, (TYPE 304), IS RATED CLASS

[1016MM] NOMINAL LENGTHS WITH 5/16" WIDE SLOTS, AND 3/4" BEARING

LBS. PER LINEAR FOOT, HAVE A SMOOTH, 1-1/2" RADIUSED SELF CLEANING

DIAPHRAM, FACTORY PRECHARGED AT 40 PSI, SET EQUAL TO

LOCAM #22400 FLOOD DDAIN, CACT IDON DODY WITH

FD

EWH-1

EWH-2

CO

GI-1

EX-1

EX-2

CP

TD

FS

COVER.

FLOOR (FINISHED) -

LINE PRESSURE.

LINE PRESSURE.

THE COLD WATER PIPING TO 104°F.

SPACE (M300) FOR INSTALLATION LOCATIONS.

| FLASHING COLLAR AND WEEPHOLES, CAST IRON 8" DIAMETER GRATE.   | WC-1 | WATER CLOSET: AMERICAN STANDARD "COLONY" MODEL #221CA.104, 1.28 GPF WATER-SAVING, VITREOUS CHINA ELONGATED BOWL & TANK, FLOOR MOUNTED, WHITE EXTRA HEAVY DUTY SOLID PLASTIC SEAT WITH COVER, CHECK HINGE, ADA COMPLIANT WITH HAND TRIP LEVER. WATERSENSE CERTIFIED. |
|---|------|---|
| DRE-52-18, 50 GALLON, 18 KW, 208 V / 1 PH - 86.5 FLA, 74 GAL / HOUR RECOVERY @ 100°F, 3 X 6KW ELEMENTS. |      |   |

WASH-WARE 3493, SOLID SURFACE 36" SEMI-CIRCULAR - THREE STATION - ADA/CBC COMPLIANT, DEEP BOWL WASHFOUNTAIN (KITCHEN) - AO SMITH, DRE-52-24, 50 GALLON, 24 KW HEATER, DEEP BOWL, INDIVIDUAL USER STATIONS, 0.35 GPM NOZZLE FLOW HEAT RECOVERY: 99 GPM @ 100°F RISE, 208V / 3 PH RATE TO SUPPORT LEED V4, HANDS-FREE CONTROLS, CERTIFIED

MIXING VALVE, EASY ACCESS FOLD DOWN TRAP ENCLOSURE 2" WATTS 009M2 REDUCED PRESSURE ZONE BACKFLOW PREVENTER, ASSE 1013; EPOXY COATED DUCTILE IRON BODY, AMERICAN STANDARD "LUCERNE" 0355.012 WHITE VITREOUS L-2 FULL PORT GATE VALVES, NORYL SEAT RING AND CHECK CHINA WALL HUNG HANDICAP LAVATORY, THREE HOLE MOUNT VALVES, STAINLESS STEEL STEM. PROVIDE WITH AIR GAP FOR 4" CENTERS, WITH MOEN 8413F05 CENTERSET CHROME

FAUCET WITH SINGLE LEVER HANDLE, METAL GRID STRAINER OFFSET PVC P-TRAP, FLEXIBLE TUBING SUPPLIES, COMPRESSION JOSAM CLEANOUT FITTINGS AND STOPS. PROVIDE TRUEBRO #102W PRE- MOLDED INSULATION ON BOTH WATER SUPPLIES AND DRAIN. PROVIDE CHROME FLUSH WALL PLATE, RECESSED PLUG.

WB-1

HR-1

WH-1

WITH WALL CARRIER. FLOOR (UNFINISHED) -SATIN NIKALOY BRONZE TOP,

CLASSROOM SINK - ELKAY, MODEL CDKAD251765C, 25"x17"x6.5", 2 RECESSED PLUG. HOLE SINGLE BOWL DROP IN CLASSROOM ADA SINK WITH FAUCET AND BUBBLER KIT. PROVIDE FAUCET MODEL LKD208513LC, DRAIN RECESSED SATIN BRONZE TOP TO KIT WITH STRAINER, AND BUBBLER MODEL LK1141A RECEIVE FLOOR FINISH MATERIAL

(CARPET/TILE), RECESSED PLUG. WARMING KITCHEN SINK - ELKAY, MODEL DLR332210, LUSTERTONE CLASSIC STAINLESS STEEL 33"X22"X10" DOUBLE BOWL DROP IN SINK. PROVIDE WITHDRAIN STRAINER, AND SINGLE HOLE KITCHEN GREASE INTERCEPTOR SHALL BE JOSAM 60100H SERIES ACID-RESISTING FAUCET WITH PULL OUT SPRAYER HEAD, ELKAY MODEL LKGT1041. EPOXY COATED FABRICATED STEEL GREASE INTERCEPTOR, NO-HUB

> MS-1 FIAT MODEL MSB-2424, 24 INCH X 24 INCH X 10 INCH MOLDED STONE MOP SERVICE BASIN, WITH BUMPER GUARD, STAINLESS STEEL DRAIN BODY, COMBINATION S.S. DOME STRAINER AND LINT BASKET, FIAT 830-AA, SUPPLY FITTING WITH VACUUM BREAKER, FOUR ARM HANDLES, INTEGRAL STOPS, WALL BRACE, PAIL HOOK, THREADED SPOUT, RUBBER HOSE, WALL HOOK AND MOP HANGER.

PLUMBING FIXTURE SCHEDULE:

8" POT FILLER MIXING FAUCET, QUARTER-TURN ETERNA CARTRIDGES W/ SPRING CHECKS, LEVER HANDLES, 18" DOUBLE JOINT SWING NOZZLE, HEAT RESISTANT HANDLE & 1/2" NPT MALE INLETS

ICE MAKER BOX: OATEY 12K PLASTIC ICE MAKER UTILITY BOX WITH 1/2" PEX SWEAT CONNECTION.

> WASHER BOX: OATEY CENTRO II WASHER BOX, HW & CW CONNECTION, 2" DRAIN OUTLET, RECESSED MOUNTED.

ELECTRIC WATER COOLER, ELKAY EZH20 BOTTLE FILLER STATION WITH FILTERED BI-LEVEL COOLER. MODEL LZSTL8WS(VR)SP WITH HI/LO CONFIGURATION. UNIT SHALL DELIVER 8 GPH OF 50°F OF DRINKING WATER AT 90°F AMBIENT AND 80°F INLET WATER. PUSH BAR ACTIVATION. BOTTLE FILLING UNITS SHALL INCLUDE AN ELECTRONIC SENSOR FOR TOUCHLESS ACTIVATION WITH AN AUTOMATIC 20-SECOND SHUT-OFF TIMER. LED LIGHT ILLUMINATING THE WATER DISPENSING AREA. BRIGHTENING AS WATER IS BEING DISPENSED. SHALL INCLUDE A GREEN TICKER™ DISPLAYING COUNT OF PLASTIC BOTTLES SAVED FROM WASTE. BOTTLE FILLER SHALL PROVIDE A 1.1 GPM FLOW RATE WITH LAMINAR FLOW TO MINIMIZE SPLASHING. SHALL INCLUDE THE WATERSENTRY® PLUS 3000-GALLON CAPACITY FILTER CERTIFIED TO NSF/ANSI 42 & 53, WITH VISUAL FILTER MONITOR TO INDICATE WHEN REPLACEMENT IS NECESSARY. UNIT SHALL AUTOMATICALLY DETECT A NEW FILTER AND RESET VISUAL FILTER MONITOR ACCORDINGLY. UNIT SHALL HAVE THE ABILITY TO TURN OFF REFRIGERATION SYSTEM AS NEEDED, IN ADDITION TO SELF DIAGNOSING SYSTEM ISSUES AND DISPLAY RELATED MESSAGES. SHALL INCLUDE INTEGRATED SILVER ION ANTI-MICROBIAL PROTECTION IN KEY AREAS. UNIT SHALL MEET ADA GUIDELINES. UNIT SHALL

HOSE REEL: REGENCY MODEL# 600HRSS50NS, DURABLE STAINLESS STEEL REEL HOUSES 50' HOSE, ADJUSTABLE GUIDE ARM FOR PRECISE CONTROL, LOCKING MECHANISM FOR LOCKING AT PREFERRED LENGTH. 6 3/4" WIDE L-SHAPED BASE

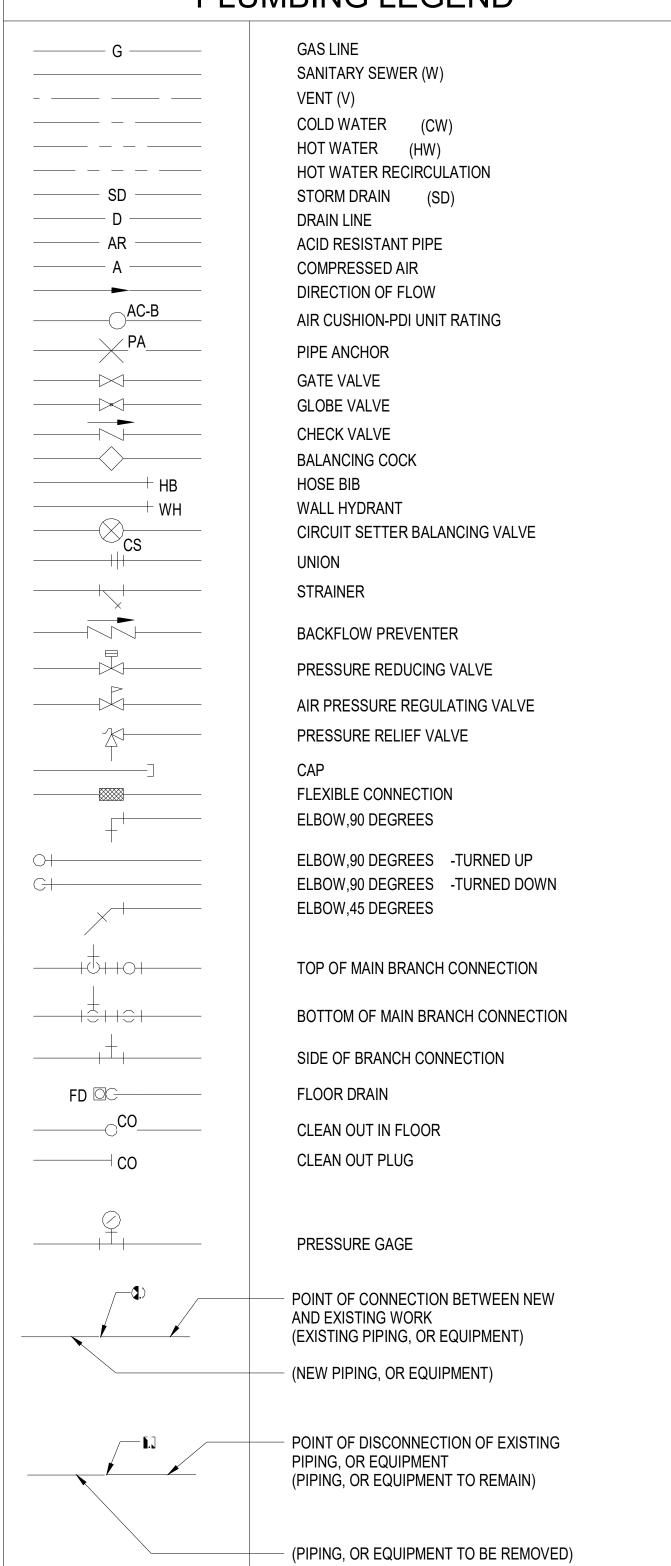
WITH GROOVE REINFORCEMENT TO ENSURE STABILITY, SPRING REDUCER

BE A LEAD-FREE DESIGN WHICH IS CERTIFIED TO NSF/ANSI 61 AND 372 AND

MEETS FEDERAL AND STATE LOW-LEAD REQUIREMENTS.

WALL HYDRANT: ANTI-SIPHON, FREEZELESS TYPE, WOODFORD MODEL B65, CONCEALED BOX TYPE WITH ANTI-SIPHON VACCUM BREAKER, 3/4" INLET AND OUTLET. EXTERIOR SHALL BE ROUGH BRASS WITH KEY. COORDINATE LOCATIONS WITH WALL THICKNESS.

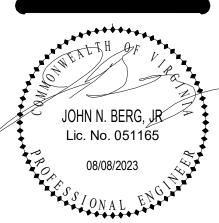
## PLUMBING LEGEND



PLANNERS / ARCHITECTS

**ENGINEERS / SURVEYORS** Roanoke / Richmond New River Valley / Staunton Harrisonburg / Lynchburg www.balzer.cc

80 College Street, Suite H Christiansburg, VA 24073 540.381.4290



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DATE

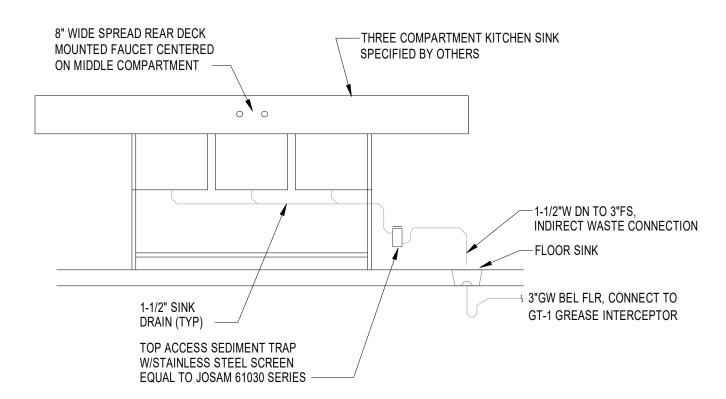
SCALE

REVISIONS

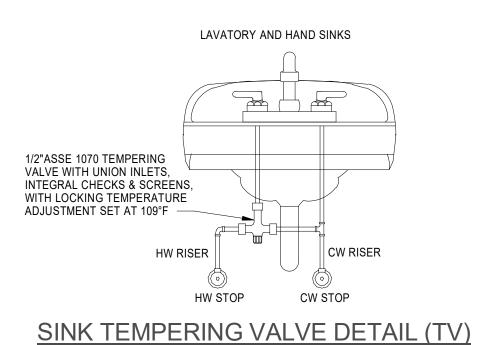
 $\odot$ DRAWN BY **DESIGNED BY** JNB CHECKED BY 08/08/2023 12" = 1'-0"

23220008.00

PROJECT NO



## GREASE WASTE AT 3-COMP SINK

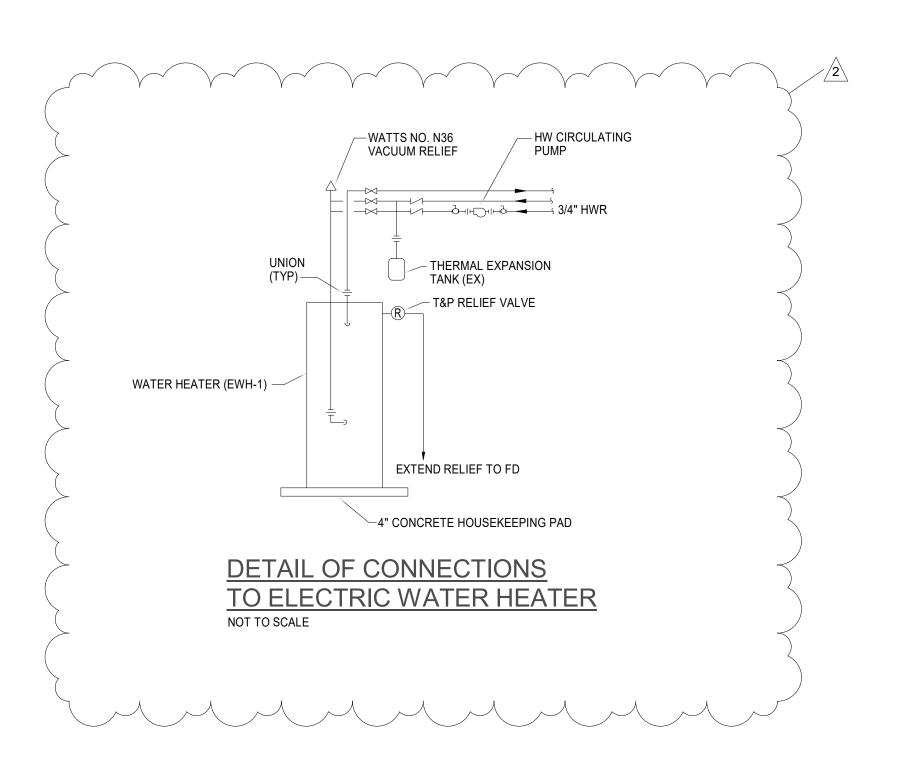


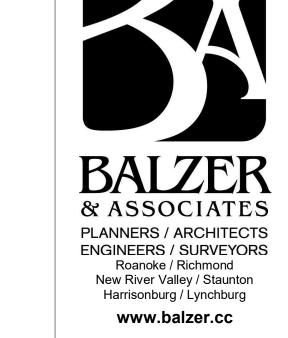
PROVIDE ONE PIECE SPUN ALUMINUM BASE WITH GRADUATED STEPPED PVC **BOOT AND ADJUSTABLE STAINLESS STEEL** REFER TO ARCHITECTURAL CLAMPS. SET BASE IN BED OF MASTIC PLANS FOR APPLICATION OF VENT PIPE BOOT INSTALLATION WITH ROOFING MATERIAL ROOF DECK AND INSULATION, REFER TO ARCHITECTURAL PLANS PROVIDE SLEEVE IF - ANCHOR PIPE TO ROOF DECK OR REQUIRED PER ROOF JOISTS WITH U-BOLT AROUND PIPE CONSTRUCTION AND ANGLE IRON WELDED OR SCREWED TO DECK OR JOIST - HUBLESS PIPE CONNECTORS PROVIDE PIPE INCREASER ON CAST IRON PIPE WHERE REQUIRED TO MAKE MINIMUM 3" VENT THRU ROOF

REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR A MINIMUM OF 20 FEET HORIZONTAL (UNLESS APPROVED BY ENGINEER PRIOR TO INSTALLATION) OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, AND ONE FOOT FROM ANY VERTICAL SURFACE. PROVIDE 1" FIBERGLASS INSULATION WITH ALL-SERVICE JACKET ON VENT PIPE INSIDE BUILDING WITHIN SIX FEET OF VENT THRU ROOF LOCATION. VERIFY FLASHING AND COUNTERFLASHING WITH ROOFING CONTRACTOR.

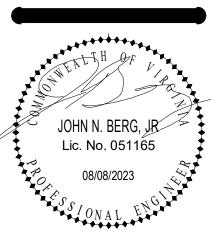
## DETAIL -VENT THRU ROOF (VTR)

12" = 1'-0"





80 College Street, Suite H Christiansburg, VA 24073 540.381.4290



CCCC PHASE 1
HISTORIC RENOVATION
PLUMBING DETAILS

DRAWN BY
DESIGNED BY

CHECKED BY
DATE

SCALE

REVISIONS

JNB

08/08/2023

12" = 1'-0"

2 10-06-2023 3RD PARTY REVIEW

P102

0.IECT NO 232200

#### PLUMBING SPECIFICATIONS

#### GENERAL PROVISIONS

- 1.A. ALL WORK SHALL BE IN ACCORDANCE WITH THE 2018 VIRGINIA UNIFORM STATEWIDE BUILDING CODE, ALL FEDERAL, STATE, AND CITY CODES, ORDINANCES, AND STANDARDS.
- 1.B. THE PLANS ARE DIAGRAMMATIC IN NATURE AND BASED ON ONE MANUFACTURER'S EQUIPMENT. THEY ARE NOT INTENDED TO SHOW EVERY ITEM IN ITS EXACT LOCATION, THE EXACT DIMENSIONS, OR ALL THE DETAILS OF THE EQUIPMENT. VERIFY THE ACTUAL DIMENSIONS OF THE EQUIPMENT PROPOSED TO BE USED. INSTALLATION SHALL BE WITHIN THE LIMITATIONS IMPOSED BY THE ARCHITECTURAL, STRUCTURAL, HVAC, ELECTRICAL, AND PLUMBING REQUIREMENTS WITH ADEQUATE SPACE FOR MAINTENANCE.
- 1.C. GUARANTEE: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED TO BE FREE FROM DEFECTS FOR A PERIOD OF ONE (1 YEAR FROM DATE OF ACCEPTANCE AND CONTRACTOR SHALL MAKE GOOD, WITHOUT ADDITIONAL COST TO THE OWNER, ANY DEFECTS WHICH MAY APPEAR WITHIN THAT PERIOD. MANUFACTURER'S WARRANTIES EXTENDING BEYOND ONE YEAR SHALL BE PROCESSED AND TURNED OVER TO THE OWNER.
- 1.D. MAJOR ITEMS ARE SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INCIDENTAL ITEMS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
- 1.E. A TRADE NAMES AND CATALOG NUMBERS SHALL BE INTERPRETED AS ESTABLISHING A GENERAL DESIGN AND STANDARD OF QUALITY AND SHALL NOT BE CONSTRUED AS LIMITING COMPETITION. UNLESS STATED OTHERWISE, THE CONTRACTOR MAY USE ANY ARTICLE WHICH, IN HIS JUDGEMENT, AND WITH WRITTEN COMMENT FROM THE ARCHITECT/ENGINEER INDICATING NO OBJECTION, IS EQUAL OR SUPERIOR TO THAT SPECIFIED. DRAWINGS SHOWING CHANGES OR REVISIONS REQUIRED BY THE SUBSTITUTION FOR SPECIFIED ITEMS SHALL BE SUBMITTED WITH THE SHOP DRAWING DATA, AND THE COSTS OF ALL SUCH CHANGES SHALL BE BORNE BY THE CONTRACTOR.
- 1.F. SIMILAR ITEMS SHALL BE PROVIDED BY A SINGLE MANUFACTURER.
- 1.G. ALL REQUIRED WALL OR FLOOR OPENINGS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND/OR OTHER RELEVANT TRADES.
- 1.H. ALL PIPING SHALL BE INSTALLED ABOVE THE CEILING UNLESS INDICATED OTHERWISE. ALL WATER PIPING AND P-TRAPS SHALL BE INSTALLED WITHIN THE BUILDINGS INSULATION ENVELOPE OR BE PROVIDED WITH A FREEZE PROTECTION SYSTEM.
- 1.I. PROVIDE SUPPORTS TO RIGIDLY ATTACH ALL EQUIPMENT. APPURTENANCES AND PIPE AS REQUIRED FOR SUPPORT, PRIOR TO INSTALLATION OF HANGERS AND INSERTS. THE CONTRACTOR SHALL COORDINATE LOCATIONS AND REQUIREMENTS TO MINIMIZE CONFLICTS WITH OTHER BUILDING SYSTEMS. INSTALLATION OF PIPE HANGERS AND SUPPORTS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURERS STANDARDIZATION SOCIETY (MSS) STANDARDS SP-58, 69 AND 89.
- 1.J. THE CONTRACTOR SHALL MAKE FINAL CONNECTIONS TO ALL EQUIPMENT INDICATED TO BE FURNISHED BY OTHERS.

#### SUBMITTAL AND SHOP DRAWINGS:

- 2.A. SUBMIT MANUFACTURER'S CERTIFIED DATA RELATIVE TO ALL EQUIPMENT, PIPING, CONTROLS, ETC, REQUIRED FOR THE INSTALLATION OF THE PLUMBING AND FIRE PROTECTION SYSTEMS SUBMIT FOR REVIEW ALL NECESSARY ENGINEERING, PRODUCT AND INSTALLATION DATA, SHOP DRAWINGS, SAMPLES ETC. FOR ALL EQUIPMENT, MATERIAL, AND SYSTEMS TO ASCERTAIN COMPLIANCE WITH THE TECHNICAL REQUIREMENTS OF THE CONTRACT DOCUMENTS.
- 2.B. SUBMIT A DIGITAL PDF OF ALL NECESSARY DATA, CUTS MANUFACTURER'S SELECTIONS, CATALOGS, BULLETINS, INSTALLATION INSTRUCTIONS, DRAWINGS, DIAGRAMS, CURVES, ETC. CLEARLY INDICATE ON THE SUBMITTED DATA, THE MANUFACTURER'S NAME, PRODUCT NUMBER(S), OPTIONS, EQUIPMENT CAPACITY, DIMENSIONAL DATA, WEIGHTS, AND OTHER APPLICABLE TECHNICAL DATA FOR THE PROJECT.
- 2.C. TRADE NAMES, MANUFACTURERS, AND CATALOGUE NUMBERS ARE MENTIONED HEREIN AND ON THE DRAWINGS SOLELY IN ORDER TO ESTABLISH A STANDARD FOR THE TYPE, GENERAL DESIGN, AND QUALITY OF PRODUCT REQUIRED. OTHER PRODUCTS SIMILAR IN DESIGN OF EQUIVALENT QUALITY CAPABLE OF FITTING WITHIN THE SPACES ALLOCATED AND COMPLYING WITH THE DRAWINGS AND SPECIFICATIONS WILL BE CONSIDERED AFTER THE CONTRACT IS LET UNLESS "PRIOR APPROVAL" REQUIREMENTS ARE SET FORTH IN THESE DOCUMENTS.

- 2.D. REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY FOR FITTING THE EQUIPMENT IN THE SPACE ALLOTTED WITH SPACE FOR ALL CONNECTIONS AND SERVICING AND FOR THE COORDINATION OF THE WORK WITH WORK OF OTHER TRADES.
- 2.E. THE CONTRACTOR SHALL REVIEW ALL SUBMITTALS AND SHOP DRAWINGS AND INDICATE BY STAMP OR LETTER THAT HE HAS REVIEWED THEM, BEFORE FORWARDING THEM TO THE ARCHITECT AND/OR ENGINEER. SUBMITTALS AND DRAWINGS WILL BE RETURNED AFTER REVIEW INDICATING WHETHER EXCEPTIONS ARE TAKEN, THE SUBMITTAL RETURNED WITH CORRECTIONS, OR IS COMPLETELY REJECTED. RESUBMISSION OF REVISED SUBMITTALS AND SHOP DRAWINGS, IF REQUIRED, SHALL BE DONE BEFORE INSTALLATION AND CONSTRUCTION IS BEGUN.
- 2.F. CORRECTIONS OR COMMENTS MADE ON THE SUBMITTALS AND DRAWINGS DURING THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. THIS REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT OF THE PROJECT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS. FABRICATION PROCESSES, TECHNIQUES OF CONSTRUCTION, COORDINATING THE WORK WITH THAT OF ALL OTHER TRADES, AND PERFORMING WORK IN A SAFE AND SATISFACTORY MANNER REVIEW OF THE SUBMITTALS SHALL NOT PERMIT ANY DEVIATION FROM PLANS AND SPECIFICATIONS.

#### AS-BUILT DRAWINGS:

- 3.A. MAINTAIN DAILY UPDATED DRAWINGS SHOWING DEVIATIONS FROM CONSTRUCTION DOCUMENTS. AT THE END OF THE PROJECT. PROFESSIONALLY PREPARE AS-BUILT DRAWINGS AND SUBMIT DRAWINGS TO THE ARCHITECT/ENGINEER.
- OPERATION AND MAINTENANCE MANUALS:
  - 4.A. UPON COMPLETION OF THE PROJECT, SUBMIT ALL OPERATION AND MAINTENANCE MANUALS, WARRANTIES, SPARE PARTS LIST, AS-BUILT DRAWINGS, TEST AND BALANCE REPORTS, AND LETTER OF GUARANTEE ALL BOUND IN THREE RING BINDERS, CLEARLY SHOWING WHICH EQUIPMENT WAS SUPPLIED TO THE JOB.
- PIPING SPECIALTIES:
  - 5.A. ACCESS DOORS: ACCESS DOORS SHALL BE PROVIDED FOR ALL CONCEALED VALVES, CONTROLS, AND ANY OTHER EQUIPMENT OR MATERIALS REQUIRING INSPECTION OR MAINTENANCE. ACCESS DOORS SHALL BE FURNISHED FOR FLOORS. WALLS AND CEILINGS. OF ADEQUATE SIZE SO THAT CONCEALED ITEMS WILL BE READILY ACCESSIBLE FOR SERVICING OR FOR REMOVAL AND REPLACEMENT IF NECESSARY.
  - 5.B. PIPE ESCUTCHEONS: INSTALL PIPE ESCUTCHEONS ON EACH PIPE PENETRATION THRU FLOORS, WALLS PARTITIONS, AND CEILINGS WHERE PENETRATION IS EXPOSED TO VIEW AND ON EXTERIOR OF BUILDING. SECURE ESCUTCHEON TO PIPE OR INSULATION SO ESCUTCHEON COVERS PENETRATION HOLE. AND IS FLUSH WITH ADJOINING SURFACE. PROVIDE SHEET STEEL ESCUTCHEONS, SOLID OR SPLIT HINGED. FOR AREAS WHERE WATER AND CONDENSATION CAN BE EXPECTED TO ACCUMULATE, PROVIDE CAST BRASS OR SHEET BRASS ESCUTCHEONS, SOLID OR SPLIT HINGED.
  - 5.C. PIPE SLEEVES: INSTALL PIPE SLEEVES WHERE PIPING PASSES THROUGH WALLS, FLOORS, CEILINGS, AND ROOFS, DO NOT INSTALL SLEEVES THROUGH STRUCTURAL MEMBERS OF WORK, EXCEPT AS DETAILED ON DRAWINGS, OR AS REVIEWED BY ARCHITECT/ENGINEER. SIZE SLEEVES SO THAT PIPING AND INSULATION (IF ANY) WILL HAVE FREE MOVEMENT IN SLEEVE, INCLUDING ALLOWANCE FOR THERMAL EXPANSION; BUT NOT LESS THAN 2 PIPE SIZES LARGER THAN PIPING RUN. INSTALL LENGTH OF SLEEVE EQUAL TO THICKNESS OF CONSTRUCTION PENETRATED, AND FINISH FLUSH TO SURFACE; EXCEPT FLOOR SLEEVES. EXTEND FLOOR SLEEVES 1/4 INCH ABOVE LEVEL FLOOR FINISH, AND 3/4 INCH ABOVE FLOOR FINISH SLOPED TO DRAIN. PROVIDE TEMPORARY SUPPORT OF SLEEVES DURING PLACEMENT OF CONCRETE AND OTHER WORK AROUND SLEEVES, AND PROVIDE TEMPORARY CLOSURE TO PREVENT CONCRETE AND OTHER MATERIALS FROM ENTERING SLEEVES.
  - 5.D. WATER HAMMER ARRESTORS (WHA): PROVIDE AT ALL FAST OPENING WATER VALVES INCLUDING WATER CLOSETS, URNIALS, AND CLOTHES WASHERS. SHALL BE ZURN MODEL 1260XL OR EQUIVALENT AND SHALL BE SIZED AND PLACED WITHIN THE SYSTEM AS RECOMMENDED BY THE MANUFACTURER.

#### 6. INSULATION:

- 6.A. FLAME/SMOKE RATINGS: PROVIDE COMPOSITE PLUMBING INSULATION (INSULATION, JACKETS, COVERINGS, SEALERS, MASTICS AND ADHESIVES) WITH FLAME-SPREAD RATING OF 25 OR LESS, AND SMOKE-DEVELOPED RATING OF 50 OR LESS, AS TESTED BY ASTM E84 METHOD. INSULATION SHALL BE LABELED BY THE MANUFACTURER. THE LABEL SHALL INDICATE THE INSULATING VALUE, FLAME SPREAD AND SMOKE-DEVELOPED RATING.
- 6.B. INSTALLATION: INSULATION SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS USING ONLY ADHESIVES MASTICS AND PLUMBING FASTENERS APPROVED BY THE INSULATION MANUFACTURER. INSULATION SHALL NOT BE APPLIED UNTIL AFTER THE EQUIPMENT HAS BEEN TESTED WITH RESULTS ACCEPTABLE TO THE ARCHITECT/ENGINEER. INSULATION WITH A VAPOR BARRIER JACKET SHALL BE APPLIED WITH A CONTINUOUS, UNBROKEN VAPOR SEAL AND ALL JOINTS SHALL BE SEALED WITH A VAPOR BARRIER ADHESIVE UNLESS OTHERWISE INDICATED. STAPLES, STICK CLIPS AND HANGERS SHALL BE VAPOR SEALED WHERE THEY PUNCTURE VAPOR BARRIER JACKETS.

#### 6.C. MATERIALS:

6.C.A.GLASS FIBER PIPE INSULATION: HEAVY DENSITY PREFORMED PIPE INSULATION WITH OPERATING TEMPERATURE RANGE OF -60 DEGREES F TO 350 DEGREES F, THERMAL CONDUCTIVITY "K"=0.24 BTU-IN/HOUR-SF-DEG F AT 100 DEGREES F. FACTORY APPLIED JACKET (ASJ) SHALL CONSIST OF WHITE KRAFT PAPER BONDED TO ALUMINUM FOIL AND REINFORCED WITH GLASS FIBER YARN. EQUAL TO OWENS-CORNING

6.C.B. CELLULAR FOAM PIPE INSULATION: TUBULAR, FLEXIBLE, FIRE RESISTANT INSULATION WITH OPERATING TEMPERATURE RANGE OF -40 DEGREES F TO 220 DEGREES F, THERMAL CONDUCTIVITY "K"=0.27 BTU-IN/HOUR-SF-DEG F AT 75 DEGREES F. NO JACKET REQUIRED. EQUAL TO ARMSTRONG ARMAFLEX AP.

6.C.C.A POLYETHYLENE PIPE INSULATION: INSULATION MATERIALS CORPORATION OF AMERICA (IMCOA), FLEXIBLE CLOSED CELL POLYETHYLENE TUBING, ASTM C534, "K"=0.24 AT 75 DEGREES F, SERVICE TEMPERATURE -110F TO 210F. NO JACKET REQUIRED.

- 6.D. OMIT INSULATION ON EXPOSED PLUMBING FIXTURE RUNOUTS FROM FACES OF WALL OR FLOOR TO FIXTURE; ON UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, AND EXPANSION JOINTS.
- 6.E. COVER VALVES, FITTINGS AND SIMILAR ITEMS IN EACH PIPING SYSTEM WITH EQUIVALENT THICKNESS AND COMPOSITION OF INSULATION AS APPLIED TO ADJOINING PIPE RUN.
- 6.F. ALL DOMESTIC WATER PIPING ABOVE GROUND INCLUDING COLD. HOT. AND HOT WATER RE-CIRCULATING PIPING SHALL BE INSULATED WITH A MINIMUM 1/2" THICK INSULATION.

## PLUMBING PIPING:

- 7.A. DOMESTIC WATER PIPING SHALL BE COPPER TUBE AND FITTINGS IN ACCORDANCE WITH ASTM B88, TYPE L HARD DRAWN COPPER. JOINTS SHALL BE MADE WITH LEAD FREE SOLDER.
- 7.B. STORM, SOIL, WASTE, AND VENT PIPING BELOW GRADE SHALL BE SCHEDULE 40 PVC PIPE AND FITTINGS. PVC SCHEDULE 40 PIPE SHALL BE IRON PIPE SIZE (IPS) CONFORMING TO ASTM D 1785. INJECTION MOLDED PVC SCHEDULE 40 FITTINGS SHALL CONFORM TO ASTM D 2466. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. PIPE AND FITTINGS SHALL CONFORM TO NSF INTERNATIONAL STANDARD 61 AND THE HEALTH-EFFECTS PORTION OF NSF STANDARD 14.
- 7.C. STORM, SOIL, WASTE, AND VENT PIPING ABOVE GRADE SHALL BE HUBLESS CAST IRON TYPE DESIGNED FOR SAID APPLICATION. HUBLESS CAST IRON PIPE AND FITTINGS SHALL BE MANUFACTURED FROM GRAY CAST IRON AND SHALL CONFORM TO ASTM A 888 AND CISPI STANDARD 301. ALL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE® AND LISTED BY NSF® INTERNATIONAL. HUBLESS COUPLINGS SHALL CONFORM TO CISPI STANDARD 310, SHALL BE MANUFACTURED IN THE UNITED STATES, AND BE CERTIFIED BY NSF® INTERNATIONAL.
- 7.D. CONDENSATE DRAINS SHALL BE TYPE L HARD DRAWN COPPER. JOINTS SHALL BE MADE WITH LEAD FREE SOLDER.

- 7.E. SLOPE ALL DRAIN LINES AT 1/4 INCH PER FOOT FOR SIZES LESS THAN 4 INCHES. SLOPE AT 1/8 INCH PER FOOT FOR SIZES 4 INCH AND
- 7.F. SOIL, WASTE, AND VENT PIPING BELOW GRADE SHALL BE A MINIMUM OF 2 INCH AND SHALL BE PROVIDED WITH METALLIC TRACING/DETECTION WIRE.
- 7.G. VENTS SHALL EXTEND A MINIMUM OF 12 INCHES ABOVE THE ROOF. ROOF FLASHING SHALL BE PROVIDED AND COORDINATED WITH THE GENERAL AND ROOFING CONTRACTORS.
- 7.H. TRENCHING AS REQUIRED FOR UNDERGROUND PIPING SHALL BE GRADED TO UNIFORM PITCH AND SHALL BE NO WIDER THAN NECESSARY FOR PIPING INSTALLATION. CLEAN BACKFILL SHALL BE USED AND THOROUGHLY TAMPED IN LAYERS NOT EXCEEDING 6 INCHES TO A MINIMUM DEPTH OF 1 FOOT ABOVE PIPE. COMPACTED BACKFILL SHALL BE USED FOR THE ENTIRE DEPTH OF EXCAVATION UNDER SLAB ON GRADE CONSTRUCTION.
- 7.I. NATURAL GAS SYSTEMS: PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE, ASTM A120/A53-CW OR ASTM/A53 GRADE B (WELDED OR SEAMLESS): WROUGHT STEEL BUTTWELDING FITTINGS. GAS COCKS 2 INCHES AND SMALLER SHALL BE RATED FOR 150 PSI, NON SHOCK WOG, BRONZE STRAIGHTWAY COCK, FLAT OR SQUARE HEAD, WITH THREADED ENDS. ALL GAS PIPING CONNECTIONS SHALL BE PROVIDED WITH A 6 INCH DIRT TRAP, UNION, AND GAS COCK SHUT OFF VALVE. ALL JOINTS SHALL BE SEALED WITH CHEMICALLY RESISTANT SEALER APPLIED TO MALE THREADS OF PIPE CONNECTION. GAS PIPING SHALL BE INSTALLED WITH A 1/64 INCH PER FOOT DOWNWARD SLOPE IN THE DIRECTION OF FLOW. A ROLLER BEARING TYPE PIPE SUPPORT SHALL BE USED TO SUPPORT ALL GAS PIPING LOCATED ON THE ROOF. SUPPORTS SHALL HAVE A POLYCARBONATE BASE, WITH PIPE RESTING ON A SELF LUBRICATING POLYCARBONATE RESIN AXLE AND ROLLER AND BE SIZED FOR THE PIPE BEING SUPPORTED. MAXIMUM SPACING SHALL NOT EXCEED
- PLUMBING FIXTURES, PUMPS, AND WATER HEATERS SHALL BE PROVIDED AND INSTALLED AS PER THE PLUMBING FIXTURE SCHEDULE. ALL EXPOSED FIXTURE SUPPLIES AND WASTE LINES SHALL BE CHROME PLATED. NO EXPOSED COPPER, PVC, AND/OR CAST IRON IS ALLOWED.
- 9. CLEANOUTS SHALL BE THE SAME SIZE AS LINE SERVED, BUT NOT LARGER THAN 4 INCHES, AND SHALL BE PROVIDED AT THE BASE OF EACH SOIL AND WASTE STACK, AT ALL POINTS WHERE DIRECTION CHANGE IS MORE THAN 45 DEGREES, AT MINIMUM INTERVALS OF 50 FEET FOR 4 INCH AND SMALLER PIPING. AT MINIMUM INTERVALS OF 100 FEET FOR PIPING LARGER THAN 4 INCHES, AS REQUIRED BY CODE AND AS INDICATED ON THE DRAWINGS. COVERS SHALL BE SET FLUSH WITH FLOOR OR WALL.

#### 10. PLUMBING VALVES

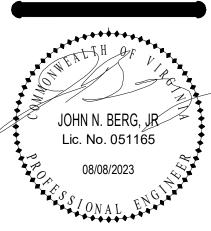
- 10.A. PROVIDE SHUT-OFF VALVE AND UNION OR EQUIVALENT AT EACH HOT AND COLD WATER EQUIPMENT CONNECTION. PROVIDE SHUTOFF VALVE ON EACH BRANCH OR RISER THAT SERVES TWO OR MORE PLUMBING FIXTURES.
- 10.B. GATE VALVES 2-1/2 INCHES AND SMALLER: ALL BRONZE, RISING STEM, SOLID WEDGE DISC. STOCKHAM B-100 OR B-108.
- 10.C. GLOBE VALVES: ALL BRONZE, RENEWABLE COMPOSITION DISC. STOCKHAM B-16 OR B-14-T.
- 10.D. CHECK VALVES IN HORIZONTAL PIPES: 2 INCHES AND SMALLER: ALL BRONZE, REGRINDING BRONZE DISC, HORIZONTAL SWING. Y-PATTERN, STOCKHAM B-319OR B-309.
- 10.E. CHECK VALVES IN VERTICAL PIPES AND PUMP DISCHARGE: SILENT CHECK VALVE WITH SEMI-STEEL BODY, BRONZE TRIM AND STAINLESS STEEL SPRING. METRAFLEX 700 SERIES.
- 10.F. BALL VALVES MAY BE USED IN LIEU OF GATE VALVES 2 INCHES AND SMALLER. BALL VALVES SHALL HAVE BRONZE BODY, BRONZE BALL AND TFE SEATS AND SEALS. STOCKHAM S-216BRRT OR S-216BRRS.

#### 11. CLEANING AND TESTING

- 11.A. ALL WATER PIPING, VALVES, ETC. SHALL BE THOROUGHLY FLUSHED OF FOREIGN MATTER AND TESTED FOR LEAKS IN ACCORDANCE WITH THE PLUMBING AND BUILDING CODE, LATEST EDITION. ANY LEAKAGE SHALL BE REPAIRED. DISINFECT DOMESTIC WATER PIPING INCLUDING WATER SERVICE PIPING IN ACCORDANCE WITH AWWA
- 11.B. ALL DRAIN, WASTE AND VENT PIPING SHALL BE TESTED FOR LEAKS IN ACCORDANCE WITH THE PLUMBING AND BUILDING CODE CODE, LATEST EDITION. NO VISIBLE DROP IN WATER LEVEL WILL BE ACCEPTABLE.

### **END OF PLUMBING SPECIFICATIONS**

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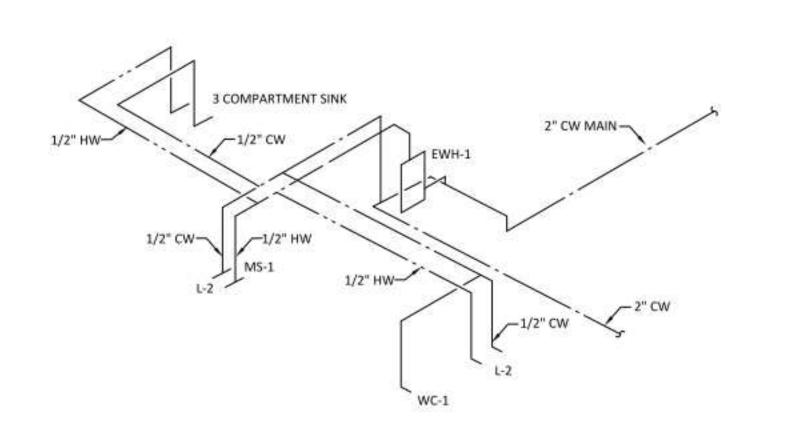
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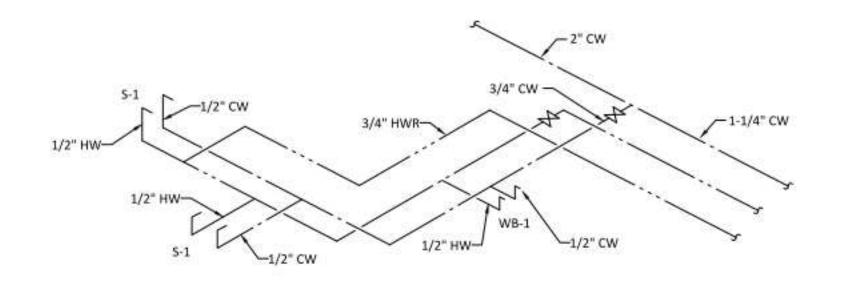
**REVISIONS** 

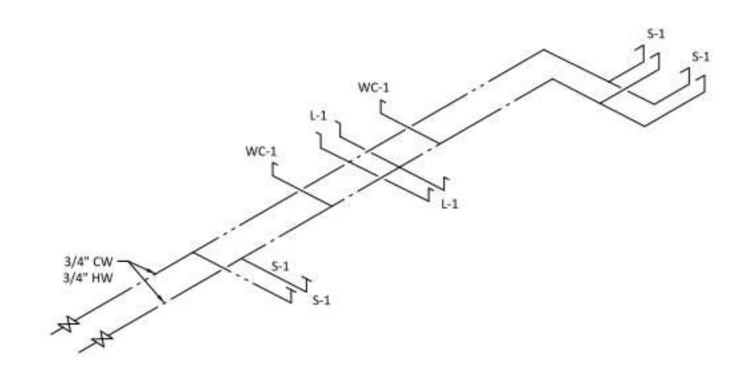
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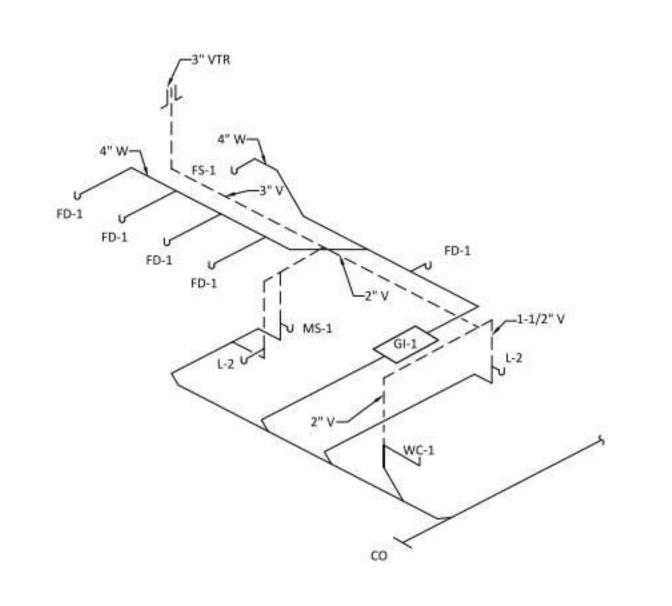


KITCHEN AND BATHROOM RISER

**INFANT AND** LAUNDRY RISER

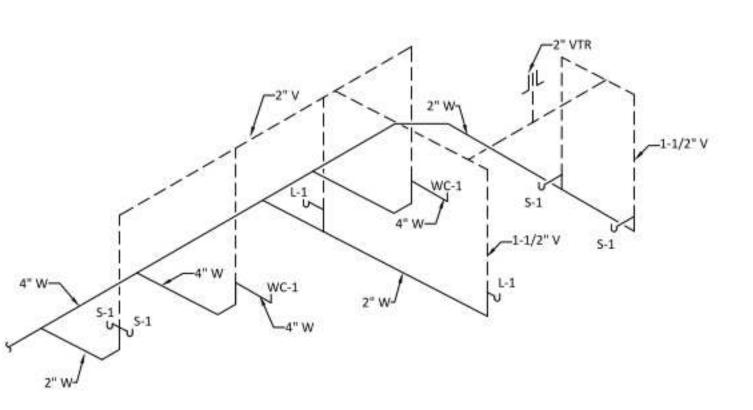
**PRESCHOOL** BATHROOM RISER

# **BUILDING WATER RISER DIAGRAMS**

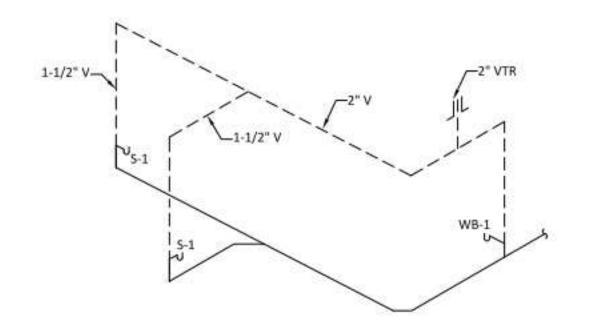


KITCHEN AND

BATHROOM RISER







INFANT AND LAUNDRY RISER

**BUILDING SANITARY RISER DIAGRAMS** 

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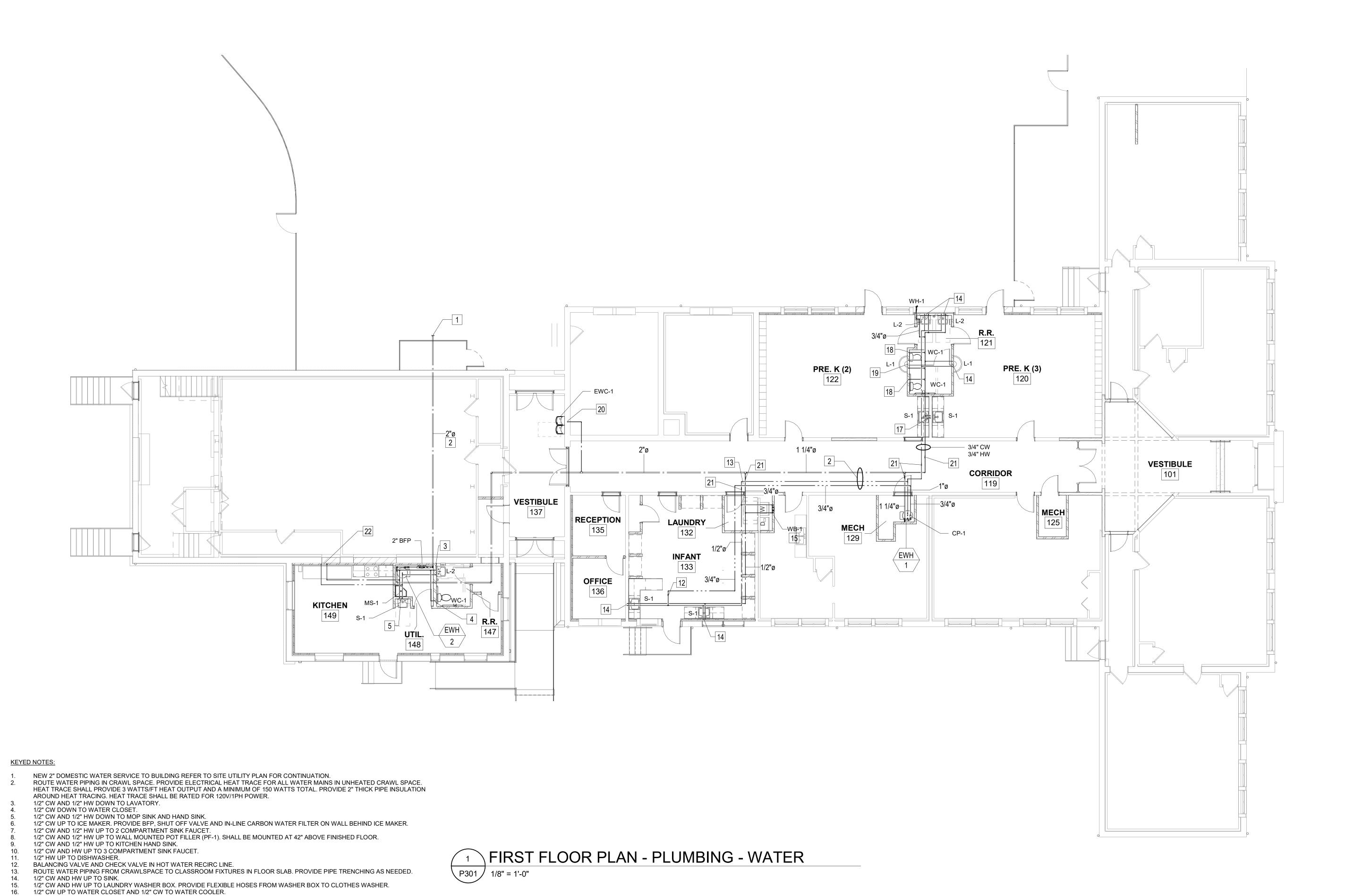
JOHN N. BERG, JR

**DESIGNED BY** 

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540.381.4290

REVISIONS



3/4" CW AND HW UP FROM CRAWLSPACE. CONNECT 1/2" CW AND HW TO EACH SINK.

1/2" CW UP FROM CRAWLSPACE TO WATER CLOSET. 3/4" CW UP FROM CRAWLSPACE. CONNECT 1/2" CW TO EACH WATER CLOSET.

1/2" CW UP TO WATER COOLER. PROVIDE SHUTOFF VALVE.

1/2" CW & 1/2" HW TO 3-COMPARTMENT SINK.

& ASSOCIATES

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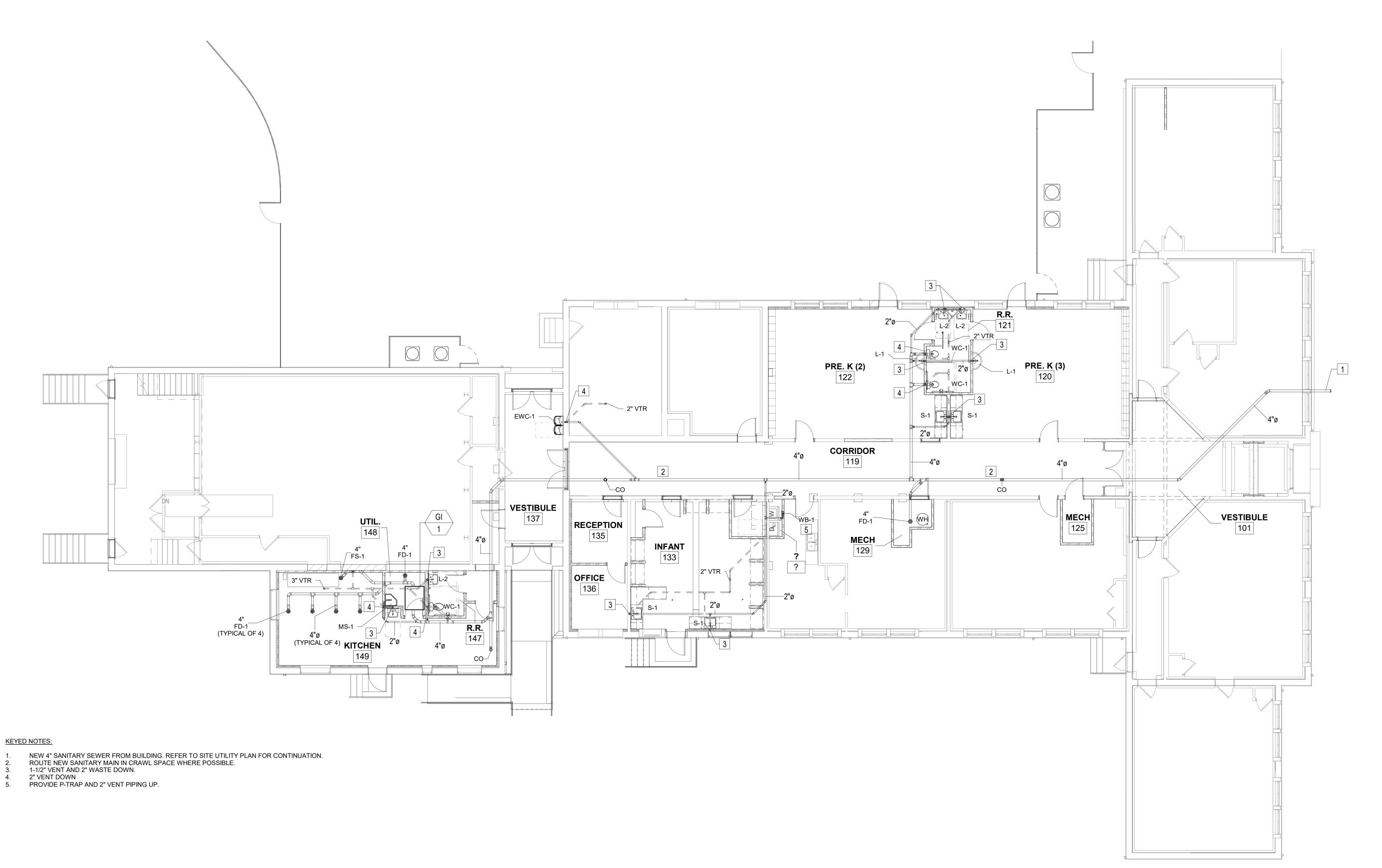
> 80 College Street, Suite H Christiansburg, VA 24073 540.381.4290

JOHN N. BERG, JR

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08/08/2023 1/8" = 1'-0" REVISIONS

FIRST FLOOR PLAN - PLUMBING - WASTE & VENT