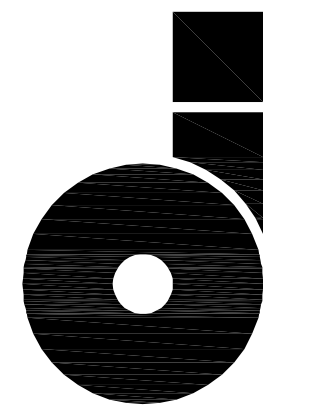


PLUMBING CODED NOTES
 (P1.01) 3/4" PROPANE GAS FROM CEILING SPACE DOWN TO RADIANT HEATER W/ GAS COCK, UNION, 6" DRIP LEG & REGULATOR AS REQUIRED.



OMNESS DESIGN
 140 FAIRFAX RD
 MACRON, OHIO 43033

**New Garage at
 Marion County Wastewater Treatment Plant
 for Marion County Engineer
 2160 Richland Road**

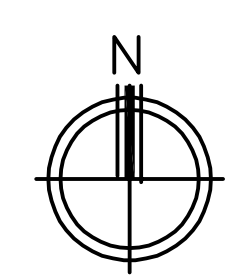
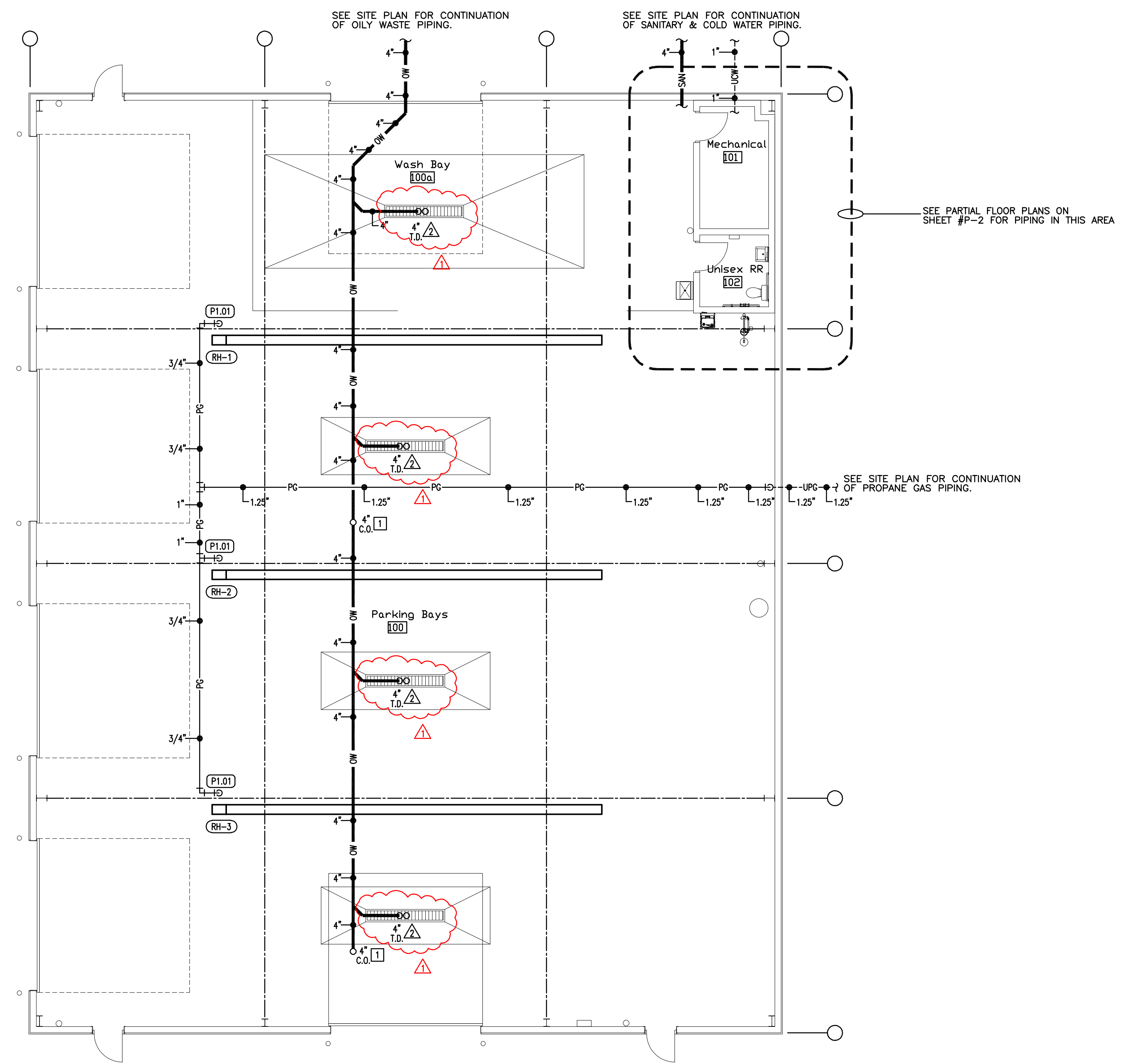
SHEET TITLE
PLUMBING

MARK	DATE	DESCRIPTION
SD		SCHEMATIC DESIGN
CD		CONSTRUCTION DOCUMENTS
1	2-19-24	CONSTRUCTION DOCUMENTS
		REVISION

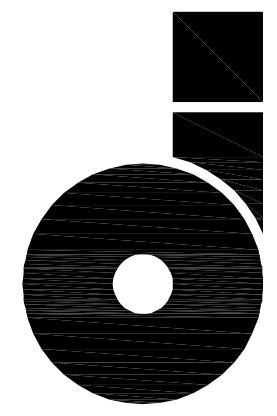
PROJECT NO: 23-123
 CAD DWG FILE: 23-121 MWWT
 DRAWN BY: PD
 CHECKED BY: PD

P-1

SHEET 15 OF 22



Floor Plan - Plumbing
 1/8" = 1'-0"



OMNESS DESIGN
INC.
140 FAIRFAX RD
MARIETTA, OHIO 43040
330

**New Garage at
Marion County Wastewater Treatment Plant
for Marion County Engineer
2160 Richland Road**

SHEET TITLE
PLUMBING

MARK	DATE	DESCRIPTION
SD		SCHEMATIC DESIGN
CD		DESIGN DEVELOPMENT
1	12-19-24	CONSTRUCTION DOCUMENTS
		REVISION

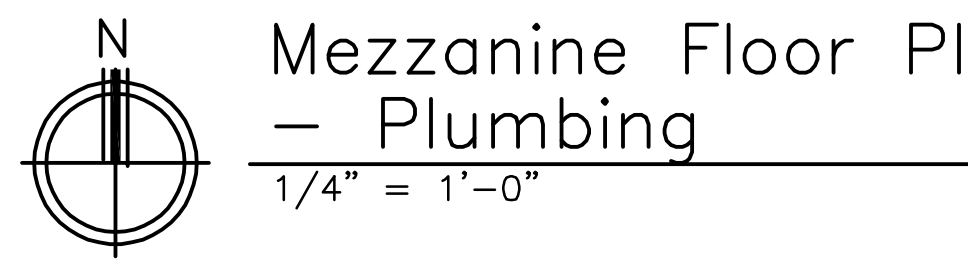
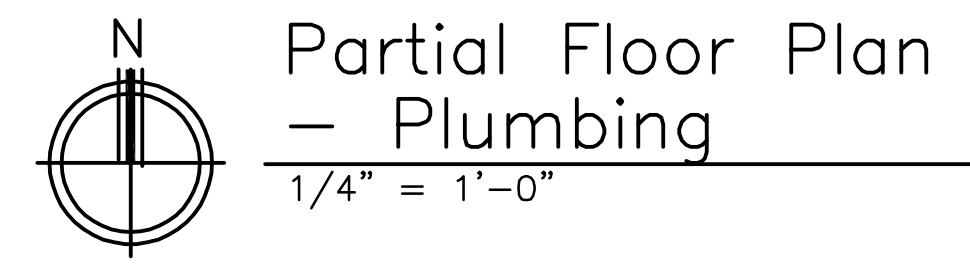
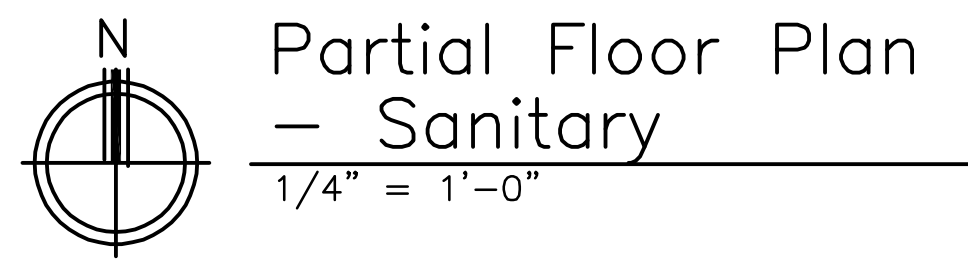
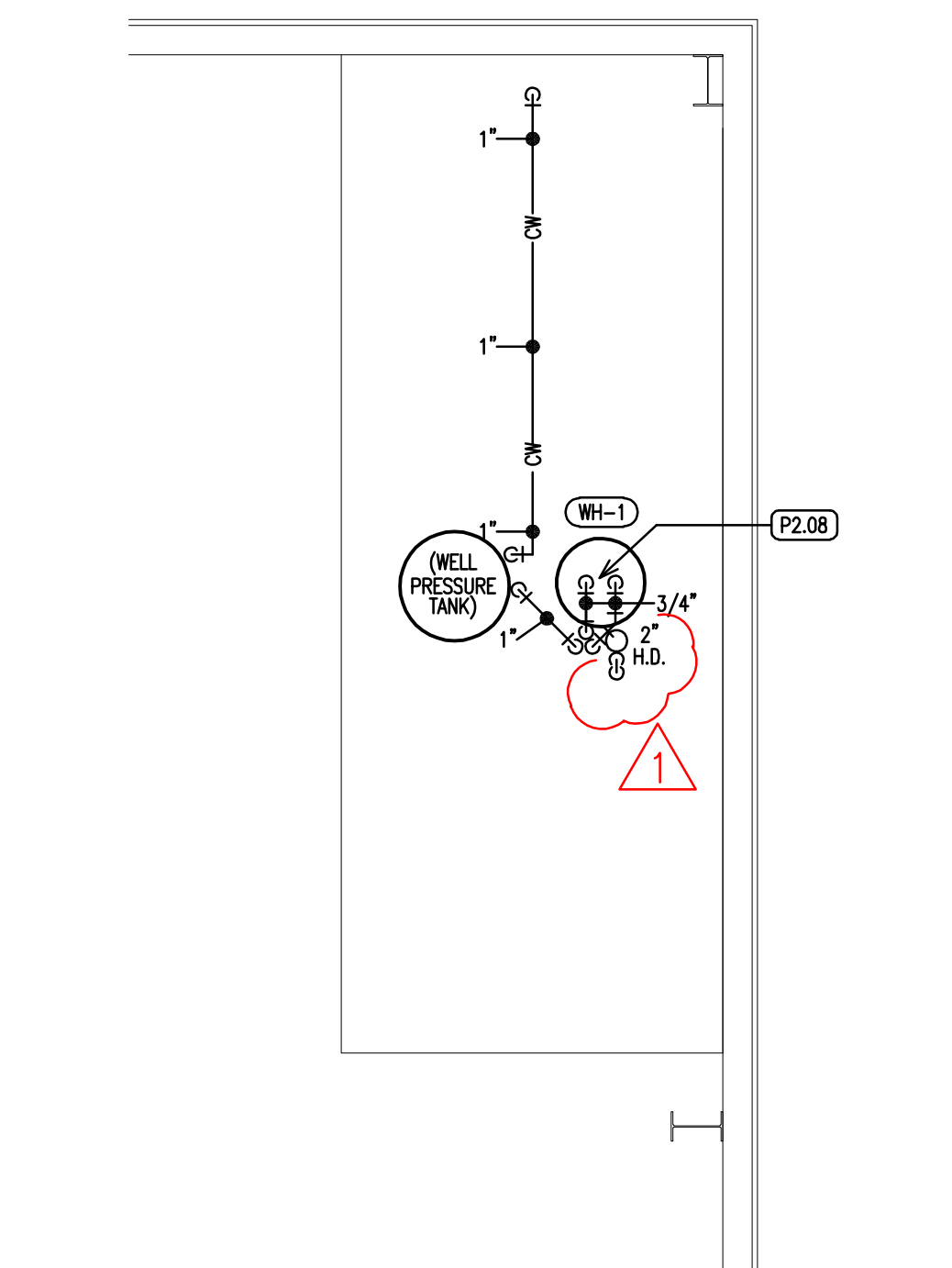
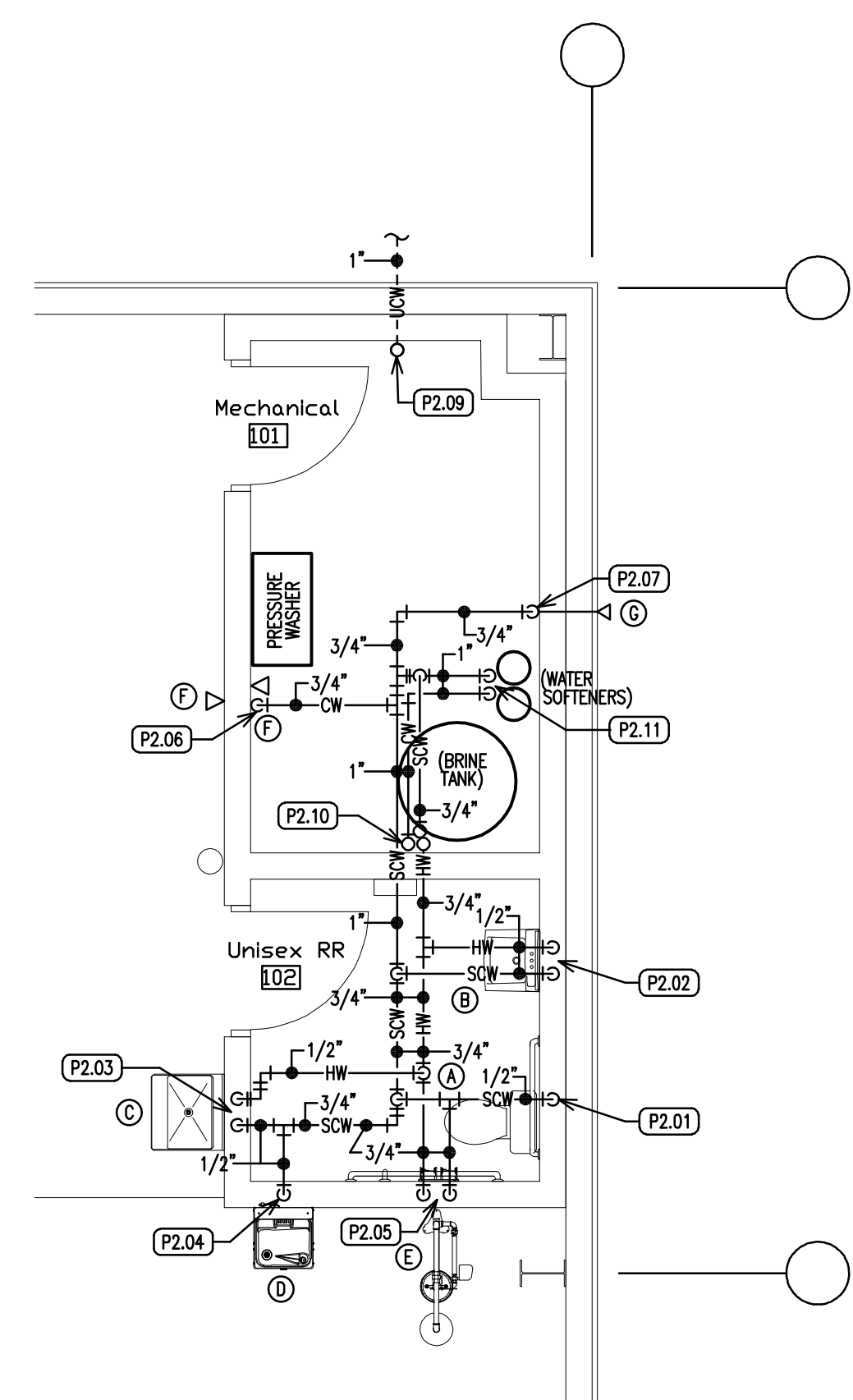
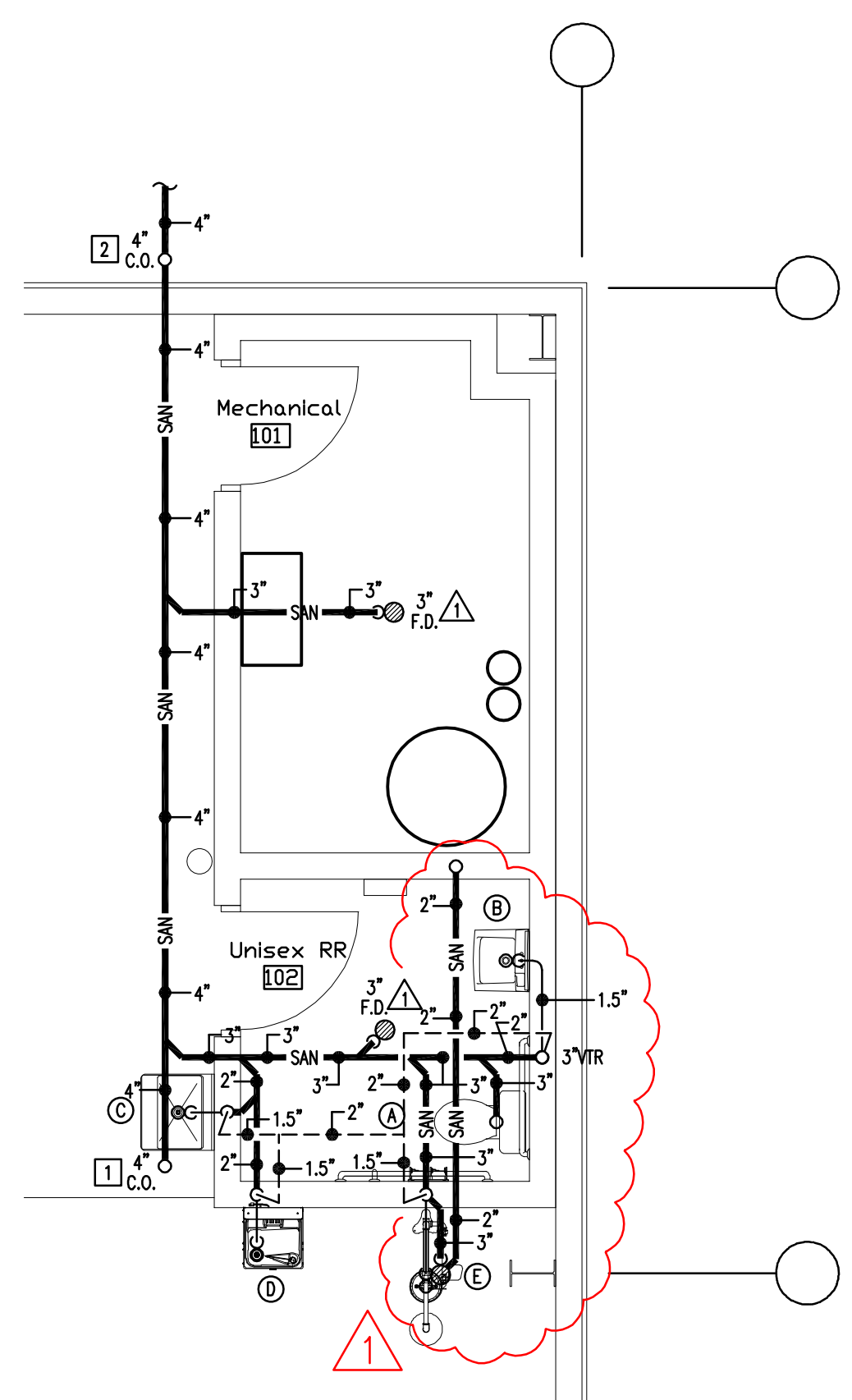
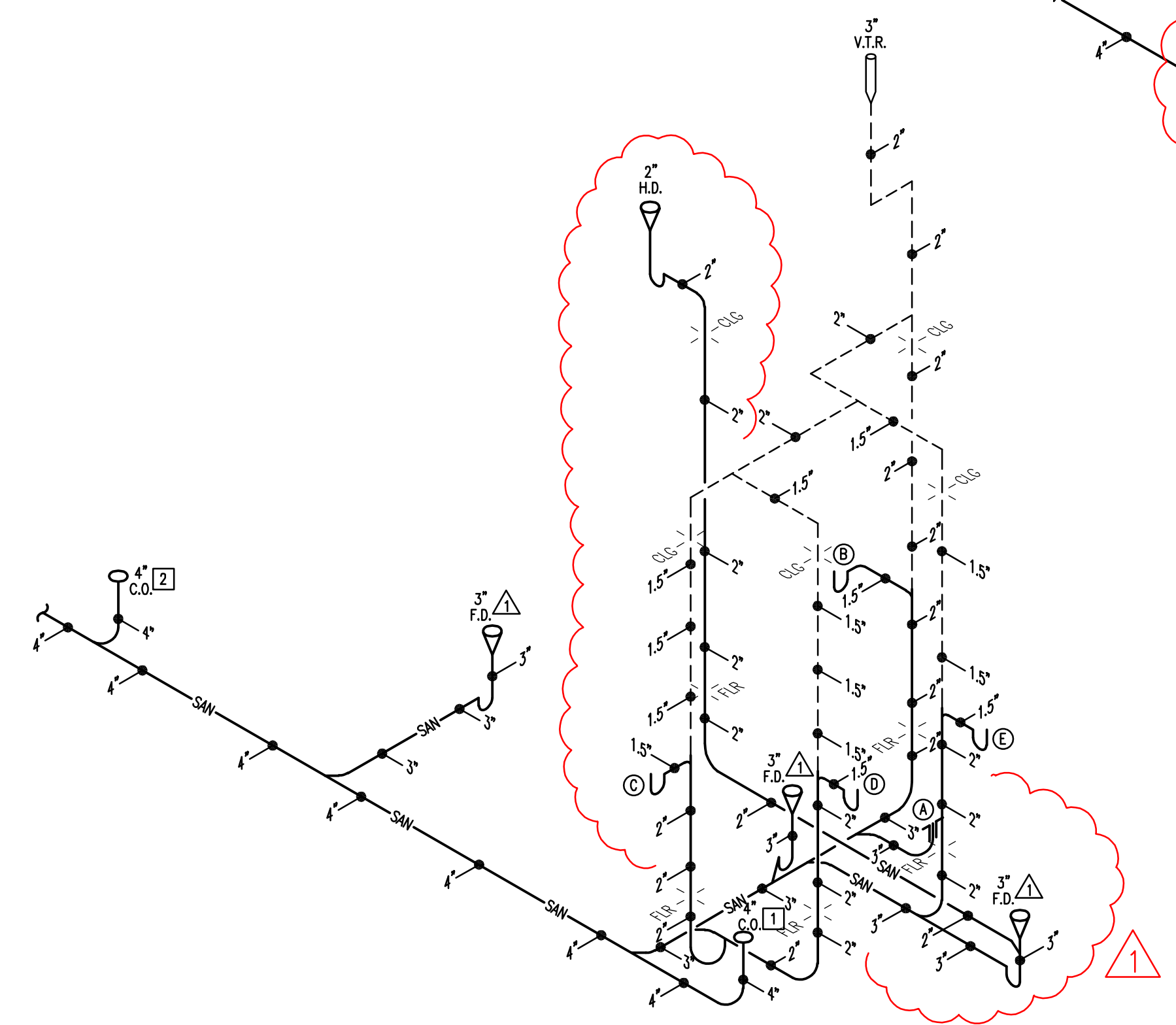
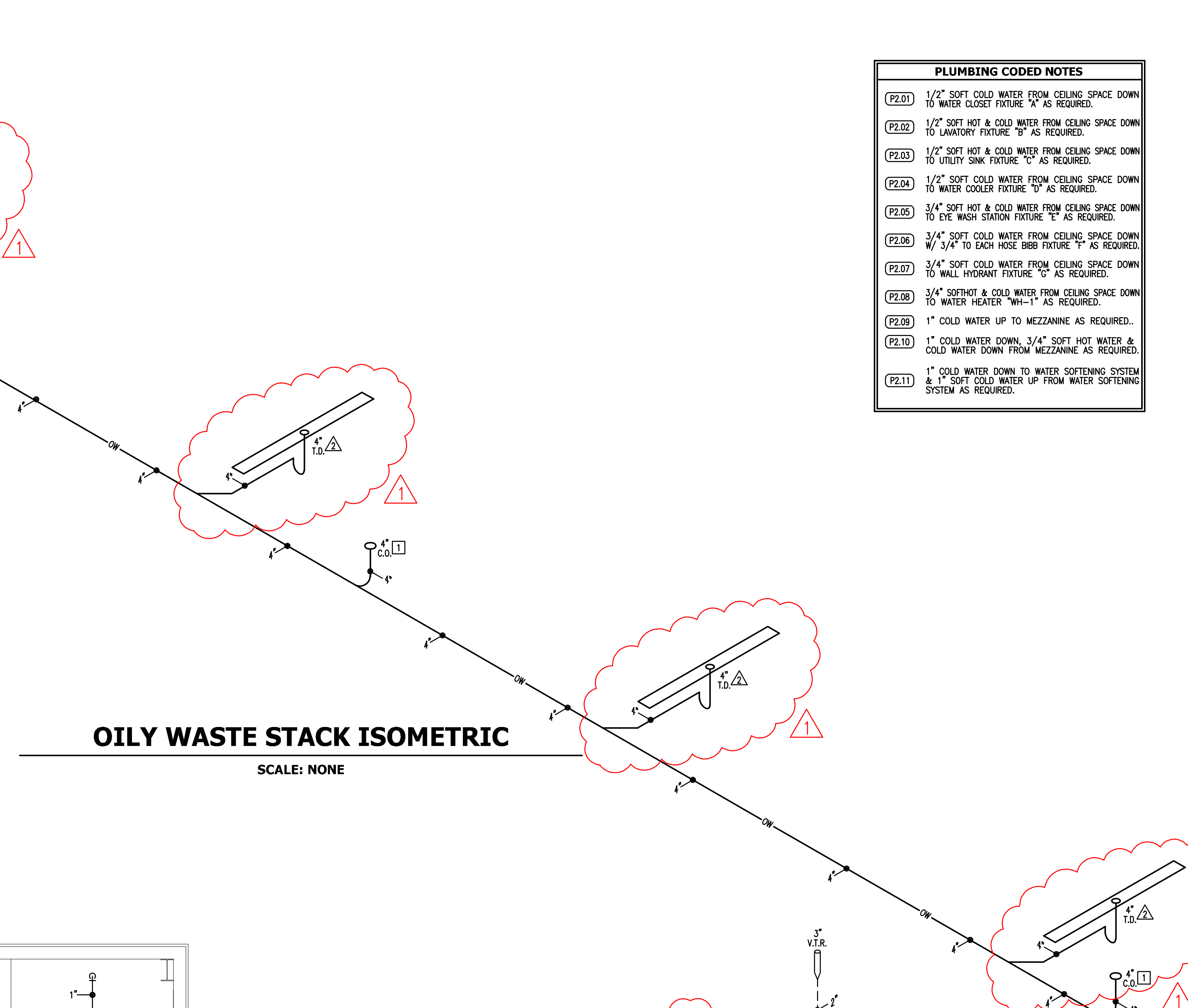
PROJECT NO: 23-123
CAD DWG FILE: 23-121 MWWT
DRAWN BY: PD
CHECKED BY: PD

P-2

SHEET 16 OF 22

PLUMBING CODED NOTES

- (P2.01) 1/2" SOFT COLD WATER FROM CEILING SPACE DOWN TO WATER CLOSET FIXTURE "A" AS REQUIRED.
- (P2.02) 1/2" SOFT HOT & COLD WATER FROM CEILING SPACE DOWN TO LAVATORY FIXTURE "B" AS REQUIRED.
- (P2.03) 1/2" SOFT COLD WATER FROM CEILING SPACE DOWN TO UTILITY SINK FIXTURE "C" AS REQUIRED.
- (P2.04) 1/2" SOFT COLD WATER FROM CEILING SPACE DOWN TO WATER COOLER FIXTURE "D" AS REQUIRED.
- (P2.05) 3/4" SOFT HOT & COLD WATER FROM CEILING SPACE DOWN TO EYE WASH STATION FIXTURE "E" AS REQUIRED.
- (P2.06) 3/4" SOFT COLD WATER FROM CEILING SPACE DOWN W/ 3/4" TO EACH HOSE BIBB FIXTURE "F" AS REQUIRED.
- (P2.07) 3/4" SOFT COLD WATER FROM CEILING SPACE DOWN TO WALL HYDRANT FIXTURE "G" AS REQUIRED.
- (P2.08) 3/4" SOFTHOT & COLD WATER FROM CEILING SPACE DOWN TO WATER HEATER "WH-1" AS REQUIRED.
- (P2.09) 1" COLD WATER UP TO MEZZANINE AS REQUIRED..
- (P2.10) 1" COLD WATER DOWN, 3/4" SOFT HOT WATER & COLD WATER DOWN FROM MEZZANINE AS REQUIRED.
- (P2.11) 1" COLD WATER DOWN TO WATER SOFTENING SYSTEM & 1" SOFT COLD WATER UP FROM WATER SOFTENING SYSTEM AS REQUIRED.



PLUMBING SPECIFICATIONS

GENERAL CONDITIONS

A. REFERENCE

- For purposes of clearness and legibility, Drawings are essentially diagrammatic and although size and location of equipment are drawn to scale wherever possible, Contractor shall make use of all data in all of the Contract Documents and not on Drawings or vice versa, at the building site. Dimensions given in figures on the Drawings take precedence over scaled dimensions.
- Drawings and Specifications to be considered cooperative, and anything appearing in Specifications but not on Drawings or vice versa, shall be considered part of the Contract and must be executed.

B. QUALITY ASSURANCE

- Codes and Permits - Deliver official record of approval, by governing agencies, to Engineer to transmit to Owner.

C. OPERATING INSTRUCTIONS

- Provide to Owner, after all equipment is in operation and at an agreeable time, competent instructors for the purpose of training Owner's personnel in all phases of operation and maintenance of equipment and systems for both heating and cooling season.

D. DAMAGE AND EMERGENCY REPAIRS

- Contractor will be held responsible for any damage that may be incurred on any installed work of other trades, by any workman employed in the installation of work under this Contract. Provide covering under workbench or under any work involving cutting and fitting of materials being installed, so as not to damage surrounding finished surfaces.

E. MATERIALS

- Provide material and labor for that which is neither drawn nor specified but which is obviously a component part of and necessary to complete work which is customarily a part of work of similar character.
- All materials, fixtures, and equipment shall be new, of the best grade, and installed according to manufacturer's recommendations. Additionally, the installation shall be according to the best standards of practices, consistent with all accessories and connections necessary for proper operation, and in compliance with effective State or Local Code requirements.
- Where piping passes through floor, ceiling or wall, close space between pipe and structure with fire stop putty.

PIPE AND PIPE FITTINGS

A. QUALITY ASSURANCE

- Welding Materials and Procedures: Conform to ASME Code, 1980 Standards of the American Welding Society, OBBC Chapter 4101:8 Ohio Pressure Piping System Rules.
- All piping systems in compliance with the Ohio Pressure Piping System Rules must be performed by certified welders. Provide copies of welding certificate and mark all joints with certificate ID.

B. PRODUCTS

1. PIPE AND TUBE

- Steel Pipe: ASTM A53; Schedule 40 black.
 - Ductile Iron Water Pipe: ANSI A21.51.
 - Copper Water Tube: ASTM B88; type and temper as scheduled; seamless.
 - PVC Plastic Pipe: ASTM D2665, Schedule 40.
- PIPE AND TUBE JOINTS AND FITTINGS
 - Malleable Iron Threaded Fittings: ASME B16.3.
 - Malleable Iron Threaded Unions: Class 150.
 - Ductile Iron Fittings: ANSI A21.10.
 - Wrought Copper/Bronze Solder Joint Fittings: ASME B16.22 (pressure fittings).
 - Solder: ASTM B32, Grade 95TA.
 - PVC Pipe Fittings: ASTM D2665 for Schedule 40.
 - Solvent for PVC Joining: ASTM D2564.

C. INSTALLATION

- General: Install pipe, tube and fittings in accordance with recognized industry practices which will achieve permanently-leakproof piping systems, capable of performing each indicated service without piping failure. Install each run with a minimum of joints and couplings, but with adequate and accessible unions for disassembly and maintenance/replacement of valves and equipment. Reduce sizes (where indicated) by use of reduced fittings. Align piping accurately at connections, with 1/16" misalignment tolerance.
- Locate piping runs, except as otherwise indicated, vertically and horizontally (pitched to drain) and avoid diagonal runs wherever possible. Orient horizontal runs parallel with walls and column lines. Locate runs as shown or described by diagrams, details and notations or if not otherwise indicated, run piping in the shortest route which does not obstruct usable space or block access for servicing the building and its equipment. Hold piping close to walls, overhead construction, columns and other structural members. Wherever possible in finished and occupied spaces, conceal piping from view.
- Electrical Equipment Spaces: Do not run piping through transformer vaults and other electrical or electronic equipment spaces and enclosures.
- Piping System Joints: Provide joints of the type indicated in each piping system
 - Thread pipe and fittings shall have cut threads full and clean using sharp dies. Ream threaded ends to remove burrs and restore full inside diameter. Apply pipe joint compound, or pipe joint tape (Teflon) where recommended by pipe/fitting manufacturer, on male threads at each joint and tighten joint to leave not more than three threads exposed.
 - Solder copper tube and fitting joints where indicated, in accordance with recognized industry practice. Cut tube ends squarely, ream to full inside diameter, and clean outside of tube ends and inside of fittings. Apply solder flux to joint areas of both tubes and fittings. Insert tube full depth into fitting, and solder in a manner which will draw solder full depth and circumference of joint. Wipe excess solder from joint before it hardens.
 - Plastic Pipe/Tube Joints: Comply with manufacturer's instructions and recommendations and with applicable industry standards. Make solvent cemented joints ASTM D2865 and F402.

5. Insulating (Dielectric) Unions: Comply with manufacturer's instructions for installing unions. Install unions in a manner which will prevent galvanic action and stop corrosion where the joining of ferrous and non-ferrous piping is indicated.

D. CLEANING, FLUSHING, INSPECTION

- General: Clean exterior surfaces of installed piping systems of superfluous materials and prepare for application of specified coatings (if any). Flush out piping systems with clean water before proceeding with required tests. Inspect each run of each system for completion of joints, supports and accessory items.

E. PIPING TEST

- Test pressure piping in accordance with ANSI B31.
- Repair piping systems sections which fail the required piping test, by disassembly and re-installation, using new materials to the extent required to overcome leakage. Do not use chemicals, stop-leak compounds, mastics or other temporary repair methods.
- Drain test water from piping systems after testing and repair work has been completed.

F. SCHEDULE OF PIPE MATERIALS, JOINTS AND FITTINGS

- Pipe and fittings for all services shall be as indicated on the following schedule:

SCHEDULE OF PIPE MATERIALS, JOINTS AND FITTINGS

Service	Above Grade	Below Grade	Pipe	Joints & Fittings
Natural Gas	X		Black Steel Schedule 40	Malleable Iron Class 150
Sanitary and Vent	X	X	PVC ASTM D2665 Schedule 40	ASTM D2665 With Solvent Weld (ASTM D2564) Cement/ PVC Fittings
Domestic Water	X		Copper, Hard Type L	Soldered (Grade 95TA)
Domestic Water 3" & Larger		X	Ductile Iron Water Pipe	Push On Joints
Domestic Water 2.5" & Smaller		X	Copper, Soft Type K	Soldered (Grade 95TA)

PIPE HANGERS

A. PRODUCTS

- PIPE HANGERS
 - Hangers: Pipe sizes 1/2" to 1 1/2", adjustable wrought steel ring.
 - Hangers: Pipe sizes 2" to 4", adjustable wrought steel clevis.
 - Multiple or Trapezoid Hangers: Steel channels with welded spacers and hanger rods.

B. HANGER RODS

- Provide steel hanger rods, threaded both ends, threaded one end, or continuous threaded.

C. INSTALLATION

- Use side beam brackets for suspending hangers from wood trusses.

D. SPACING REQUIREMENTS

- Support horizontal steel and copper piping as follows:

Nominal Pipe Size (inch)	Distance Between Support (feet)	Hanger Rod Diameter (inch)
1/2	6	3/8
3/4 to 1 1/2	10	3/8
2 and 2 1/2	10	3/8
3 and 4	12	5/8

- Install hangers to provide minimum 1/2" clear space between finished pipe and adjacent work.

- Install a hanger within one foot of each horizontal elbow.
- Use hangers which are vertically adjustable 1 1/2" minimum after piping is erected.

- Where several pipes can be installed in parallel and at same elevation, provide multiple or trapeze hangers.

PLUMBING

A. SUBMITTALS

- Furnish Shop Drawings for all water heaters, plumbing fixtures, floor drains, and cleanouts.
- Submit detailed Shop Drawings clearly indicating make, model, location, type, and size.

B. DOMESTIC WATER HEATER

- Provide water heaters shown on Drawings:
 - Factory insulated and steel jacketed storage tank with baked on finish.
 - Temperature/Pressure relief valve, ASME rated.
 - Glass lined storage tank with anode rod.
 - 150 psi working pressure.
 - 100% automatic shutoff upon pilot failure.
 - Copper immersion heating elements, factory wired with fused connectors.
 - Adjustable immersion stat and high temperature cutout. U.L. approved.
- Water Heater to be Bradford White as described on Drawings.
- Warranty:
 - Water heater shall be covered by a 5-year limited warranty against tank failure due to corrosion or due to metal failure or overheating caused by buildup of sand, sediment, or sludge.

C. SANITARY DRAINAGE SYSTEMS

- Run all drainage and vent piping as direct as possible. Actual location of drains, soil and waste piping shall meet the various building conditions. Do any work necessary to conceal piping.
- Slope branch soil and waste pipes at an incline of at least 1/4" per foot of run. Make changes in direction of drainage piping by means of 90° branches and 1/4, 1/8, or 1/16 bends except that sanitary "T"s and crosses may be used in vertical stacks.

3. Provide cleanouts at base of all stacks, at changes of direction and as shown on Drawings. Cleanouts on undergroundlines shall extend up flush with finished floor or grade. Provide cleanouts not over 50 ft. o.c. along straight runs. Cleanouts shall be size of pipe to which it is installed up to 4" in diameter. Pipe over 4" in diameter shall have a 4" cleanout.

4. Terminate vent pipes at least 12" above roof. Make each vent terminal water-tight with the roof by using sheet lead (4 psf) with base not less than 24" in all directions from center of pipe and full height of pipe and turned down 2" inside of pipe.

5. Lay all sanitary sewers with full length of each section resting on a solid bed. Lay pipe starting at upgrade with spigot end of pipe pointing in direction of flow. All sanitary sewers shall be collected separately as shown on Drawings

D. DOMESTIC WATER SUPPLY SYSTEMS

- Install water system as shown on Drawings with hot and cold water being supplied and connected to all fixtures and equipment.
- Provide unions at all equipment valves, strainer, etc., to facilitate removal for repair or replacement without disturbing adjacent piping.
- Provide temporary water service to area of construction for use of all trades. Plumbing Contractor shall be responsible for maintaining uninterrupted temporary water service throughout construction.
- Chlorinate all domestic water systems. Flush out domestic system then add a solution mixture of 50 ppm of chlorine in the system for a period of 24 hours. Drain and flush system until chlorine residual of 50 ppm. Chlorination shall be repeated if necessary and conform to AWWA Specifications C601-54 and be accepted by Local Health Dept.

E. NATURAL GAS PIPING SYSTEM

- Connect to all building equipment requiring natural gas. Install drip leg and shut-off cock at each connection.

F. PLUMBING FIXTURES AND EQUIPMENT

- Provide plumbing fixtures shown on Drawings and listed in Fixture Schedule. Fixtures as manufactured by Mansfield, Kohler, or Eljer are approved equal.
- All countertop sinks to be individually valved under sinks using Wolverine Ball Valves.
- Faucets and Flush Valves to have renewable seats and discs and chrome plated Delany and Watrous flush valves and Delta Faucets are acceptable on Base Bid.
- All fixtures to be supported as indicated on Fixture Schedule.
- After installation, all connecting piping to be flushed and valves properly adjusted. Labels, plaster, stains and other foreign material to be removed from all fixtures so they are acceptable in and operation. Caulk all fixtures at wall and floors.
- Fixtures set to height as shown in schedule and in location shown on Drawings, plumb, level and substantially supported. Immediately after the setting of any fixture, fitting or piping, protect it adequately without extra cost to the Owner. At all stages of the installation, pipe openings must be protected against the entrance of foreign material.
- Exposed piping to plumbing fixtures shall be chromium plated, iron pipe size, brass pipe and chromium plated stop valves where exposed and brass where concealed.
- All fixtures shall be furnished and installed according to schedules on the Drawings. However, the Plumbing Contractor shall ascertain the correct amount of fixtures required by the plans as he will be held strictly responsible for furnishing and installing all items shown.
- Contractor shall inform himself fully regarding peculiarities and limitations of space available for installation of all material and equipment to be installed under this Contract, and see that all equipment to be reached periodically for operation and maintenance is made easily accessible.

G. TESTS

- Sanitary, Waste, and Vent Piping: All sanitary, storm, and water piping shall be tested per State Plumbing Code and/or requirements of Local Authority.

INSULATION

A. SUBMITTALS

- Submit detailed Shop Drawings or descriptive literature for all insulation products to be used.
- All insulation and accessories shall have composite (insulation, jacket, and adhesive) fire and smoke hazard ratings as tested under procedure ASTM-E-84, NFPA 255 and UL 723, not exceeding a flame spread of 25 and smoke developed 50. All calcium silicate shall be asbestos free to comply with OSHA regulations. The above requirements apply to pipe insulation and coverings used in plenums and shafts which act as active air ducts. All other areas shall have a 25 flame spread rating and 150 smoke developed as tested above. No polyethylene insulation acceptable.
- Materials: All insulation work shall conform to the following schedule:

Service	Type	Size	Thickness	Cons. & Exp.
Domestic Hot Water	I	2" and under	1"	VB A.S.J.
Domestic Cold Water	II	ALL	1"	VB A.S.J.

TYPES OF COVERING

- ASJ - All Service Jacket
- VB - Vapor Barrier

TYPES OF INSULATION

TYPE I

- OFG - Owens-Corning One Piece Fiberglass Pipe Insulation, K = .23, Density = 4.0#/ft³.
- JFG - Johns-Manville "Micro-Lok" Fiberglass Pipe Insulation, K = .23, Density = 4.0#/ft³.
- KFG - Knaf Fiberglass Pipe Insulation, K = .23, Heavy Density.

TYPE II

- APF - Armstrong Armaflex AP Pipe Insulation, K = .27 (1/2" on Domestic Hot and Cold Water Piping).

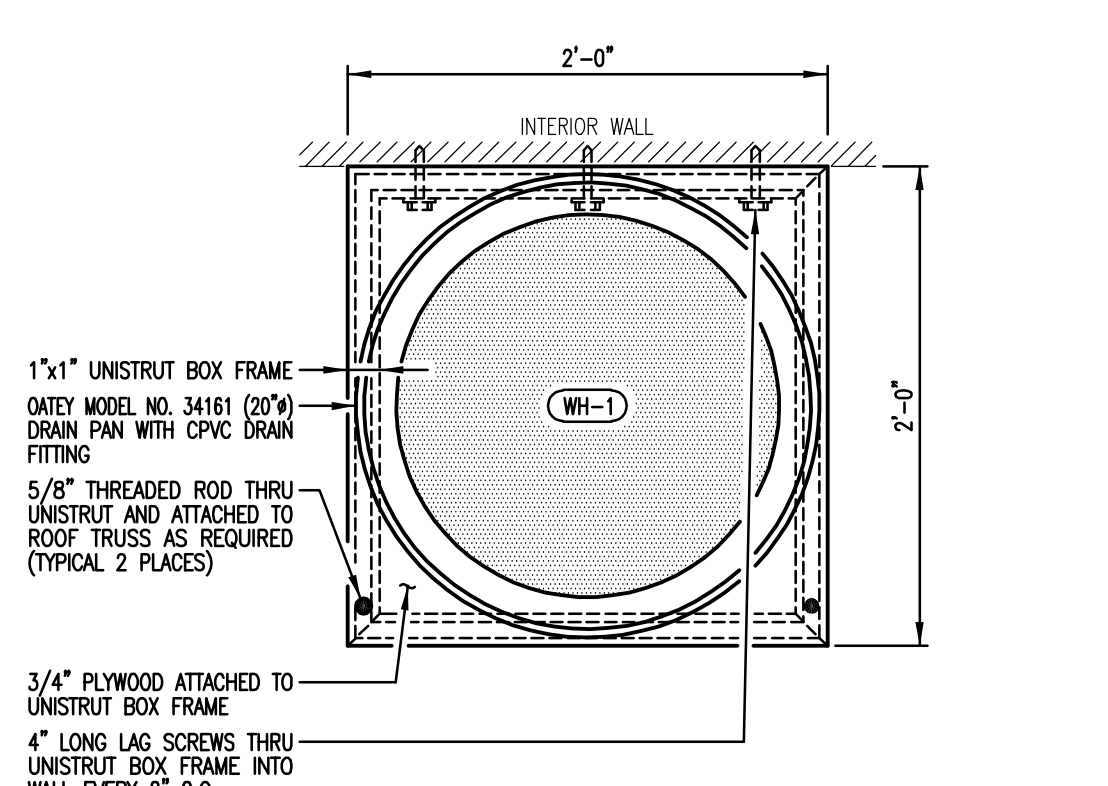
SYM.	DESCRIPTION	CONNECTIONS (IN INCHES)				MT. HT.
		HW	CW	TRAP	SAN	
A	AMERICAN STANDARD MODEL NO. 215AA04.020 "CADET PRO" WATER CLOSET (AMERICAN STANDARD MODEL NO. 418BA04.020 TANK WITH TRIP LEVER ON LEFT SIDE AND AMERICAN STANDARD MODEL NO. 3517A101.020 ELONGATED BOWL WITH AMERICAN STANDARD MODEL NO. 5901.110.020 OPEN FRONT SEAT), HANDICAPPED, WATERSAVER (1.6 GPF), VITREOUS CHINA, CLOSE COUPLED, SIFON JET, KEENEY MODEL NO. 2780PCF (3/8" ANGELED HANDWHEEL STOP, KEENEY MODEL NO. K20288 ESCUTCHEON PLATE, KEENEY MODEL NO. PP23805 1/2" LONG (3/8") BRAIDED STAINLESS STEEL SUPPLY LINE, HERCULES MODEL NO. 90243 "JOHN-RING" EXTRA THICK WAX RING, AND HERCULES MODEL NO. 90124 JOHN-BOLT BRASS TOILET BOLTS	---	1/2	3	3	FLOOR (106" RM)
B	AMERICAN STANDARD MODEL NO. 0356015.020 "LUCERNE" (20x18) LAVATORY, HANDICAPPED, VITREOUS CHINA, WALL HUNG (WALL HANGERS FURNISHED), 3-HOLE CAST FOR AMERICAN STANDARD MODEL NO. 6540.177.020 "MONTEREY" GOOSENECK FAUCET WITH VANDAL RESISTANT WRIST BLADE HANDLES AND VANDAL RESISTANT (0.5 GPM) AERATOR, KEENEY MODEL NO. 5700PCR (1-1/4") CAST BRASS OPEN GRID STRAINER WITH OFFSET TAILPIECE, KEENEY MODEL NO. 5303PC (1-1/4") CAST BRASS P-TRAP WITH CLEANOUT, KEENEY MODEL NO. 2780PCF (3/8") ANGELED HANDWHEEL STOP (QTY. 2), KEENEY MODEL NO. K20288 ESCUTCHEON PLATE (QTY. 2), KEENEY MODEL NO. PP23805 1/2" LONG (3/8") BRAIDED STAINLESS STEEL SUPPLY LINE, HERCULES MODEL NO. 90243 "JOHN-RING" EXTRA THICK WAX RING, AND HERCULES MODEL NO. 90124 JOHN-BOLT BRASS TOILET BOLTS	1/2	1/2	1-1/4	1-1/2	WALL (34" RM)
C	MUSTIEE MODEL NO. 18" "UTILITUB" SINGLE COMPARTMENT UTILITY SINK WITH STEEL LEGS, 2-HOLE PUNCHED FOR AMERICAN STANDARD MODEL NO. 7500.170.020 "MONTEREY" GOOSENECK FAUCET WITH VANDAL RESISTANT WRIST BLADE HANDLES AND VANDAL RESISTANT (1.5 GPM) AERATOR, KEENEY MODEL NO. 140PC (1-1/2") CAST BRASS STRAIGHT TAILPIECE, KEENEY MODEL NO. KEENEY MODEL NO. 5307PC (1-1/2") CAST BRASS P-TRAP WITH CLEANOUT, KEENEY MODEL NO. 2780PCF (3/8") ANGELED HANDWHEEL STOP (QTY. 2), KEENEY MODEL NO. K20288 ESCUTCHEON PLATE (QTY. 2), AND KEENEY MODEL NO. PP23805 1/2" LONG (3/8") BRAIDED STAINLESS STEEL SUPPLY LINE (QTY. 2)	1/2	1/2	1-1/2	1-1/2	FLOOR (36" RM)
D	HALSETT TAYLOR MODEL NO. H4055-WF ELECTRIC (VOLTAGE 120-150, FULL LOAD AMPS 6.0) WATER COOLER, HANDICAPPED, WALL HUNG (WALL HANGERS FURNISHED), KEENEY MODEL NO. 5303PC (1-1/4") CAST BRASS P-TRAP WITH CLEANOUT, AND KEENEY MODEL NO. 2780PCF (3/8") ANGELED HANDWHEEL STOP, W/ BOTTLE FILLER	---	1/2	1-1/4	1-1/2	WALL (32" RM)
E	BRADLEY MODEL NO. S19-S14 STAINLESS STEEL WALL MOUNTED EMERGENCY EYEWASH STATION WITH S19-2250 THERMOSTATIC MIXING VALVE, TWIN SOFT-FLOW EYEWASH HEADS WITH PROTECTIVE SPRAYHEAD COVERS, SAFETY YELLOW.	3/4	3/4	1-3/4	2	WALL
F	CHICAGO MODEL NO. 387-E27CP SILL FAUCET WITH VACUUM BREAKER, T-HANDLE, AND 3/4" HOSE THREADED OUTLET	---	3/4	---	---	WALL (30")
G	SMITH MODEL NO. 5690QT-SE-WC NON-FREEZE HOSE BIBB WITH VACUUM BREAKER, REMOVABLE T-HANDLE, AND 3/4" HOSE THREADED OUTLET	---	3/4	---	---	WALL (30")

SYM.	DESCRIPTION	GRATE TYPE	DRAIN TYPE
2	SMITH MODEL NO. 2717-M CAST IRON TRENCH DRAIN WITH DUCTILE IRON GRATE.	DUCTILE IRON	TRENCH

SYM.	DESCRIPTION	COVER TYPE	CLEANOUT TYPE
2	SMITH MODEL NO. 426L04-C CAST IRON CLEANOUT WITH BRONZE PLUG AND SPEED SET (PVC) OUTLET CONNECTION	CAST IRON	EXTERIOR

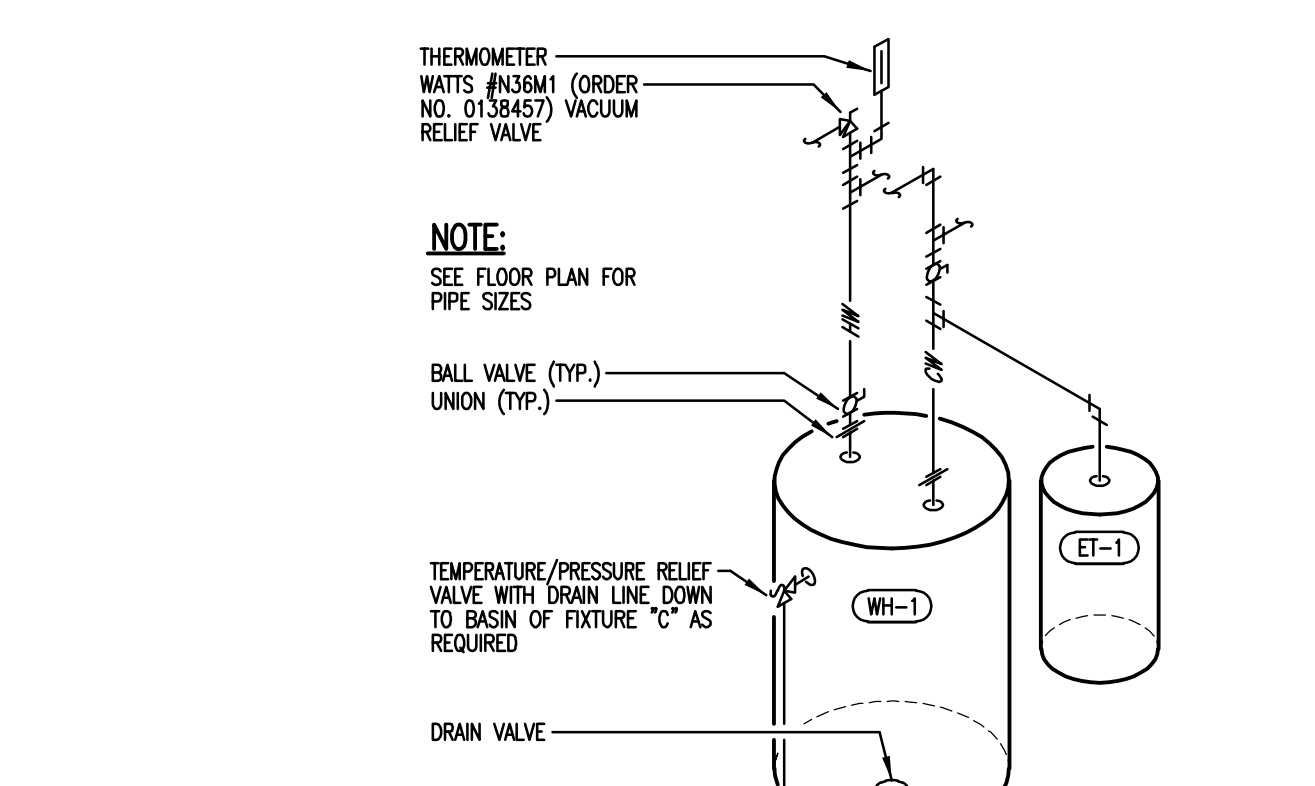
SYM.	MFR.	MODEL NO.	DESCRIPTION

SYM.	MFR.	MODEL NO.	DESCRIPTION



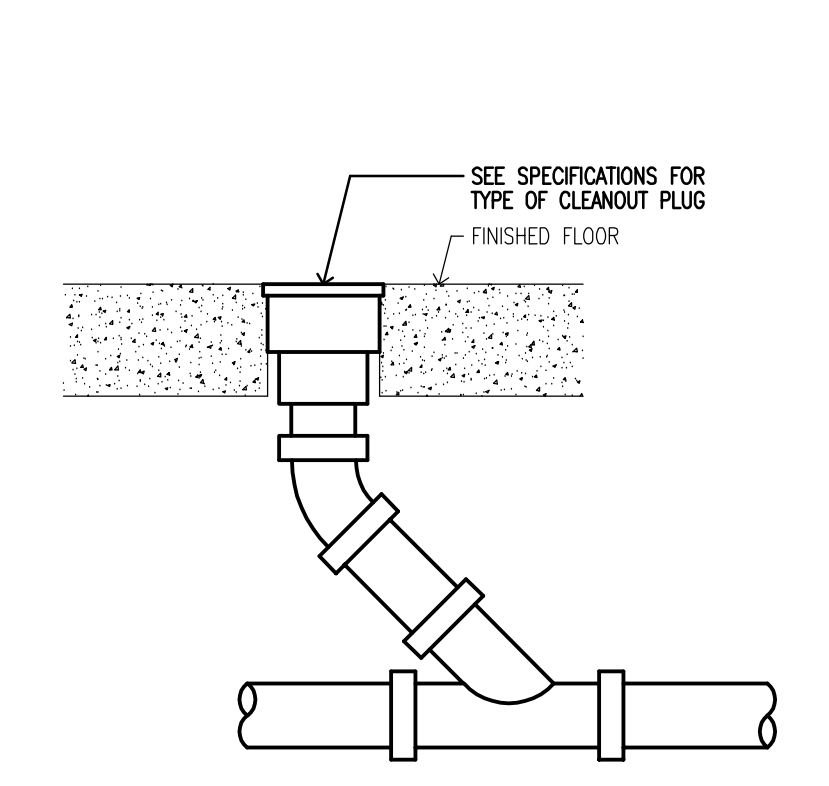
WATER HEATER SHELF DETAIL

NOT TO SCALE



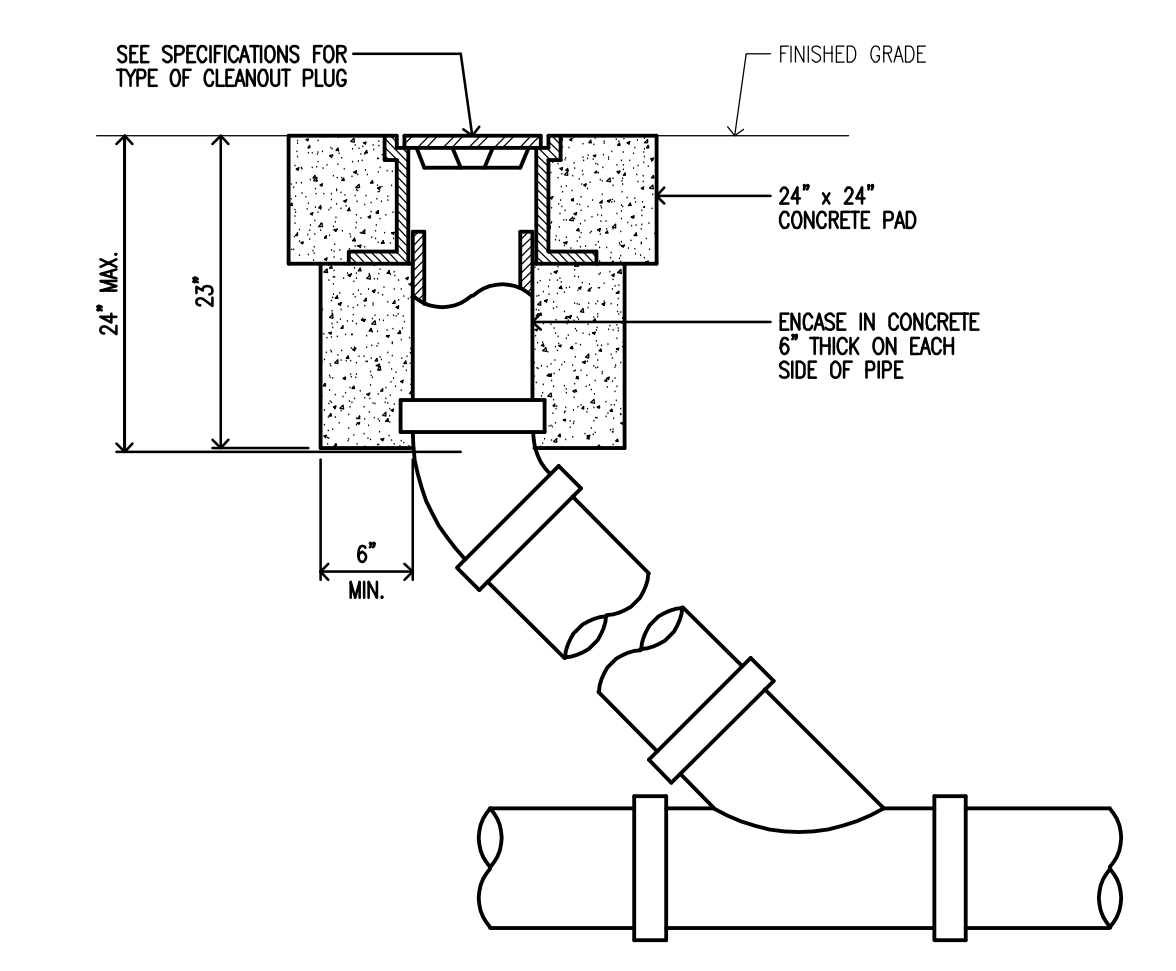
ELECTRIC WATER HEATER DETAIL

SCALE: NONE



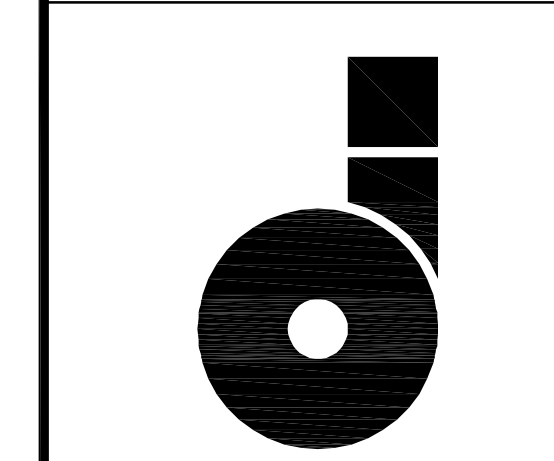
CLEANOUT (FLOOR TYPE) DETAIL

SCALE: NONE



CLEANOUT (GRADE TYPE) DETAIL

SCALE: NONE



OMNESS DESIGN, INC.
140 FAIRFAX RD
ACRON, OHIO 44312

New Garage at
Marion County Wastewater Treatment Plant
for Marion County Engineer
2160 Richland Road

MARK	DATE	DESCRIPTION
SD	12-19-24	SCHEMATIC DESIGN
DD	12-19-24	DESIGN DEVELOPMENT
CD	12-19-24	CONSTRUCTION DOCUMENTS
	1	REVISION

PROJECT NO: 23-123
CAD DWG FILE: 23-121 MWWT
DRAWN BY: PD
CHECKED BY: PD

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SHEET 17 OF 22