THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ORIGINAL PLOT SIZE

SPECIFICATIONS

Notes:
1. 6" plain end inlet/outlet
2. Unit weight - w/ cast iron covers: 824 lbs. (for wet weight add 8,413 lbs.)
3. Maximum operating temperature: 150° F continuous
4. Capacities - Liquid: 1,000 gal.:
   Grease: 5,495 lbs. (753 gal.) @100GPM
   Grease: 4,959 lbs. (679 gal.) @200GPM
   Solids: 211 gal.
5. Satisfies Miami DERM 99% efficiency requirements; retaining the following capacities at 99.0% efficiency:
   5,272 lbs. (722 gal.) @100GPM
   3,127 lbs. (428 gal.) @200GPM
6. For gravity drainage applications only.
7. Do not use for pressure applications.
8. Cover placement allows full access to tank for proper maintenance.
9. Vent not required unless per local code.
10. Engineered inlet and outlet diffusers with inspection ports are removable to inspect / clean piping.
11. Integral air relief / Anti-siphon / Sampling access.
12. Adjustable cover adapters provide up to 4" of additional height.
13. Designed for below-grade, above-grade, indoor or outdoor installations.
14. Safety Starfi, access restrictor built into each cover adapter, prevents accidental entry to tanks (400 lb rating).

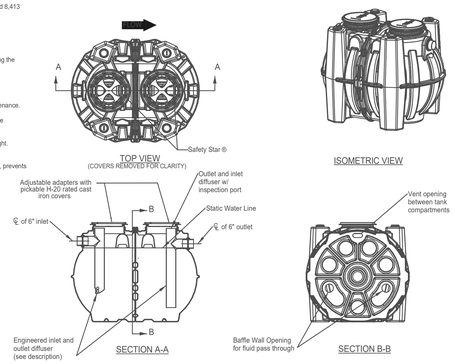
ENGINEER SPECIFICATION GUIDE

Schier Great Basin™ grease interceptor model # GB-1000 shall be lifetime guaranteed and made in USA of seamless, molded polyethylene with minimum 7/16" uniform wall thickness. Interceptor shall be furnished for above or below-grade installation with adjustable cover adapter and Safety Starfi access restrictor built into each cover adapter. Interceptor shall be certified to ASME A112.14.3 (Type D) and CSA B481.1 as well as certified to IAPMO/ANSI Z1001-2021. Interceptor flow rate shall be 100 GPM or 200GPM. Interceptor grease capacity shall be 5,495 lbs. Cover shall provide water/gas-tight seal and have minimum 16,000 lbs. load capacity.

CERTIFIED PERFORMANCE

Great Basin™ hydromechanical grease interceptors are third party performance-tested and listed by IAPMO to ASME #A112.14.3 and CSA B481.1 grease interceptor standards and greatly exceed requirements for grease separation and storage. They are compliant to the Uniform Plumbing Code and the International Plumbing Code.

Type D certification does not require a flow control



ISOMETRIC VIEW

GREASE INTERCEPTOR DETAIL

NOT TO SCALE

SCHIER
6455 Woodland Dr.
Shawnee, KS 66216
Tel: 913-951-3300
Fax: 913-951-3399
schierproducts.com

PLUMBING FIXTURE SCHEDULE

DESIGNATOR	FIXTURE	CW	HW	SAN	VENT	GAS	STORM
P-1	WATER CLOSET - FLOOR SET - MANUAL FLUSH VALVE	1½"	--	4"	2"	--	--
P-1A	WATER CLOSET - FLOOR SET - MANUAL FLUSH VALVE , ADA	1½"	--	4"	2"	--	--
P-1B	WATER CLOSET - WALL HUNG - MANUAL FLUSH VALVE	1½"	--	4"	2"	--	--
P-1C	WATER CLOSET - FLOOR SET - CHILD HEIGHT, MANUAL FLUSH VALVE, ADA	1½"	--	4"	2"	--	--
P-1D	WATER CLOSET - WALL HUNG - MANUAL FLUSH VALVE, ADA	1½"	--	4"	2"	--	--
P-2	LAVATORY - WALL-HUNG - MULTI-USER STATION, ADA	½"	½"	1½"	1½"	--	--
P-2A	LAVATORY - WALL-HUNG - MANUAL FAUCET, ADA	½"	½"	1½"	1½"	--	--
P-3	URINAL - WALL-HUNG - MANUAL FLUSH VALVE	¾"	--	2"	1½"	--	--
P-3A	URINAL - WALL-HUNG - MANUAL FLUSH VALVE, ADA	¾"	--	2"	1½"	--	--
P-4	SINGLE COMPARTMENT STAINLESS STEEL SINK - MANUAL GOOSENECK FAUCET	½"	½"	1½"	1½"	--	--
P-4A	SINGLE COMPARTMENT STAINLESS STEEL SINK - STUDENT, MANUAL GOOSENECK FAUCET, ACID DILUTION	½"	½"	1½"	1½"	--	--
P-4B	SINGLE COMPARTMENT STAINLESS STEEL SINK - TEACHER, MANUAL GOOSENECK FAUCET, ACID DILUTION, GAS TURRET	½"	½"	1½"	1½"	--	--
P-4C	SINGLE COMPARTMENT STAINLESS STEEL SINK - PREP RM, MANUAL GOOSENECK FAUCET, ACID DILUTION	½"	½"	1½"	1½"	--	--
P-4D	DOUBLE COMPARTMENT STAINLESS STEEL SINK - CONCESSION, MANUAL GOOSENECK FAUCET, GREASE TRAP	½"	½"	1½"	1½"	--	--
P-4E	DOUBLE COMPARTMENT STAINLESS STEEL SINK - ART ROOM, MANUAL GOOSENECK FAUCET, PLASTER TRAP	½"	½"	1½"	1½"	--	--
P-6	24"x24" MOP BASIN	¾"	¾"	3"	1½"	--	--
P-7	BI-LEVEL ELECTRIC WATER COOLER W/ BOTTLE FILLING STATION - HAWS MODEL 1119.14, HAWS MODEL 1920HO	½"	--	1½"	1½"	--	--
P-8	WATER CONNECTION BOX (REF/COFFEE) - MINI ROUND	½"	--	--	--	--	--
P-8A	WASHING MACHINE CONNECTION BOX - RECESSED, WATER CONNECTIONS ONLY	½"	--	--	--	--	--
P-10	COMBINATION EMERGENCY SHOWER / EYEWASH	1½"	1½"	2"	1½"	--	--
HB	HOSE BIBB - CONCEALED (RESTROOMS)	½"	--	--	--	--	--
HB-1	HOSE BIBB - EXPOSED (MECHANICAL ROOMS)	½"	--	--	--	--	--
FPWH	FREEZE-PROOF WALL HYDRANT	¾"	--	--	--	--	--
FD-1	TOILET ROOM SQUARE FLOOR DRAIN - TRAP PRIMER	½"	--	3"	1½"	--	--
FD-2	MECHANICAL ROOM FLOOR DRAIN - TRAP PRIMER	½"	--	4"	2"	--	--
FS-1	KITCHEN FLOOR SINK - TRAP PRIMER	½"	--	4"	2"	--	--

NOTES:

- PIPE SIZES ARE AS INDICATED UNLESS OTHERWISE NOTED ON FLOOR PLANS AND RISER DIAGRAMS.
- PROVIDE ALL REQUIRED PIPING TO FIXTURES INDICATED ON THE FLOOR PLANS, INDICATED WITH A "P" DESIGNATION. PROVIDE PIPING OF SIZE INDICATED IN THIS SCHEDULE.
- PIPE ALL EQUIPMENT (SUPPLIED BY OTHERS) AS REQUIRED TO OBTAIN A FULL AND OPERATIONAL SYSTEM. PROVIDE BACKFLOW PROTECTION AS/IF REQUIRED BY THE DETAILS AND BY THE NORTH CAROLINA PLUMBING CODE. ALL EQUIPMENT SHALL BE CONNECTED PER THE MANUFACTURER'S REQUIREMENTS. THE PLUMBING CONTRACTOR SHALL ALSO INSTALL ANY DRAIN PIPING CONNECTIONS AND SPILL INDIRECTLY TO EITHER AN OPEN RECEPTACLE OR FLOOR DRAIN. REFER TO ARCHITECTURAL PLANS FOR EXACT PLACEMENT OF ALL EQUIPMENT.

PLUMBING LEGEND

ABOVE FINISHED FLOOR	AFF
BACK WATER VALVE	BWV
CAST IRON	CI
CLEANOUT	CO
COLD WATER	CW
DOMESTIC WATER CIRCULATING PUMP	DP
ELECTRICAL CONTRACTOR	EC
EXPANSION TANK	ET
EXTERIOR CLEANOUT	ECO
FLOOR DRAIN	FD
FREEZE PROOF WALL HYDRANT	FPWH
GENERAL CONTRACTOR	GC
HOSE BIBB	HB
HOT WATER	HW
MECHANICAL CONTRACTOR	MC
NOT TO SCALE	NTS
OPEN RECEPTACLE	OR
PLUMBING CONTRACTOR	PC
ROUTED BELOW SLAB	RBS
TRAP PRIMER	TP
TYPICAL	TYP
VENT THROUGH ROOF	VTR
WATER HAMMER ARRESTOR	WHA
WATER HEATER	WH
SANITARY PIPING	SAN
STORM PIPING	SS
SANITARY VENT PIPING	V
DOMESTIC COLD WATER PIPING	
DOMESTIC HOT WATER PIPING (120° F)	
DOMESTIC HOT WATER RETURN PIPING (120° F)	
NATURAL GAS PIPING	G
RELIEF VALVE DISCHARGE	RVD
PRESSURE RELIEF VALVE	
UNION	
DIAL THERMOMETER	
PRESSURE GAUGE	
GATE VALVE	
BALANCING VALVE	
GAS SHUT-OFF VALVE	
CHECK VALVE	
DOUBLE CHECK VALVE ASSEMBLY	
BALL VALVE	
BALL VALVE IN RISER	
PIPING ELBOW (TURNED UP/DOWN)	
PIPING TEE (TURNED UP/DOWN)	
REDUCED PRESSURE BACKFLOW PREVENTER	
BACK WATER VALVE	

GREASE INTERCEPTOR CALCULATION

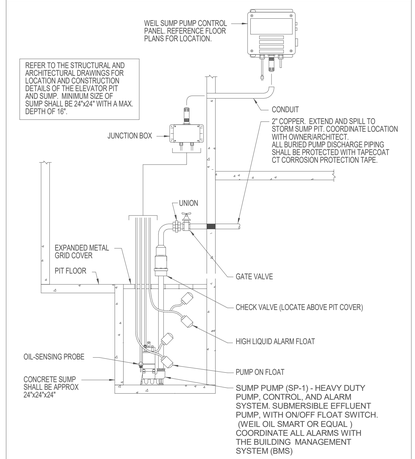
TAG	GI-1 (BARGER TRAFFIC RATED GREASE TRAP)
FLOW RATE (GPM)	100 GPM
VOLUME TOTAL	75 GPM, APPROX 1400 SERVINGS PER DAY
CAPACITY REQUIRED	APPROX. 753 GALLONS
CAPACITY PROVIDED	1,000 GALLONS
REMARKS: GREASE INTERCEPTOR SHALL CONFORM TO PDI G101, ASME A112.14.3, OR ASME A112.14.4 VIRGINIA PLUMBING CODE 1003.3.1.	

EXISTING FLOW TEST

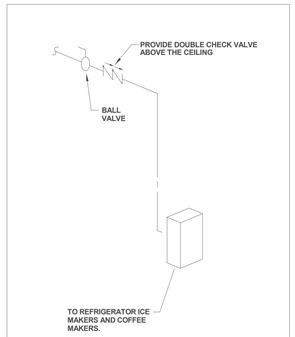
STATIC:	54 psi
RESIDUAL:	44 psi
FLOW:	872 gpm
DATE:	02.13.2025
HYDRANT:	ALONG SAM POTTS HIGHWAY
BY:	PARAMOUNTE

SUMP PUMP (ELEVATOR)

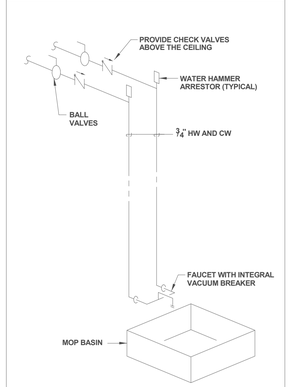
TAG	SP-1
MANUFACTURER	WEIL PUMP
MODEL	1456-OSS
HEAD (FT)	22
GPM	50
HP	0.5
VOLTAGE / MAX FUSE	115V / 1 PH
REMARKS: PROVIDE ALL NECESSARY STARTERS, CONTROLS, DISCONNECTS. COORDINATE ALL CONNECTIONS WITH THE ELECTRICAL CONTRACTOR.	



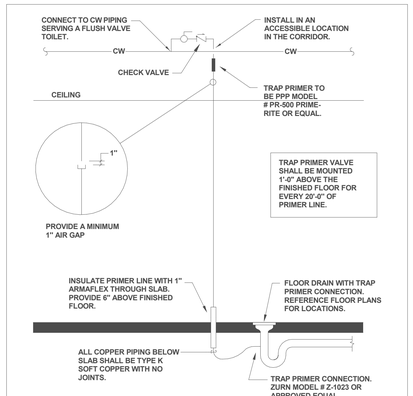
SUMP PUMP (ELEVATOR) DETAIL (SP-1)
NOT TO SCALE



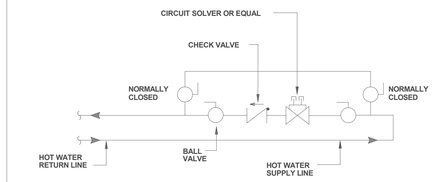
CONNECTION BOX DETAIL (P8)
NOT TO SCALE



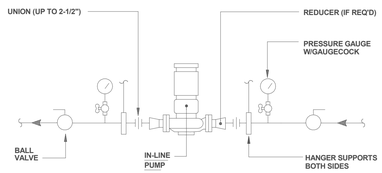
MOP BASIN DETAIL (P6)
NOT TO SCALE



FLOOR DRAIN TRAP PRIMER PIPING SCHEMATIC
NOT TO SCALE — TYPICAL OF ALL HUB DRAINS

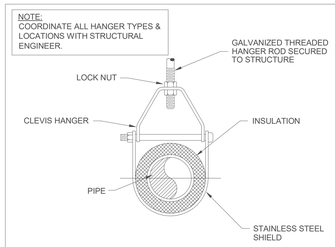


HOT WATER BALANCING STATION DETAIL (HWBS)
NOT TO SCALE — ALL HOT WATER RETURN LOOPS

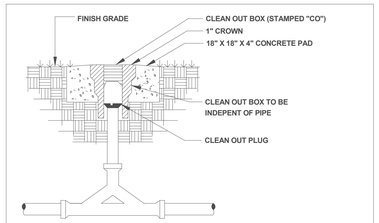


NOTE:
RECIRCULATING PUMPS SHALL BE EQUIPPED WITH CONTROLS LIMITING OPERATION TO A PERIOD FROM START OF THE HEATING CYCLE TO A MAXIMUM OF FIVE MINUTES AFTER THE END OF THE HEATING CYCLE TO COMPLY WITH ASHRAE 90.1-10 SECTION 7.4.4.4.

IN-LINE RE-CIRCULATION PUMP DETAIL
NOT TO SCALE — DOMESTIC HOT WATER RETURN SYSTEM



PIPE HANGER DETAIL
NOT TO SCALE



EXTERIOR 2-WAY CLEANOUT DETAIL
NOT TO SCALE

COLUMBUS COUNTY SCHOOLS

COLUMBUS COUNTY SCHOOLS

LS3P
101 NORTH THIRD STREET, SUITE 500
WILMINGTON, NORTH CAROLINA 28401
TEL. 910.790.9901 FAX. 910.790.3111
WWW.LS3P.COM

CMTA
A LEIDOS Company

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 022358 DOUGLAS R. HUNDLEY

COLUMBUS COUNTY SCHOOLS PK-8

Green Swamp Rd, Hwy. 211 and Sam Potts Hwy 214
Bolton, North Carolina 28423

LS3P PROJECT: 7201-240219

Δ	DATE	DESCRIPTION
A	2024.10.30	SCHEMATIC DESIGN
B	2025.04.02	DESIGN DEVELOPMENT
C	2025.07.14	50% CD
D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

SHEET NAME:
PLUMBING SCHEDULES & DETAILS

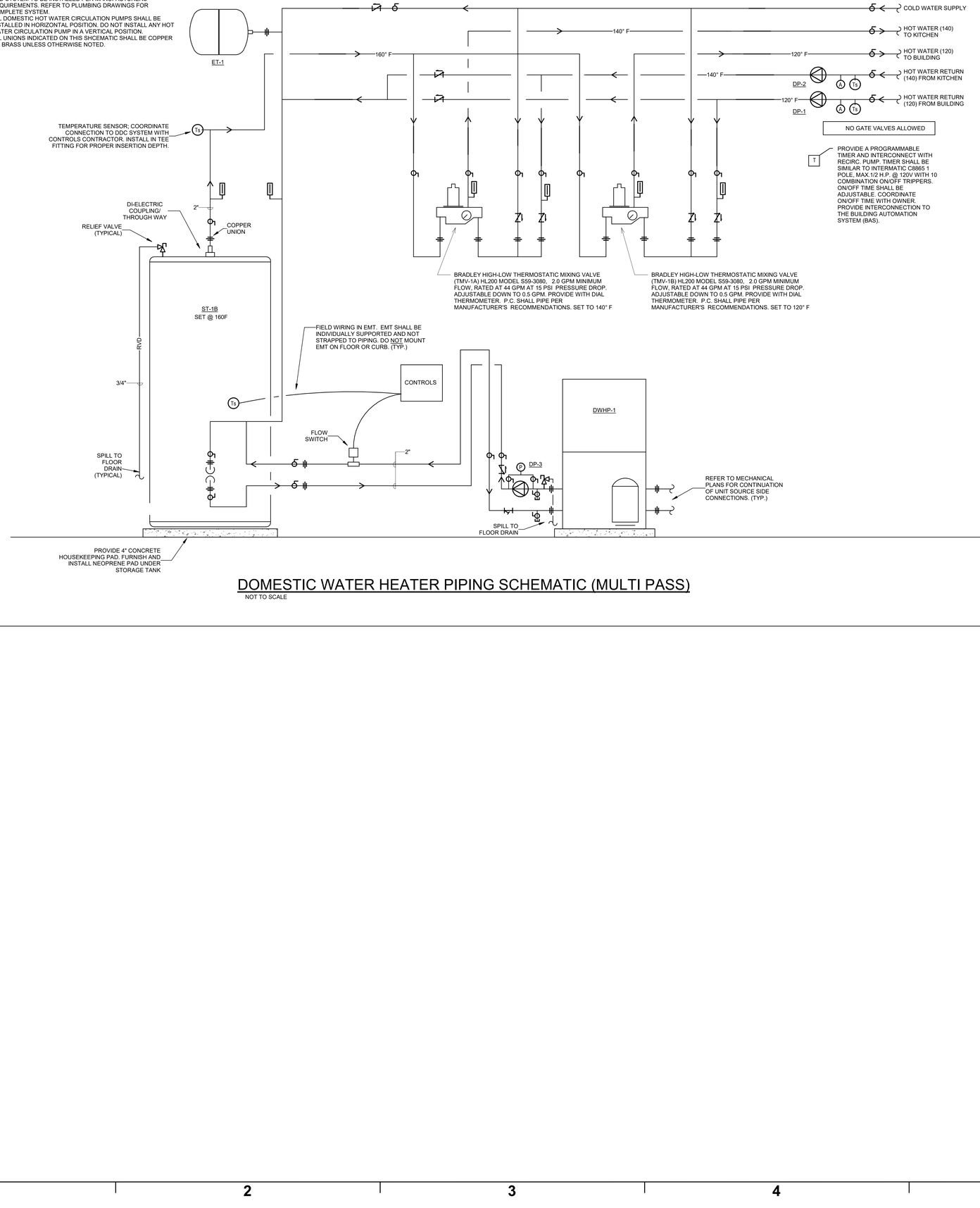
ORIG SUBMISSION: 2025.09.24

SHEET:
P001

ISSUE FOR PERMIT / BIDDING

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ORIGINAL PLOT SIZE

NOTE:
A. PIPING DIAGRAM AND INSTALLATION TO BE VERIFIED WITH WATER HEATER MANUFACTURERS. SUBMIT SHOP DRAWINGS AND SYSTEM TO BE INSTALLED PER MANUFACTURERS REQUIREMENTS. REFER TO PLUMBING DRAWINGS FOR COMPLETE SYSTEM.
B. ALL DOMESTIC HOT WATER CIRCULATION PUMPS SHALL BE INSTALLED IN HORIZONTAL POSITION. DO NOT INSTALL ANY HOT WATER CIRCULATION PUMP IN A VERTICAL POSITION.
C. ALL UNIONS INDICATED ON THIS SHCEMATIC SHALL BE COPPER OR BRASS UNLESS OTHERWISE NOTED.



DOMESTIC WATER HEATER PIPING SCHEMATIC (MULTI PASS)
NOT TO SCALE

DOMESTIC HOT WATER HEAT PUMP		
TAG		DWHP-1
BASIS OF DESIGN		WATER FURNACE
MODEL		NXW120D
KW		14.9
HEATING CAPACITY (MBTUH)		129.8
HEATING EXTRACTION (GPH)		174
HEATING EXTRACTION (MBTUH)		79
HEATING COP / COMBINED COP		2.6
FLOW RATE (GPM)	EVAPORATOR	25
ENTERING TEMP	EVAPORATOR	50
LEAVING TEMP	EVAPORATOR	44.7
PSI	EVAPORATOR	0.4
FLOW RATE (GPM)	CONDENSER	23.5
ENTERING TEMP	CONDENSER	130
LEAVING TEMP	CONDENSER	140
PSI	CONDENSER	0.3
VOLTAGE		460v/60/3ph
TOTAL UNIT FLA		24.4 AMPS
COMPRESSOR MCC		19 AMPS
COMPRESSOR RLA		12.2 AMPS
COMPRESSOR LRA		87 AMPS

REMARKS:
1. PROVIDE UNIT WITH INTEGRAL HOT WATER CIRCULATOR (POTABLE WATER). CIRULATOR SHALL MATCH FLOW OF THE CONDENSER AT 15 FT OF HEAD.
2. ENCLOSED CABINET, STAINLESS STEEL OR ALUMINUM FINISH.
3. VENTED DOUBLE WALL, STAINLESS STEEL HEAT EXCHANGER (POTABLE WATER).
4. STAINLESS STEEL HEAT EXCHANGER (SOURCE WATER)
5. ADJUSTABLE TXV. SIGHT GLASS, DRIERS WITH MANUFACTURERS REQUIRED SPECIALTIES.
6. ELECTRONIC TEMPERATURE CONTROL VALVE
7. AUTOMATIC CONTROLS, FLOW SWITCHES, FREEZE STATS AND ALL SAFETIES.
8. CONTROLS TO INCLUDE PHASE PROTECTION.
9. PROVIDE DDC/BAS INTERFACE. REFER TO CONTROL SEQUENCE ON MECHANICAL PLANS.

RECIRCULATING PUMP		
TAG	DP-1, DP-2	DP-3
MANUFACTURER	BELL & GOSSETT	BELL & GOSSETT
MODEL	PL-55B	PL-45B
VOLTAGE / PHASE	120 / 1 PHASE	120 / 1 PHASE
HP	1/6	1/6
FLOW (GPM)	10	25
HEAD (FT.)	30	10
ALL STAINLESS STEEL BODY	YES	YES
100% LEAD FREE	YES	YES

NOTE:
RECIRCULATING PUMPS SHALL BE EQUIPPED WITH CONTROLS LIMITING OPERATION TO A PERIOD FROM START OF THE HEATING CYCLE TO A MAXIMUM OF FIVE MINUTES AFTER THE END OF THE HEATING CYCLE TO COMPLY WITH ASHRAE 90.1-10 SECTION 7.4.4.4.

STORAGE TANKS	
TAG	ST-1
MANUFACTURER	LOCHINVAR
MODEL	LOCK-TEMP RJA200
WORKING PRESSURE	150 PSI
TANK CONSTRUCTION	GLASS LINED
GALLONS STORAGE	200

NOTES:
ALL TANKS SHALL BE JACKETED AND INSULATED TO A MINIMUM OF R-12.5 TO COMPLY WITH ASHRAE 90.1 TABLE 7.8.

EXPANSION TANK	
TAG	ET-1
MANUFACTURER	WATTS
MODEL	PLT-12
MAX PRESSURE (PSI)	150
MAX TEMPERATURE	200° F
TANK VOLUME-GAL.	4.5
TANK ACCEPTANCE-GAL.	2.8

COLUMBUS COUNTY SCHOOLS

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LS3P
101 NORTH THIRD STREET, SUITE 500
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COLUMBUS COUNTY SCHOOLS PK-8
Green Swamp Rd. Hwy. 211 and Sam Potts Hwy 214
Bolton, North Carolina 28423
LS3P PROJECT: 7201-240219

Δ	DATE	DESCRIPTION
A	2024.10.30	SCHEMATIC DESIGN
B	2025.04.02	DESIGN DEVELOPMENT
C	2025.07.14	50% CD
D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

SHEET NAME:
PLUMBING DETAILS

ORIG SUBMISSION: 2025.09.24

SHEET:
P002

ISSUE FOR PERMIT / BIDDING

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PLOT SIZE

E

D

C

B

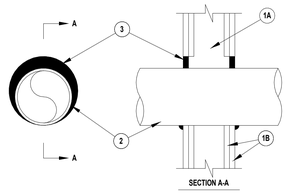
A

1 2 3 4 5 6

System No. W-L-1054

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings —1 and 2 Hr (See Items 1 and 3)	F Ratings — 1 and 2 Hr (See Items 1 and 3)
T Rating — 0 Hr	FT Rating — 0 Hr
L Rating at Ambient — Less Than 1 CFM/sq ft	FH Ratings —1 and 2 Hr (See Items 1 and 3)
L Rating at 400 F — Less Than 1 CFM/sq ft	FTH Rating — 0 Hr
	L Rating at Ambient — Less Than 1 CFM/sq ft
	L Rating at 400 F — Less Than 1 CFM/sq ft

F Ratings — 2 and 3 Hr (See Item 4)
FT Rating — 0 Hr
FH Ratings — 2 and 3 Hr (See Item 4)
FTH Rating — 0 Hr
L Rating At Ambient — 4 CFM/sq ft



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300 or U400 Series Wall and 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 or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC. When steel studs are used and the diam of opening exceeds the width of stud cavity, the opening shall be framed on all sides using lengths of steel stud installed between the vertical studs and screw-attached to the steel studs at each end. The framed opening in the wall shall be 4 to 6 in. (102 to 152 mm) wider and 4 to 6 in. (102 to 152 mm) higher than the diam of the penetrating item such that, when the penetrating item is installed in the opening, a 2 to 3 in. (51 to 76 mm) clearance is present between the penetrating item and the framing on all four
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (122 cm) wide with square or tapered edges. The gypsum board 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 32-1/4 in. (819 mm) for steel stud walls. Max diam of opening is 14-1/2 in. (368 mm) for wood stud
   The T and FH Ratings of the firestop system are equal to the fire rating of the wall assembly.

2. Through-Penetrants — One metallic pipe, conduit or tubing to be installed either concentrically or eccentrically within the firestop system. The annular space shall be min 0 in. to max 2-1/4 in. (57 mm). Pipe may be installed with continuous point contact. Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:
   A. Steel Pipe — Nom 30 in. (762 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 30 in. (762 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or 6 in. (152 mm) . diam steel conduit.
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) regular (or heavier) copper pipe.

3. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point or continuous contact locations between pipe and wall, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe wall interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

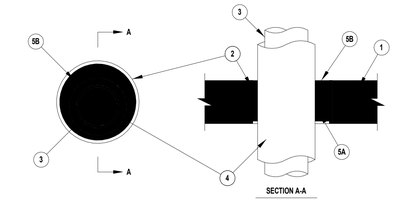
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

U.L. NO W-L-1054 DETAIL

NOT TO SCALE

System No. C-AJ-5090

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 2 and 3 Hr (See Item 4)	
T Rating — 0 Hr	
L Rating At Ambient — 4 CFM/sq ft	
L Rating At 400 F — Less Than 1 CFM/sq ft	
	L Rating At 400 F — Less Than 1 CFM/sq ft



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 18 in. (457 mm).
   See Concrete Blocks (CAZT) Category in the Fire Resistance Directory for names of manufacturers.

2. Metallic Sleeve — (Optional) — Nom 18 in. (457 mm) diam (or smaller) Schedule 10 (or heavier) steel sleeve cast or grouted into floor or wall assembly, flush with floor or wall surfaces or extending a max of 3 in. (76 mm) above floor or beyond both surfaces of
   wall.
3. Through Penetrants — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 5 (or heavier) steel pipe.
   B. Copper Pipe — Nom 4 in. (102 mm) diam (or smaller) Regular (or heavier) copper tubing.
   C. Copper Tubing — Nom 4 in. (102 mm) diam (or smaller) Type L (or heavier) copper tubing.

4. Tube Insulation — Plastics+ — Min 1/2 in. (13 mm) to max 3/4 in. (19 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. Nom 1 in. (25 mm) thick AB/PVC flexible foam insulation may be used for max 2 hr F and FH Ratings when max 3 in. (76 mm) diam pipe or tubing is used. The annular space shall be min 1/2 in. (13 mm) to max 12 in. (305 mm). When max annular space exceeds 1-1/2 in. (38 mm) the F and FH Ratings are 2 hr.
   See Plastics+ (QMFZ2) Category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.

5. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or from both surfaces of wall as required to accommodate the required thickness of fill
   B. Fill, Void or Cavity Material* — Sealant — Min 1/4 in. (6 mm) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall. When max annular space exceeds 1-1/2 in. (38 mm) the min thickness of fill material is 1/2 in. (13 mm).
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-One Sealant or FS-ONE MAX Intumescent Sealant

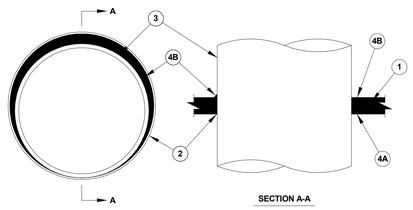
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

U.L. NO C-AJ-5090 DETAIL

NOT TO SCALE

System No. C-AJ-1155

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Rating — 2 and 3 Hr (See Item 3)	F Rating — 2 and 3 Hr (See Item 3)
T Rating —0 Hr	FT Rating — 0 Hr
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Rating — 2 and 3 Hr (See Item 3)
L Rating At 400 F — 4 CFM/sq ft	FTH Rating — 0 Hr
W Rating — Class 1 (See Item 4)	L Rating At Ambient — Less Than 1 CFM/sq ft
	L Rating At 400 F — 4 CFM/sq ft



SECTION A-A

1. Floor or Wall Assembly — Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m3) concrete. Wall may also be constructed of any UL Classified Concrete Blocks*. Max diam of opening is 32 in. (813 mm).
   See Concrete Blocks (CAZT) category in Fire Resistance Directory for names of manufacturers.

2. Metallic Sleeve (Optional) — Nom 32 in. (813 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe cast or grouted into floor or wall assembly, flush with floor or wall assembly.
3. Through Penetrants — One metallic pipe or tubing to be installed either concentrically or eccentrically within the firestop system. Pipe or tubing to be rigidly supported on both sides of floor or wall assembly. The annular space shall be min 0 in. (point contact) to max 12 in. (305 mm). When maximum annular space exceeds 2-1/4 in. (57 mm) the F Rating is 2 hr. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 20 in. (508 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.
   B. Iron Pipe — Nom 20 in. (508 mm) diam (or smaller) cast or ductile iron pipe.
   C. Conduit — Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) steel electrical metallic tubing or nom 6 in. (152 mm) diam (or smaller) steel
   D. Copper Tubing — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing.
   E. Copper Pipe — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe

4. Firestop System — The firestop system shall consist of the following:
   A. Packing Material — Min 4 in. (102 mm) thickness of min 4 pcf (64 kg/m3) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top end of sleeve for floors or from both ends of sleeve for walls to accommodate the required thickness of fill material.
   B. Fill, Void or Cavity Material* — Sealant — Min 1/2 in. (13 mm) thickness of fill material applied within the annulus, flush with the top end of the sleeve for floors, or with both ends of the sleeve for walls. Min 1/2 in. (13 mm) thick bead of all material to be installed around pipe at interface of sleeve for point contact installations. W Rating applies only when FS-ONE MAX Intumescent Sealant is used. For the W Rating, max annular space is 1-7/8 in. (48 mm) and an additional film of sealant shall be applied over the sleeve (when used) lapping at least 1/2 in. (13 mm) onto top surface of floor or both surfaces of wall.
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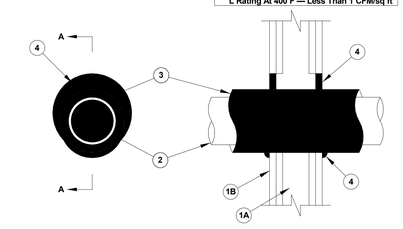
* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

U.L. NO C-AJ-1155 DETAIL

NOT TO SCALE

System No. W-L-5028

ANSI/UL1479 (ASTM E814)	CAN/ULC S115
F Ratings — 1 and 2 Hr (See Item 1)	F Ratings — 1 and 2 Hr (See Item 1)
T Ratings — 0, 3/4 and 1 Hr (See Item 3)	FT Ratings — 0, ¾ and 1 Hr (See Item 3)
L Rating At Ambient — Less Than 1 CFM/sq ft	FH Ratings — 1 and 2 Hr (See Item 1)
L Rating At 400 F — Less Than 1 CFM/sq ft	FTH Ratings — 0, 3/4 and 1 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



SECTION A-A

1. Wall Assembly — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400, V400 or W400 Series Wall and 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 or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board* — 5/8 in. (16 mm) thick, 4 ft (1.22 m) wide with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of opening is 7-1/2 in. (191 mm).
   The hourly F and FH Ratings of the firestop system are equal to the hourly fire rating of the wall assembly in which it is
   installed.
2. Through Penetrants — One metallic pipe or tubing to be centered within the firestop system. Pipe or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes or tubing may be used:
   A. Steel Pipe — Nom 4 in. (102 mm) diam (or smaller) Schedule 40 (or heavier) steel pipe.
   B. Copper Tubing — Nom 2 in. (51 mm) diam (or smaller) Type L (or heavier) copper tubing.
   C. Copper Pipe — Nom 2 in. (51 mm) diam (or smaller) Regular (or heavier) copper pipe.
3. Tube Insulation — Plastics+ — Min 1/2 in. (13 mm) to max 1 in. (25 mm) thick acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the form of tubing. An annular space of min 0 in. (point contact) to max 1-1/2 in. (38 mm) is required within the firestop system. The T, FT and FTH Ratings are 1 hr when the 1 in. (25 mm) thick tube insulation is used and 3/4 hr when the 3/4 in. (19 mm) thick tube insulation is used. When tube insulation thickness is less than 3/4 in. (19 mm), the T, FT and FTH Ratings are 0 Hr.
   See Plastics+ (QMFZ2) category in the Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
4. Fill, Void or Cavity Material* — Sealant — Min 5/8 in. (16 mm) thickness of fill material applied within the annulus, flush with both surfaces of wall. At the point contact location between pipe covering and gypsum board, a min 1/2 in. (13 mm) diam bead of fill material shall be applied at the pipe covering/gypsum board interface on both surfaces of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — FS-ONE Sealant or FS-ONE MAX Intumescent Sealant

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.

U.L. NO WL5028 DETAIL

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LS3P PROJECT: 7201-240219

Δ	DATE	DESCRIPTION
A	2024.10.30	SCHEMATIC DESIGN
B	2025.04.02	DESIGN DEVELOPMENT
C	2025.07.14	50% CD
D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

SHEET NAME:
PLUMBING DETAILS

ORIG SUBMISSION: 2025.09.24

SHEET:
P003

ISSUE FOR PERMIT / BIDDING

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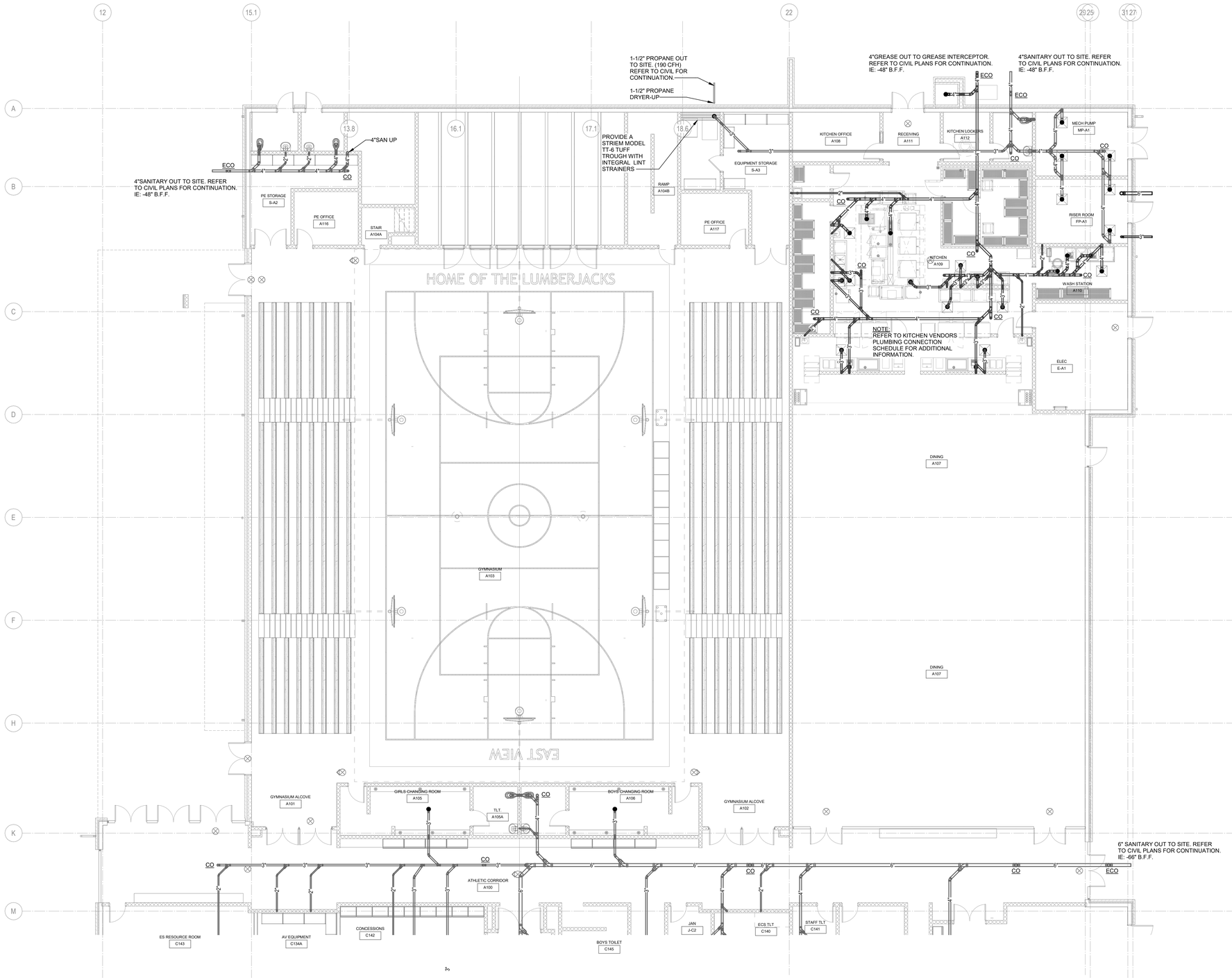

1 PLUMBING BELOW SLAB- LEVEL 1 - AREA A

SCALE: 1/8" = 1'-0"

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D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

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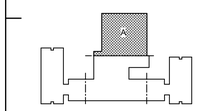
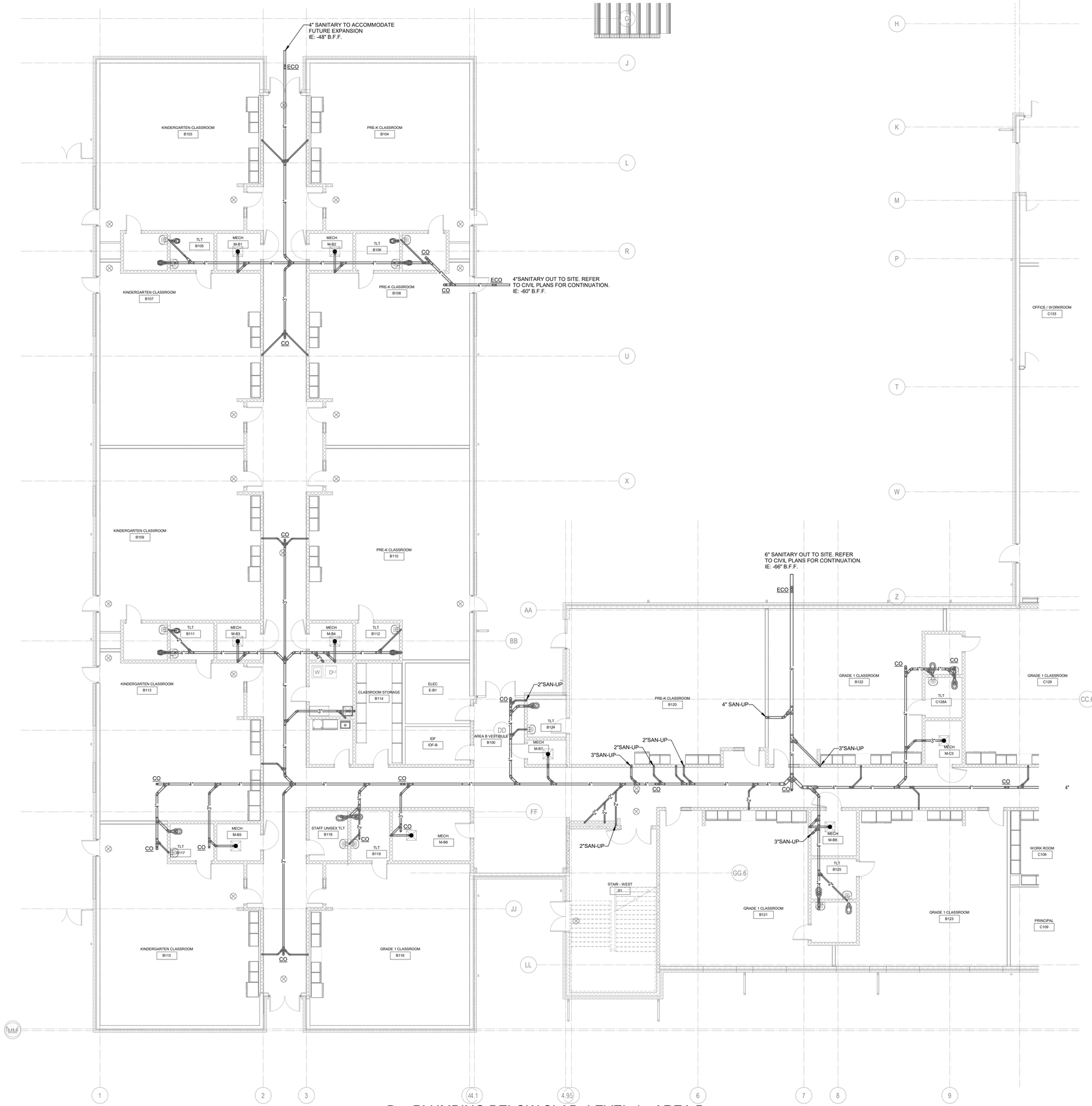


SHEET NAME:
PLUMBING BELOW SLAB - LEVEL 1 - AREA A

ORIG SUBMISSION: 2025.09.24

SHEET:
P101

ISSUE FOR PERMIT / BIDDING



1 PLUMBING BELOW SLAB- LEVEL 1 - AREA B

SCALE: 1/8" = 1'-0"

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D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

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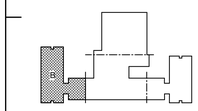

SHEET NAME:
PLUMBING BELOW SLAB - LEVEL 1 - AREA B

ORIG SUBMISSION: 2025.09.24

SHEET:
P102

ISSUE FOR PERMIT / BIDDING

6" SANITARY OUT TO SITE. REFER TO CIVIL PLANS FOR CONTINUATION. IE: -66" B.F.F.

ATHLETIC CORRIDOR A100
ES RESOURCE ROOM C143
AV EQUIPMENT C134A
CONCESSIONS C142
CONCESSIONS STORAGE S-C6
MECH. M-C8
OFFICE / WORKROOM C133
BROADCAST C134
W'ORK/ BREAK ROOM C135
BOYS TOILET C145
JAN J-C2
ECS TLT C140
STAFF TLT C141
ES ECS - SELF CONTAINED C139
BAND/CHOIR C147
GIRLS TOILET C144
MECH M-C7
ART STORAGE S-C4
KILN C137
MEDIA CENTER C132
ART CLASSROOM C136
ELEC E-C2
MECH M-C6
CONFERENCE C131
GRADE 1 CLASSROOM C129
TLT C128A
MECH M-C5
MDF MDF-C
STORAGE S-C7
IN-SCHOOL SUSPENSION C130
3"SAN-UP
MONUMENTAL STAIR S3
GRADE 2 CLASSROOM C130
BOOK STORAGE S-C5
ELEV E1
SP-1
GRADE 2 CLASSROOM C122
JANITOR J-C1
BOYS TLT D123
GIRLS TLT D122
4"SAN-UP
2"SAN-UP
MECH M-C3
MECH M-C4
AREA C CORRIDOR C101
WORK ROOM C108
AP OFFICE C107
DATA MGR C106
LARGE CONFERENCE C104
STO S-C3
STAFF TOILET C118
GUIDANCE C117
SMALL CONFERENCE C116
GRADE 2 CLASSROOM C121
GRADE 2 CLASSROOM C123
GRADE 3 CLASSROOM D121
GRADE 1 CLASSROOM B123
PRINCIPAL C109
AP OFFICE C110
ADMIN CORRIDOR C102
BOOK KEEPER OFFICE C111
TLT C112B
NURSE'S STATION C112A
NURSE C112
RECEPTION / WAITING C103
AREA C VESTIBULE C100
RECORDS STORAGE S-C2
SRO OFFICE C113
MS GUIDANCE OFFICE C114
ES GUIDANCE OFFICE C115
CO
RE

1 PLUMBING BELOW SLAB- LEVEL 1 - AREA C
SCALE: 1/8" = 1'-0"

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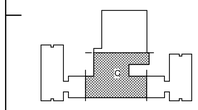
D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

KEY PLAN:

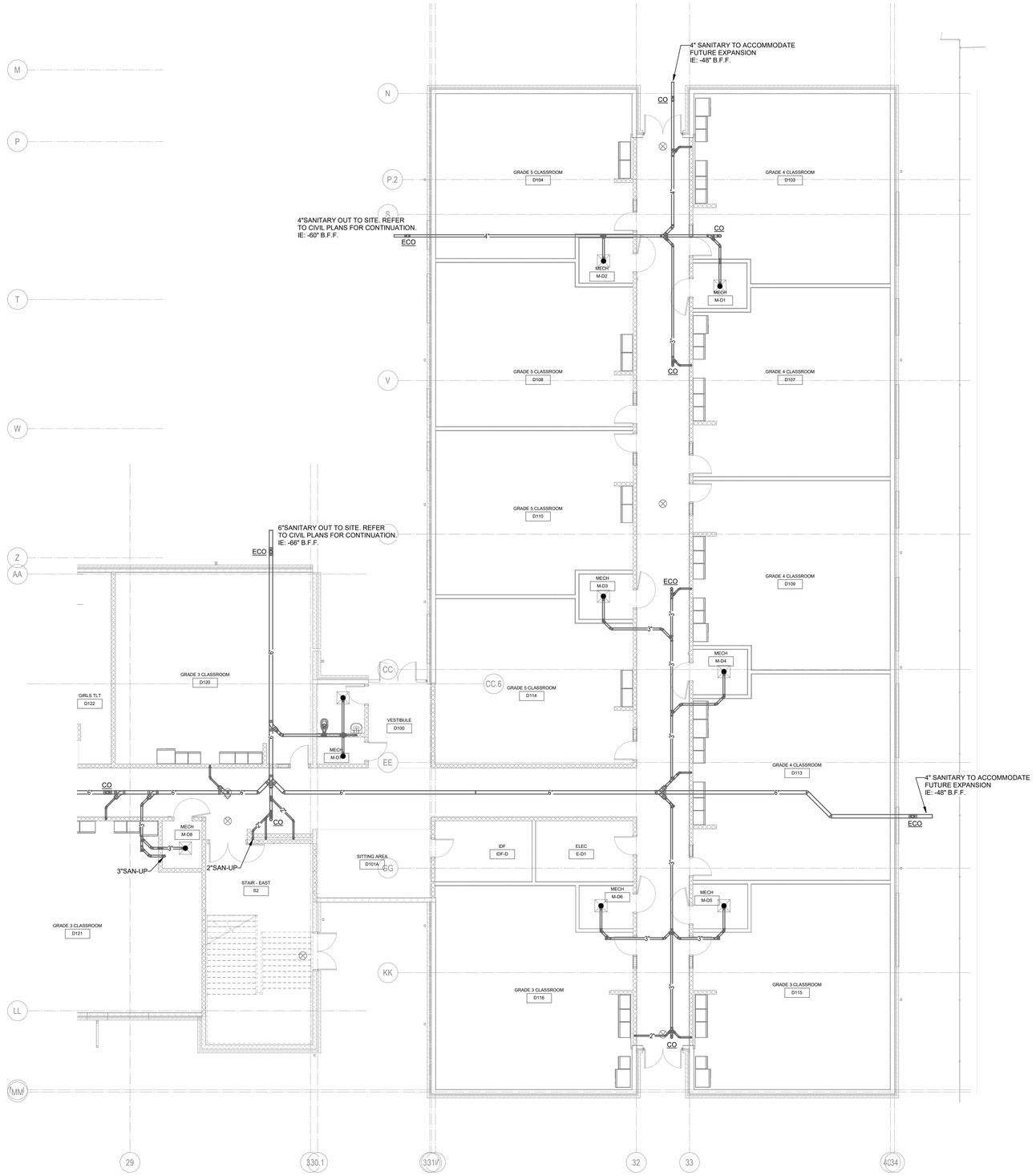


SHEET NAME:
PLUMBING BELOW SLAB - LEVEL 1 - AREA C

ORIG SUBMISSION: 2025.09.24

SHEET:
P103

ISSUE FOR PERMIT / BIDDING



1 PLUMBING BELOW SLAB- LEVEL 1 - AREA D

SCALE: 1/8" = 1'-0"

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D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

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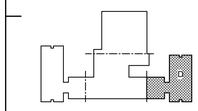

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PLUMBING BELOW SLAB - LEVEL 1 - AREA D

ORIG SUBMISSION: 2025.09.24

SHEET:
P104

ISSUE FOR PERMIT / BIDDING

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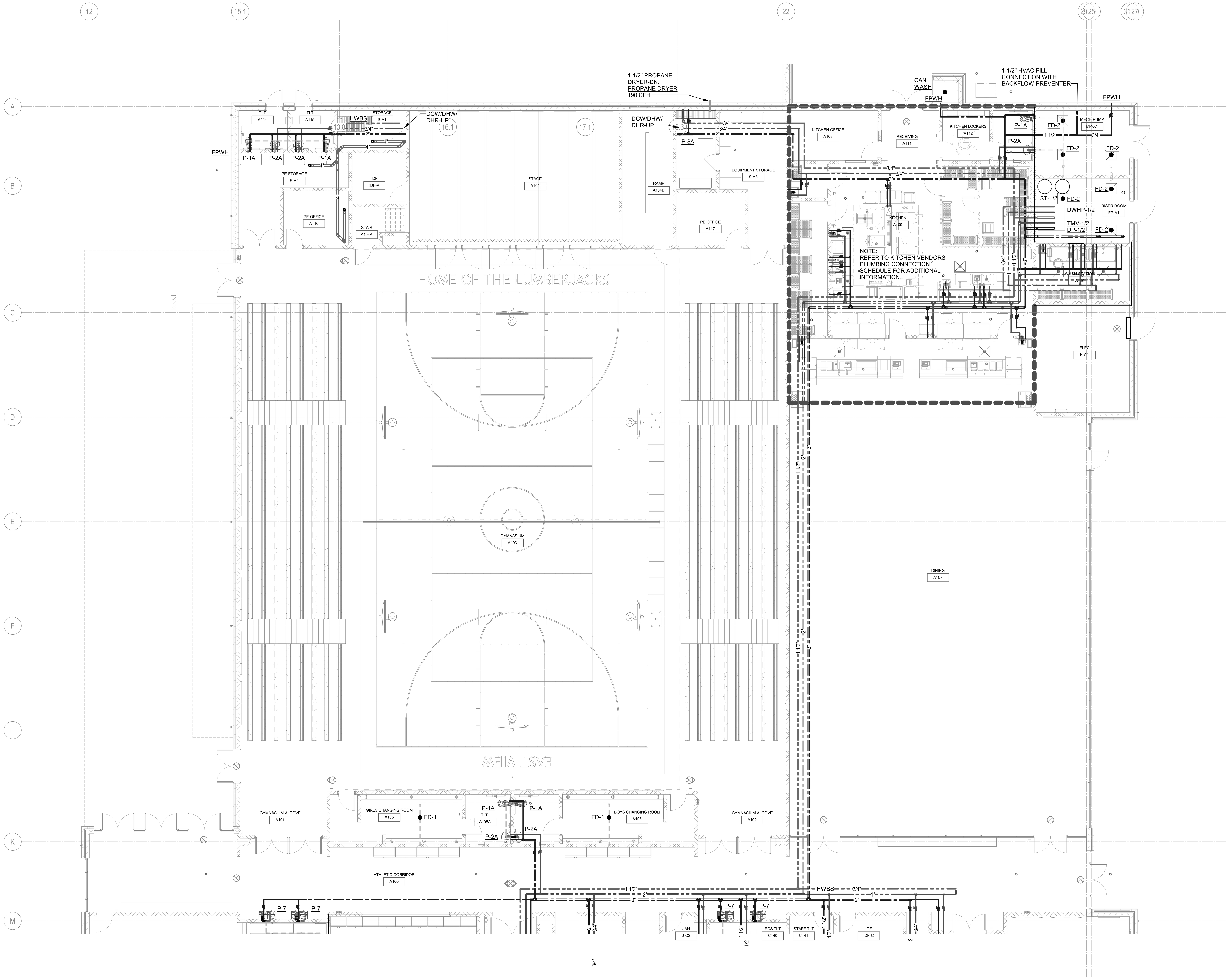

1 PLUMBING - LEVEL 1 - AREA A

SCALE: 1/8" = 1'-0"

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E	2025.09.24	FOR PERMIT / BIDDING

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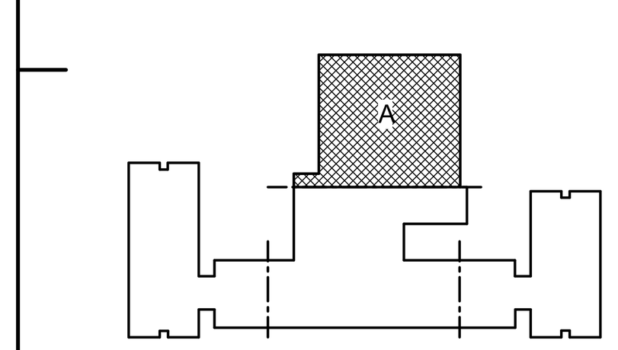

SHEET NAME:
PLUMBING - LEVEL 1 - AREA A

ORIG SUBMISSION: 2025.09.24

SHEET: P111

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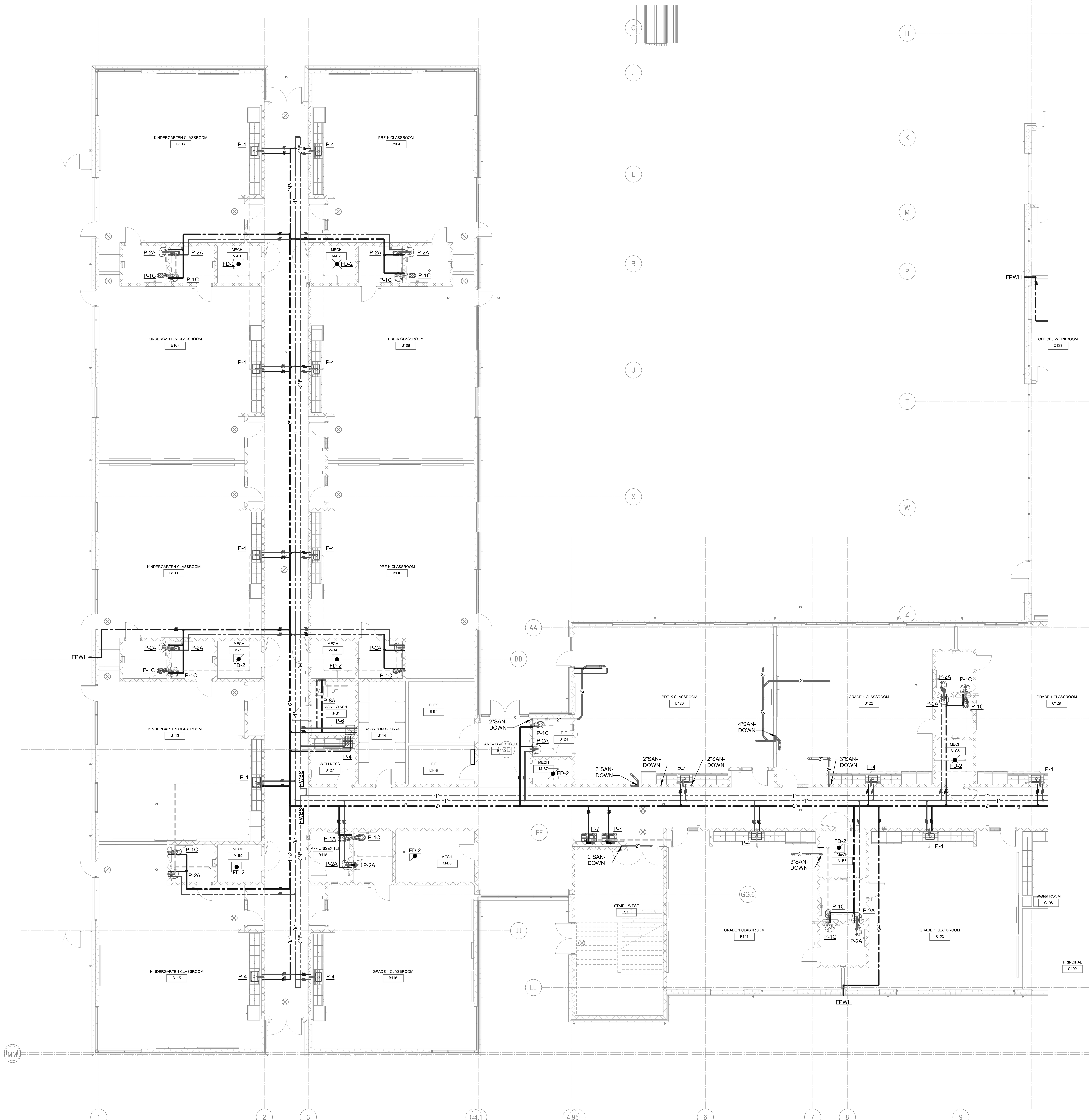

PLUMBING - LEVEL 1 - AREA B

SCALE: 1/8" = 1'-0"

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D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

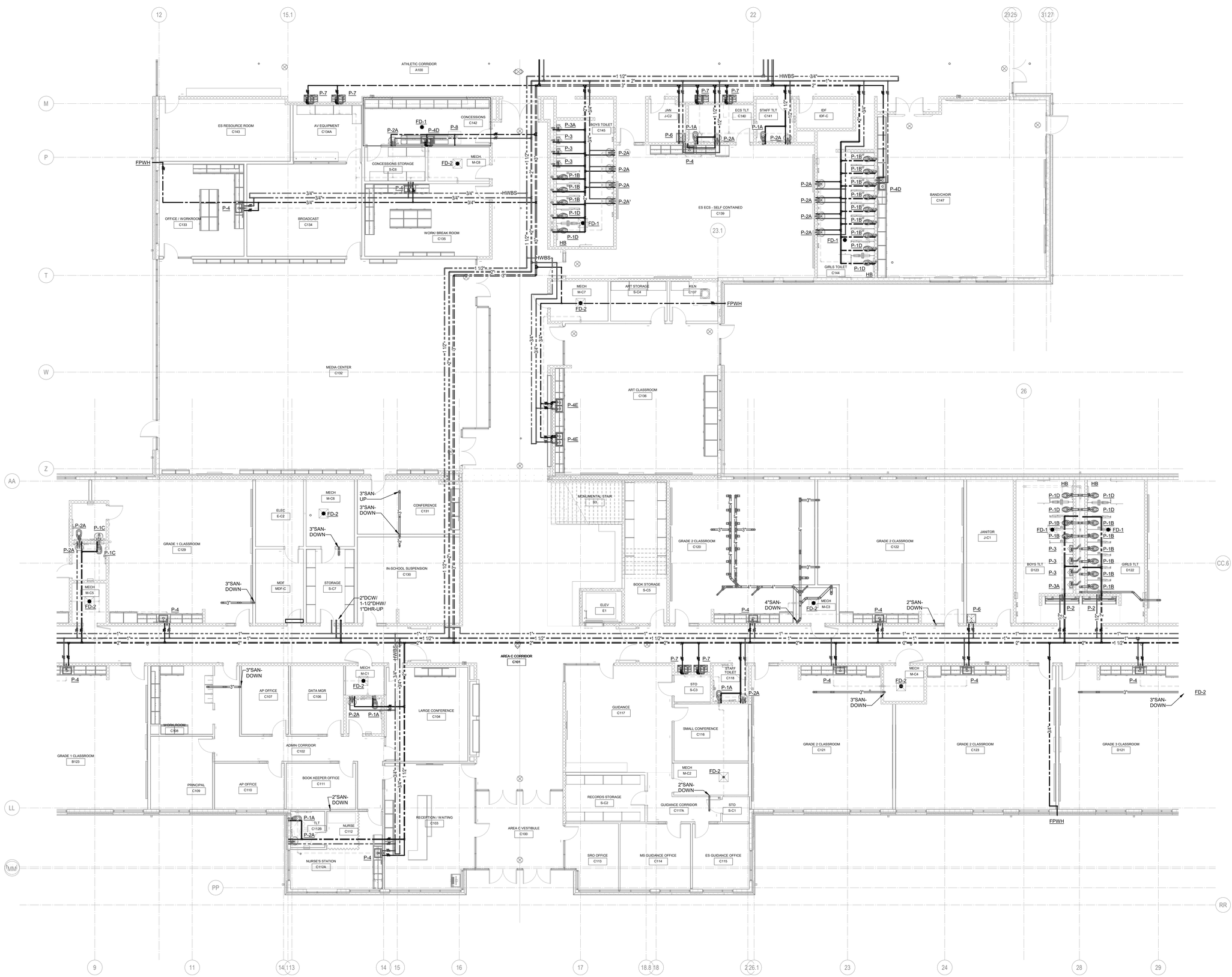
KEY PLAN:

SHEET NAME:
PLUMBING - LEVEL 1 - AREA B

ORIG SUBMISSION: 2025.09.24

SHEET: P112

ISSUE FOR PERMIT / BIDDING



1 PLUMBING - LEVEL 1 - AREA C

SCALE: 1/8" = 1'-0"

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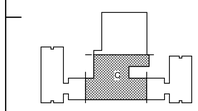
E	2025.09.24	FOR PERMIT / BIDDING

KEY PLAN:

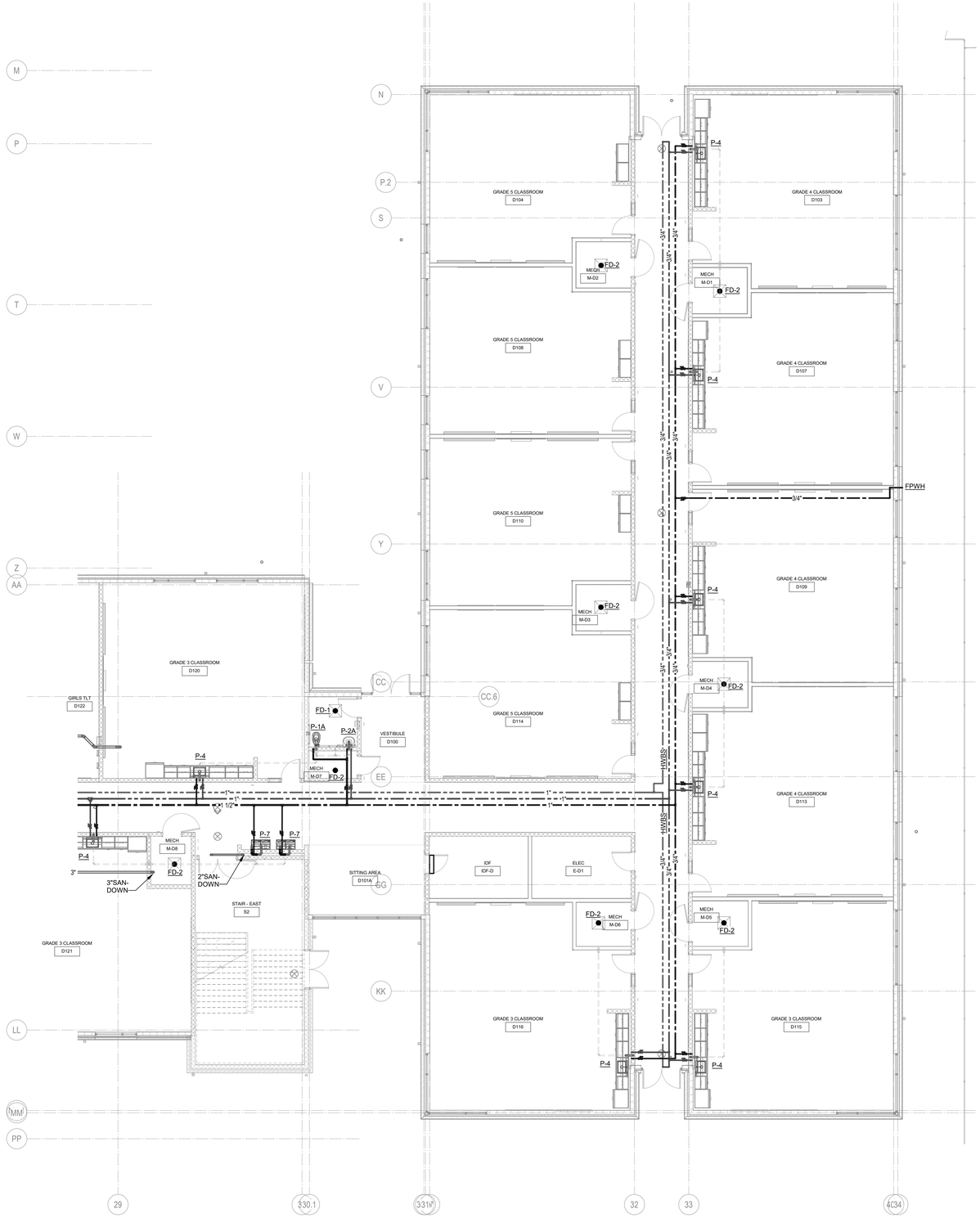


SHEET NAME:
PLUMBING - LEVEL 1 - AREA C

ORIG SUBMISSION: 2025.09.24

SHEET:
P113

ISSUE FOR PERMIT / BIDDING



1 PLUMBING - LEVEL 1 - AREA D

SCALE: 1/8" = 1'-0"

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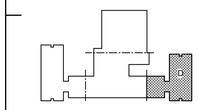
Green Swamp Rd, Hwy 211 and Sam Potts Hwy 214
Bolton, North Carolina 28423

LS3P PROJECT: 7201-240219

Δ	DATE	DESCRIPTION
A	2024.10.30	SCHEMATIC DESIGN
B	2025.04.02	DESIGN DEVELOPMENT
C	2025.07.14	50% CD
D	2025.08.18	95% CD
E	2025.09.24	FOR PERMIT / BIDDING

KEY PLAN:



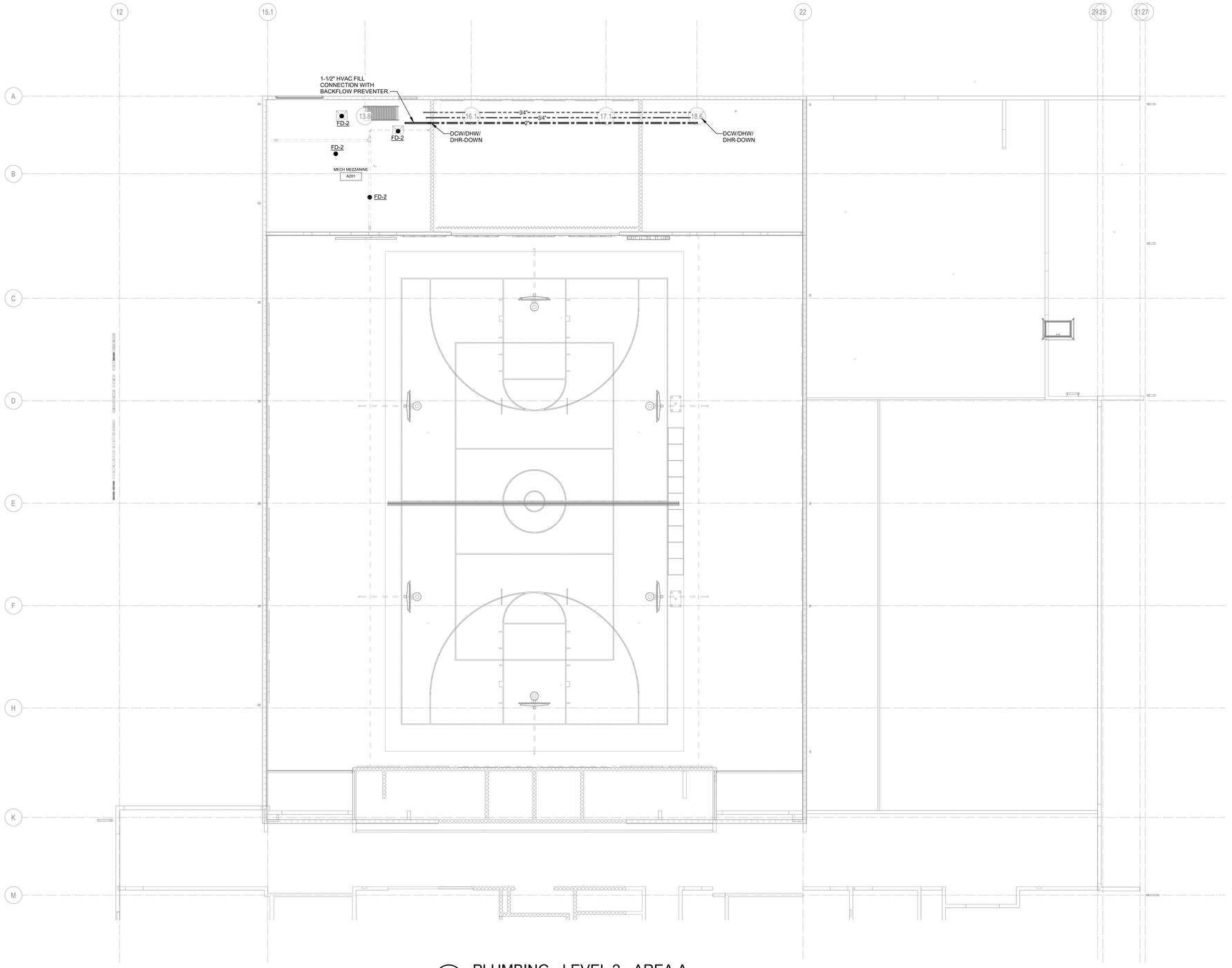
SHEET NAME:
PLUMBING - LEVEL 1 - AREA D

ORIG SUBMISSION: 2025.09.24

SHEET:
P114

ISSUE FOR PERMIT / BIDDING

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH E SHEETS ORIGINAL PLOT SIZE



1 PLUMBING - LEVEL 2 - AREA A

SCALE: 1/8" = 1'-0"

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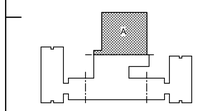
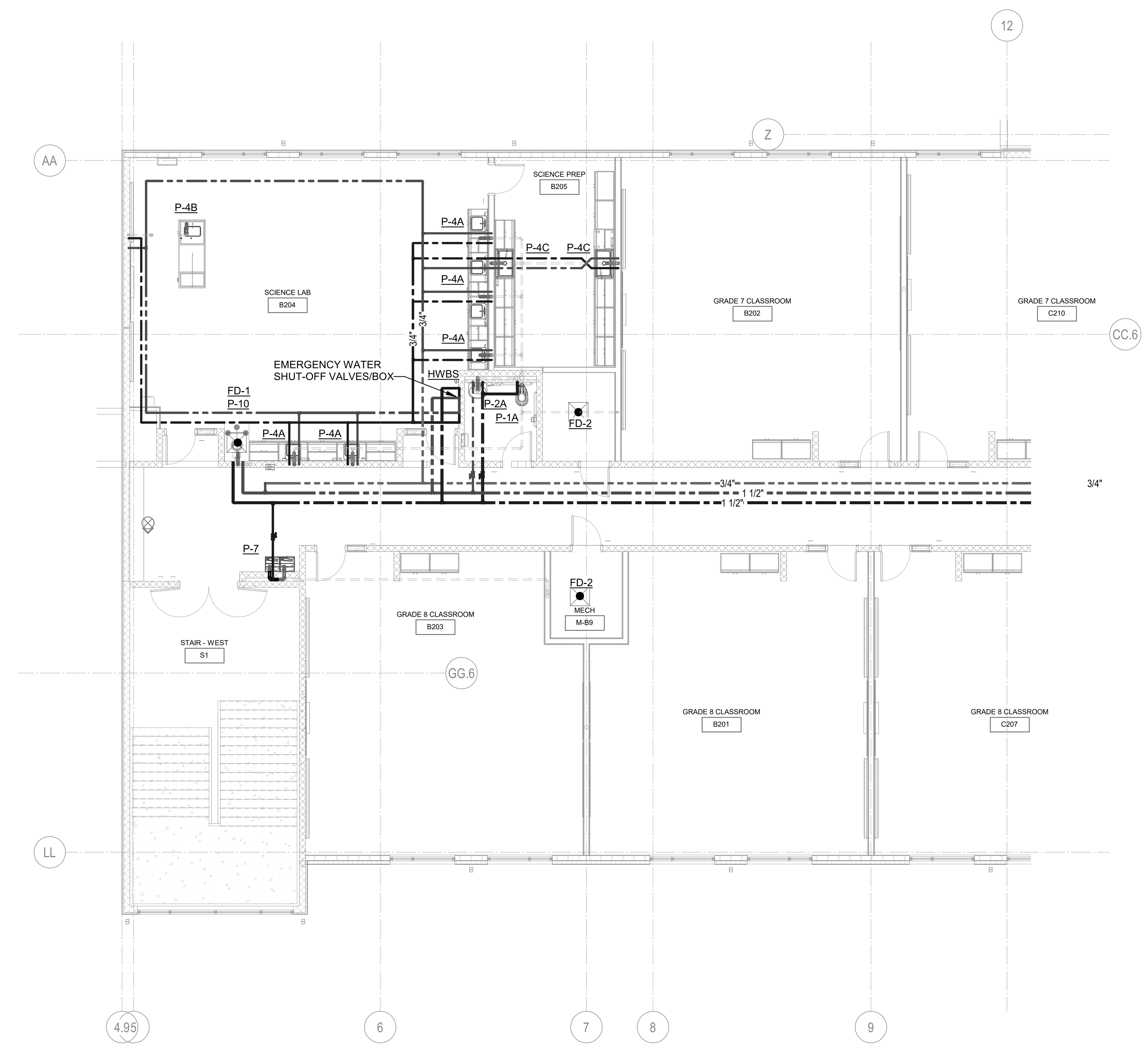


SHEET NAME:
PLUMBING - LEVEL 2 - AREA A

ORIG SUBMISSION: 2025.09.24

SHEET:
P201

ISSUE FOR PERMIT / BIDDING



1 PLUMBING - LEVEL 2 - AREA B

SCALE: 1/8" = 1'-0"

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LS3P PROJECT: 7201-240219

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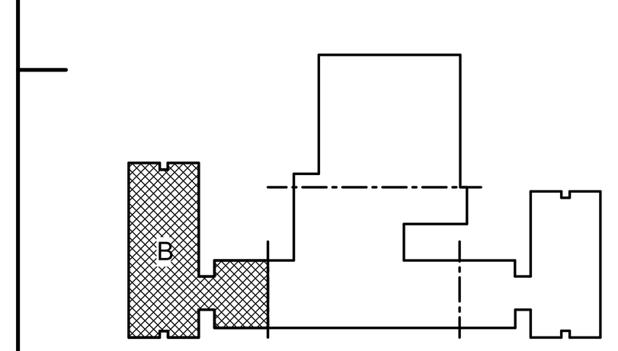
KEY PLAN:

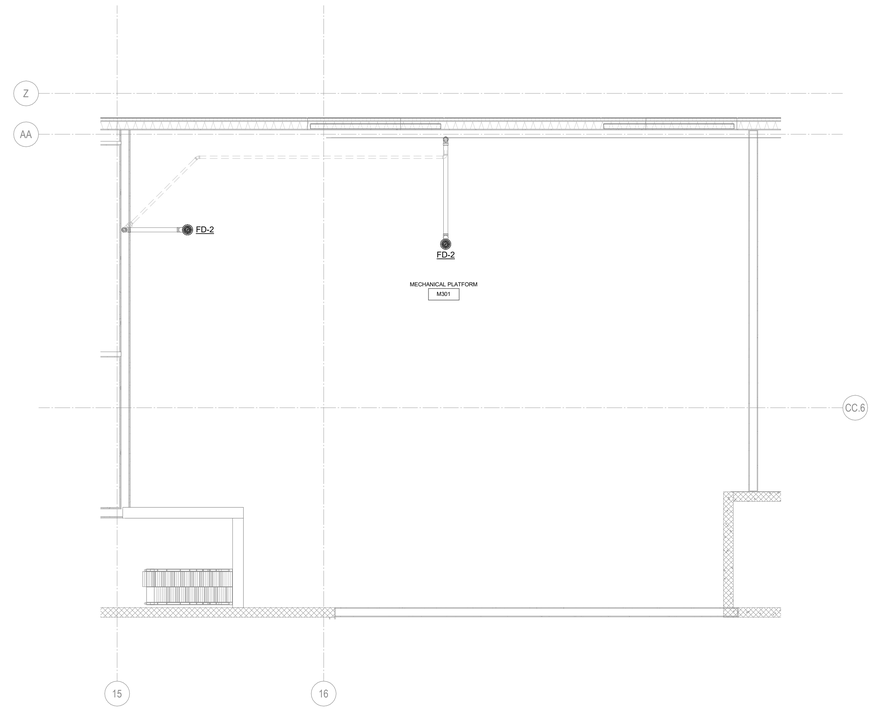


SHEET NAME: PLUMBING - LEVEL 2 - AREA B

ORIG SUBMISSION: 2025.09.24

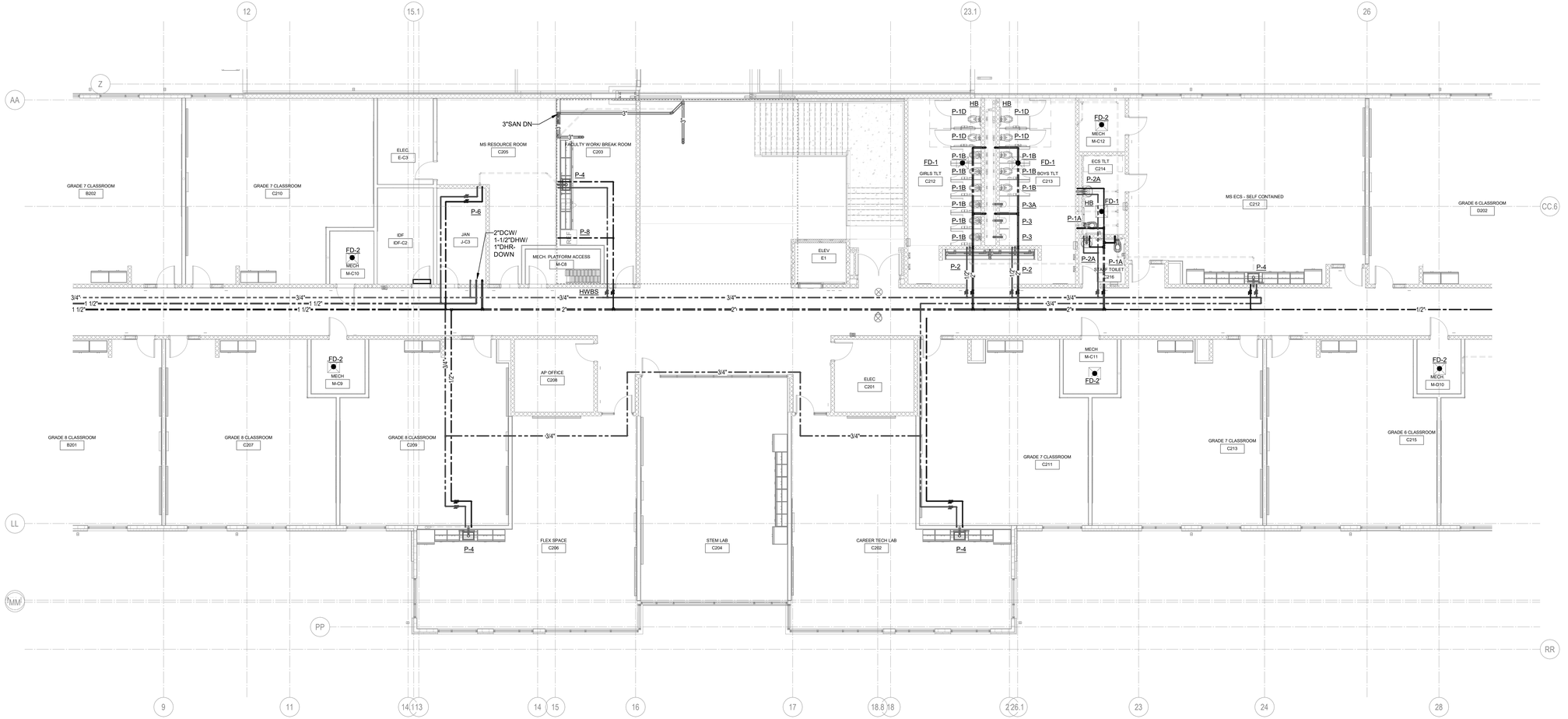
SHEET: P202

ISSUE FOR PERMIT / BIDDING



2 ENLARGED LEVEL 2 MEZZANINE - PLUMBING

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



1 PLUMBING - LEVEL 2 - AREA C

SCALE: 1/8" = 1'-0"

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LS3P PROJECT: 7201-240219

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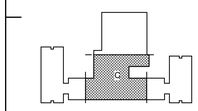
E	2025.09.24	FOR PERMIT / BIDDING

KEY PLAN:

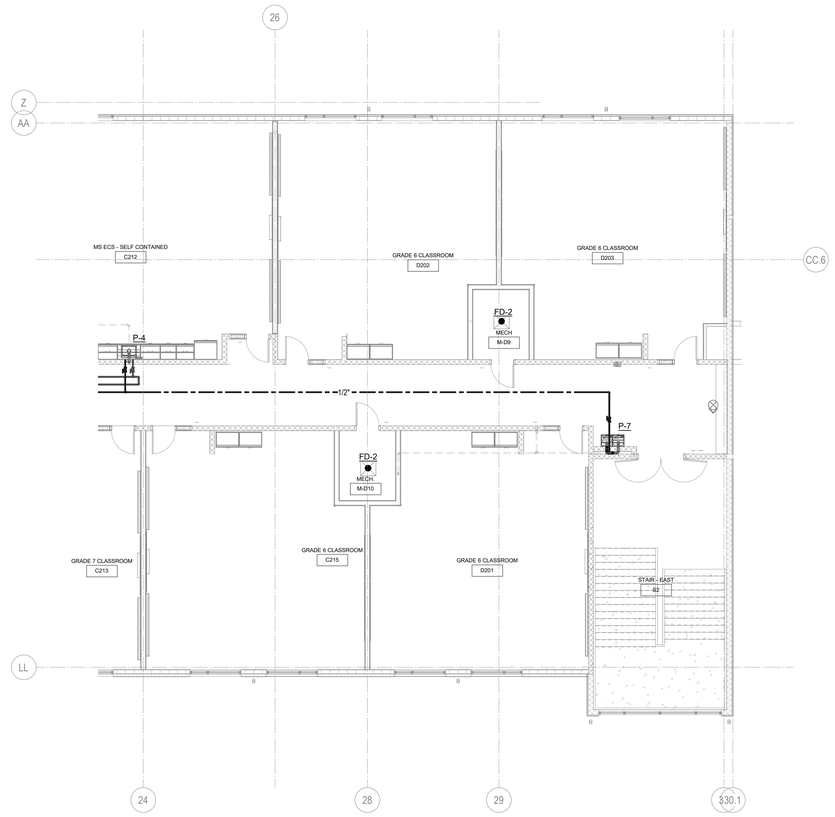


SHEET NAME:
PLUMBING - LEVEL 2 - AREA C

ORIG SUBMISSION: 2025.09.24

SHEET:
P203

ISSUE FOR PERMIT / BIDDING



1 PLUMBING - LEVEL 2 - AREA D

SCALE: 1/8" = 1'-0"

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LS3P PROJECT: 7201.240219

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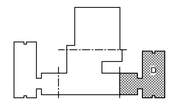
KEY PLAN:



SHEET NAME:
PLUMBING - LEVEL 2 - AREA D

ORIG SUBMISSION: 2025.09.24

SHEET:
P204

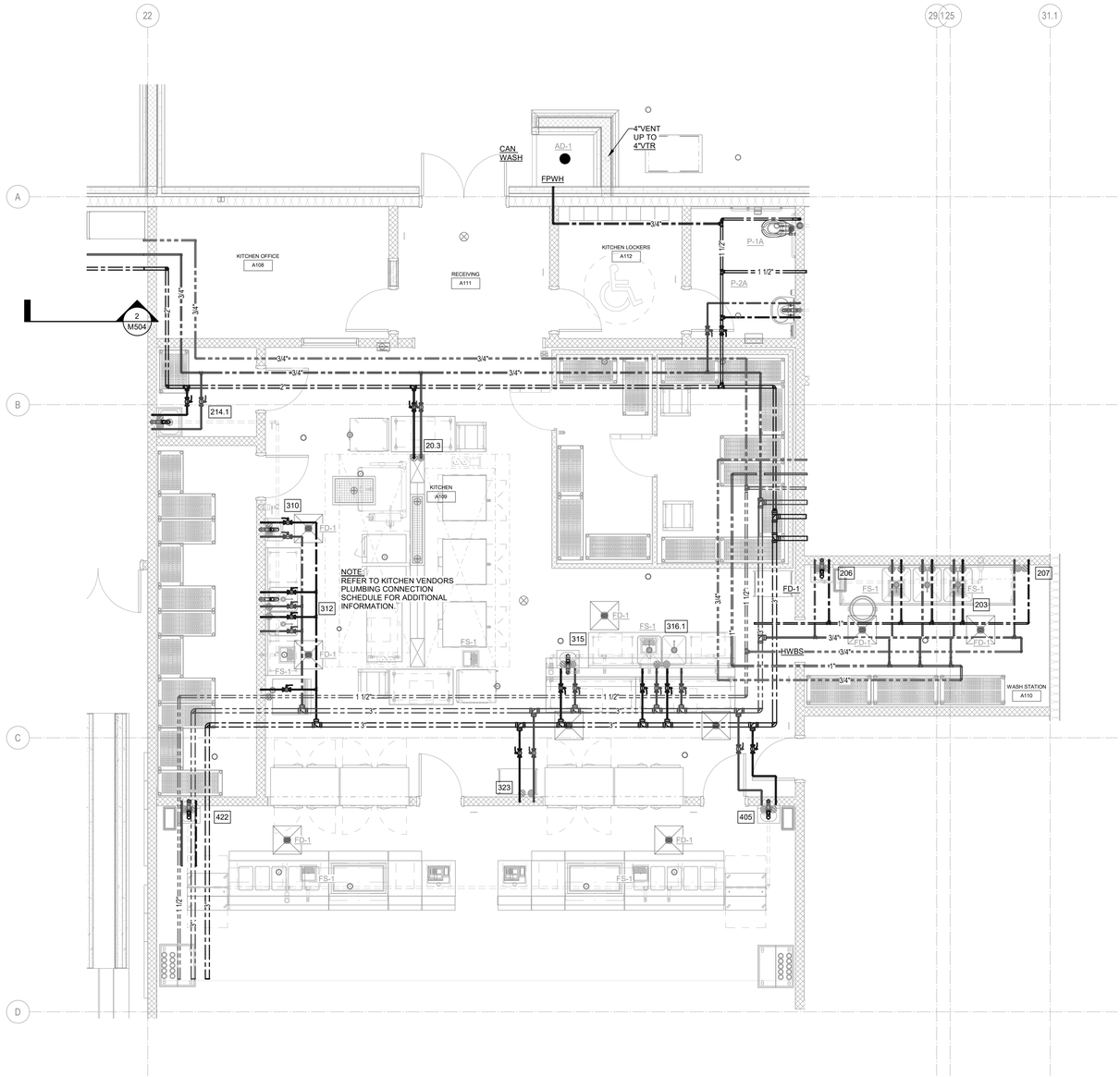
ISSUE FOR PERMIT / BIDDING

THE LINE SHOWN ABOVE IS EXACTLY ONE INCH LONG ON ARCH D SHEETS ORIGINAL PLOT SIZE

FOODSERVICE PLUMBING SUPPLY SCHEDULE

ITEM NO	QTY	DESCRIPTION	CW SIZE	CW AFF	FW SIZE	FW AFF	HW SIZE	HW AFF	GAS SIZE	GAS MBTU/H	GAS AFF	STUB OUT	ITEM NO
20.3	1	UTILITY DISTRIBUTION SYSTEM	3/4"	120"			3/4"	120"	1 1/2"		120"		20.3
203.1	2	FAUCET	3/4"	12"			3/4"	12"					203.1
203.2	1	PRE-RINSE UNIT W/ FAUCET											203.2
206	1	ELECTRONIC EYE HAND SINK	1/2"	12"			1/2"	12"					206
207	1	HOSE REEL W/ STAINLESS STEEL RECESSED CONTROL CABINET	1/2"	12"			1/2"	12"					207
214.1	1	SERVICE FAUCET	1/2"	36"			1/2"	36"					214.1
310	1	ELECTRONIC EYE HAND SINK	1/2"	12"			1/2"	12"					310
312.1	2	FAUCET	1/2"	12"			1/2"	12"					312.1
313	1	ICE MAKER	1/2"	50"									313
315	1	ELECTRONIC EYE HAND SINK	1/2"	12"			1/2"	12"					315
316.1	2	FAUCET	1/2"	12"			1/2"	12"					316.1
323	1	HOSE REEL W/ STAINLESS STEEL RECESSED CONTROL CABINET	1/2"	12"			1/2"	12"					323
405	1	ELECTRONIC EYE HAND SINK	1/2"	12"			1/2"	12"					405
422	1	ELECTRONIC EYE HAND SINK	1/2"	12"			1/2"	12"					422

NOTE:
REFER TO FOOD SERVICE VENDOR PLANS FOR ALL PLUMBING CONNECTIONSW RELATED TO KITCHEN EQUIPMENT



1 ENLARGED SCALE KITCHEN PLAN - PLUMBING
SCALE: 1/4" = 1'-0"

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LS3P PROJECT: 7201-240219

Δ	DATE	DESCRIPTION
E	2025.09.24	FOR PERMIT / BIDDING

SHEET NAME:
ENLARGED KITCHEN PLAN - PLUMBING

ORIG SUBMISSION: 2025.09.24

SHEET:
P300

ISSUE FOR PERMIT / BIDDING

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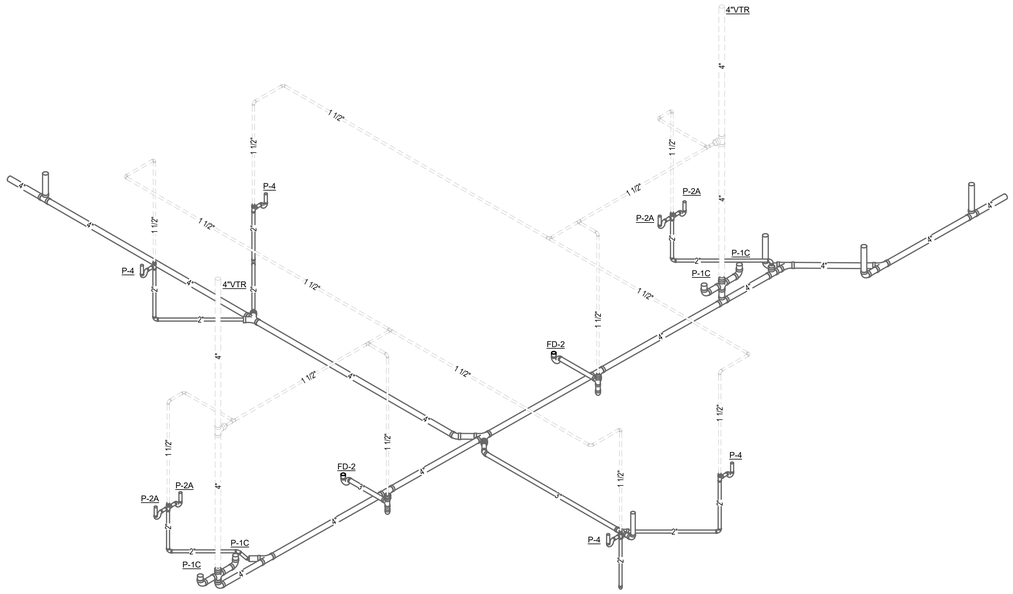

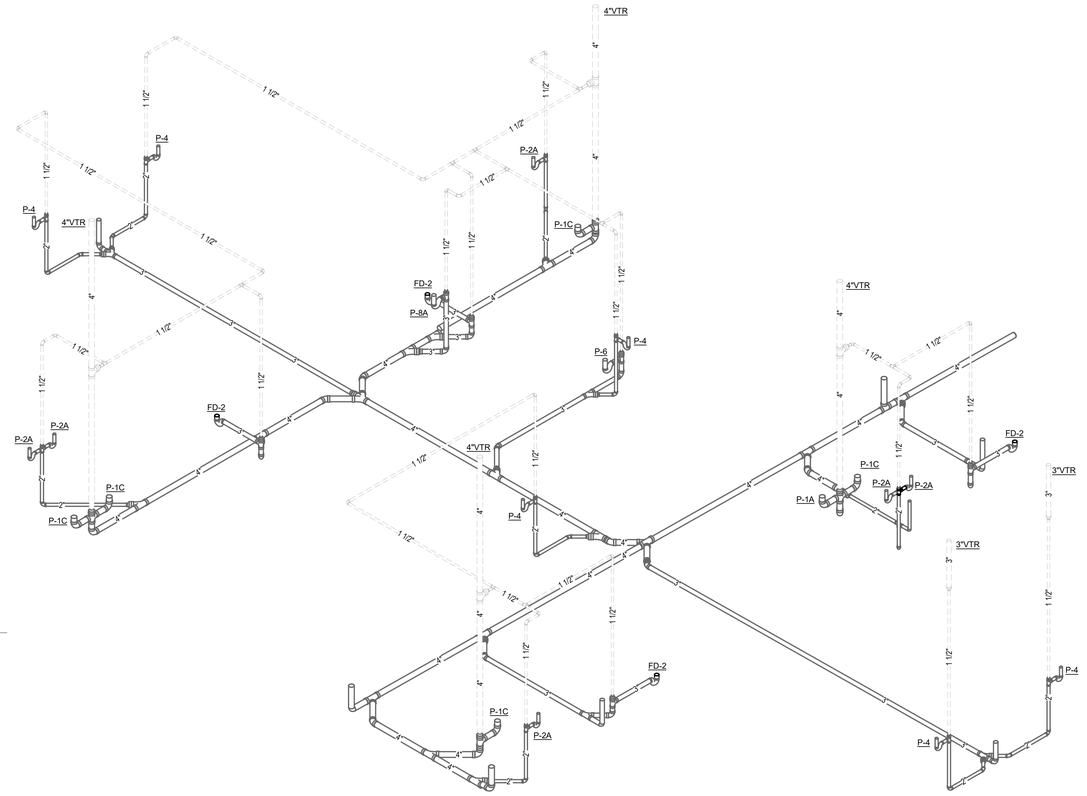

1 WASTE & VENT RISER DIAGRAM_1
NO SCALE

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LS3P PROJECT: 7201.240219

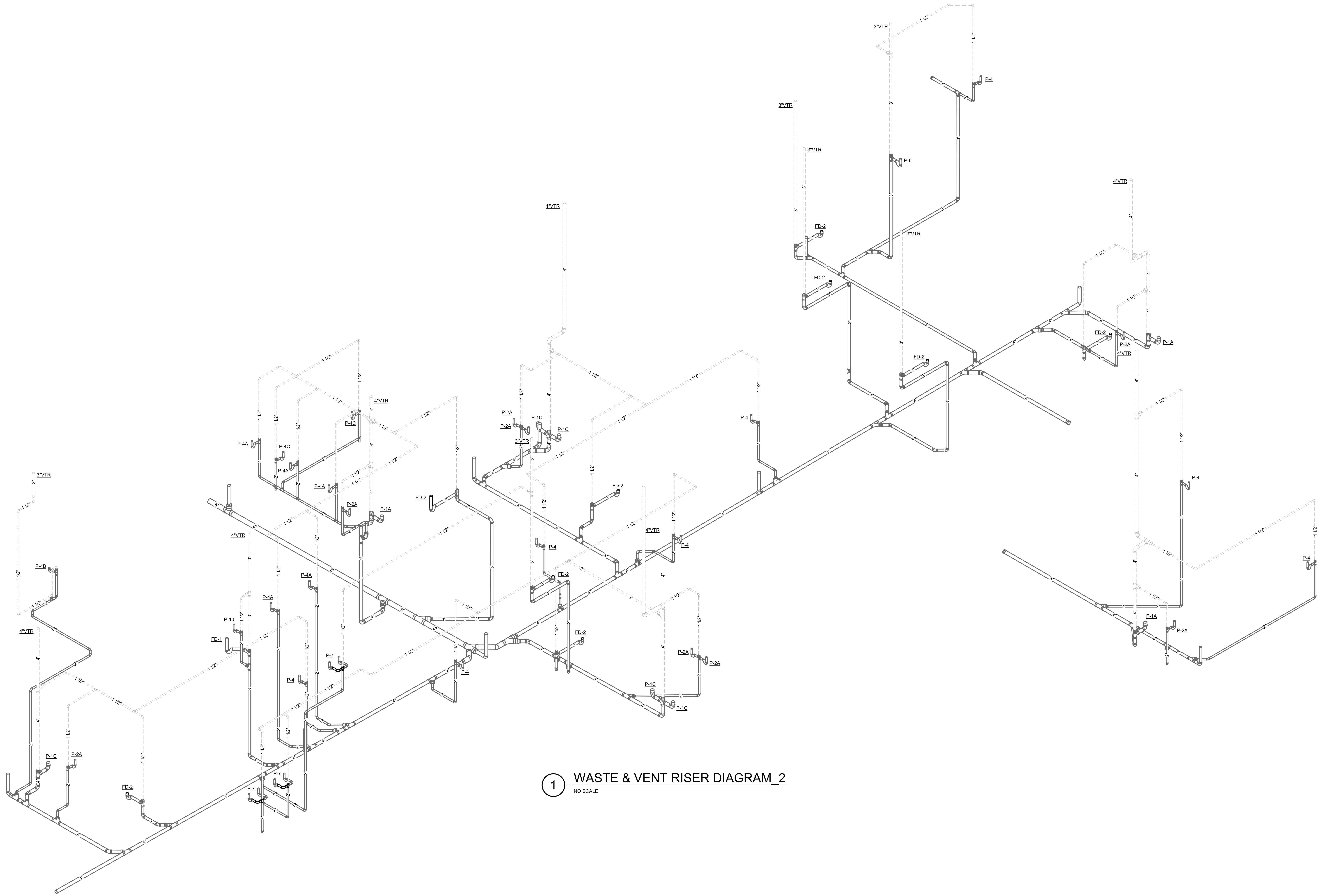
Δ	DATE	DESCRIPTION
E	2025.09.24	FOR PERMIT / BIDDING

SHEET NAME:
WASTE & VENT RISER DIAGRAMS

ORIG SUBMISSION: 2025.09.24

SHEET:
P400

ISSUE FOR PERMIT / BIDDING



1 WASTE & VENT RISER DIAGRAM_2

NO SCALE

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LS3P PROJECT: 7201-240219

Δ	DATE	DESCRIPTION
E	2025.09.24	FOR PERMIT / BIDDING

SHEET NAME:
WASTE & VENT RISER DIAGRAMS

ORIG SUBMISSION: 2025.09.24

SHEET: P401

ISSUE FOR PERMIT / BIDDING

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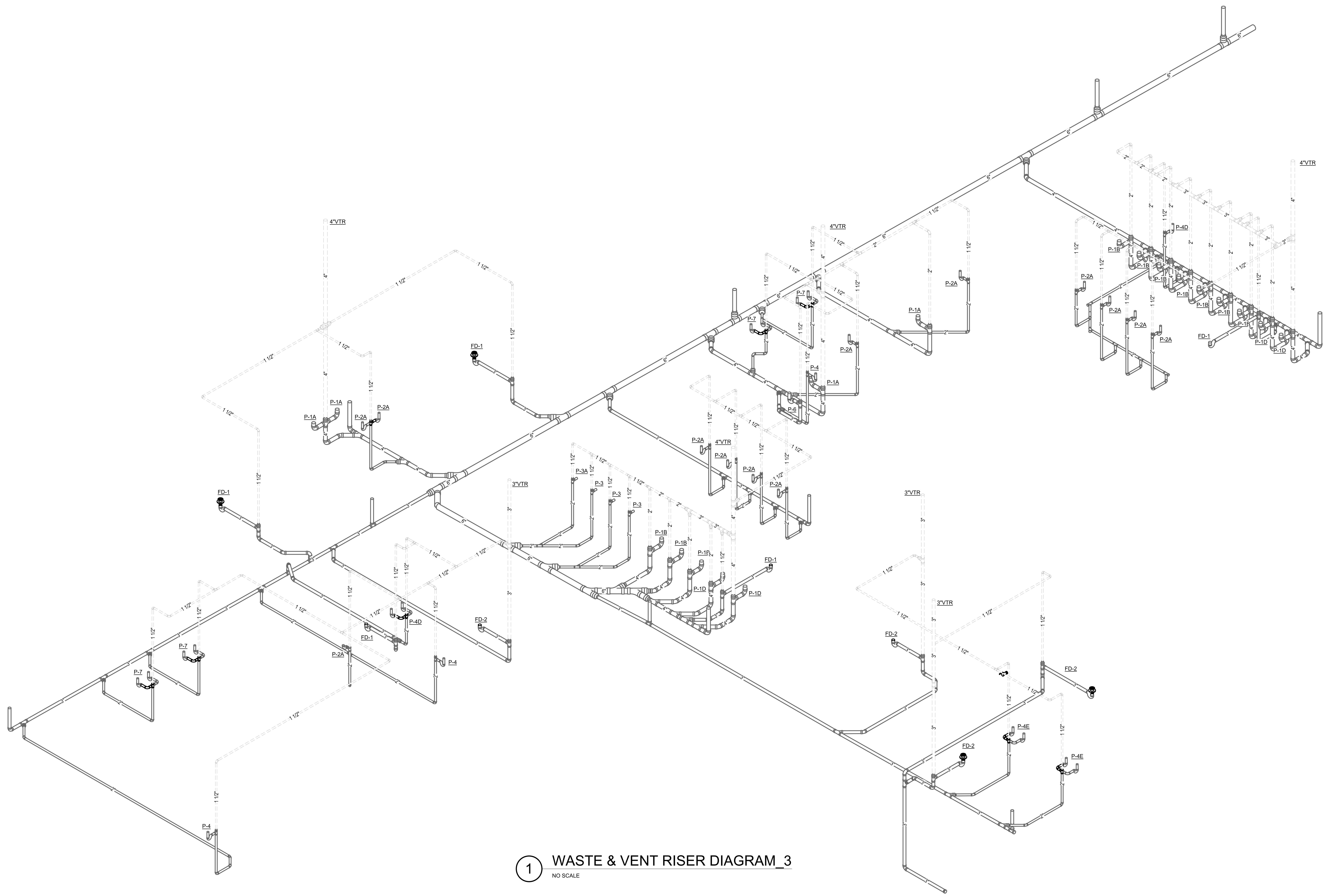

1 WASTE & VENT RISER DIAGRAM_3

NO SCALE

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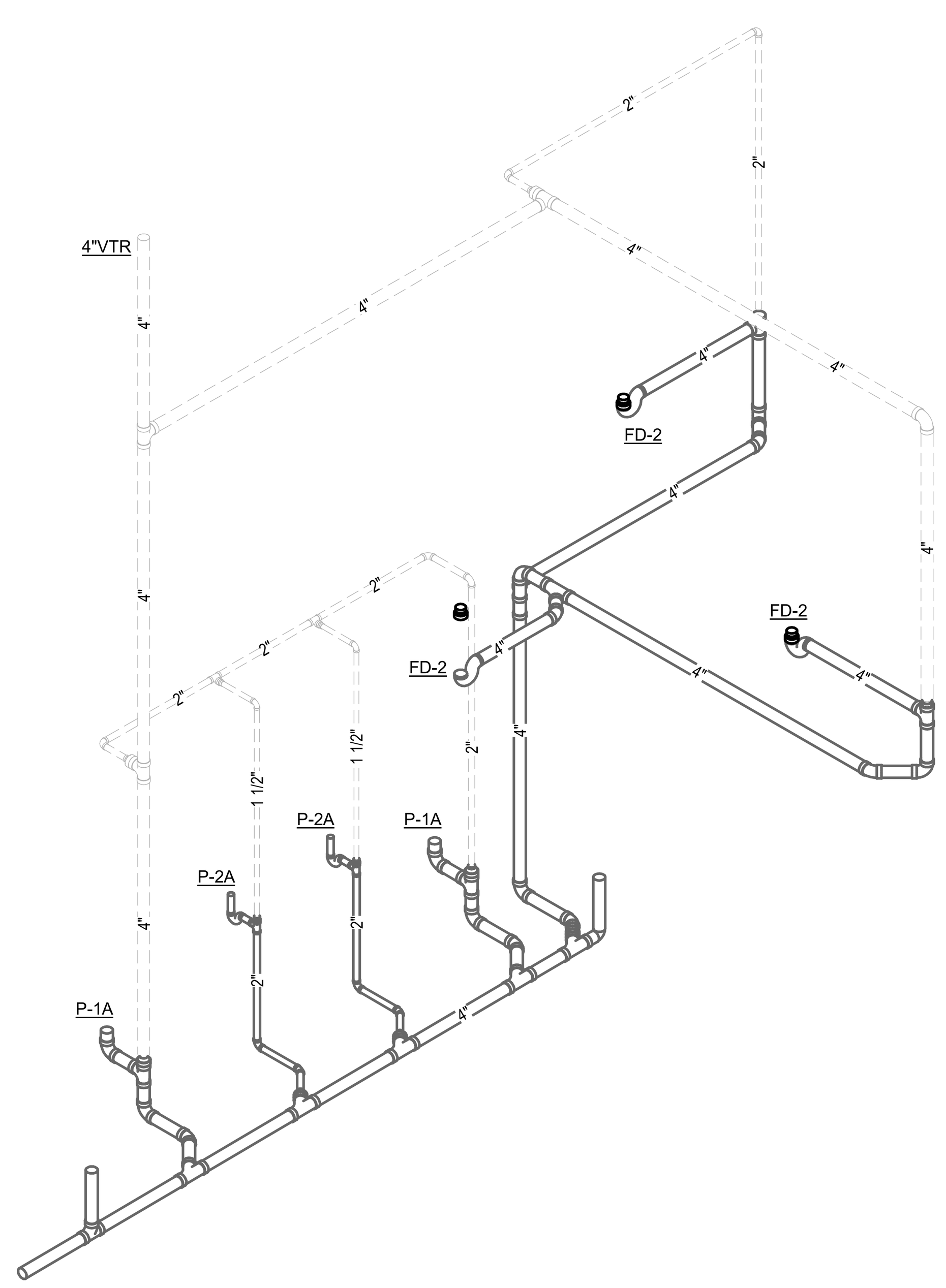
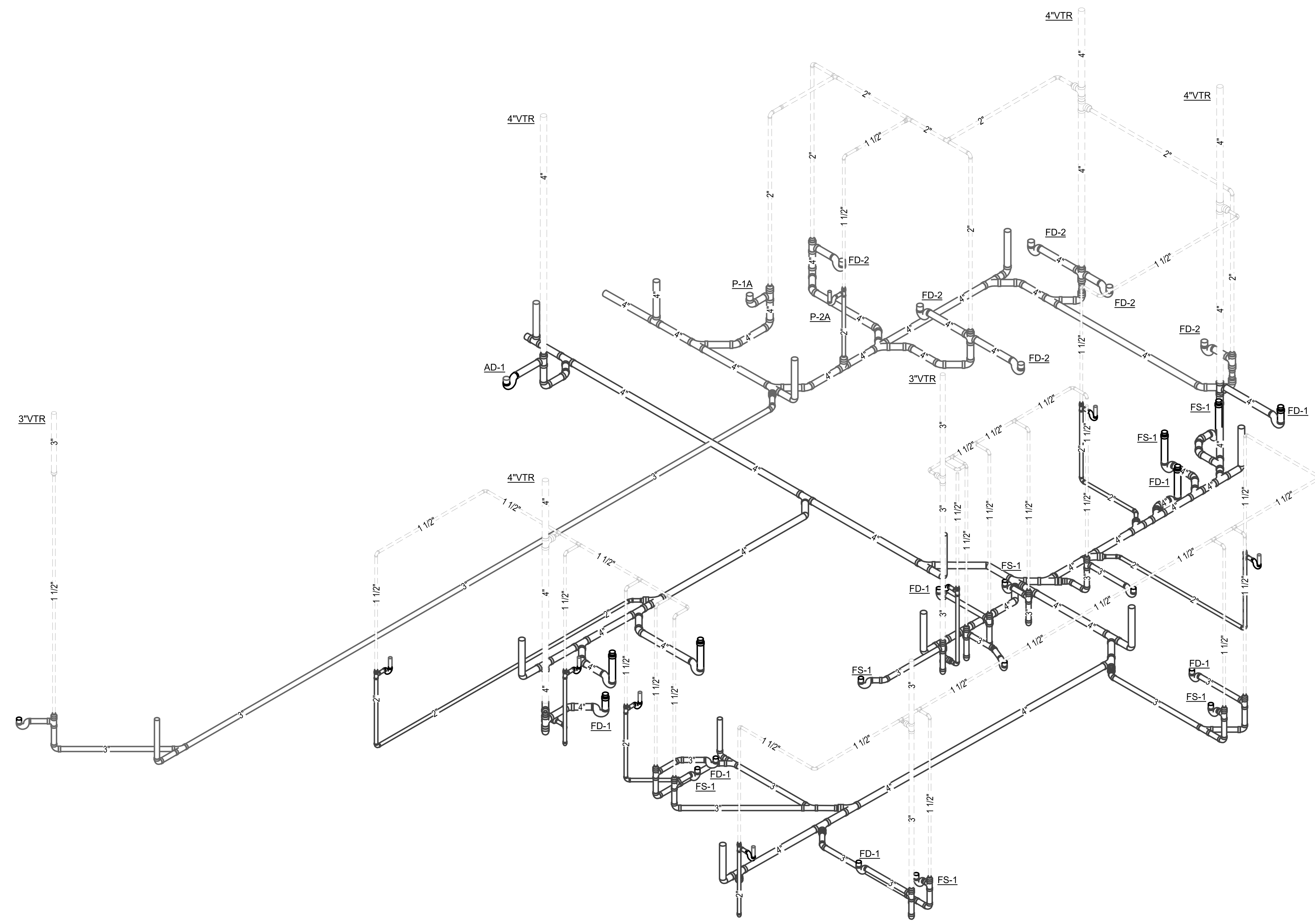
SHEET NAME:
WASTE & VENT RISER DIAGRAMS

ORIG SUBMISSION: 2025.09.24

SHEET: P402

ISSUE FOR PERMIT / BIDDING





1 WASTE & VENT RISER DIAGRAM_4

NO SCALE

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SHEET NAME:
WASTE & VENT RISER DIAGRAM

ORIG SUBMISSION: 2025.09.24

SHEET: P403

ISSUE FOR PERMIT / BIDDING

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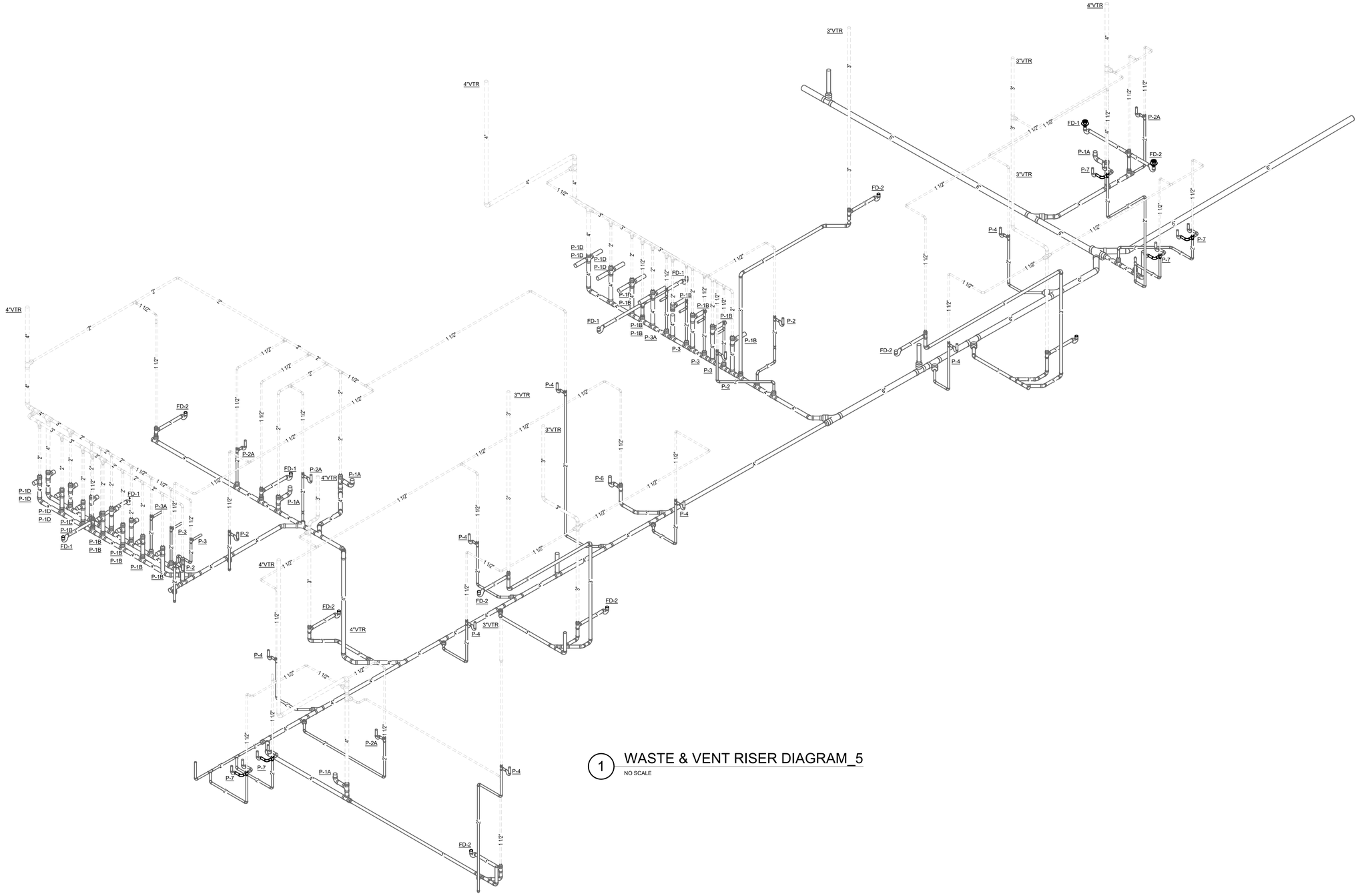

1 WASTE & VENT RISER DIAGRAM_5
NO SCALE

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WASTE & VENT RISER DIAGRAMS

ORIG SUBMISSION: 2025.09.24

SHEET:
P404

ISSUE FOR PERMIT / BIDDING

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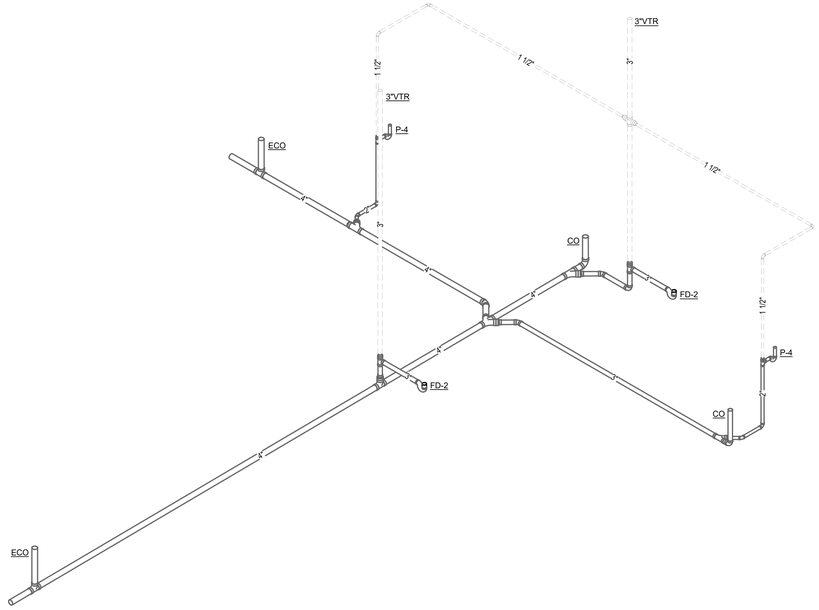

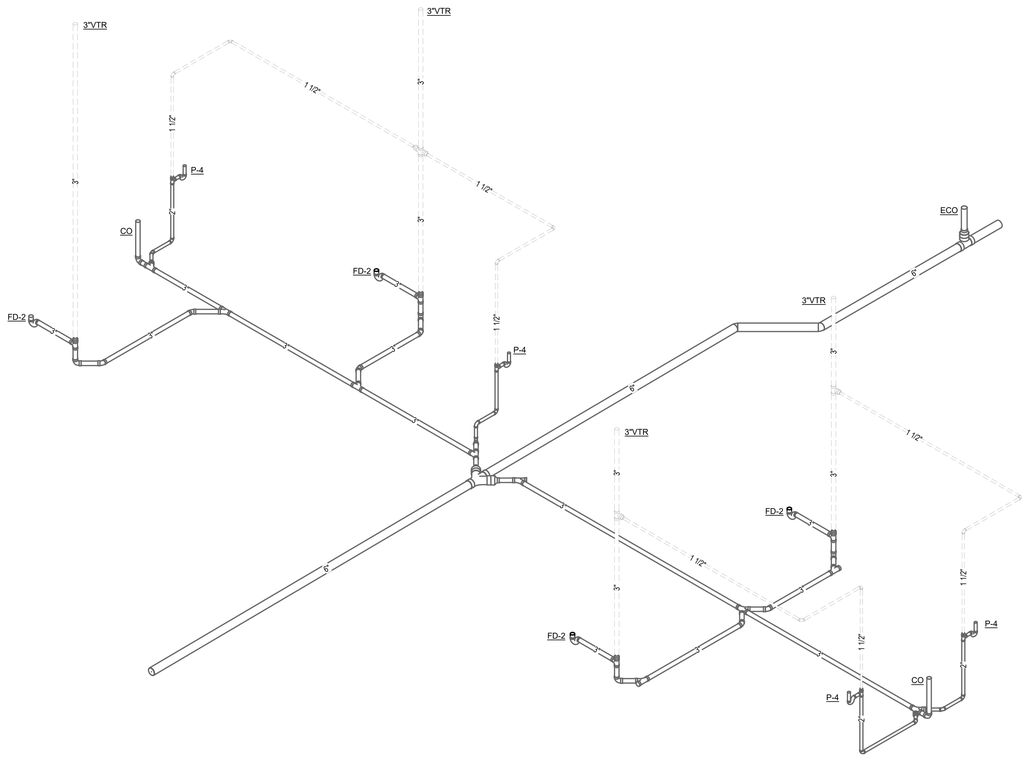

1 WASTE & VENT RISER DIAGRAM_6
NO SCALE

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ORIG SUBMISSION: 2025.09.24

SHEET:
P405

ISSUE FOR PERMIT / BIDDING