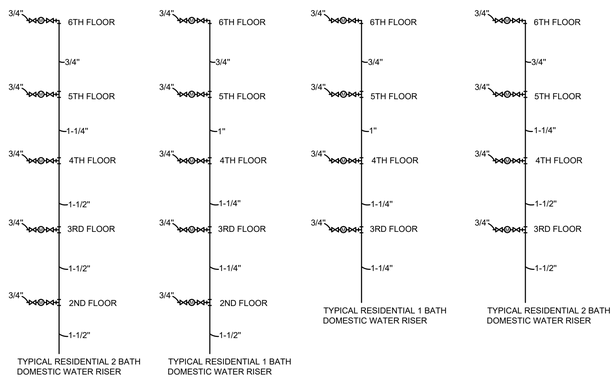
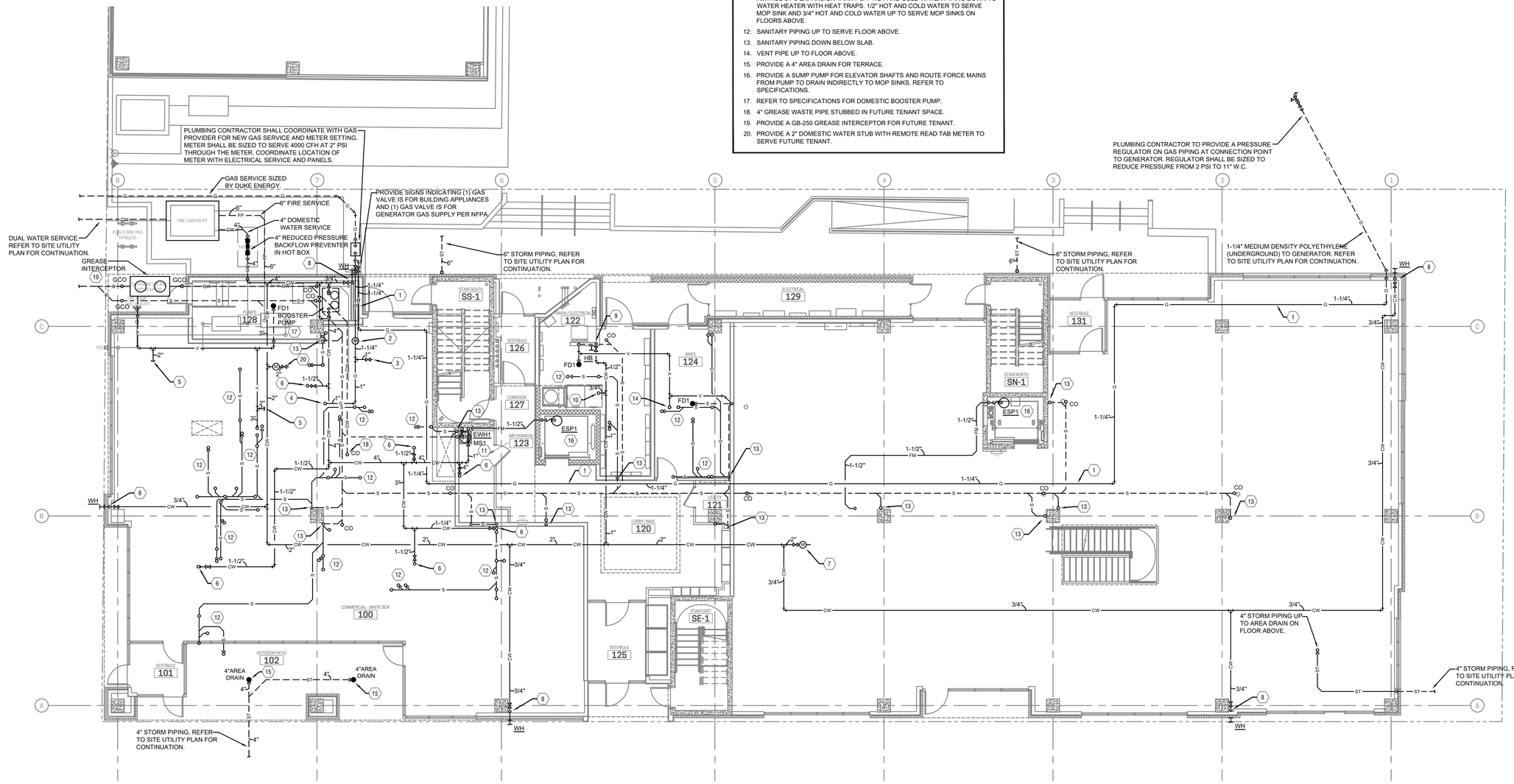
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FLOOR TO FLOOR DOMESTIC WATER RISERS

PLUMBING KEYED SHEET NOTES

1. 1-1/4" 2 PSI GAS PIPING ROUTED THROUGH BUILDING TO SERVE GENERATOR.
2. 1-1/4" 2 PSI GAS PIPING TO SERVE FUTURE TENANT, COORDINATE WITH OWNER AND G.C. TO PROVIDE A REMOTE READ TAB METER.
3. PROVIDE A 1" STUB AT 2 PSI WITH SHUT OFF VALVE FOR FUTURE TENANT.
4. 1" 2 PSI GAS PIPING UP TO FLOOR ABOVE.
5. PROVIDE A 2" VENT STUBBED FOR CONNECTION BY FUTURE TENANT.
6. COLD WATER PIPING UP TO FLOOR ABOVE.
7. STUB A 2" COLD WATER PIPE INTO FUTURE TENANT SPACE WITH OFF VALVE AND COORDINATE WITH G.C. AND OWNER TO PROVIDE A REMOTE READ TAB METER.
8. 3/4"COLD WATER PIPING DOWN TO SERVE WALL HYDRANT.
9. 1/2" COLD WATER PIPING DOWN TO SERVE HOSE BIB.
10. 3/4" COLD WATER UP TO FLOORS ABOVE TO SERVE HOSE BIBS IN GARBAGE ROOMS.
11. PROVIDE A TANK TYPE WATER HEATER ON SHELF ABOVE MOP SINK WITH AN AMTROL ST-5 EXPANSION TANK . 3/4" HOT AND COLD WATER PIPING DOWN TO WATER HEATER WITH HEAT TRAPS. 1/2" HOT AND COLD WATER TO SERVE MOP SINK AND 3/4" HOT AND COLD WATER UP TO SERVE MOP SINKS ON FLOORS ABOVE.
12. SANITARY PIPING UP TO SERVE FLOOR ABOVE.
13. SANITARY PIPING DOWN BELOW SLAB.
14. VENT PIPE UP TO FLOOR ABOVE.
15. PROVIDE A 4" AREA DRAIN FOR TERRACE.
16. PROVIDE A SUMP PUMP FOR ELEVATOR SHAFTS AND ROUTE FORCE MAINS FROM PUMP TO DRAIN INDIRECTLY TO MOP SINKS. REFER TO SPECIFICATIONS.
17. REFER TO SPECIFICATIONS FOR DOMESTIC BOOSTER PUMP.
18. 4" GREASE WASTE PIPE STUBBED IN FUTURE TENANT SPACE.
19. PROVIDE A GB-250 GREASE INTERCEPTOR FOR FUTURE TENANT.
20. PROVIDE A 2" DOMESTIC WATER STUB WITH REMOTE READ TAB METER TO SERVE FUTURE TENANT.



P100 PLUMBING FIRST FLOOR PLAN

1/8"=1'-0"



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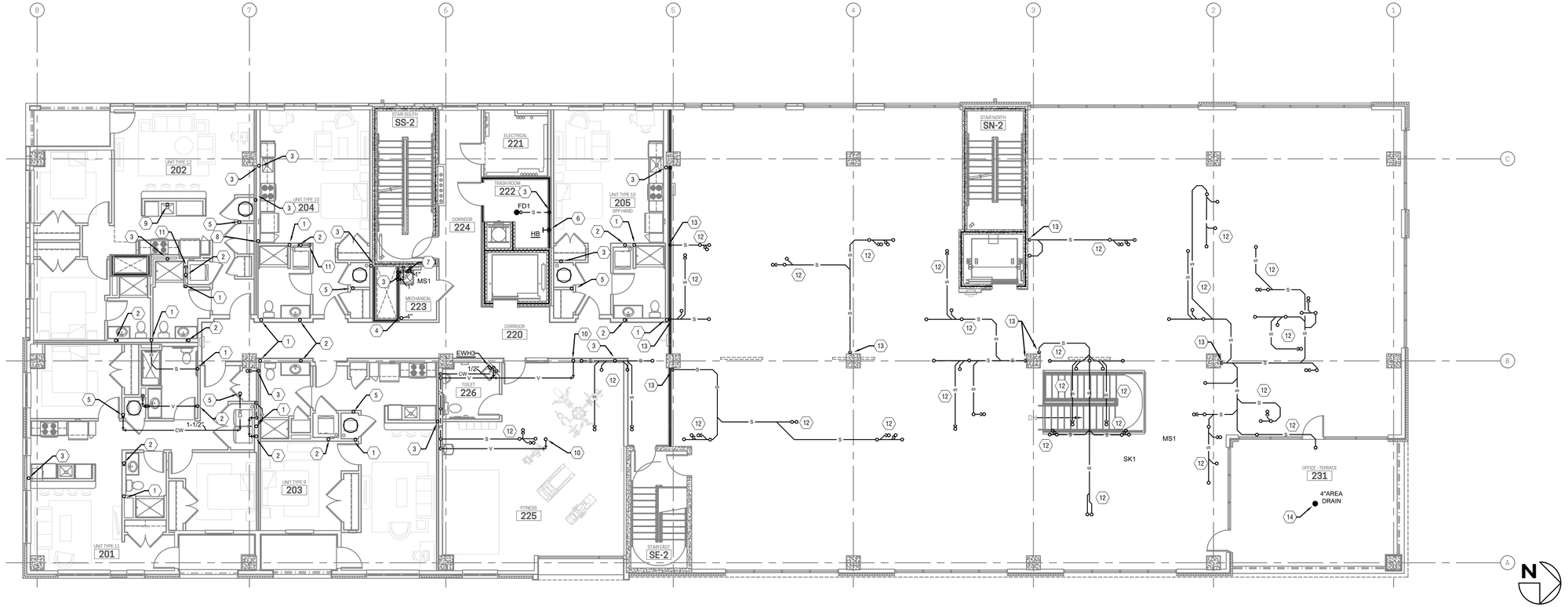
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PLUMBING KEYED SHEET NOTES

1. SANITARY PIPING UP AND DOWN.
2. VENT PIPING UP AND DOWN.
3. WASTE STACK VENT PIPING UP AND DOWN.
4. COLD WATER PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE.
5. COLD WATER PIPING UP TO FLOOR ABOVE. PROVIDE A 3/4" CW STUB TO SERVE RESIDENTIAL UNIT. REFER TO TYPICAL SHEETS.
6. COLD WATER PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE. CONNECT 1/2" COLD WATER TO HOSE BIB.
7. 3/4" HOT AND COLD WATER UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER TO SERVE MOP SINK AND 1/2" HOT AND COLD WATER UP TO FLOOR ABOVE.
8. GAS PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE.
9. WASTE PIPING UP FROM BELOW TO SERVE KITCHEN SINK.
10. VENT PIPING UP TO FLOOR ABOVE.
11. VENT PIPING UP FROM FLOOR BELOW.
12. SANITARY PIPING UP TO SERVE FLOOR ABOVE.
13. SANITARY PIPING DOWN TO FLOOR BELOW.
14. PROVIDE A 4" AREA DRAIN FOR TERRACE.



P101 PLUMBING SECOND FLOOR PLAN

1/8"=1'-0"

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PLUMBING SECOND FLOOR PLAN

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PLUMBING KEYED SHEET NOTES

1. SANITARY PIPING UP AND DOWN.
2. VENT PIPING UP AND DOWN.
3. WASTE STACK VENT PIPING UP AND DOWN.
4. COLD WATER PIPING UP FROM FLOOR BELOW.
5. COLD WATER PIPING UP TO FLOOR ABOVE. PROVIDE A 3/4" CW STUB TO SERVE RESIDENTIAL UNIT. REFER TO TYPICAL SHEETS.
6. COLD WATER PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE. CONNECT 1/2" COLD WATER TO HOSE BIB.
7. 3/4" HOT AND COLD WATER UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER TO SERVE MOP SINK AND 1/2" HOT AND COLD WATER UP TO FLOOR ABOVE.
8. GAS PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE.
9. WASTE PIPING UP FROM BELOW TO SERVE KITCHEN SINK.

N

P102 PLUMBING THIRD FLOOR PLAN

1/8"=1'-0"

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PLUMBING THIRD FLOOR PLAN

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PLUMBING KEYED SHEET NOTES

1. SANITARY PIPING UP AND DOWN.
2. VENT PIPING UP AND DOWN.
3. WASTE STACK VENT PIPING UP AND DOWN.
4. COLD WATER PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE. PROVIDE A 3/4" CW STUB TO SERVE RESIDENTIAL UNIT. REFER TO TYPICAL SHEETS.
5. 3/4" COLD WATER PIPING UP FROM FLOOR BELOW AND 1/2"CW UP TO FLOOR ABOVE. CONNECT 1/2" COLD WATER TO HOSE BIB.
6. 3/4" HOT AND COLD WATER UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER TO SERVE MOP SINK AND 1/2" HOT AND COLD WATER UP TO FLOOR ABOVE.
7. GAS PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE.
8. WASTE PIPING UP FROM FLOOR BELOW

N

P103 PLUMBING FOURTH FLOOR PLAN

1/8"=1'-0"

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PLUMBING FOURTH FLOOR PLAN

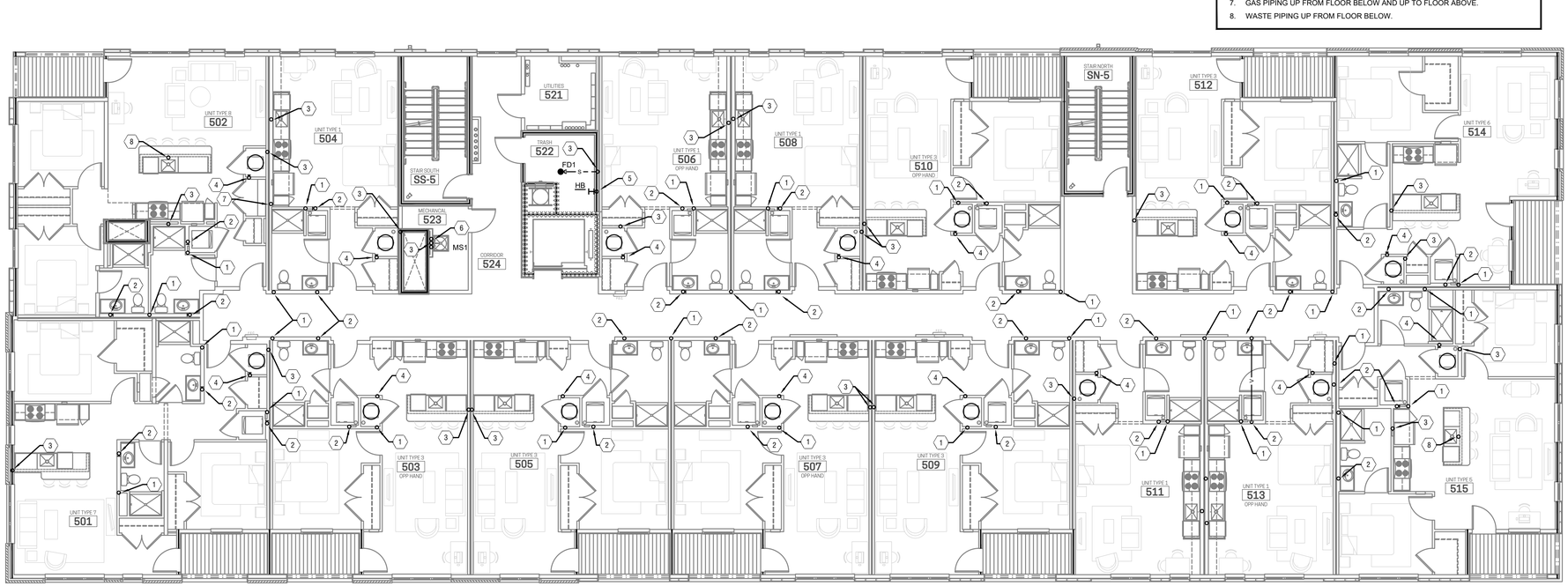
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PLUMBING KEYED SHEET NOTES

1. SANITARY PIPING UP AND DOWN.
2. VENT PIPING UP AND DOWN.
3. WASTE STACK VENT PIPING UP AND DOWN.
4. COLD WATER PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE. PROVIDE A 3/4" CW STUB TO SERVE RESIDENTIAL UNIT. REFER TO TYPICAL SHEETS.
5. 3/4" COLD WATER PIPING UP FROM FLOOR BELOW AND 1/2"CW UP TO FLOOR ABOVE. CONNECT 1/2" COLD WATER TO HOSE BIB.
6. 3/4" HOT AND COLD WATER UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER TO SERVE MOP SINK AND 1/2" HOT AND COLD WATER UP TO FLOOR ABOVE.
7. GAS PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE.
8. WASTE PIPING UP FROM FLOOR BELOW.



N

P104 PLUMBING FIFTH FLOOR PLAN

1/8"=1'-0"

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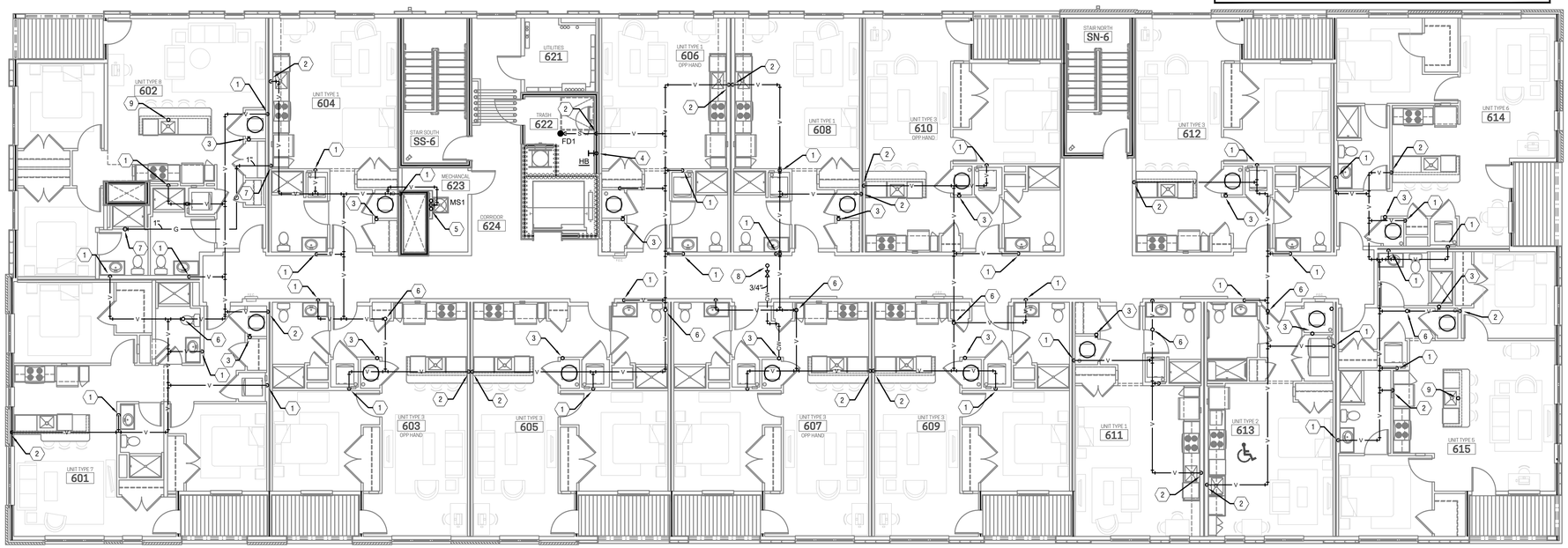
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PLUMBING SIXTH FLOOR KEYED NOTES

1. VENT PIPING DOWN.
2. WASTE STACK VENT PIPING UP AND DOWN.
3. COLD WATER PIPING UP FROM FLOOR BELOW. PROVIDE A 3/4" CW STUB TO SERVE RESIDENTIAL UNIT. REFER TO TYPICAL SHEETS.
4. 1/2" COLD WATER PIPING UP FROM FLOOR BELOW TO SERVE HOSE BIB.
5. 1/2" HOT AND COLD WATER PIPING UP FROM FLOOR BELOW TO SERVE MOP SINK.
6. 4" VENT THROUGH ROOF.
7. GAS PIPING UP FROM FLOOR BELOW AND UP TO FLOOR ABOVE.
8. EXTEND A 3/4" COLD WATER LINE FROM COLD WATER LINE SERVING TENANT SPACE AND ROUTE UP THROUGH ROOF TO SERVE FROST PROOF ROOF HYDRANT.
9. WASTE PIPING UP FROM FLOOR BELOW.



N

P105 **PLUMBING SIXTH FLOOR PLAN**

1/8"=1'-0"

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WALNUT HILLS NEIGHBORHOOD

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WATER HEATER SCHEDULE										
MARK	MANUFACTURER	MODEL	HEIGHT	CONNECTION	GALLON	KW INPUT	VOLTAGE	PHASE	GPH @ 90	ADDITIONAL INFORMATION
EWH1	A.O SMITH	ENJB-40	LOW-BOY	SIDE	40	4.5	208V	3	47	
EWH2	A.O SMITH	ENJB-50	LOW-BOY	SIDE	50	4.5	208V	3	60	
EWH3	A.O SMITH	ENJB-30	LOW-BOY	SIDE	30	4.5	208V	3	21	

MISCELLANEOUS FIXTURE SCHEDULE								
MARK	FIXTURE DESCRIPTION	FIXTURE MANUFACTURER	FIXTURE MODEL	FAUCET MANUFACTURER	FAUCET MODEL	APPROVED FIXTURE MANUFACTURERS	APPROVED FAUCET MANUFACTURER	ADDITIONAL INFORMATION
AAV1	AIR ADMITTANCE VALVE	OATEY	MODA	N/A	N/A	ACCOR, GUY GRAY, SIOUX CHIEF, OATEY	N/A	PROVIDE WITH LOUVERED FACEPLATE # 37534. PROVIDE FIRE-RATED BOX IF INSTALLED IN FIRE-RATED WALL
EWC1	HI-LO WATER COOLER ADA	OASIS	PG8ACSL	N/A	N/A	OASIS, ELKAY, HALSEY TAYLOR	N/A	
IB1	ICE MAKER WATER SUPPLY BOX	OATEY	MODA WITH SURE-VENT	N/A	N/A	ACCOR, GUY GRAY, SIOUX CHIEF, OATEY	N/A	PROVIDE FIRE-RATED BOX IF INSTALLED IN FIRE-RATED WALL
MS1	MOP SINK	FIAT	MSB-2424	FIAT	830-AA	FIAT, MUSTEE, STERN-WILLIAMS	FIAT, SPEAKMAN, AMERICAN STANDARD	FAUCET WITH VACUUM BREAKER
KS1	COUNTERTOP SINK	DAYTON	DXUH2115	PEERLESS	P188152LF	ELKAY, JUST	ELKAY, JUST, MOEN, DELTA	CRUMB CUP STRAINER
WB1	WASHER SUPPLY/DRAIN BOX	OATEY	MODA	N/A	N/A	SYMMONS, GUY GRAY, SIOUX CHIEF, OATEY	N/A	PROVIDE FIRE-RATED BOX IF INSTALLED IN FIRE-RATED WALL

MARK	FIXTURE DESCRIPTION	FIXTURE MANUFACTURER	FIXTURE MODEL	FAUCET MANUFACTURER	FAUCET MODEL	APPROVED FIXTURE MANUFACTURERS	APPROVED FAUCET MANUFACTURER	ADDITIONAL INFORMATION
SH1 AND SH2	SHOWER PANS AND CONTROLS	SWAN (WHITE) SOILD SURFACE, CENTER DRAIN, SINGLE THRESHOLD, VERITEX, ALCOVE INSTALLATION WITH MOLDED -IN DRAIN.	SH1: 48" X 36" SH2: 36" X 60" WITH TILE WALLS	PEERLESS	PTT188782	AQUARIUS, AQUA BATH, AMERICAN STANDARD, KOHLER	KOHLER, AMERICAN STANDARD, SYMMONS, POWERS, DELTA	WATER SENSE LABELED, ADA SHOWER CONTROLS SHALL INCLUDE SLIDE BAR WITH HAND SHOWER HEAD.

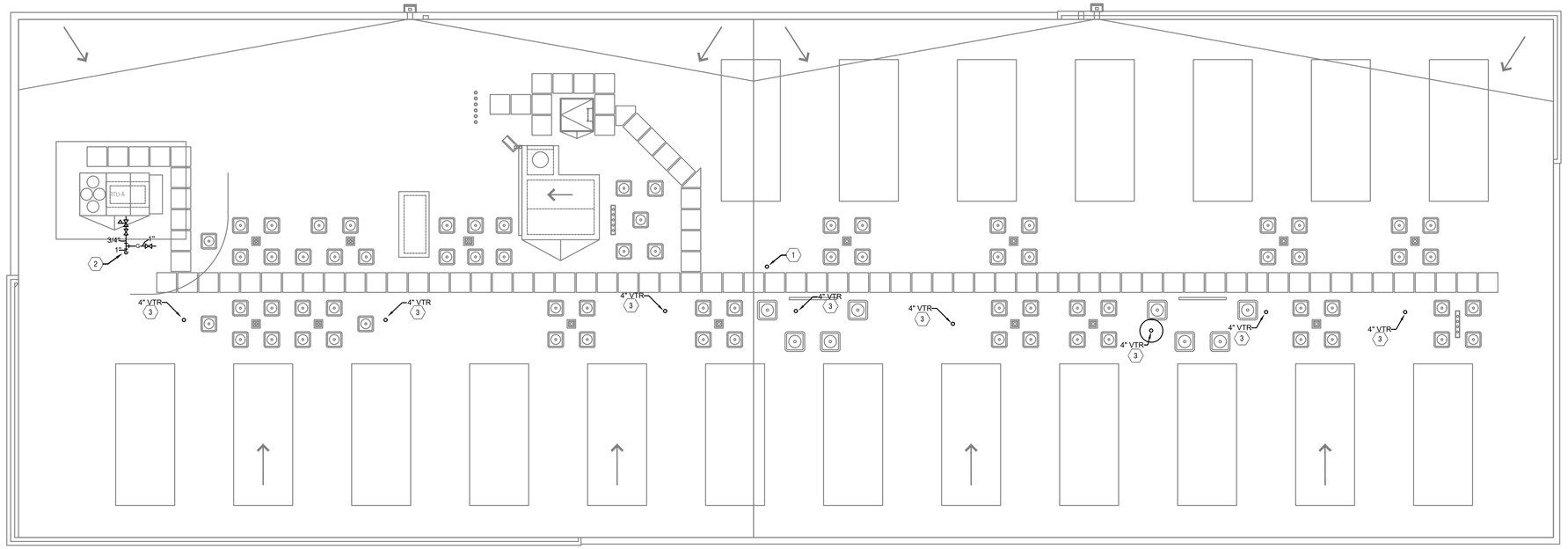
DRAIN SCHEDULE						
MARK	DESCRIPTION	BASE MANUFACTURER	MODEL #	FINISH	ADDITIONAL FEATURES	ACCEPTABLE MANUFACTURERS
FD1	FLOOR DRAIN (FINISHED AREAS)	SIOUX CHIEF	833-NR	PVC BODY, NICKEL-BRONZE STRAINER	DOUBLE DRAINAGE FLANGE, TRAP PRIMER, SQUARE STRAINER IF INSTALLED IN TILE FLOOR	SIOUX CHIEF, OATEY, NSF, JUMBO

WATER CLOSET SCHEDULE													
MARK	WATER CLOSET DESCRIPTION	FIXTURE MANUFACTURER	FIXTURE MODEL #	MATERIAL	USE	MOUNTING	STYLE	FLUSH VALVE TYPE	CONTROL	FLOW RATE	SEAT-TYPE	ACCEPTABLE MANUFACTURERS	APPROVED FLUSH VALVE MANUFACTURERS	ADDITIONAL INFORMATION
WC1	FLOOR-SET TANK-TYPE	MANSFIELD139NS-3173	139NS-3173	CHINA	ADA & NON-ADA	FLOOR	ELONGATED	NOT APPLICABLE	MANUAL	1.28	REFER TO ADDITIONAL INFORMATION	AMERICAN STANDARD, KOHLER, ZURN	NOT APPLICABLE	RESIDENTIAL- CLOSED SEAT PUBLIC-OPEN SEAT

MARK	LAVATORY DESCRIPTION	FIXTURE MANUFACTURER	FIXTURE MODEL	FAUCET MANUFACTURER	FAUCET MODEL	MATERIAL	USE	MOUNTING	STYLE	CONTROL	FLOW RATE	DRAIN	APPROVED FIXTURE MANUFACTURERS	APPROVED FAUCET MANUFACTURERS	ADDITIONAL INFORMATION
LV1	COUNTERTOP LAVATORY WITH INTEGRAL BOWL	SEE ARCHITECTURAL SPECS FOR BOWL	N/A	PEERLESS	P191102LF	N/A	NON-ADA & ADA	COUNTER	N/A	MANUAL	1.5	GRID	PROFLO, AMERICAN STANDARD, KOHLER, ZURN	AMERICAN STANDARD, KOHLER, ZURN, BRADLEY, CHICAGO FAUCET, SPEAKMAN, T&S, SYMMONS, POWERS, MOEN, DELTA	IN ADA LOCATIONS, INSULATE SUPPLIES & DRAIN WHERE NOT PROTECTED WITH SHROUD
LV2	OVAL UNDERMOUNT LAVATORY ADA	KOHLER	K-2210	SLOAN	TEF-600	CHINA	NON-ADA & ADA	UNDERMOUNT	N/A	HARD-WIRED	0.5	GRID	AMERICAN STANDARD, KOHLER, ZURN	SLOAN, AMERICAN STANDARD, KOHLER, ZURN	INSULATE SUPPLIES & DRAIN WHERE NOT PROTECTED WITH SHROUD

PLUMBING KEYED SHEET NOTES

1. 3/4" COLD WATER PIPING UP FROM FLOOR BELOW TO SERVE FROST PROOF ROOF TOP HYDRANT. CONTRACTOR SHALL COORDINATE WITH ALL MECHANICAL EQUIPMENT AND SOLAR LOCATIONS.
2. GAS PIPING UP FROM FLOOR BELOW TO SERVE RTU AND CONNECT TO HVAC EQUIPMENT. GAS PIPING SIZED TO SERVE RTU AND FUTURE MAKE UP AIR UNIT. PROVIDE A REGULATOR ON GAS PIPING SERVING RTU TO REDUCE PRESSURE FROM 2 PSI TO 7" W.C. AND PROVIDE A 1" GAS PIPE STUBBED WITH SHUT OFF VALVE FOR FUTURE EQUIPMENT.
3. 4" VENT THROUGH ROOF. PLUMBING CONTRACTOR SHALL COORDINATE WITH ALL MECHANICAL EQUIPMENT AND SOLAR LOCATIONS.



P106 PLUMBING ROOF PLAN

1/8"=1'-0"

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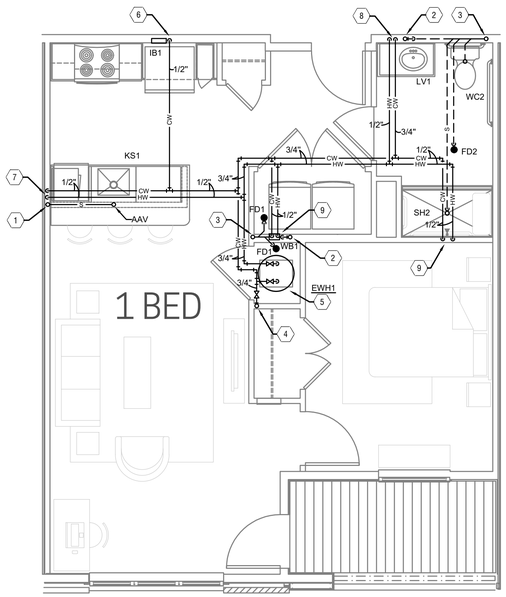
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PLUMBING ROOF PLAN

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P106

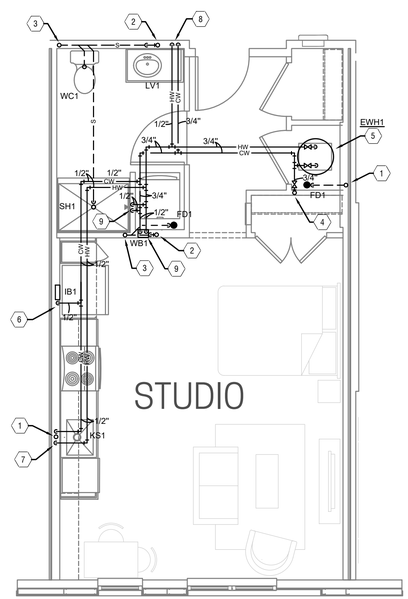
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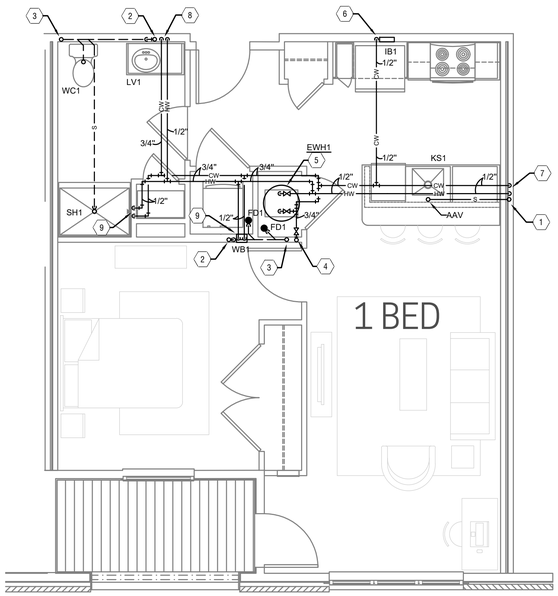
P4 **ENLARGED PLAN - UNIT TYPE 4**

1/4"=1'-0"



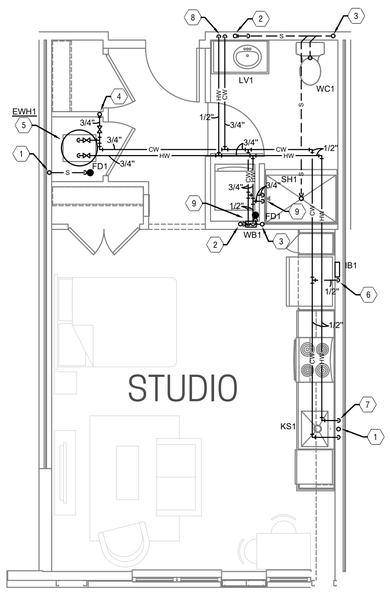
P2 **ENLARGED PLAN - UNIT TYPE 2**

1/4"=1'-0"



P3 **ENLARGED PLAN - UNIT TYPE 3**

1/4"=1'-0"



P1 **ENLARGED PLAN - UNIT TYPE 1**

1/4"=1'-0"

PLUMBING KEYED SHEET NOTES

1. SANITARY WASTE STACK VENT.
2. VENT PIPING UP AND DOWN.
3. SANITARY PIPING UP AND DOWN.
4. COLD WATER PIPING UP AND DOWN. 3/4" COLD WATER PIPING WITH TAB METER TO SERVE UNIT.
5. 3/4" HOT AND COLD WATER DOWN TO ELECTRIC WATER HEATER WITH HEAT TRAPS AND DRAIN PAN. PROVIDE AN EXPANSION TANK EQUAL TO AMTROL ST-5C AND ROUTE DRAIN LINES FROM PRESSURE RELIEF VALVE AND DRAIN PAN INDEPENDENTLY TO FLOOR DRAIN.
6. COLD WATER DOWN TO VALVE BOX TO SERVE REFRIGERATOR.
7. HOT AND COLD WATER DOWN TO SINK. EXTEND A 1/2" HOT WATER LINE TO SERVE DISHWASHER AND CONNECT DRAIN LINE FROM DISHWASHER TO SINK DRAIN.
8. 1/2" HOT AND COLD WATER PIPING DOWN IN WALL. 1/2" HOT AND COLD WATER TO SERVE LAVATORY AND EXTEND A 1/2" COLD WATER PIPING TO SERVE WATER CLOSET.
9. HOT AND COLD WATER DOWN TO FIXTURE.
10. HOT AND COLD WATER UP /DOWN TO SERVE KITCHEN SINK. EXTEND A 1/2" HOT WATER LINE TO SERVE DISHWASHER.
11. 1/2" COLD WATER DOWN TO SERVE WATER CLOSET.
12. 3/4" HOT AND COLD WATER PIPING DOWN IN WALL. 1/2" HOT AND COLD WATER TO EACH LAVATORY AND 1/2" COLD WATER PIPING TO EACH WATER CLOSET.

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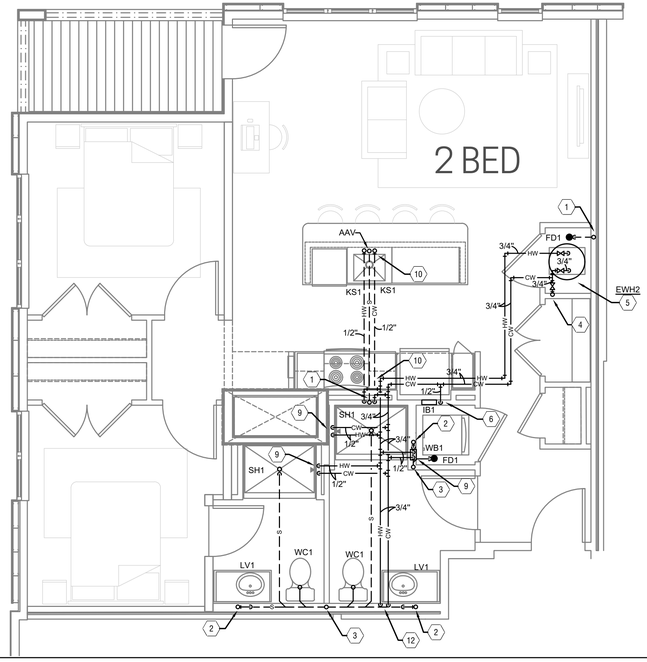
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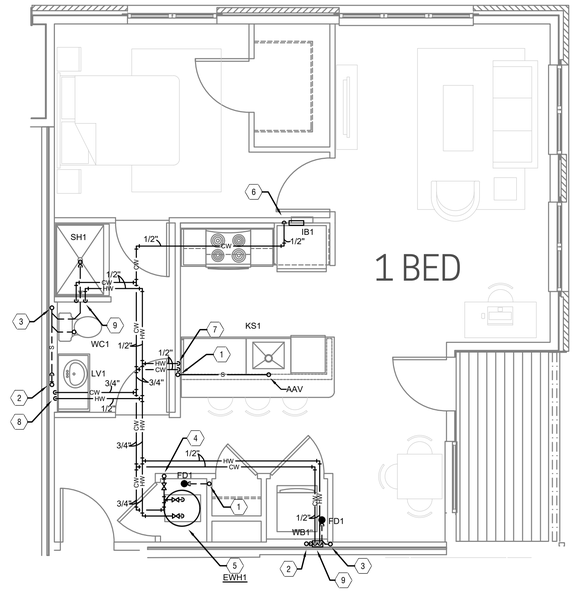
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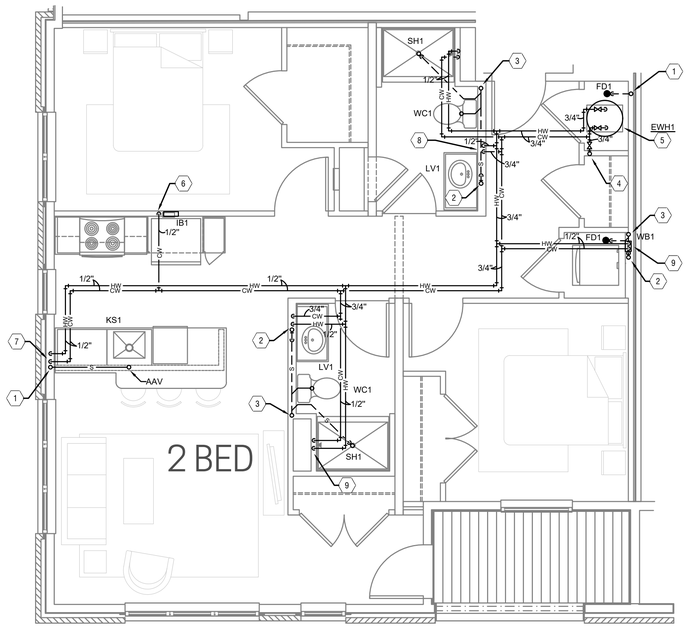
P8 **ENLARGED PLAN - UNIT TYPE 8**

1/4"=1'-0"



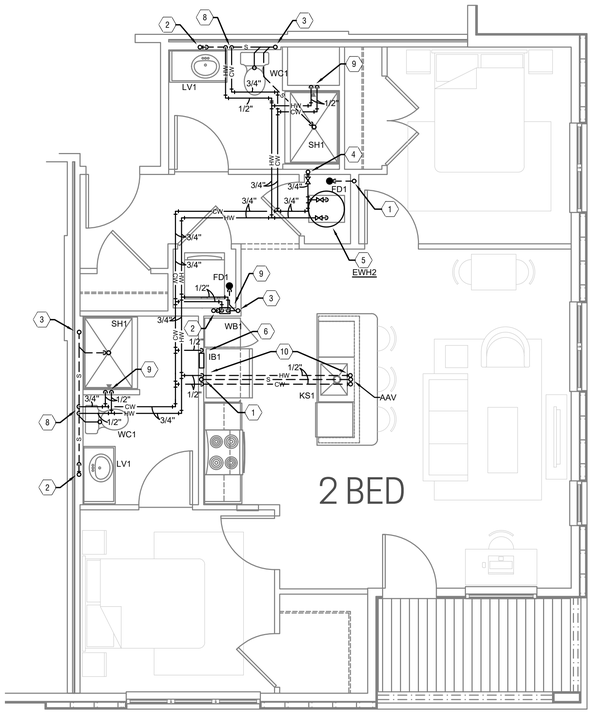
P6 **ENLARGED PLAN - UNIT TYPE 6**

1/4"=1'-0"



P7 **ENLARGED PLAN - UNIT TYPE 7**

1/4"=1'-0"



P5 **ENLARGED PLAN - UNIT TYPE 5**

1/4"=1'-0"

PLUMBING KEYED SHEET NOTES

1. SANITARY WASTE STACK VENT.
2. VENT PIPING UP AND DOWN.
3. SANITARY PIPING UP AND DOWN.
4. COLD WATER PIPING UP AND DOWN. 3/4" COLD WATER PIPING WITH TAB METER TO SERVE UNIT.
5. 3/4" HOT AND COLD WATER DOWN TO ELECTRIC WATER HEATER WITH HEAT TRAPS AND DRAIN PAN. PROVIDE AN EXPANSION TANK EQUAL TO AMTROL ST-5C AND ROUTE DRAIN LINES FROM PRESSURE RELIEF VALVE AND DRAIN PAN INDEPENDENTLY TO FLOOR DRAIN.
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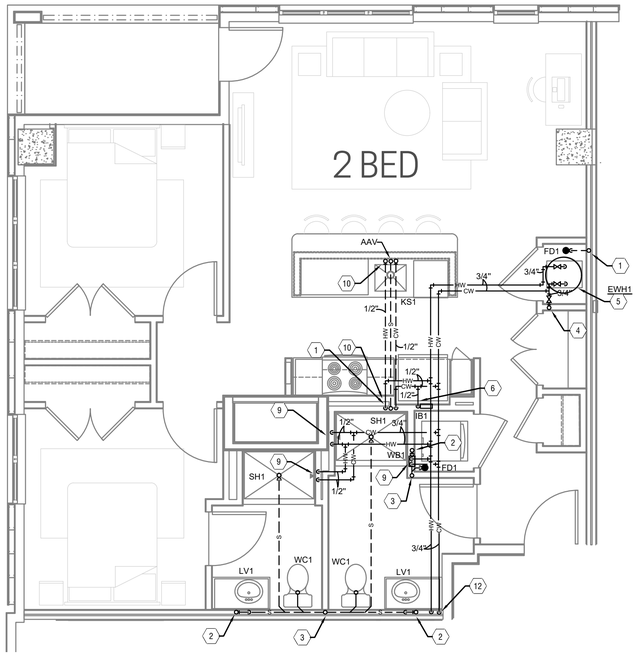
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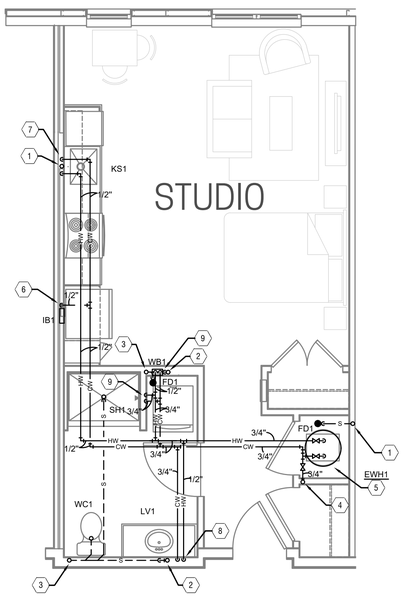
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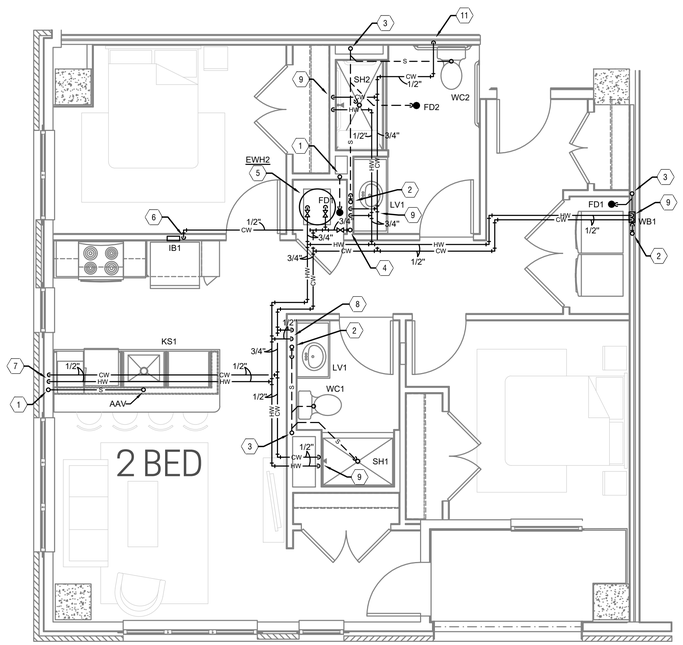
P12 **ENLARGED PLAN - UNIT TYPE 12**

1/4"=1'-0"



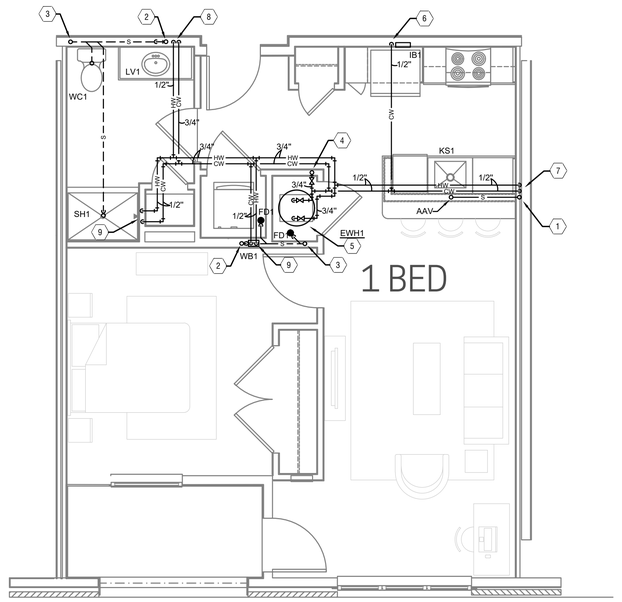
P10 **ENLARGED PLAN - UNIT TYPE 10**

1/4"=1'-0"



P11 **ENLARGED PLAN - UNIT TYPE 11**

1/4"=1'-0"



P9 **ENLARGED PLAN - UNIT TYPE 9**

1/4"=1'-0"

PLUMBING KEYED SHEET NOTES

1. SANITARY WASTE STACK VENT.
2. VENT PIPING UP AND DOWN.
3. SANITARY PIPING UP AND DOWN.
4. COLD WATER PIPING UP AND DOWN. 3/4" COLD WATER PIPING WITH TAB METER TO SERVE UNIT.
5. 3/4" HOT AND COLD WATER DOWN TO ELECTRIC WATER HEATER WITH HEAT TRAPS AND DRAIN PAN. PROVIDE AN EXPANSION TANK EQUAL TO AMTROL ST-5C AND ROUTE DRAIN LINES FROM PRESSURE RELIEF VALVE AND DRAIN PAN INDEPENDENTLY TO FLOOR DRAIN.
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DIVISION 22 - PLUMBING

1. GENERAL PLUMBING REQUIREMENTS
   a. THE PLUMBING CONTRACTOR MUST REFER TO SITE PLANS, ARCHITECTURAL PLANS AND ELEVATIONS, AND PRICING INSTRUCTIONS FROM THE GENERAL CONTRACTOR TO DEVELOP THEIR PRICE. THE PLUMBING CONTRACTOR'S PRICE (INCLUDING TAXES) SHOULD INCLUDE ALL LABOR AND MATERIAL NECESSARY TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM.
   b. THE PLUMBING CONTRACTOR SHALL BE LICENSED BY THE STATE OF OHIO TO INSTALL PLUMBING SYSTEMS.
   c. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE STATE, LOCAL CODES AND ORDINANCES. IN CASE OF CONFLICT BETWEEN THE DRAWINGS/SPECIFICATIONS AND THE CODES AND ORDINANCES, THE HIGHEST STANDARD SHALL APPLY. THE PLUMBING CONTRACTOR SHALL SATISFY CODE REQUIREMENTS AS A MINIMUM STANDARD.
   d. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE AND CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA AND RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   e. REFER TO ARCHITECTURAL DRAWINGS, GENERAL NOTES, INSTRUCTIONS TO BIDDERS, GENERAL CONDITIONS, SUPPLEMENTARY GENERAL CONDITIONS, SPECIFICATIONS, AND DRAWINGS EXCEPT AS NOTED HEREIN WHICH APPLY IN ALL RESPECTS TO THIS SECTION.
   f. COORDINATE PIPING CHASES, SHAFTS, ABOVE CEILING WORK, ETC. WITH ARCHITECT. ALL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW PRIOR TO WORK.
   g. THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL NECESSARY PLUMBING PIPING PENETRATIONS. THIS INCLUDES CORING HOLES IN SLABS, ETC.
   h. EQUIPMENT AND MATERIALS SHALL CONFORM WITH APPROPRIATE PROVISIONS OF AGA, ARI, ASME, ASTM, CISPI, UL, NEMA, ANSI, SMACNA, ASHRAE, NFPA, NEC, AS APPLICABLE TO EACH INDIVIDUAL UNIT OR ASSEMBLY. ALL EQUIPMENT MUST BEAR UL LABEL.
   i. INSTALL EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. MAINTAIN ALL CODE RECOMMENDED CLEARANCES.
   j. WHERE NOT PROVIDED BY OTHERS, PROCURE AND PAY FOR ALL PERMITS, FEES, TAXES AND INSPECTIONS NECESSARY TO COMPLETE THE PLUMBING WORK. FURNISH CERTIFICATE OF APPROVAL FOR WORK FROM INSPECTION AUTHORITY TO OWNER BEFORE FINAL ACCEPTANCE FOR WORK. CERTIFICATE OF FINAL INSPECTION AND APPROVAL SHALL BE SUBMITTED WITH THE CONTRACTOR'S REQUEST FOR PAYMENT. NO FINAL PAYMENT WILL BE APPROVED WITHOUT THIS CERTIFICATE.
   k. DRAWINGS ARE DIAGRAMMATIC ONLY INTENDING TO SHOW GENERAL RUNS AND LOCATIONS OF EQUIPMENT, FIXTURES, PIPING AND NOT NECESSARILY SHOWING ALL OFFSETS, DETAILS, ACCESSORIES AND EQUIPMENT TO BE CONNECTED.
   l. ALL WORK SHALL BE ACCURATELY LAID-OUT WITH OTHER TRADES, PRIOR TO INSTALLATION & FABRICATION, TO AVOID ALL CONFLICTS AND OBTAIN A NEAT AND WORKMANLIKE INSTALLATION WHICH WILL AFFORD MAXIMUM ACCESSIBILITY FOR EQUIPMENT OPERATION, MAINTENANCE CLEARANCES AND HEADROOM.
2. USE OF INFORMATION PROVIDED BY EBS
   a. THE INFORMATION PROVIDED IS INTENDED TO CONVEY DESIGN INTENT ONLY. ALL MEANS AND METHODS, SEQUENCES, TECHNIQUES, AND PROCEDURES OF CONSTRUCTION AS WELL AS ANY ASSOCIATED SAFETY PRECAUTIONS AND PROGRAMS, AND ALL INCIDENTAL AND TEMPORARY DEVICES REQUIRED TO CONSTRUCT THE PROJECT, AND TO PROVIDE A COMPLETE AND FULLY OPERATIONAL PLUMBING SYSTEM ARE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR.
3. CONTRACTOR COORDINATION
   a. COORDINATION DRAWINGS SHOWING SYSTEM AND COMPONENT INSTALLATION LAYOUT, ROUTING, DETAILS, ETC. SHALL BE PRODUCED BY THE PLUMBING CONTRACTOR AND UNDER THE SUPERVISION OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER, OR APPROPRIATE PARTY AS APPLICABLE. ALL SYSTEMS INSTALLED BY EACH SUB-CONTRACTOR SHALL BE COORDINATED WITH ONE ANOTHER AND APPROVED BY GENERAL CONTRACTOR/CONSTRUCTION MANAGER, ETC. PRIOR TO INSTALLATION AND/OR FABRICATION. IF QUESTIONS CONCERNING DESIGN INTENT ARISE DURING COORDINATION, EBS CAN ASSIST WHERE APPROPRIATE.
4. PLUMBING FIXTURES
   a. SHUT OFF VALVES/STOPS SHALL BE PROVIDED AT ALL LAVATORIES, SINKS AND WATER CLOSETS.
   b. COORDINATE COLOR OF FIXTURES WITH ARCHITECT. FIXTURES SHALL BE WHITE UNLESS OTHERWISE NOTED.
   c. PROVIDE ADA COMPLIANT FIXTURES WHERE INDICATED ON THE ARCHITECTURAL PLANS. PROVIDE OFFSET FIXTURE TAILPIECES AND TRAPS WHERE REQUIRED TO MEET ADA LEG CLEARANCES.
   d. FIXTURES SHALL BE SECURELY FASTENED TO PREVENT ANY MOVEMENT OF FIXTURE DURING NORMAL USE. SEAL TO WALL, FLOOR OR COUNTERTOP WITH SILICONIZED ACRYLIC-LATEX CAULK.
5. DRAIN PANS
   a. PROVIDE DRAIN PAN UNDER WATER HEATERS. PIPE WATER HEATER DRAIN AND PRESSURE RELIEF VALVE SEPARATELY AND INDIRECTLY TO FLOOR DRAIN (NOT TO DRAIN PAN). DRAIN PANS INSTALLED IN ROOMS BEING USED AS A PLENUM SHALL BE ALUMINUM.
   b. DRAIN PANS SHALL BE PROVIDED UNDER WASHERS AND SHALL BE SIZED TO ACCOMMODATE A STANDARD WASHER OR STACKABLE WASHER/DRYER AS APPLICABLE. BASIS OF DESIGN SHALL BE DRIPTITE 30-5/8" WIDE X 34-5/8" DEEP TRANSLUCENT PAN. DRILL ¾" OUTLET IN VERTICAL SIDEWALL FOR SIDE-OUTLET OR IN BOTTOM OF PAN DIRECTLY OVER DRAIN IF DRAIN IS UNDER THE PAN. DRAIN CONNECTION SHALL BE MADE WITH MANUFACTURER PROVIDED DRAIN OUTLET CONNECTION. PANS ARE AVAILABLE IN CUSTOM SIZES IF NECESSARY (COORDINATE SIZES AND LOCATIONS OF THE PAN WITH ROOM DIMENSIONS AND EQUIPMENT SIZES AS PROVIDED BY THE ARCHITECT/OWNER).
6. DOMESTIC WATER SYSTEMS
   a. PROVIDE A NEW DOMESTIC WATER SERVICE TO THE BUILDING.
   b. PROVIDE SEPARATE VALVE AND TAB METER FOR EACH APARTMENT AND TENANT SPACE.
   c. INTERIOR DOMESTIC WATER PIPING:
   i. WHERE ALLOWED BY CODE, CPVC PIPING CAN BE USED.
   a. CPVC PIPING 2" AND SMALLER SHALL BE EQUAL TO FLOW GUARD GOLD - THIS SPECIFICATION COVERS COPPER TUBE SIZE (CTS) CPVC MANUFACTURED TO STANDARD DIMENSIONAL RATIO (SDR) 11 FOR HOT AND COLD DOMESTIC WATER DISTRIBUTION. THIS SYSTEM IS INTENDED FOR PRESSURE APPLICATIONS WHERE THE OPERATING TEMPERATURE WILL NOT EXCEED 180°F AT 100 PSI. PIPE AND FITTINGS SHALL BE MANUFACTURED FROM VIRGIN RIGID CPVC (CHLORINATED POLYVINYL CHLORIDE) VINYL COMPOUNDS WITH A CELL CLASS OF 24448 AS IDENTIFIED IN ASTM D 1784. CTS CPVC PIPE AND FITTINGS SHALL CONFORM TO ASTM D 2846. PIPE AND FITTINGS SHALL BE MANUFACTURED AS A SYSTEM AND BE THE PRODUCT OF ONE MANUFACTURER. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES. PIPE AND FITTINGS SHALL CONFORM TO NATIONAL SANITATION FOUNDATION (NSF) STANDARDS 14 AND 61. INSTALLATION SHALL COMPLY WITH LATEST INSTALLATION PROVIDED BY THE MANUFACTURER AND SHALL CONFORM TO ALL LOCAL PLUMBING, BUILDING AND FIRE CODE REQUIREMENTS. BURIED PIPE SHALL BE INSTALLED IN ACCORDANCE WITH ASTM F 1668. SOLVENT WELD JOINTS SHALL BE MADE USING CPVC CEMENT CONFORMING TO ASTM F 493. YELLOW ONE-STEP CEMENT MAY BE USED WITHOUT PRIMER. IF A PRIMER IS REQUIRED BY LOCAL PLUMBING OR BUILDING CODES, THEN A PRIMER CONFORMING TO ASTM F 656 SHOULD BE USED. THE SYSTEM SHALL BE PROTECTED FROM CHEMICAL AGENTS, FIRE STOPPING MATERIALS, THREAD SEALANT, PLASTICIZED VINYL PRODUCTS OR OTHER AGGRESSIVE CHEMICAL AGENTS NOT COMPATIBLE WITH CPVC COMPOUNDS. SYSTEMS SHALL BE HYDROSTATICALLY TESTED AFTER INSTALLATION. NEVER TEST WITH OR TRANSPORT/STORE COMPRESSED AIR OR GAS IN CPVC PIPE OR FITTINGS.
   ii. CPVC PIPING LARGER THAN 2" SHALL BE EQUAL TO CORZAN - THIS SPECIFICATION COVERS THE MANUFACTURING REQUIREMENTS FOR CPVC SCHEDULE 80 IRON PIPE SIZE (IPS) PIPE AND FITTINGS. BOTH THE PIPE AND FITTINGS ARE MANUFACTURED IN NORTH AMERICA AND MEET OR EXCEED THE REQUIREMENTS SET FORTH BY THE AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM) AND ANSI/NSF STANDARDS 14 AND 61. CPVC PIPE AND FITTINGS ARE EXTRUDED/MOLDED FROM CPVC COMPOUNDS. THE PIPE COMPOUND MEETS CELL CLASS 24448 AND THE FITTING COMPOUND MEETS CELL CLASS 23447 AS DEFINED BY ASTM D1784. BOTH THE PIPE AND THE FITTING COMPOUNDS ARE CERTIFIED BY NSF INTERNATIONAL FOR USE WITH POTABLE WATER. DIMENSIONS, TOLERANCES AND PHYSICAL PROPERTIES MEET OR EXCEED THE REQUIREMENTS OF ASTM STANDARDS F441 FOR PIPE, F439 FOR SOCKET FITTINGS AND ASTM F437 OR F439 FOR THREADED FITTINGS. THREADED FITTINGS HAVE TAPER PIPE THREADS IN ACCORDANCE WITH ASTM F1498. UNIONS AND FLANGES MEET OR EXCEED THE REQUIREMENTS OF ASTM F1970. ALL SOCKET TYPE JOINTS SHALL BE ASSEMBLED EMPLOYING SOLVENT CEMENTS THAT MEET OR EXCEED THE REQUIREMENTS OF ASTM F493. THE STANDARD PRACTICE FOR SAFE HANDLING OF SOLVENT CEMENTS SHALL BE IN ACCORDANCE WITH ASTM F402. SOLVENT CEMENT SHALL BE LISTED BY NSF INTERNATIONAL FOR USE WITH POTABLE WATER, AND APPROVED BY THE FITTINGS MANUFACTURERS. WATER FILLED PIPE AND FITTINGS (1/2" THROUGH 6") TESTED IN GENERAL ACCORDANCE WITH UL 723/ASTM E 84 (NFPA 255 AND UBC 8-1) MEETS THE 25/50 FLAME AND SMOKE REQUIREMENT AND SHALL BE PERMITTED TO BE INSTALLED IN RETURN AIR PLENUMS. TEST REPORTS FROM A THIRD PARTY TESTING LABORATORY SHALL BE OBTAINED AND MADE AVAILABLE UPON REQUEST. THE MARKING ON THE CPVC PIPE MEET THE REQUIREMENTS OF ASTM F441 AND THE MARKING ON THE FITTINGS MEETS THE REQUIREMENTS OF ASTM STANDARDS F437, F438 OR F1970. THE PIPE AND FITTINGS MARKINGS STATE THE PIPE/FITTING MANUFACTURE'S NAME OR TRADEMARK, THE MATERIAL DESIGNATION, THE SIZE, THE NSF MARK FOR POTABLE WATER AND THE ASTM DESIGNATION.
   iii. WHERE ALLOWED BY CODE, PEX TUBE AND FITTINGS CAN BE USED. TUBING SHALL BE PEX-A TYPE AND FITTINGS SHALL BE EQUAL TO UPONOR AQUAPEX. TUBING AND FITTINGS MUST CONFORM TO ASTM F876 "STANDARD SPECIFICATION FOR CROSSLINKED POLYETHYLENE, ASTM F877 "STANDARD FOR CROSSLINKED POLYETHYLENE PLASTIC HOT AND COLD WATER DISTRIBUTION SYSTEMS". PROVIDE ENGINEERED PLASTIC FITTINGS WITH PLASTIC COLLARS WHICH CONFORM TO ASTM F1960 STANDARD SPECIFICATION FOR COLD EXPANSION FITTINGS WITH PEX REINFORCING RINGS FOR USE WITH CROSSLINKED POLYETHYLENE PIPING. PEX TUBING AND CONNECTIONS SHALL BE WARRANTED FOR A PERIOD OF 25 YEARS. DO NOT WELD, GLUE, TAPE OR ALLOW OTHER SOLVENT BASED ADHESIVES OR PAINTS TO COME INTO CONTACT WITH TUBING. DO NOT ALLOW TUBING TO COME IN CONTACT WITH PIPE THREAD COMPOUNDS, FIREWALL PENETRATION SEALING COMPOUNDS, AND PETROLEUM BASED SEALANTS. DO NOT ALLOW TUBING TO COME WITHIN 6" OF GAS APPLIANCE VENTS OR 12" OF RECESSED LIGHT FIXTURES. DO NOT EXPOSE TUBING TO OPEN FLAME. DO NOT SOLDER WITHIN 18" OF TUBING. DO NOT INSTALL TUBING BETWEEN TUB SPOUT AND SHOWER VALVE. RADIUS OF BENDS MUST NOT EXCEED SIX TIMES OUTSIDE TUBE DIAMETER. REPAIR KINKS IN TUBING USING HEAT AS RECOMMENDED BY MANUFACTURER. TUBING SHALL BE INSTALLED IN MAXIMUM PRACTICAL LENGTHS, AS DIRECTLY AS POSSIBLE TO REMOTE MANIFOLD WITH MINIMUM FITTINGS. TUBING SHALL BE SUPPORTED IN A MATTER THAT DOES NOT DAMAGE TUBING AND ALLOWS FOR THERMAL EXPANSION. SUPPORTS SHALL BE SPACED AT 32" MINIMUM HORIZONTALLY AND 60" VERTICALLY AND WITHIN 6" OF FITTINGS OR BENDS. USE BEND SUPPORTS AT 90 DEGREE BENDS. PROTECT INSTALLED TUBING FROM DAMAGE. INSTALL METAL PLATES WHERE TUBING PENETRATES STUDS AT FACE OF STUDS. REMOTE MANIFOLD TYPE FITTINGS SHALL BE UTILIZED AT BRANCHES IN ROOMS WHERE TUBING IS TERMINATED (MODIFIED HOME-RUN INSTALLATION TYPE). UTILIZE EXPANDER TOOLS RECOMMENDED BY MANUFACTURER FOR CONNECTION OF TUBING TO FITTINGS. DO NOT OVER EXPAND TUBING. PIPE SHALL BE SUPPORTED AT FITTINGS AND FIXTURES AS RECOMMENDED BY MANUFACTURER. PIPING SHALL BE INSTALLED WITH MINIMUM AMOUNT OF FITTINGS. USE MANUFACTURER APPROVED VALVES, FITTINGS, HOSE BIBS AND BOXES AT FIXTURES.
   e. CONTROL VALVES SHALL BE MANUFACTURED BY OR APPROVED BY PIPING MANUFACTURER.
   f. ADJUST ALL STOPS AND VALVES PROPERLY PRIOR TO PROJECT COMPLETION.
7. TAB METERS FOR DOMESTIC WATER
   a. PROVIDE VALVE AND TAB METERS TO ISOLATE WATER USAGE FOR EACH DWELLING UNIT AND TENANT SPACE. PROVIDE SHUT-OFF VALVE UPSTREAM OF METER AND LOCATE IN AN ACCESSIBLE LOCATION.
8. HOSE BIBS AND HYDRANTS
   a. HOSE BIBS TO BE EQUAL TO WOODFORD MODEL ½" 24P OR APPROVED EQUAL WITH VACUUM BREAKER. PROVIDE HOSE BIB "LESS HANDLE", AND PROVIDE "OPTIONAL LOOSE TEE KEY". APPROVED MANUFACTURERS OF EQUAL PRODUCTS TO BE ZURN, WADE, JOSAM, SMITH, OR WATTS.
   b. WALL HYDRANTS TO BE EQUAL TO ¾" WOODFORD MODEL B-67, WITH CHROME FINISH ON BRASS CASTING, WITH BOX AND HINGED DOOR, AND LOOSE-TEE KEY. CONCEAL WITHIN INTERIOR PARTITIONS AND/OR INSTALL IN A MANNER THAT PREVENTS FREEZING. FURNISH TO OWNER, ONE VALVE KEY FOR EACH KEY OPERATED WALL HYDRANT INSTALLED. APPROVED MANUFACTURERS OF EQUAL PRODUCTS SHALL BE ZURN, WADE, JOSAM, SMITH, OR WATTS.
   c. PROVIDE FREEZELESS ROOF HYDRANT WITHIN 100' OF ALL EQUIPMENT. ROOF HYDRANT SHALL BE EQUAL TO WOODFORD MODEL SRH-MS, COMPLETE SYSTEM WITH ¾" THREADED HOSE BIB, ASSE 1052 DOUBLE CHECK BACKFLOW PREVENTER, AND MOUNTING HARDWARE. APPROVED MANUFACTURERS OF EQUAL PRODUCTS SHALL BE WOODFORD, ZURN, WADE, JOSAM, SMITH, OR WATTS.
9. SANITARY AND VENT SYSTEMS
   a. PROVIDE NEW SANITARY SEWER LATERAL. COORDINATE WITH SITE UTILITY PLAN..
   b. EXTERIOR SANITARY PIPING:
   c. INTERIOR SANITARY, WASTE, AND VENT PIPING:
   i. WHERE NOT INSTALLED IN A PLENUM, SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE SCHEDULE 40 PVC PIPING AND FITTINGS CONFORMING TO ASTM D 2665, SOLID-WALL DRAIN PIPING WITH PVC SOCKET SOLVENT WELD FITTINGS CONFORMING TO ASTM D2665, MADE TO ASTM D3311, DRAIN, WASTE, AND VENT PATTERNS.
   ii. WHERE PIPING SHALL BE INSTALLED IN A PLENUM, SANITARY, WASTE, AND VENT PIPING WITHIN BUILDING TO BE NO-HUB, CAST-IRON PIPE WITH NO-HUB COUPLINGS CONSISTING OF A STAINLESS STEEL SHIELD, CLAMP, AND NEOPRENE GASKET. COUPLINGS SHALL BE TESTED AND CERTIFIED TO CISPI 310, ASTM C1277, ASTM C564, AND NSF. IDEAL CLAMP PRODUCTS' HEAVY DUTY POW'R GEAR (RED SHIELD) COUPLINGS ARE ALSO APPROVED AND ACCEPTABLE. THESE COUPLINGS ARE LISTED WITH NSF INTERNATIONAL AND CONFORM WITH ASTM C1540 PERFORMANCE REQUIREMENTS (SHEAR, DEFLECTION AND UNRESTRAINED THRUST TESTS).
   iii. ABOVEGROUND SANITARY, WASTE, AND VENT PIPING WITHIN MECHANICAL CLOSETS (PLENUMS) TO BE NO-HUB, CAST-IRON PIPE CONFORMING TO ASTM A74, ASTM A888, AND CISPI 301, WITH NO-HUB COUPLINGS CONSISTING OF A STAINLESS STEEL SHIELD, CLAMP, AND NEOPRENE GASKET. COUPLINGS SHALL BE TESTED AND CERTIFIED TO CISPI 310, ASTM C1277, ASTM C564, AND NSF. IDEAL CLAMP PRODUCTS' HEAVY DUTY POW'R GEAR (RED SHIELD) COUPLINGS ARE ALSO APPROVED AND ACCEPTABLE. THESE COUPLINGS ARE LISTED WITH NSF INTERNATIONAL AND CONFORM WITH ASTM C1540 PERFORMANCE REQUIREMENTS (SHEAR, DEFLECTION AND UNRESTRAINED THRUST TESTS).
   d. COORDINATE WITH LOCAL AUTHORITIES FOR DRAINAGE REQUIREMENTS FOR EQUIPMENT DESIGNATED WITH INDIRECT WASTE TO FLOOR DRAINS. PROVIDE PIPED DRAIN TO SANITARY IF REQUIRED BY LOCAL JURISDICTION.
10. FLOOR DRAINS
   a. PROVIDE FLOOR DRAINS FOR ALL EQUIPMENT PRODUCING CONDENSATE AND THAT HAVE DRAIN CONNECTIONS.
   b. FLOOR DRAINS IN FINISHED AREAS TO BE PVC BODY, DOUBLE DRAINAGE FLANGE, WEEP HOLES, WITH 6" DIAMETER NICKEL BRONZE STRAINER.
   c. FLOOR DRAINS IN MECHANICAL SPACES, TRASH ROOMS, AND SERVICE ROOMS TO BE PVC BODY, DOUBLE DRAINAGE FLANGE, WEEP HOLES, WITH 9" DIAMETER HEAVY-DUTY DUCTILE IRON STRAINER.
   d. PROVIDE CAST IRON BODIED FLOOR DRAINS WHERE DRAINS ARE INSTALLED IN A PLENUM (MECHANICAL ROOMS THAT ARE USED AS PLENUMS).
11. TRAP SEAL PROTECTION
   a. TRAP SEALS SUBJECT TO EVAPORATION SHALL BE PROTECTED BY ONE OF THE METHODS BELOW, AS APPROVED BY THE LOCAL PLUMBING AUTHORITY HAVING JURISDICTION:
   b. BARRIER-TYPE TRAP SEAL PROTECTION DEVICE - A BARRIER-TYPE TRAP SEAL PROTECTION DEVICE MUST PROTECT THE TRAP SEAL FROM EVAPORATION. BARRIER-TYPE TRAP SEAL PROTECTION DEVICES MUST CONFORM TO ASSE 1072. THE DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
12. CLEANOUTS
   a. PROVIDE FLOOR AND WALL CLEANOUTS WHERE REQUIRED IN ALL SOIL, WASTE, DRAIN AND STORM PIPING. IN AREAS WITH CERAMIC TILE OR CARPETED FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP. IN AREAS WITH RESILIENT FLOORING, PROVIDE CLEANOUTS WITH SQUARE, ADJUSTABLE, NICKEL BRONZE TOP WITH TILE RECESS. CLEANOUTS SHALL BE SAME SIZE AS PIPE EXCEPT THAT CLEANOUTS LARGER THAN 4" WILL NOT BE REQUIRED. WHERE CLEANOUTS OCCUR IN WALLS OF FINISHED AREAS, THEY SHALL BE CONCEALED BEHIND CHROME PLATED ACCESS COVERS.
13. NATURAL GAS PIPING SYSTEMS
   a. PROVIDE NEW GAS SERVICE FROM THE PUBLIC MAIN TO THE BUILDING AND PROVIDE NEW METER SIZED FOR THE TOTAL CONNECTED LOAD. NEW SERVICE DELIVERY PRESSURE SHALL BE 2 PSI.
   b. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH WORK PROVIDED BY THE UTILITY COMPANY, INCLUDING TAP FEES, INSTALLATION COSTS, ROAD CUTS, AND BORES IF APPLICABLE.
   c. GAS SERVICE PIPING - ALL EXTERIOR GAS PIPING SHALL BE MEDIUM DENSITY POLYETHYLENE PLASTIC PIPING APPROVED BY THE LOCAL UTILITY COMPANY.
   d. INTERIOR GAS PIPING SHALL BE SCHEDULE 40 STEEL PIPE, ASTM A53.
   i. PIPING 2" AND UNDER SHALL BE JOINED BY EITHER THREADED FITTINGS OR COLD PRESS MECHANICAL JOINT FITTINGS WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION. 2-1/2", 3", AND 4" PIPING CAN BE THREADED OR WELDED. PIPING LARGER THAN 4" SHALL BE WELDED.
      - MALLEABLE-IRON THREADED FITTINGS: ASME B16.3, CLASS 150, STANDARD PATTERN.
      - WHERE APPROVED BY THE AUTHORITY HAVING JURISDICTION, COLD PRESS MECHANICAL JOINT FITTINGS ARE ACCEPTABLE AND SHALL CONFORM TO MATERIAL REQUIREMENTS OF ASTM A420 OR ASME B16.3 AND PERFORMANCE CRITERIA ANSI LC-4/CSA 6.32. COLD PRESS MECHANICAL JOINT FITTINGS SHALL BE EQUAL TO VIEGA MEGAPRESS G, WITH HNBR SEALING ELEMENTS FOR PRESS FITTINGS. SEALING ELEMENTS SHALL BE FACTORY INSTALLED OR AN ALTERNATIVE SUPPLIED BY FITTING MANUFACTURER. PRESS ENDS SHALL BE DESIGNED TO ASSURE LEAKAGE OF LIQUIDS AND/OR GASES FROM INSIDE THE SYSTEM PAST THE SEALING ELEMENT OF AN UN-PRESSED CONNECTION. THE FUNCTION OF THIS FEATURE IS TO PROVIDE THE INSTALLER QUICK AND EASY IDENTIFICATION OF CONNECTIONS WHICH HAVE NOT BEEN PRESSED PRIOR TO PUTTING THE SYSTEM INTO OPERATION.
      - WROUGHT-STEEL WELDING FITTINGS: ASTM A 234/A 234M FOR BUTT WELDING AND SOCKET WELDING.
   e. PROVIDE GAS PIPING RUN-OUTS TO ALL GAS-FIRED EQUIPMENT. PIPING SHALL BE INSTALLED FULL-SIZE TO EACH UNIT'S GAS INLET CONNECTION, BURNER, REGULATOR, ETC. PROVIDE AND INSTALL GAS COCK AND MAKE FINAL CONNECTIONS. CONNECTIONS TO EACH GAS-FIRED EQUIPMENT ITEM MUST INCLUDE A DRIP LEG AND SHUTOFF GAS COCK. COMPLY WITH EQUIPMENT MANUFACTURER'S INSTRUCTION. FOR CONNECTIONS TO GAS-FIRED ROOFTOP EQUIPMENT, INCLUDE THE ROOF PENETRATION AND INSTALL THE GAS PIPING THROUGH THE ROOF IN A LOCATION THAT HAS BEEN COORDINATED WITH THE MECHANICAL CONTRACTOR.
14. VALVES - GENERAL
   a. PLUMBING CONTRACTOR MUST PROVIDE VALVES AS NECESSARY FOR PROPER SYSTEM OPERATION AND COMPONENT ISOLATION. INSTALL VALVES FOR EACH ISOLATED FIXTURE OR GROUP OF FIXTURES, AND EACH CONNECTION TO EQUIPMENT.
   b. LOCATE SHUT-OFF VALVES ADJACENT TO EQUIPMENT FOR EASY ACCESS SUCH THAT VALVES CAN BE REACHED WITHOUT MOVING EQUIPMENT.
15. VALVES FOR DOMESTIC WATER
   a. VALVES FOR DOMESTIC WATER MUST MEET THE REQUIREMENTS OF THE LEAD-FREE LAW S.3874. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE LEAD-FREE PRODUCTS AS MANDATED BY THE LAW AND AS REQUIRED/INTERPRETED BY THE AUTHORITY HAVING JURISDICTION.
   b. PROVIDE VALVES FOR WORKING PRESSURE IN WATER PIPING OF 125 PSI OR GREATER.
   c. GENERAL DUTY SHUT-OFF BALL VALVES
   i. PROVIDE TWO-PIECE, FULL PORT, SILICON BRONZE BALL VALVES WITH THE CAPABILITY OF ACCEPTING EXTENDED OPERATING HANDLES (FOR INSULATED PIPING). VALVES SHALL BE NIBCO MODEL T/S/PC-595-Y-66-LF (-NS) OR EQUAL PRODUCT MANUFACTURED BY AMERICAN VALVE CO, CRANE, HAMMOND, MILWAUKEE, RED-WHITE VALVE CORPORATION, OR WATTS.
   d. THERMOSTATIC MIXING VALVES
   i. TEMPERED WATER SHALL BE DELIVERED FROM PUBLIC HAND-WASHING FACILITIES (LAVATORIES AND SINKS) THROUGH AN APPROVED WATER-TEMPERATURE LIMITING DEVICE THAT CONFORMS TO ASSE 1070. SET OUTLET TEMPERATURE OF THERMOSTATIC MIXING VALVE TO 110 DEGREES F. POINT-OF-USE THERMOSTATIC MIXING VALVES SHALL BE EQUAL TO WATTS SERIES USG-B. ROUTE TEMPERED WATER TO HOT WATER SIDE OF SINK/LAVATORY. ACCEPTABLE MANUFACTURERS INCLUDE SYMMONS, LAWLER, LEONARD, POWERS, BRADLEY, AND WATTS.
16. ELEVATOR PIT SUMP PUMP
   a. ELEVATOR PUMP SYSTEM TO BE EQUAL TO TOPP INDUSTRIES #B22ELE, 18" X 22" BASIN WITH PERFORATED STEEL COVER, AND ZOELLER 98 PUMP, ½ HP, 115 VOLT WITH 1½" DISCHARGE, FLOAT VALVE, AND CHECK VALVE.
   b. AVAILABLE MANUFACTURERS INCLUDE ZOELLER, WEIL PUMPS, LIBERTY PUMPS, ARMSTRONG, DAYTON, BARNES, OR GORMAN RUPP CO.
17. EXPANSION COMPENSATION
   a. PROVIDE EXPANSION COMPENSATION ON ALL PIPING PER PIPING MANUFACTURER'S RECOMMENDATIONS. ACCOUNT FOR PIPE MATERIAL, PIPE SIZE, PIPE LENGTHS, TEMPERATURE OF FLUIDS, AND ALL OTHER VARIABLES PERTAINING TO THE INSTALLATION.
   b. INSTALL PIPING TO PREVENT STRAINS AND STRESSES THAT EXCEED THE STRUCTURAL STRENGTH OF THE PIPE. WHERE NECESSARY, PROVISIONS SHALL BE MADE TO PROTECT PIPING FROM DAMAGE RESULTING FROM EXPANSION, CONTRACTION, AND STRUCTURAL SETTLEMENT.
   c. EXPANSION JOINT FITTINGS SHALL BE USED ONLY WHERE NECESSARY TO PROVIDE EXPANSION AND CONTRACTION OF THE PIPES. EXPANSION JOINT FITTINGS SHALL BE OF THE TYPICAL MATERIAL SUITABLE FOR USE WITH THE TYPE OF PIPING IN WHICH SUCH FITTINGS ARE INSTALLED.
   d. IN LIEU OF PROVIDING EXPANSION JOINTS, PIPING OFFSETS SHALL BE PERMITTED WHEN INSTALLED PER THE PIPING MANUFACTURER'S RECOMMENDATIONS.

   PLENUMS

   REFER TO MECHANICAL DRAWINGS FOR LOCATIONS WHERE CEILINGS AND/OR MECHANICAL ROOMS ARE BEING USED AS PLENUMS.
   e. WHERE CEILINGS OR ROOMS ARE BEING USED AS PLENUMS, ALL PIPING MATERIALS, DRAIN BODIES, AND DRAIN PANS WITHIN THE PLENUM/ROOM SHALL BE PLENUM-RATED. NO PVC PIPING OR OTHER PVC COMPONENTS SHALL BE INSTALLED WITHING THE CEILING/ROOM.
   f. WHERE MECHANICAL ROOMS ARE USED AS A PLENUM OR CEILINGS CAVITIES BELOW LOCATIONS WHERE DRAINS ARE INSTALLED, DRAIN BODIES SHALL BE CAST IRON AND STRAINERS SHALL BE PLENUM-RATED.
   g. DRAIN PANS INSTALLED IN ROOMS BEING USED AS A PLENUM SHALL BE ALUMINUM.
   h. WHERE WATER HEATERS ARE INSTALLED IN ROOMS BEING USED AS A PLENUM, ALL COMPONENTS SHALL BE PLENUM-RATED. WATER HEATER PRESSURE RELIEF PIPING SHALL BE COPPER.
18. HANGERS & SUPPORTS
   a. THE PLUMBING CONTRACTOR MUST FURNISH ALL PIPE SUPPORTS REQUIRED FOR THEIR WORK. ALL PIPING SHALL BE SUPPORTED PER CODE. ADDITIONAL SUPPORTS SHALL BE PROVIDED WHERE REQUIRED TO PREVENT SAGGING. WHERE ALTERNATIVE PIPING MATERIALS ARE USED, HANGER SPACING CAN BE REDUCED AS RECOMMENDED BY THE MANUFACTURER AND WHERE ALLOWED BY CODE.
19. SUPPORT FOR PIPING INSTALLED ON ROOF
   a. ALL PIPING ON ROOF TO BE SUPPORTED WITH RUBBER, UV-RESISTANT SUPPORT BLOCKS EQUAL TO MIFAB CXM-B.
20. INSULATION
   a. PROVIDE THERMAL INSULATION ON ALL DOMESTIC HOT WATER, PIPING WITH SELF-SEALING CLOSED CELL ELASTOMERIC FOAM. PROVIDE A CONTINUOUS VAPOR TIGHT SEAL. INSULATION SHALL BE CONTINUOUS THRU ALL WALLS AND FLOORS. NFPA FIRE HAZARD RATING FOR INSULATION, ADHESIVES, SEALERS, AND COATINGS MUST NOT EXCEED 25 FOR FLAME SPREAD AND 50 FOR SMOKE DEVELOPED, UNLESS OTHERWISE REQUIRED BY THE LOCAL AUTHORITY OR ENERGY CODES. THE MINIMUM INSULATION LEVELS SHALL BE AS FOLLOWS:
   i. PROVIDE 1" THICK ELASTOMERIC INSULATION ON HOT WATER RETURN PIPING.
   ii. PROVIDE ½" THICK ELASTOMERIC INSULATION ON HORIZONTAL SANITARY DRAIN PIPING INSTALLED ABOVE CEILINGS THAT RECEIVE CONDENSATE.
21. INSULATION FOR HANDICAP ACCESSIBLE FIXTURES (WHERE NOT PROTECTED WITH A SHROUD)
   a. ALL HANDICAP LAVATORY P-TRAP AND ANGLE STOP ASSEMBLIES SHALL BE INSULATED WITH TRAP WRAP PROTECTIVE KIT MANUFACTURED BY PROFLO MODEL PF200 SERIES OR EQUAL. PROVIDE OFFSET TRAPS FOR HANDICAP ACCESSIBLE FIXTURES WHERE REQUIRED. ABRASION RESISTANT, ANTI-MICROBIAL VINYL EXTERIOR COVER SHALL BE SMOOTH. FOR TRAPS, THE INSULATION MUST HAVE A CLEANOUT NUT CAP TO ALLOW SERVICE TO THE TRAP WITHOUT DISASSEMBLY. FOR STOPS, THE INSULATION MUST HAVE A LOCK LID THAT PREVENTS TAMPERING BUT ALLOWS ACCESS WITHOUT REMOVAL OF THE INSULATION. FASTENERS MUST REMAIN SUBSTANTIALLY OUT OF SIGHT. ACCEPTABLE MANUFACTURERS INCLUDE PROFLO, TRUEBRO, PLUMBEREX, AND DEARBORN.
22. ESCUTCHEON PLATES
   a. INSTALL ONE-PIECE CHROME PLATED BRASS WALL PLATE EQUIPPED WITH SET SCREW AROUND ALL EXPOSED PIPE PASSING THROUGH WALLS IN FINISHED AREAS.
23. ACCESS PANELS
   a. LOCATE VALVES IN READILY ACCESSIBLE LOCATIONS. WHERE VALVES SHALL BE INSTALLED ABOVE NON-ACCESSIBLE CEILINGS, PROVIDE ACCESS PANELS. ACCESS PANELS SHALL BE PAINTABLE METAL. COORDINATE ACCESS PANEL SIZES AND LOCATIONS WITH THE ARCHITECT.
24. FIRE STOPPING
   a. PROVIDE FIRE STOPPING AT ALL PENETRATIONS THROUGH RATED SEPARATIONS PER LOCAL CODES & REGULATIONS & PER UL RECOMMENDATIONS FOR ASSEMBLIES ENCOUNTERED IN PROJECT.
   b. THE FIRE STOPPING MATERIAL MUST MEET THE INTEGRITY OF THE FIRE RATED WALL, FLOOR, CEILING & ROOF BEING PENETRATED. REFER TO ARCHITECT'S DRAWINGS FOR WALL, FLOOR, CEILING & ROOF FIRE RATINGS PRIOR TO BIDDING WORK.
25. FLASHING & COUNTERFLASHING
   a. PROVIDE ROOF FLASHING AND COUNTERFLASHING FOR ALL ROOF PENETRATIONS.
   b. OBTAIN APPROVAL FROM GENERAL CONTRACTOR, CONSTRUCTION MANAGER, OWNER AND/OR ROOFING CONTRACTOR PRIOR TO MAKING ANY PENETRATIONS SO THAT WARRANTIES ARE NOT COMPROMISED OR VOIDED.
26. CATHODIC PROTECTION
   a. PROVIDE DIELECTRIC INSULATION AT POINTS WHERE COPPER OR BRASS PIPE COMES IN CONTACT WITH FERROUS PIPING, REINFORCING STEEL OR OTHER DISSIMILAR METAL IN STRUCTURE.
27. EXCAVATION, TRENCHING & BACKFILL
   a. DO ALL EXCAVATION, TRENCHING & BACKFILL REQUIRED FOR THE INSTALLATION OF PLUMBING WORK.
   b. ALL BACKFILL SHALL BE COMPACTED & BROUGHT TO FINISHED GRADE AND MUST MATCH SURROUNDING CONDITIONS.
   c. RESTORE ALL DISTURBED FLOORING TO ORIGINAL CONDITION.
   d. ALL PIPING SHALL BE LAID ON A BED OF SAND, 6" THICK MINIMUM. BACKFILL UNDER BUILDING AND ALL DRIVES, ROADS AND WALKS WITH BANK-RUN GRAVEL.
28. CONNECTIONS
   a. INSTALL UNIONS AT FINAL CONNECTION TO EACH PIECE OF EQUIPMENT. INSTALL DIELECTRIC COUPLINGS TO CONNECT PIPING MATERIALS OF DISSIMILAR METALS.
29. INSTALLATION
   a. INSTALL PIPING FREE OF SAGS AND BENDS. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS. INSTALL SLEEVES FOR PIPES PASSING THROUGH CONCRETE AND MASONRY WALLS, GYPSUM-BOARD PARTITIONS, CONCRETE FLOOR, AND ROOF SLABS. SEAL PIPE PENETRATIONS THROUGH RATED CONSTRUCTION WITH FIRESTOPPING SEALANT MATERIAL. UNDERGROUND WATER AND SEWER LINES SHALL BE LAID IN SEPARATE TRENCHES WITH A MINIMUM HORIZONTAL SPACING AS REQUIRED BY CODE, EXCAVATED TO THE PROPER DEPTH AND GRADED TO PRODUCE THE REQUIRED FALL.
30. TESTING
   a. ALL PLUMBING WORK SHALL BE TESTED & APPROVED BY INSPECTOR PRIOR TO BEING BACKFILLED, CONCEALED & PUT INTO SERVICE. AFTER TESTING IS COMPLETE & APPROVED, THE PLUMBING CONTRACTOR MUST DISINFECT THE POTABLE WATER SYSTEM AS REQUIRED BY LOCAL AUTHORITY. TEST WATER PURITY ACCORDING TO LOCAL REQUIREMENTS AND SUBMIT CERTIFIED TEST RESULTS TO OWNER FOR REVIEW AND APPROVAL.
31. SHOP DRAWINGS
   a. SUBMIT TO THE ARCHITECT PDF FILE COPIES OF COMPLETE & CERTIFIED SHOP DRAWINGS, DESCRIPTIVE DATA, PERFORMANCE DATA & RATINGS, DIAGRAMS AND SPECIFICATIONS ON ALL SPECIFIED EQUIPMENT, INCLUDING ACCESSORIES, AND MATERIALS FOR REVIEW.
   b. THE MAKE, MODEL NUMBER, TYPE, FINISH & ACCESSORIES OF ALL EQUIPMENT AND MATERIALS SHALL BE REVIEWED & APPROVED BY THE PLUMBING CONTRACTOR & GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT FOR THEIR REVIEW & APPROVAL.
   c. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE THE PLUMBING CONTRACTOR/VENDOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DRAWINGS, SPECIFICATIONS & APPLICABLE CODES.
32. OWNER'S INSTRUCTIONS
   a. PROVIDE TWO SETS OF COMPLETE OPERATING AND MAINTENANCE INSTRUCTIONS WITH DRAWINGS, TYPEWRITTEN INSTRUCTIONS AND OPERATING SEQUENCES AND DESCRIPTIVE DATA SHEETS. ASSEMBLE EACH SET IN A HARD-BOUND COVER.
33. WARRANTY
   a. THE PLUMBING CONTRACTOR MUST UNCONDITIONALLY WARRANT ALL WORK TO BE FREE OF DEFECTS IN EQUIPMENT, MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER AND THE PLUMBING CONTRACTOR WILL REPAIR OR REPLACE ANY DEFECTIVE WORK PROMPTLY AND WITHOUT CHARGE TO THE OWNER.
   b. RESTORE ANY OTHER EXISTING WORK DAMAGED IN THE COURSE OF REPAIRING DEFECTIVE EQUIPMENT, MATERIALS AND WORKMANSHIP.

PLUMBING LEGEND

SYMBOL	DESCRIPTION
— — — S — —	SANITARY/WASTE PIPING BELOW FLOOR
——— S ———	SANITARY/WASTE PIPING ABOVE CEILING
——— V ———	VENT PIPING
— — CW — —	COLD WATER PIPING BELOW FLOOR
— — HW — —	HOT WATER PIPING BELOW FLOOR
——— CW ———	COLD WATER PIPING
——— HW ———	HOT WATER PIPING
——— G ———	NATURAL GAS PIPING
FD ●	FLOOR DRAIN
HD ○	HUB DRAIN
AAV	AIR ADMITTANCE VALVE
——⋈——	BALL VALVE
CO ○	CLEANOUT
WH H	FROST PROOF WALL HYDRANT
RH H	FROST PROOF ROOF HYDRANT
HB H	HOSE BIBB
(#)	VENT THROUGH ROOF RISER INDICATOR

DOMESTIC BOOSTER PUMP SPECIFICATION

VC SYSTEMS DUPLEX VARIABLE SPEED DOMESTIC WATER BOOSTER PUMP SYSTEM

- ONE (1) VC SYSTEMS MODEL 2VC-PMC-V-10-420-208, VARIABLE FREQUENCY DRIVE DOMESTIC WATER BOOSTER PACKAGE WITH END SUCTION PUMPS, FLANGED DUCTILE IRON CASINGS, AND 304 SS IMPELLERS. HEADER MATERIAL IS 4" FLANGED, WELDED 304 STAINLESS STEEL PIPE; INCLUDING SINGLE SPHERE RUBBER PIPE ISOLATION FITTINGS AND RUBBER VIBRATION MOUNTS.
- SYSTEM CAPACITY: 225 GPM AT 98 PSI WITH A MINIMUM SUCTION PRESSURE OF 28 PSI, MAXIMUM SUCTION PRESSURE OF 45 PSI AND A BOOST OF 75 PSI.
- TWO (2) PUMPS RATED AT 112 GPM AT 174 FT. EACH. 10 HP / 3,500 RPM.
- VOLTAGE IS 208-VOLT, THREE-PHASE, 64 FLA, 71.75 MCA, 5K AIC.
- INDIVIDUAL ISOLATION AND CHECK VALVES FOR EACH PUMP.
- ONE (1) UL 508A LISTED CONTROL PANEL, SINGLE POINT POWER FEED, VARIABLE SPEED DRIVES FOR EACH PUMP, MAIN DISCONNECT SWITCH WITH DOOR INTERLOCK, INDIVIDUAL PUMP FUSE BLOCKS WITH FUSES, POWER "ON" PILOT LIGHT, GREEN PUMP RUN LIGHTS AND HOA SWITCHES, MANUAL AND AUTOMATIC ALTERNATION FOR PUMPS, ALARMS INCLUDE: LOW SUCTION PRESSURE SHUT-DOWN, LOW SYSTEM PRESSURE ALARM ONLY, HIGH SYSTEM PRESSURE SHUT DOWN, NO FLOW SHUT DOWN, SUCTION PRESSURE TRANSDUCER, REDUNDANT DISCHARGE PRESSURE TRANSDUCERS; COMMON AUDIBLE/VISUAL ALARM WITH SILENCE PUSH BUTTON, COMMON NO/NC REMOTE ALARM CONTACT, 4.3" COLOR TOUCH SCREEN INTERFACE; BACNET MS/TP, BACNET IP AND MODBUS TCP PROTOCOLS ARE INCLUDED; ALL ENCLOSED IN A NEMA 4, UL TYPE 1, POWDER COATED STEEL ENCLOSURE.
- ONE (1) 79 GALLON ASME-RATED BLADDER TANK
- INCLUDES START-UP BY FACTORY REPRESENTATIVE ONCE INSTALLATION IS COMPLETE.

GAS INPUT SCHEDULE FOR PARAMOUNT WORKS	
SERVICE ADDRESS: 2505 KEMPER LN. CINCINNATI, OH 45206	
TOTAL EQUIVALENT LENGTH OF PIPE: 340'	GAS SERVICE LENGTH: NEW
REQUIRED DELIVERY PRESSURE: 2PSI	NUMBER OF METERS: 1
EQUIPMENT	LOAD (CFH)
GENERATOR	2188
RTU	180
FUTURE MAKE UP AIR	270
FUTURE KITCHEN EQUIPMENT	1000
BUILDING TOTAL	3,638

PARAMOUNT WORKS

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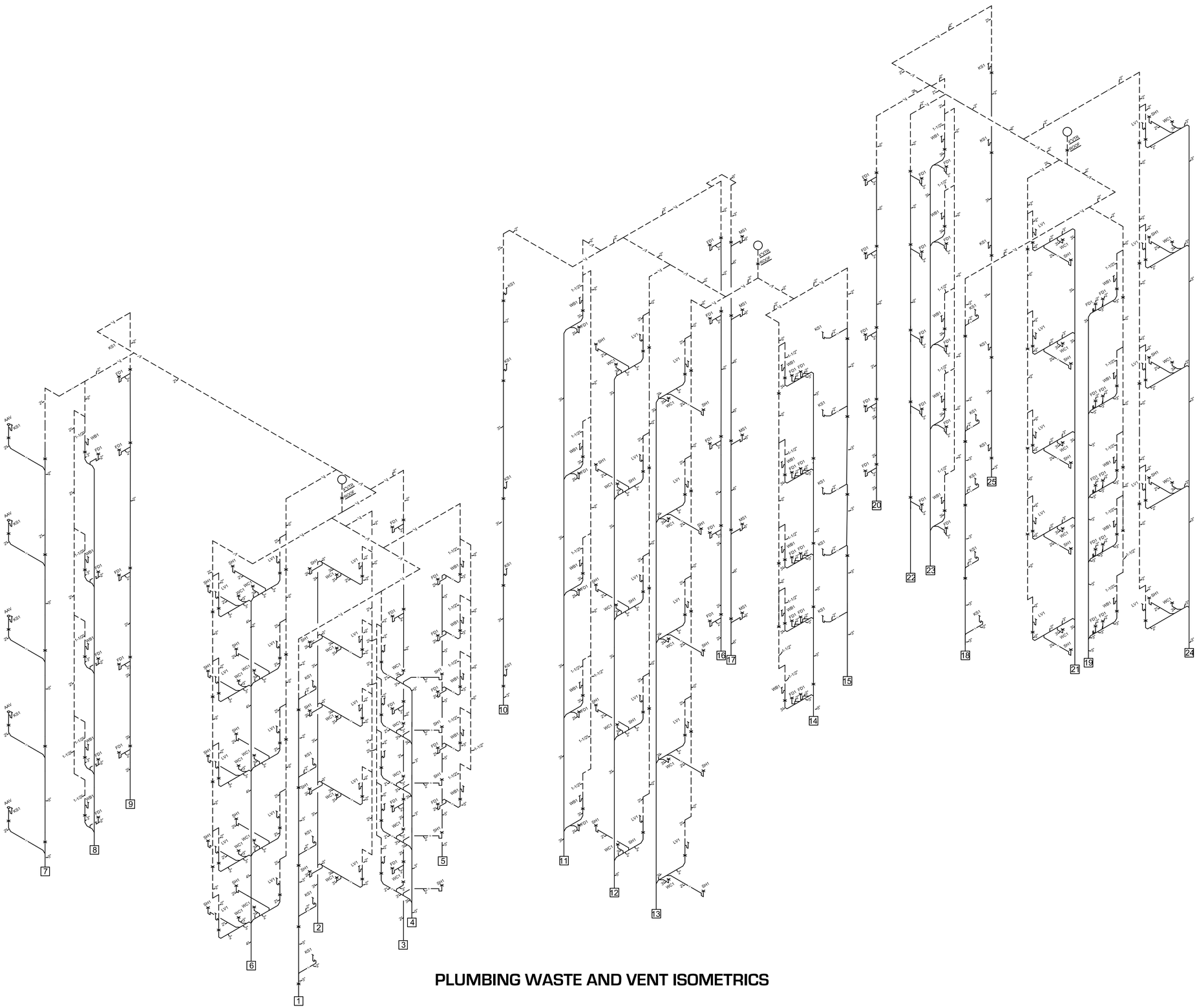
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PLUMBING WASTE AND VENT ISOMETRICS

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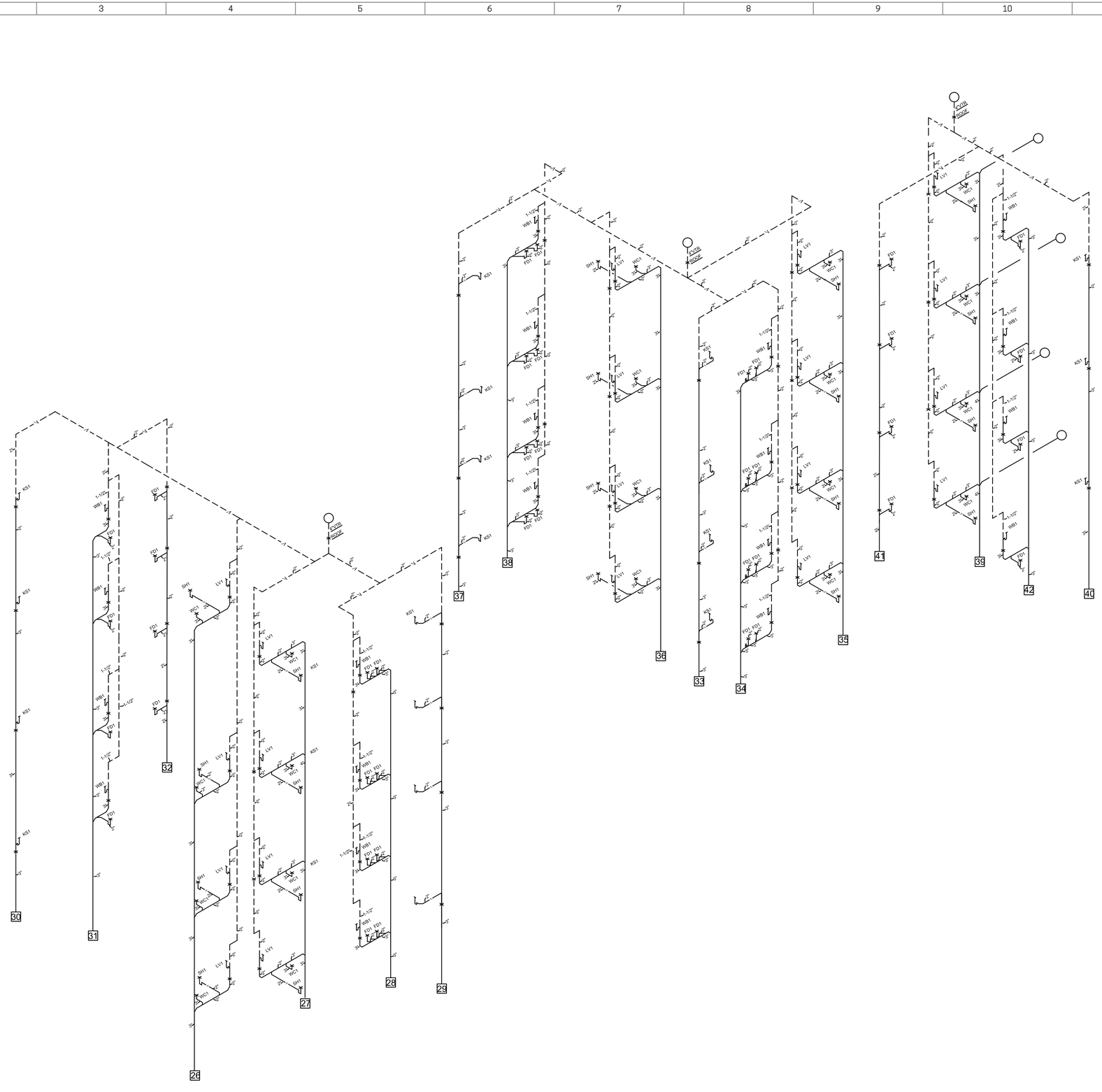
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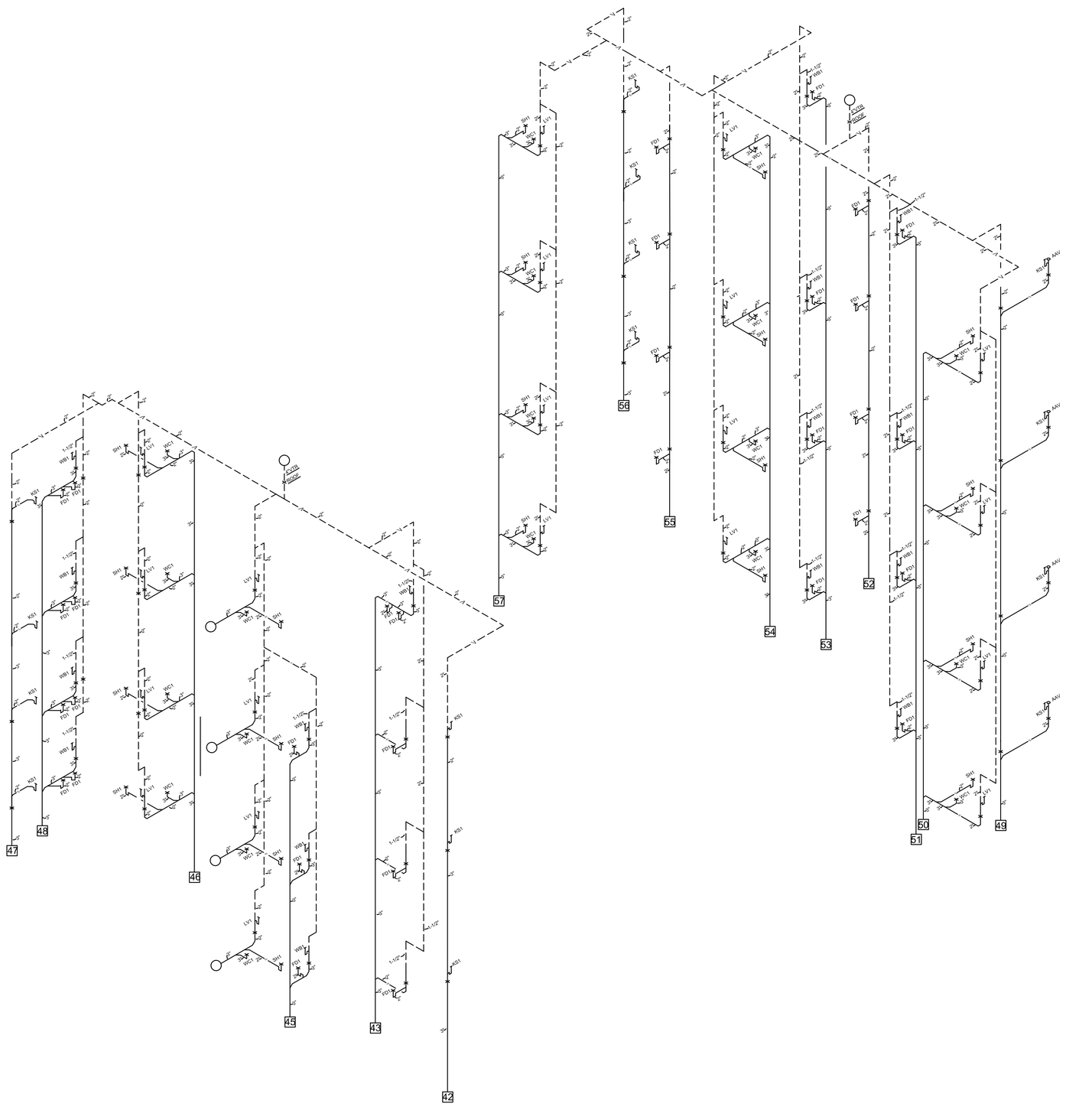
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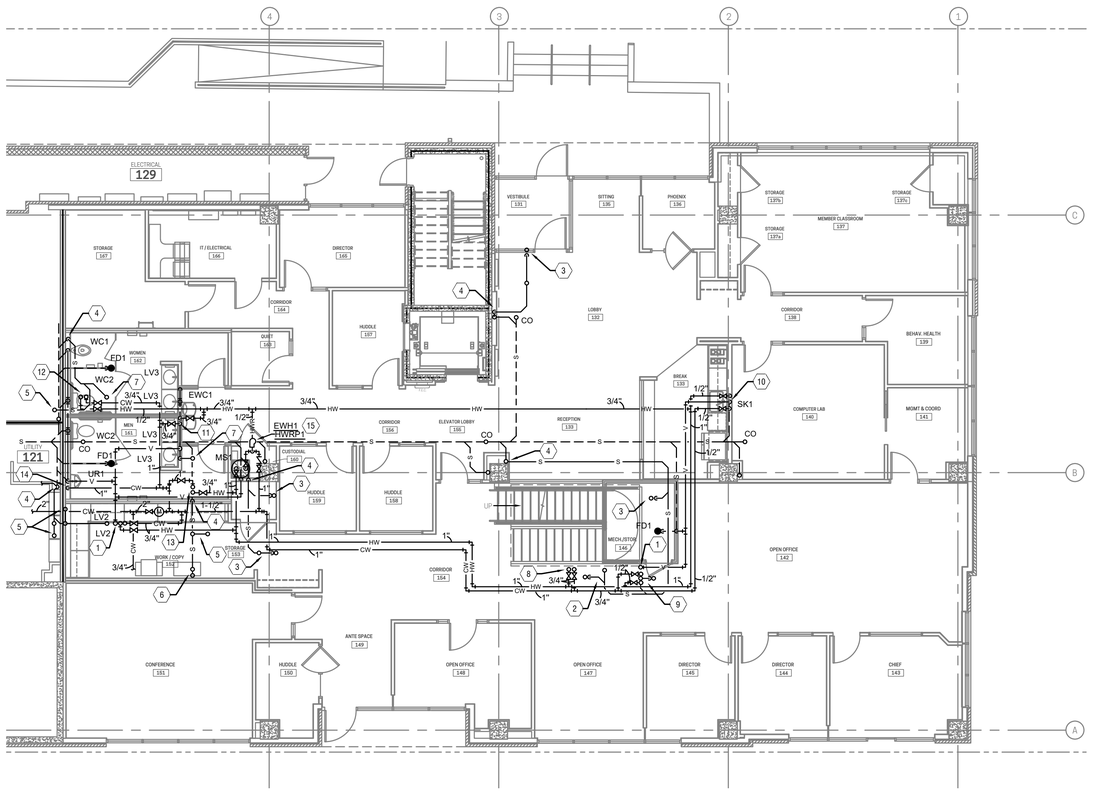
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PLUMBING KEYED SHEET NOTES

1. VENT PIPING UP TO FLOOR ABOVE.
2. WASTE PIPING UP TO SERVE HUB DRAIN AND SINK ON FLOOR ABOVE.
3. WASTE PIPING UP TO SERVE FLOOR DRAIN ON FLOOR ABOVE.
4. SANITARY PIPING DOWN UNDER SLAB.
5. SANITARY PIPING UP TO SERVE WATER CLOSET ON FLOOR ABOVE.
6. WASTE PIPING UP TO SERVE LAVATORY AND WATER COOLER ON FLOOR ABOVE.
7. WASTE PIPING UP TO SERVE LAVATORY ON FLOOR ABOVE.
8. 3/4" HOT AND COLD WATER PIPING UP TO FLOOR ABOVE.
9. 1/2" HOT AND COLD WATER PIPING AND WASTE PIPING UP TO SERVE MOP SINK ON FLOOR ABOVE.
10. 1/2" HOT AND COLD WATER PIPING DOWN. 1/2" HOT AND COLD WATER TO SINK AND EXTEND A 1/2" HOT WATER TO SERVE DISHWASHER.
11. 3/4" HOT AND COLD WATER DOWN IN WALL. 1/2" HOT AND COLD WATER TO EACH LAVATORY AND 1/2" COLD WATER TO WATER COOLER. PROVIDE A POINT OF USE THERMOSTATIC MIXING VALVE ON SUPPLY LINES TO EACH LAVATORY.
12. 1/2" HOT AND 3/4" COLD WATER PIPING UP TO FLOOR ABOVE.
13. 3/4" HOT WATER AND 1" COLD WATER UP TO FLOOR ABOVE.
14. 1 COLD WATER PIPING DOWN IN WALL. 3/4" COLD WATER TO SERVE URINAL AND 1/2" COLD WATER PIPING TO SERVE EACH WATER CLOSET.
15. PROVIDE TANK TYPE WATER HEATER ON SHELF ABOVE MOP SINK WITH AN AMTROL ST-5 EXPANSION TANK . 1" HOT AND COLD WATER PIPING DOWN TO WATER HEATER WITH HEAT TRAPS. PROVIDE A BELL AND GOSSETT SERIES 100 CIRCULATION PUMP. CONTRACTOR SHALL PROVIDE ALL SHUT OFF, CHECK AND BALANCING VALVE'S AS REQUIRED.



P1	OFFICE FIRST FLOOR
1/8"=1'-0"	

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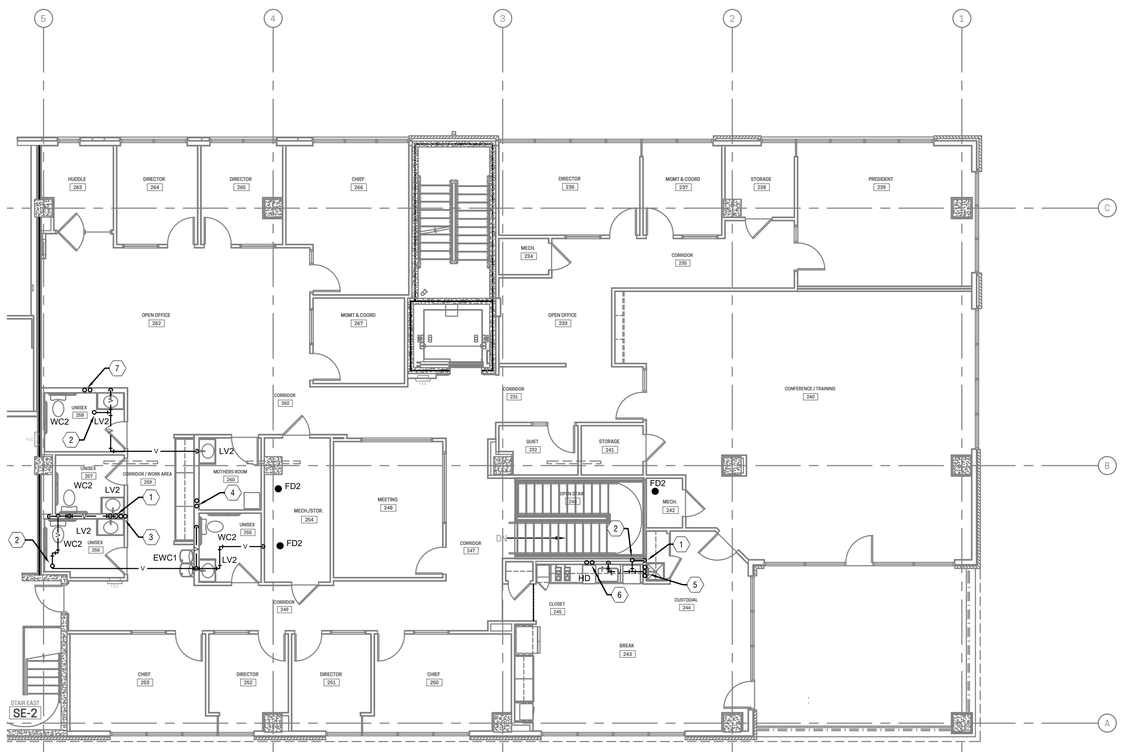
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PLUMBING KEYED SHEET NOTES

1. VENT PIPING UP FROM FLOOR BELOW.
2. VENT PIPING UP TO FLOOR ABOVE.
3. 3/4" HOT AND COLD WATER PIPING UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER TO EACH LAVATORY AND 1/2" COLD WATER TO EACH WATER CLOSET. PROVIDE A POINT OF USE THERMOSTATIC MIXING VALVE ON SUPPPLY LINES TO EACH LAVATORY.
4. 3/4" HOT AND 1" COLD WATER PIPING UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER TO EACH LAVATORY, 1/2" COLD WATER TO WATER CLOSET AND WATER COOLER. PROVIDE A POINT OF USE THERMOSTATIC MIXING VALVE ON SUPPLY LINES TO EACH LAVATORY.
5. 1/2" HOT AND COLD WATER PIPING UP FROM FLOOR BELOW TO SERVE MOP SINK.
6. 3/4" HOT AND COLD WATER PIPING UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER TO COUNTERTOP SINK AND 1/2" COLD WATER LINE TO DRINK FILLER. EXTEND A 1/2" HOT WATER LINE TO SERVE DISHWASHER AND 1/2" COLD WATER LINE TO SERVE COFFEE MAKERS. PROVIDE A DUAL CHECK VALVE ON SUPPLY LINES TO COFFEE MAKERS AS REQUIRED BY CODE.
7. 1/2" HOT WATER AND 3/4" COLD WATER PIPING UP FROM FLOOR BELOW. 1/2" HOT AND COLD WATER PIPING TO LAVATORY AND 1/2" COLD WATER PIPING TO SERVE WATER CLOSET. PROVIDE A POINT OF USE THERMOSTATIC MIXING VALVE ON SUPPLY LINES TO LAVATORY.



P2

TI OFFICE SECOND FLOOR

1/8"=1'-0"

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