PLUMBING GENERAL NOTES

GENERAL REQUIREMENTS:

1. THE P.C. SHALL FURNISH AND PAY FOR ALL LABOR, MATERIAL, EQUIPMENT, PERMITS, AND FEES REQUIRED FOR THE COMPLETE INSTALLATION OF ALL SYSTEMS IN THIS SECTION OF WORK.
2. ALL WORK IS SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE AND ALL OTHER APPLICABLE CODES. THE P.C. SHALL COORDINATE WITH G.C. IN REGARDS TO PROJECT TIMELINE, WORK HOURS, AND ANY BONDING OR INSURANCE REQUIREMENTS.
3. ALL PLUMBING FIXTURES AND PLUMBING SYSTEM EQUIPMENT SHALL BE PROVIDED COMPLETE WITH ALL ACCESSORIES, HANGERS, VALVES, STOPS, TAILPIECES, TRAPS, FAUCETS, STRAINERS, ETC. REGARDLESS OF PRESENCE ON PLANS. SEE FIXTURE SCHEDULE.
4. ALL EQUIPMENT, MATERIALS AND INSTALLATION SHALL BE GUARANTEED TO BE FREE OF DEFECTS FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF WORK OR IN ACCORDANCE WITH THE MANUFACTURER'S STANDARD GUARANTEE, IF LONGER. EXISTING EQUIPMENT IS EXCLUDED FROM WARRANTY REQUIREMENT.
5. THESE DRAWINGS ARE DIAGRAMMATIC AND SHOW GENERAL LOCATION AND ARRANGEMENT OF ALL MATERIALS AND EQUIPMENT. THE DRAWINGS SHALL BE FOLLOWED AS CLOSELY AS BUILDING CONSTRUCTION AND ALL OTHER WORK WILL PERMIT.
6. DO NOT SCALE DRAWINGS FOR MEASUREMENT.
7. INFORMATION GIVEN IN SCHEDULES INCLUDES BOTH DESCRIPTION OF PRODUCT AND MANUFACTURER'S MODEL NUMBER. IF A CONFLICT IS PRESENT BETWEEN DESCRIPTION AND MODEL NUMBER, THE EQUIPMENT DESCRIPTION SHALL TAKE PRECEDENT. IN THE CASE OF A CONFLICT BETWEEN THE PLANS AND NOTES/SPECIFICATIONS OR CONFLICT BETWEEN INFORMATION PRESENTED ON THE PLANS OR IN THE NOTES/SPECIFICATIONS, THEN THE MOST RESTRICTIVE SHALL TAKE PRECEDENT.
8. THE P.C. IS RESPONSIBLE FOR CLARIFYING ANY CONFUSION IN REGARDS TO RESPONSIBILITY OF WORK TO BE PERFORMED OR MATERIALS TO BE PROVIDED WITH THE G.C. PRIOR TO SUBMITTING A BID. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT THE CONTRACTOR UNDERSTANDS THOROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, AND HAS INCLUDED ON THE BID ALL THE NECESSARY ITEMS TO CARRY OUT THIS SECTION OF WORK.
9. ALL QUESTIONS SHALL BE SUBMITTED IN RFI FORMAT TO THE ARCHITECT AND SHALL BE ADDRESSED BY THE APPROPRIATE DESIGNER OF RECORD PRIOR TO BECOMING A PROPOSED CHANGE ORDER.
10. THE P.C. SHALL REVIEW THE COMPLETE DRAWING SET. THE P.C. IS RESPONSIBLE FOR WORK EXPLICITLY SHOWN AND WORK IMPLIED. UNLESS OTHERWISE NOTED FINAL PLUMBING CONNECTION TO ALL EQUIPMENT, FIXTURES, ETC. IS THE RESPONSIBILITY OF THE P.C.

DIVISION OF WORK:

1. ALL ROOF PENETRATIONS, FLASHING, ETC. SHALL BE PERFORMED BY ROOFING CONTRACTOR.
2. ALL LOW VOLTAGE WIRING RELATED TO PLUMBING EQUIPMENT AND SYSTEMS IS THE RESPONSIBILITY OF THE P.C. ALL HIGH VOLTAGE CONNECTIONS TO PLUMBING EQUIPMENT, INCLUDING DISCONNECTS SHALL BE PROVIDED AND INSTALLED BY THE E.C.
3. THE G.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY ACCESS DOORS RELATED TO PLUMBING SYSTEM, WITH THE EXCEPTION OF CLEANOUT COVERS BY THE P.C. THE P.C. SHALL BE RESPONSIBLE FOR COMMUNICATING SIZE AND LOCATION OF ALL REQUIRED ACCESS DOORS TO THE G.C.
4. THE P.C. SHALL EMPLOY THE SERVICES OF THE G.C. FOR CUTTING AND PATCHING OF WALLS, FLOORS & CEILINGS RELATED TO THE INSTALLATION OF PLUMBING EQUIPMENT & SYSTEMS.
5. THE G.C. SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ANY WATER HEATER PLATFORMS, EITHER FLOOR/WALL MOUNTED OR SUSPENDED. THE P.C. SHALL COMMUNICATE ALL REQUIREMENTS TO THE G.C. PRIOR TO PERFORMING WORK.

MATERIALS:

1. ALL MATERIALS SHALL BE NEW UNLESS OTHERWISE SHOWN OR SPECIFIED.
2. PIPING MATERIALS AND FITTINGS SHALL BE AS FOLLOWS:
   A. WASTE, VENT & STORM (BELOW SLAB): PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS.
   B. WASTE VENT & STORM (ABOVE SLAB - NON RETURN AIR PLENUM WHEN EXPLICITLY ALLOWED BY OWNER): PVC PIPE, PVC SOCKET FITTINGS, AND SOLVENT-CEMENTED FITTINGS.
   C. WASTE, VENT & STORM (ABOVE SLAB - RETURN AIR PLENUM): HUBLESS CAST IRON. JOINTS SHALL BE MADE WITH NEOPRENE COUPLINGS AND STAINLESS STEEL CLAMPS CONFORMING TO CISPI STANDARD 310 AND MARKED WITH NSF OR ASTM C 1540.
   D. DOMESTIC WATER (BELOW SLAB -3" AND BELOW): TYPE 'K' COPPER WITH WROUGHT COPPER FITTINGS AND BRAZED JOINTS.
   E. DOMESTIC WATER (BELOW SLAB -1/2" & 3/4" ONLY): TYPE 'K' COPPER TUBING, CONTINUOUS WITH NO JOINTS.
   F. DOMESTIC WATER (ABOVE SLAB 3" OR LESS): TYPE 'L' COPPER WITH SWEATED SOCKET FITTINGS. THREADED FITTINGS MAY BE USED AT VALVES, FIXTURES & SIMILAR.
   G. DOMESTIC WATER (ABOVE SLAB 4" AND LARGER): TYPE 'L' COPPER WITH ROLLED GROVED JOINTS AND FITTINGS.
   H. NATURAL GAS: SCHEDULE 40 BLACK STEEL COMPLYING WITH ANSI B36.10. ALL GAS COCKS SHALL MEET ANSI B16.33
3. ALL DOMESTIC WATER PIPING SHALL BE INSULATED IN ACCORDANCE WITH THE APPLICABLE ENERGY CONSERVATION CODE. INSULATION SHALL BE PREFORMED MINERAL FIBER PIPE INSULATION WITH AN ALL SERVICE JACKET (ASJ) AND SELF-SEALING LAP (SSL). INSULATION SHALL HAVE A THERMAL CONDUCTIVITY NOT EXCEEDING 0.27 BTU-IN/(HR-FT^2-°F) OR IN ACCORDANCE WITH LOCAL CODES, WHICHEVER IS MORE STRINGENT.
4. PROVIDE HANGERS AND SUPPORTS APPROVED FOR USE BY APPLICABLE PLUMBING CODE.

COORDINATION:

1. INVERT ELEVATIONS SHALL BE VERIFIED PRIOR TO BEGINNING WORK. THE P.C. SHALL ENSURE PROPER SLOPES OF ALL SANITARY PIPING CAN BE MAINTAINED. THE P.C. SHALL CONTACT THE ARCHITECT AND ENGINEER IMMEDIATELY IF A PROBLEM/ISSUE IS DISCOVERED.
2. THE P.C. SHALL COORDINATE THE LOCATION OF ALL ROOF PENETRATIONS WITH THE ROOFING CONTRACTOR & M.C. THE P.C. AND M.C. SHALL COORDINATE PLUMBING VENT LOCATIONS TO ENSURE THAT NO PLUMBING VENTS ARE LOCATED WITHIN 10' OF ANY OUTSIDE AIR INTAKES.
3. THE P.C. SHALL COORDINATE WITH THE G.C. AND ARCHITECTURAL PLANS TO ENSURE NECESSARY BACKING/SUPPORTS ARE INSTALLED TO ALLOW INSTALLATION OF PLUMBING FIXTURES.
4. THE PLUMBING CONTRACTOR SHALL COORDINATE CLOSELY WITH ALL OTHER TRADES TO AVOID CONFLICT AND ENSURE OTHER TRADES PROVIDE MEASURES TO ACCOMMODATE PLUMBING WORK (I.E. ACCESS DOORS, SLAB/WALL/ROOF OPENINGS, ELECTRICAL CONNECTIONS, ETC.).
5. PIPING SHALL BE COORDINATED WITH ALL STRUCTURAL FOOTINGS AND FOUNDATIONS. PIPE SHOULD BE OFFSET TO AVOID CONTACT WITH FOOTINGS AND FOUNDATION WALLS. IF PIPING MUST RUN UNDERNEATH A FOOTING OR THROUGH A FOUNDATION WALL, THE PIPE MUST BE INSTALLED WITH A RELIEVING ARCH OR IN A PIPE SLEEVE.
6. THE P.C. SHALL REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF PLUMBING FIXTURES.

EXECUTION:

1. THE P.C. SHALL FOLLOW MANUFACTURER'S INSTRUCTIONS WHEN INSTALLING PLUMBING EQUIPMENT. ENSURE REQUIRED MAINTENANCE ACCESS AND CLEARANCES ARE MAINTAINED. THE P.C. SHALL CONTACT THE ARCHITECT AND ENGINEER IF A CONFLICT EXISTS BETWEEN THESE PLANS AND MANUFACTURER INSTRUCTIONS.
2. THE P.C. SHALL BE RESPONSIBLE FOR EXECUTING ALL CODE REQUIRED TESTS AND INSPECTIONS INCLUDING, BUT NOT LIMITED TO, LEAK & PRESSURE TESTING OF SANITARY, VENT, AND DOMESTIC WATER PIPING AND SANITIZING OF WATER PIPING.
3. ENSURE PIPING LOCATED ON EXTERIOR WALLS (OR OTHER WALLS EXPOSED TO FREEZING CONDITIONS) IS INSTALLED ON WARM-SIDE OF WALL INSULATION.
4. ANY NOTCHING, DRILLING, BORING OR OTHER ALTERATION TO BUILDING STRUCTURE SHALL BE PERFORMED IN A CODE APPROVED METHOD AND NOT THREATEN THE INTEGRITY OF THE BUILDING STRUCTURE.
5. SUPPORT ALL PIPING IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODE. ANY SUSPENDED MATERIALS SHALL BE DIRECTLY SUPPORTED BY THE BUILDING STRUCTURE. DO NOT ATTACH ANYTHING TO THE ROOF DECK.
6. PENETRATIONS OF ALL EXTERIOR WALLS, FLOORS AND CEILINGS SHALL BE SEALED IN AN AIR TIGHT MANNER AND IN ACCORDANCE WITH THE APPLICABLE ENERGY CONSERVATION CODE.
7. CLEANOUT PLUGS SHALL BE INSTALLED IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS. PROVIDE CLEANOUTS AS PLANS INDICATED AND AT THE BASE OF ALL WASTE STACKS, AT EVERY FOUR 45 DEGREE TURNS, AT EVERY 100 FEET. CLEANOUTS SHALL BE PLACED IN READILY ACCESSIBLE LOCATIONS.
8. DOMESTIC WATER BRANCH LINES SERVING MORE THAN ONE (1) FIXTURE SHALL INCLUDE A SHUT-OFF VALVE. LABEL VALVE AND LOCATE AS CLOSE TO RISER/MAIN AS POSSIBLE.
9. VALVES NOT DIRECTLY AT EQUIPMENT SHALL BE LABELED INDICATING THE FIXTURE OR AREA SERVED.
10. THE WATER HEATER SHALL BE FILLED WITH WATER AND PURGED AS SOON AS INSTALLED OR IN NO EVENT LATER THAN ELECTRIC HOOK-UP.
11. COPPER PIPING SHALL BE PROTECTED AGAINST CONTACT WITH MASONRY OR DISSIMILAR METALS. ALL HANGERS, SUPPORTS, ANCHORS, AND CLIPS SHALL BE COPPER OR COPPER PLATED. WHERE COPPER PIPING IS CARRIED ON IRON TRAPEZE HANGERS WITH OTHER PIPING, SATISFACTORY AND PERMANENT ELECTROLYTIC ISOLATION MATERIAL SHALL PROTECT THE COPPER AGAINST CONTACT WITH OTHER METALS.
12. WHERE COPPER PIPING IS SLEEVED THROUGH MASONRY, SLEEVES SHALL BE COPPER OR RED BRASS. WHERE COPPER MUST BE CONCEALED IN A MASONRY PARTITION OR AGAINST MASONRY, CONTACT SHALL BE PREVENTED BY COATING THE COPPER HEAVILY WITH ASPHALTIC ENAMEL AND PROVIDING 15# ASPHALT SATURATED FELT BETWEEN THE PIPE AND MASONRY.
13. ALL PIPE INSULATION SHALL RUN CONTINUOUSLY THROUGH FLOORS, WALLS, AND PARTITIONS. PIPE INSULATION SHALL BE MITERED AT ELBOWS AND TEES TO ENSURE COMPLETE COVERAGE OF PIPING.
14. PROVIDE QUARTER TURN SHUTOFF VALVES ON THE FIXTURE SUPPLY TO EACH PLUMBING FIXTURE, APPLIANCE, OR MECHANICAL EQUIPMENT.
15. VACUUM BREAKERS SHALL BE PROVIDED FOR ALL FIXTURES TO WHICH HOSES MAY BE ATTACHED. VACUUM BREAKERS SHALL BE PERMANENTLY ATTACHED.
16. THE P.C. SHALL PROVIDE WATER HAMMER PROTECTION ON ALL WATER DISTRIBUTION PIPING SERVING EQUIPMENT WITH QUICK-CLOSING VALVES (ICE MAKERS, FLUSH VALVES, WATER COOLERS, ETC.) SEE WATER HAMMER ARRESTOR ARRESTOR SCHEDULE.
17. ACCESS DOORS SHALL BE PROVIDED FOR ALL VALVES AND DEVICES REQUIRING ACCESS WHEN LOCATED IN WALLS OR ABOVE INACCESSIBLE CEILING CONSTRUCTION. ACCESS DOORS SHALL BE FIRE RATED WHERE INSTALLED IN FIRE RATED ASSEMBLIES.
18. THE P.C. SHALL BE RESPONSIBLE FOR PROTECTING ALL PLUMBING EQUIPMENT FROM FOREIGN MATERIAL DURING CONSTRUCTION (PAINT, SPACKLE, ETC.). UPON COMPLETION OF WORK THE PLUMBING CONTRACTOR SHALL CLEAN, WASH, ETC ALL ITEMS AND EQUIPMENT WITHIN THE SCOPE OF WORK AND LEAVE ALL ITEMS BRIGHT AND CLEAN.

SPECIAL NOTICE TO CONTRACTORS

1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
2. PRIOR TO CONSTRUCTION CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF THE FOLLOWING:
   A. ALL POINTS OF CONNECTION TO BUILDING UTILITIES AND/OR SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, MECHANICAL SYSTEMS, DUCTWORK, EXHAUST/OUTSIDE AIR, SECURITY, FIRE/LIFE SAFETY, DATA, AND PHONE.
   B. ALL REQUIRED CONNECTIONS TO THE BUILDING STRUCTURE
   C. ALL REQUIRED BUILDING PENETRATIONS. IT IS RECOMMENDED THAT THE CONTRACTOR X-RAY ALL PENETRATIONS THRU CONCRETE AND MASONRY.
3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. SEE ARCHITECTURAL PLANS FOR CONTACT INFORMATION.

DRAWING IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO INDICATE FINAL INSTALLED LOCATIONS OF EQUIPMENT OR PIPING. DRAWINGS DEMONSTRATES DESIGN INTENT ONLY. CONTRACTOR(S) ARE RESPONSIBLE FOR FINAL COORDINATION AND THE PRODUCTION OF ACCURATE, DIMENSIONED SHOP DRAWINGS AS REQUIRED TO PROVIDE A COMPLETE INSTALLATION. THERE SHALL BE NO ALLOWANCES GIVEN FOR THE LACK OF CONTRACTOR COORDINATION. MAINTAIN ALL CODE AND MANUFACTURER REQUIRED CLEARANCES TO ALL EQUIPMENT AND DEVICES. CONTRACTOR(S) ARE RESPONSIBLE FOR ANY AND ALL CONSTRUCTION, DESIGN, ETC, EXPENSES ASSOCIATED WITH DEVIATIONS FROM THE PERMITTED PLANS.

WATER HAMMER ARRESTOR SCHEDULE

FIXTURE UNITS	UNIT SIZE (CONN. SIZE)	MFG & MODEL (OR EQUAL)
IND. FIXTURE	SEE FIXTURE SCHEDULE	SIOUX CHIEF "MINI-RESTER"
1-11	A (1/2")	SIOUX CHIEF "HYDRA-RESTER"
12 - 32	B (3/4")	SIOUX CHIEF "HYDRA-RESTER"
33-60	C (1")	SIOUX CHIEF "HYDRA-RESTER"

WATER HAMMER ARRESTOR NOTES:

1. LOCATE SHOCK ARRESTORS IN ACCESSIBLE LOCATION OR PROVIDE SIOUX CHIEF BRAND ARRESTORS ONLY.
2. SEE PLAN, RISERS, SCHEDULES FOR ARRESTER LOCATIONS. IF LOCATION NOT INDICATED INSTALL IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS.

VALVE SCHEDULE

TAG	DESCRIPTION	MFG & MODEL (OR EQUAL)
BV-1	FULL-PORT BALL VALVE	WATTS LFB6081
BV-2	BALANCING VALVE	BELL & GOSSETT CB (CIRCUIT SETTER PLUS, W/ TEST PORTS)
CV-1	BRONZE CHECK VALVE	WATTS CV
TMV-1	THERMO. MIX. VALVE	WATTS LFMMV (0.5 TO 20 GPM; 1.2" TO 1") SET TO 110°F DISCHARGE

VALVE SCHEDULE NOTES:

1. SEE PLAN FOR SIZE. VALVE SIZE TO EQUAL LINE SIZE.
2. BALL VALVES TO INCLUDE REMOVABLE HANDLES.
3. IF AVAILABLE, VALVES MAY BE THREADED OR SWEATED CONNECTIONS. USE EXTREME CARE AND LOW TEMP SOLDER TO PROTECT VALVE SEATS IF SWEATED CONNECTIONS ARE USED.
4. TMV-1 SHALL COMPLY WITH ASSE 1070,

BACK FLOW PREVENTER ASSEMBLY REQUIREMENTS

TYPE OF EQUIPMENT ON SYSTEM	METHOD OF CROSS CONNECTION CONTROL	MANUFACTURE AND MODEL NUMBER	REMARKS
CARBONATOR SODA SYSTEM	DUAL CHECK VALVE WITH ATMOSPHERIC PORT	WATTS SD3-QT ASSE 1022/1024 CERT	STAINLESS STEEL BODY WITH QUARTER TURN VALVE SS STRAINER.
ICE MACHINE	REDUCED PRESSURE ZONE ASSEMBLY	WATTS LF-009-QT-S	STAINLESS STEEL BODY WITH QUARTER TURN VALVE BRONZE STRAINER.
TEA MACHINE	DUAL CHECK VALVE WITH ATMOSPHERIC PORT	WATTS SD3-QT ASSE 1022/1024 CERT	STAINLESS STEEL BODY WITH QUARTER TURN VALVE BRONZE STRAINER.
WATER SERVICE	REDUCED PRESSURE ZONE ASSEMBLY	WATTS LF-919-QT	LEAD FREE CAST COPPER WITH QUATER TURN

1. CONTRACTOR SHALL PROVIDE INDIVIDUAL BACKFLOW PREVENTERS FOR EACH PIECE OF EQUIPMENT.
2. EACH BACKFLOW PREVENTER MUST HAVE TESTING PORTS.
3. BRONZE BODIED BACKFLOW PREVENTERS ARE PERMISSABLE IF ALLOWED BY LOCAL CODES.

PLUMBING ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE	HR	HOUR
ADA	AMERICANS WITH DISABILITIES ACT	HW	DOMESTIC HOT WATER
AFF	ABOVE FINISHED FLOOR	HWR	DOMESTIC HOT WATER RETURN
BFP	BACKFLOW PREVENTER	IN.	INCH(ES)
BTU	BRITISH THERMAL UNIT	KW	KILOWATT
BTU/HR	BRITISH THERMAL UNIT PER HOUR	LV	LAVATORY
CAP.	CAPACITY	MAX.	MAXIMUM
CO	CLEANOUT	MBH	ONE THOUSAND BTU/HR
CV	CHECK VALVE	M.C.	MECHANICAL CONTRACTOR
CW	DOMESTIC COLD WATER	MIN.	MINIMUM
DEMO	DEMOLISH OR DEMOLITION	N/A	NOT APPLICABLE
DIA.	DIAMETER	NTS	NOT TO SCALE
DWV	DRAIN, WASTE, AND VENT	P.C.	PLUMBING CONTRACTOR
E.C.	ELECTRICAL CONTRACTOR	PSI	POUNDS PER SQUARE INCH
ET	EXPANSION TANK	S	SINK
°F	DEGREES FAHRENHEIT	TEMP.	TEMPERATURE
FCO	FLOOR CLEANOUT	TMV	THERMOSTATIC MIXING VALVE
FT	FOOT OR FEET	TYP.	TYPICAL
GAL.	GALLON(S)	V	VOLT
G.C.	GENERAL CONTRACTOR	W	WATT
GPH	GALLONS PER HOUR	WC	WATER CLOSET
GPM	GALLONS PER MINUTE	WH	WATER HEATER
HP	HORSEPOWER	WHA	WATER HAMMER ARRESTOR

INSULATION SCHEDULE

PIPING SYSTEM	FLUID TEMPERATURE RANGE	RUN OUTS UP TO 1"	1-1/4" TO 2"	2-1/2" TO 4"	5" TO 6"	8" AND LARGER
DOMESTIC COLD WATER	40-60	1/2"	1/2"	1/2"	1/2"	1/2"
DOMESTIC HOT WATER	105 OR GREATER	1/2"	1"	1-1/2"	1-1/2"	1-1/2"

PLUMBING DRAWING SYMBOLS

SYMBOL	DESCRIPTION
	FULL PORT QUARTER TURN BALL VALVE
	CHECK VALVE
	GLOBE VALVE
	PRESSURE REDUCING VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	STRAINER
WHA	WATER HAMMER ARRESTOR
	UNION
	PRESSURE GAUGE
	INLINE PUMP
FD	FLOOR DRAIN
	CONNECT TO EXISTING
	DISCONNECT FROM EXISTING
X	KEY NOTE TAG

TABLE 710.1(1)
BUILDING DRAINS AND SEWERS

DIAMETER OF PIPE (inches)	MAXIMUM NUMBER OF DRAINAGE FIXTURE UNITS CONNECTED TO ANY PORTION OF THE BUILDING DRAIN OR THE BUILDING SEWER, INCLUDING BRANCHES OF THE BUILDING DRAIN[a, b, c, d] — Slope per foot: $^1/_{16}$ inch	$^1/_8$ inch	$^1/_4$ inch	$^1/_2$ inch
$1^1/_4$	—	—	1	1
$1^1/_2$	—	—	3	3
2	—	—	21	26
$2^1/_2$	—	—	24	31
3	—	36	42	50
4	—	180	216	250
5	—	390	480	575
6	—	700	840	1,000
8	1,400	1,600	1,920	2,300
10	2,500	2,900	3,500	4,200
12	3,900	4,600	5,600	6,700
15	7,000	8,300	10,000	12,000

For SI: 1 inch = 25.4 mm, 1 inch per foot = 83.3 mm/m.

a. The minimum size of any *building drain* serving a water closet shall be 3 inches.
b. No building sewer shall be less than 4 inches in size.
c. No more than three water closets.
d. Minimum of 2-inch diameter underground.

SECTION 704
DRAINAGE PIPING INSTALLATION

704.1 Slope of horizontal drainage piping. Horizontal drainage piping shall be installed in uniform alignment at uniform slopes. The slope of a horizontal drainage pipe shall be not less than that indicated in Table 704.1.

TABLE 704.1
SLOPE OF HORIZONTAL DRAINAGE PIPE

SIZE (inches)	MINIMUM SLOPE (inch per foot)
$2^1/_2$ or less	$^1/_4$
3 to 6	$^1/_8$
8 or larger	$^1/_{16}$

For SI: 1 inch = 25.4 mm, 1 inch per foot = 83.33 mm/m.

704.2 Change in size. The size of the drainage piping shall not be reduced in size in the direction of the flow. A 4-inch by 3-inch (102 mm by 76 mm) water closet connection shall not be considered as a reduction in size.

704.3 Connections to offsets and bases of stacks. Horizontal *branches* shall connect to the bases of stacks at a point located not less than 10 times the diameter of the drainage *stack* downstream from the *stack*. Horizontal *branches* shall connect to horizontal *stack* offsets at a point located not less than 10 times the diameter of the drainage *stack* downstream from the upper *stack*.

ossa STUDIO
4539 HEDGEMORE DRIVE, SUITE 101
CHARLOTTE NC 28209
704.890.2053
WWW.OSSASTUDIO.COM

NORTH CAROLINA PROFESSIONAL SEAL 044505 ENGINEER J. CHANTRY JOHNSON
01/30/24

PROJECT TEAM

General Contractor
ECCLESIA CONSTRUCTION
www.ecclesiaconstruction.com
803.327.5670

ENGITECTURE
CONSULTING ENGINEERS
ENGITECTURE, PLLC
NC License No. P-1625
4539 Hedgemore Drive, Suite 102
Charlotte, NC 28209
704-287-2193
PROJ# 23253

Date	Description
01/30/2024	ISSUE FOR CONSTRUCTION

Project Name
3D community church
making church come alive
658 GRAHAM ROAD
SANFORD NC 27311

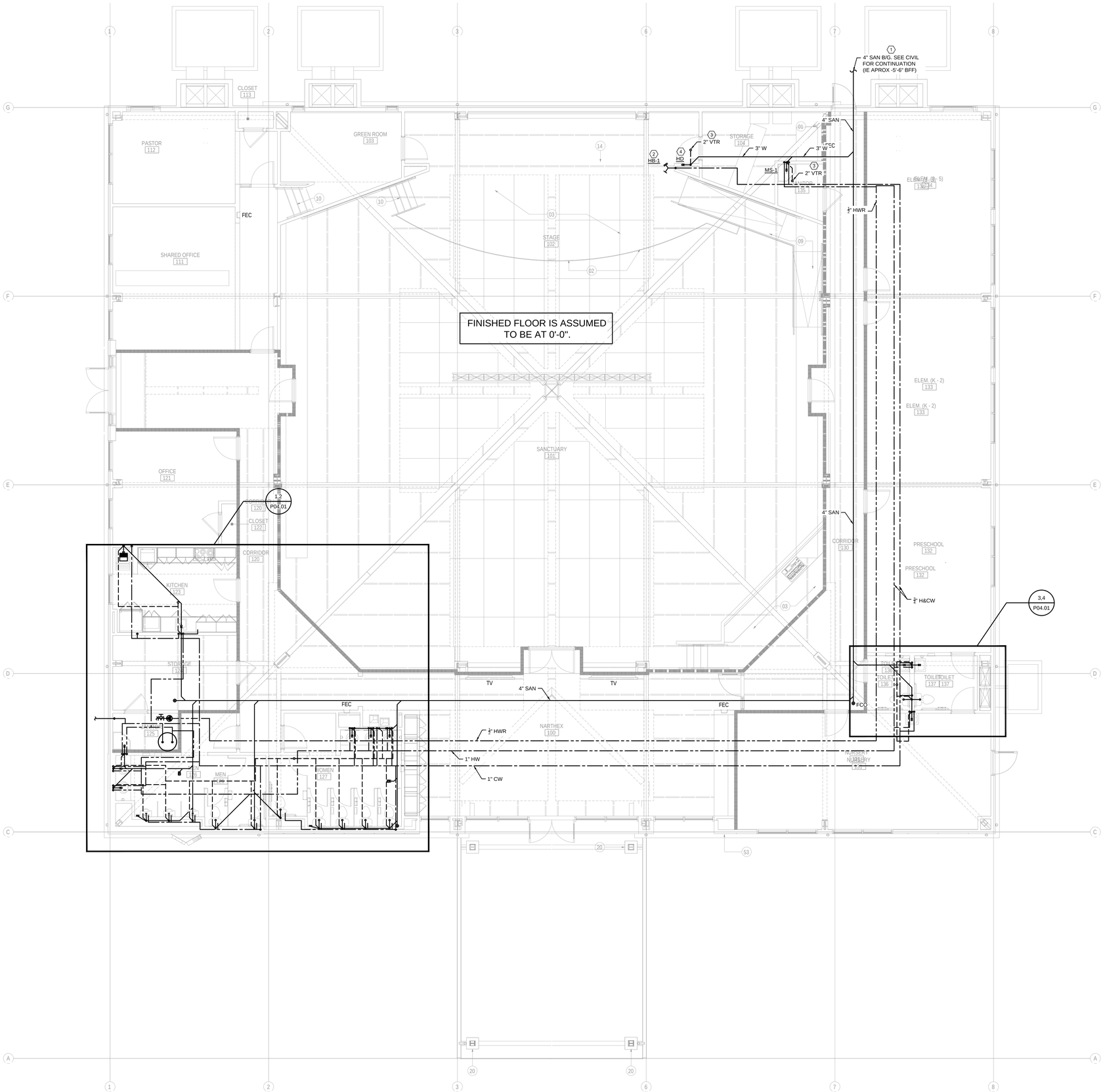
Client
3D COMMUNITY CHURCH

Project Number
23024.00

Description
NOTES & ABBREVIATIONS - PLUMBING

Scale
NA

P00.01



1 P01.01 FIRST FLOOR PLAN - PLUMBING
SCALE: 3/16" = 1'-0"

LEGEND NOTES
(APPLY TO THIS SHEET ONLY)

1. COORDINATE FINAL INVERT WITH CIVIL AND BUILDING FOOTINGS.
2. FINAL STYLE, FINISH, LOCATION OF HOSE BIBB SHALL BE APPROVED BY OWNER AND ARCHITECT.
3. ROUTE NEW VENT UP TO ROOF. TERMINATION SHALL BE A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.
4. PROVIDE HUB DRAIN IN THIS APPROXIMATE LOCATION IN READILY ACCESSIBLE AREA FINAL LOCATION SHALL BE COORDINATED WITH FINAL BAPTISM AREA. AND SHALL BE APPROVED BY THE OWNER AND ARCHITECT. MAKE ALL CONNECTIONS TO BAPTISM VESSEL WITH INDIRECT CONNECTION IN COMPLIANCE WITH THE NORTH CAROLINA PLUMBING CODE.

ossa STUDIO
4539 HEDGEMORE DRIVE, SUITE 101
CHARLOTTE NC 28209
704.890.2053
WWW.OSSASTUDIO.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 044505 JOHNSON
01/30/24

PROJECT TEAM

General Contractor
ECCLESIA CONSTRUCTION
www.ecclesiaconstruction.com
803.327.5670

ENGITECTURE
CONSULTING ENGINEERS
ENGITECTURE, PLLC
NC License No. P-1625
4539 Hedgemore Drive, Suite 102
Charlotte, NC 28209
704-287-2193
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△	Date	Description
	01/30/2024	ISSUE FOR CONSTRUCTION

Project Name

community church
making church come alive

658 GRAHAM ROAD
SANFORD NC 27311

Client

3D COMMUNITY CHURCH

Project Number

23024.00

Description

FLOOR PLAN - PLUMBING

Scale

SEE PLANS

P01.01

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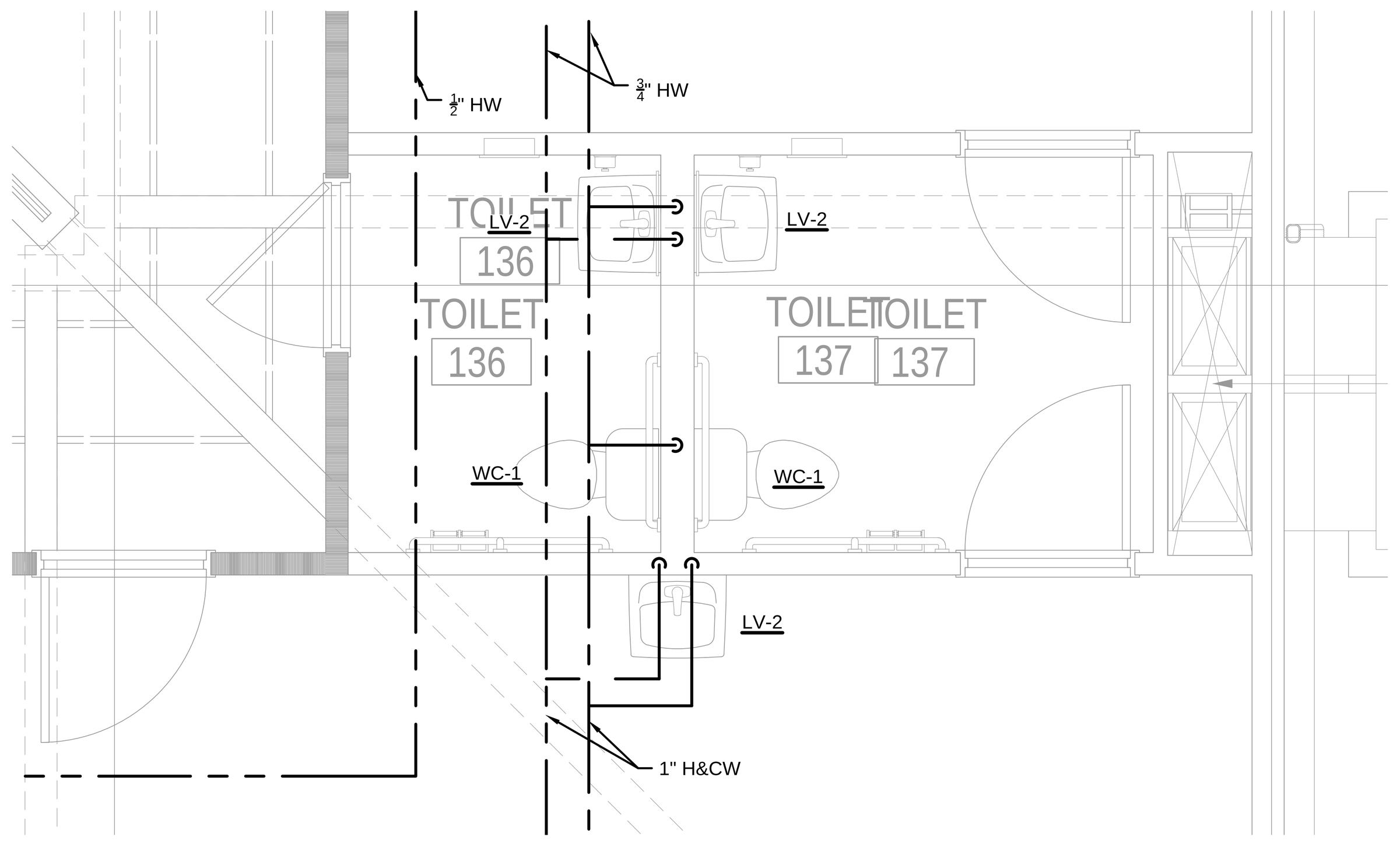
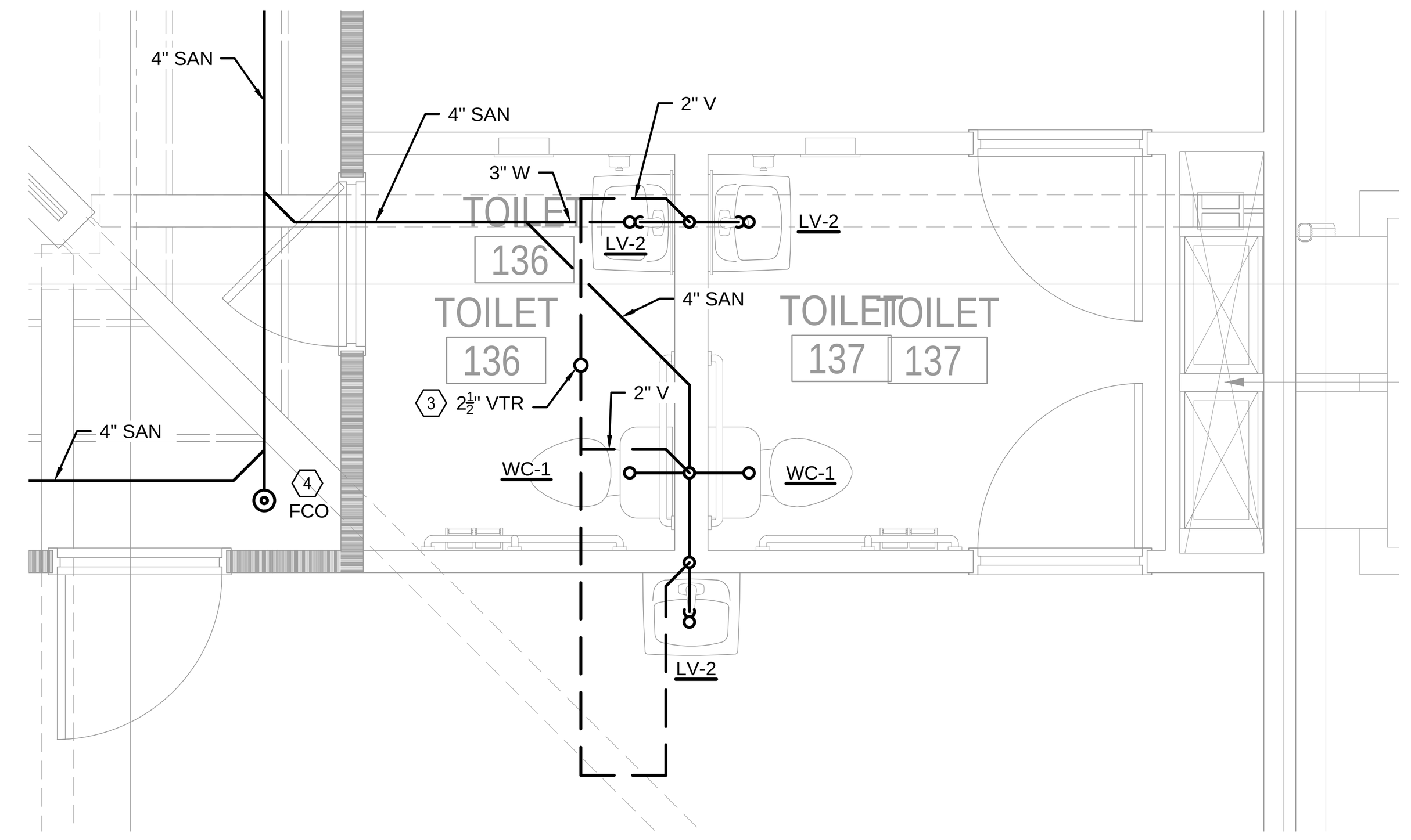
LEGEND NOTES
(APPLY TO THIS SHEET ONLY)

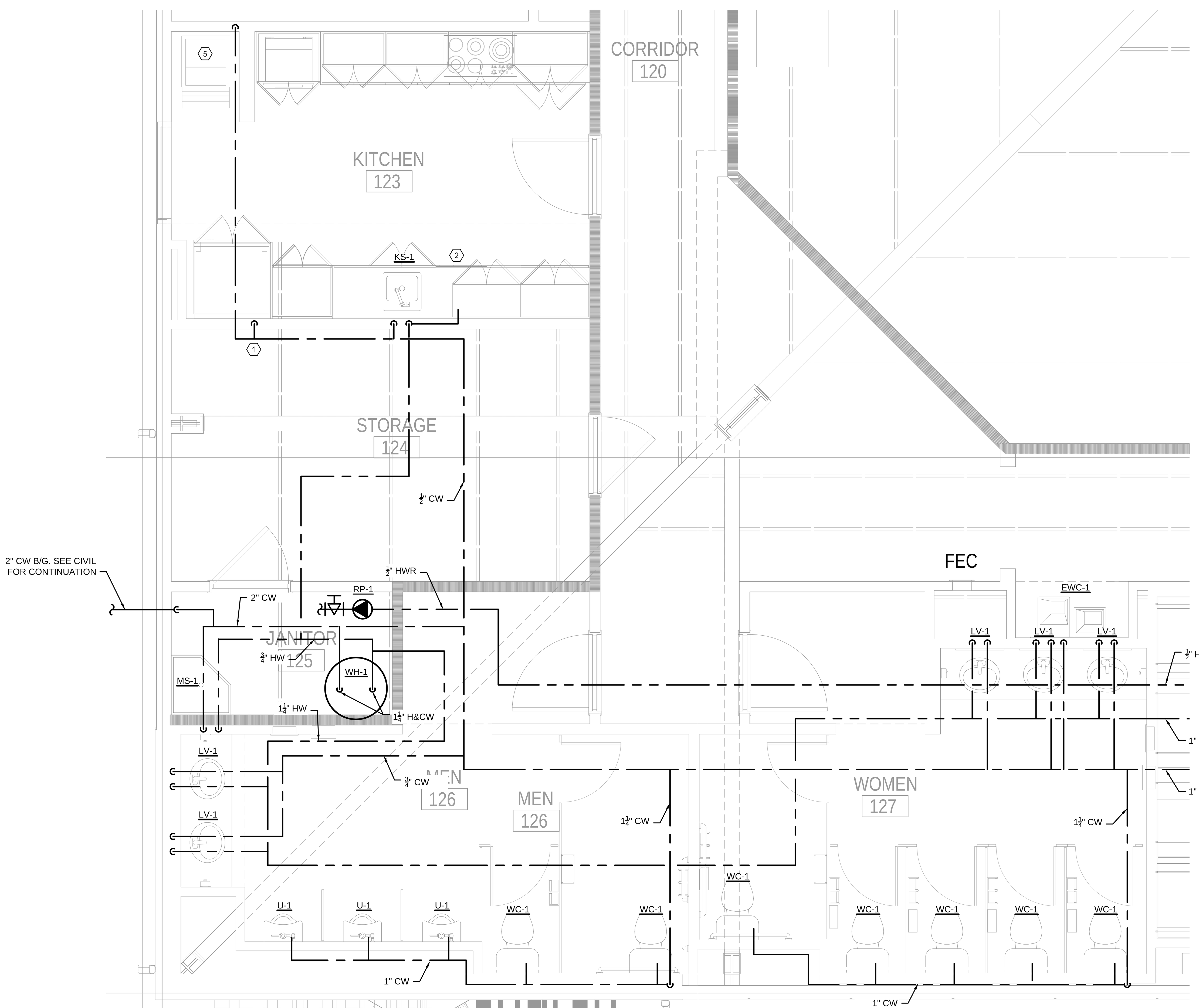
1. ROUTE 1/2" CW AND CONNECT WITH SHUT OFF VALVE TO REFRIGERATOR. PROVIDE RECESSED BOX. COORDINATE EXACT CONNECTION LOCATION WITH EQUIPMENT AND ARCHITECT. PROVIDE BACK FLOW PREVENTOR AS REQUIRED BY LOCAL AUTHORITY. BFP SHALL MEET ASSE 1022 IN ACCORDANCE WITH NCPC 608.16.10.
2. PROVIDE 1/2" HW AND CONNECT WITH SHUTOFF VALVE TO DISHWASHER. COORDINATE EXACT CONNECTION LOCATION WITH EQUIPMENT AND ARCHITECT. PROVIDE BACK FLOW PREVENTOR AS REQUIRED BY LOCAL AUTHORITY.
3. ROUTE NEW VENT UP TO ROOF. TERMINATION SHALL BE A MINIMUM OF 10 FT FROM ANY OUTSIDE AIR INTAKE.
4. FINAL STYLE, FINISH AND LOCATION OF FLOOR CLEAN OUT SHALL BE APPROVED BY THE ARCHITECT.
5. ROUTE 1/2" CW AND CONNECT WITH SHUT OFF VALVE TO ICE MAKER. PROVIDE RECESSED BOX. COORDINATE EXACT CONNECTION LOCATION WITH EQUIPMENT AND ARCHITECT. PROVIDE BACK FLOW PREVENTER AS REQUIRED BY LOCAL AUTHORITY. BFP SHALL MEET ASSE 1022 IN ACCORDANCE WITH NCPC 608.16.10.
6. FINAL STYLE, FINISH AND LOCATION OF FLOOR DRAIN SHALL BE APPROVED BY THE ARCHITECT.



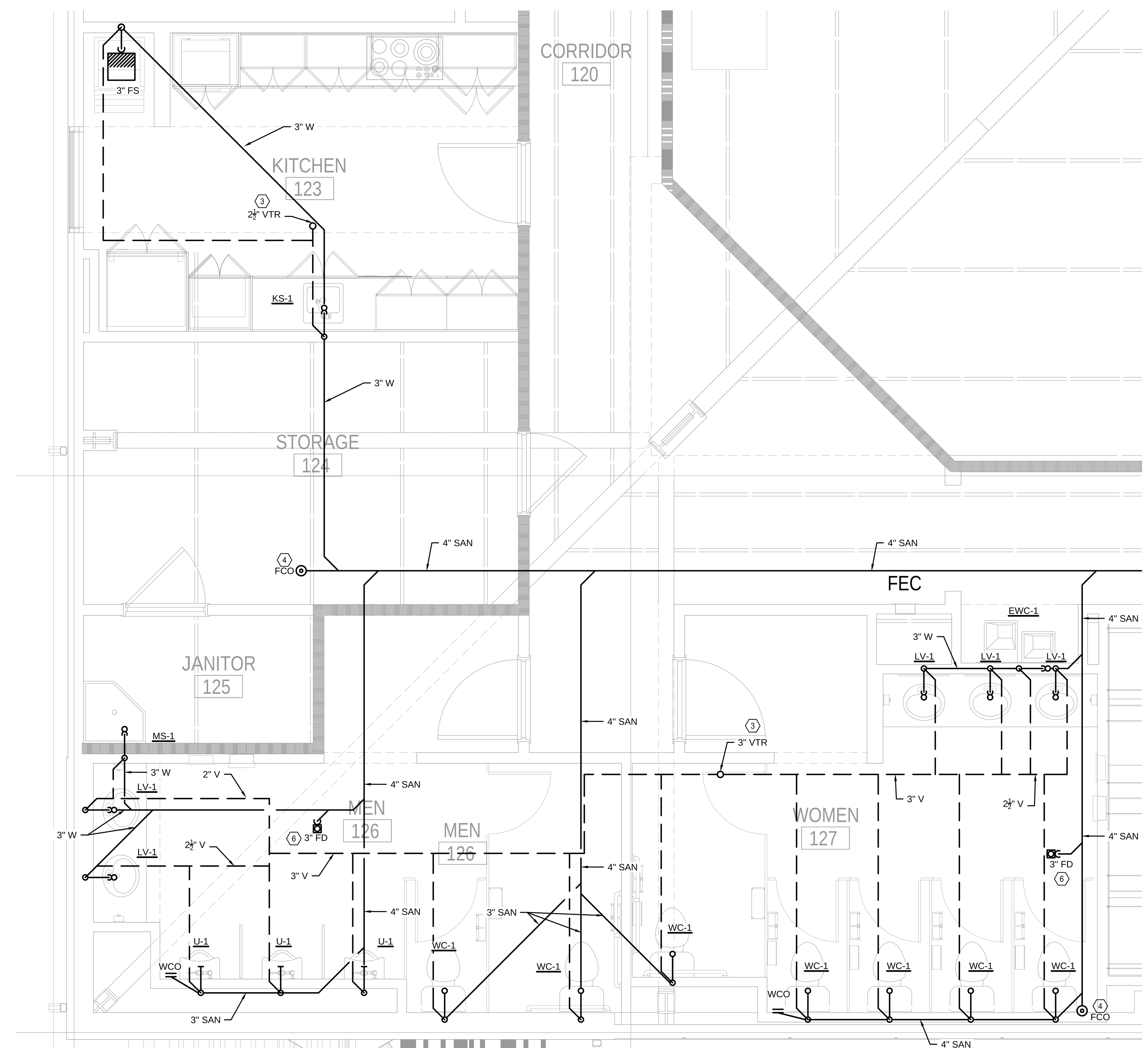
4 P04.01 ENLARGED PLAN - DOMESTIC WATER
SCALE: 3/8" = 1'-0"



3 P04.01 ENLARGED PLAN - SANITARY & VENT
SCALE: 3/8" = 1'-0"



2 P04.01 ENLARGED PLAN - DOMESTIC WATER
SCALE: 3/8" = 1'-0"



1 P04.01 ENLARGED PLAN - SANITARY & VENT
SCALE: 3/8" = 1'-0"

ossa STUDIO
4539 HEDGEMORE DRIVE, SUITE 101
CHARLOTTE NC 28209
704.890.2053
WWW.OSSASTUDIO.COM

01/30/24

PROJECT TEAM

General Contractor
ECCLESIA CONSTRUCTION
www.ecclesiaconstruction.com
803.327.5670

ENGITECTURE
CONSULTING ENGINEERS
ENGITECTURE, PLLC
NC License No. P-1625
4539 Hedgemore Drive, Suite 102
Charlotte, NC 28209
704-287-2193
PROJ# 23253

Date	Description
01/30/2024	ISSUE FOR CONSTRUCTION

Project Name

3D community church
making church come alive
658 GRAHAM ROAD
SANFORD NC 27311

Client
3D COMMUNITY CHURCH

Project Number
23024.00

Description
ENLARGED PLANS- PLUMBING

Scale
SEE PLANS

P04.01

PLUMBING FIXTURE SCHEDULE

MARK	DESCRIPTION	WASTE PIPE	VENT PIPE	COLD WATER	HOT WATER	MANUFACTURER	MAKE/MODEL	VALVE-FAUCET		REMARKS
		IN	IN	IN	IN			MANUFACTURER	MAKE/MODEL	
WC-1	WATER CLOSET	3	2	1/2	NA	AMERICAN STANDARD	211AA.104	NA	NA	PROVIDE WITH TOILET SEAT WITH TOP, STOP VALVES, ETC. PROVIDE FLUSH HANDLE ON ACCESSIBLE SIDE OF WATER CLOSET WERE APPLICABLE. MOUNT IN ACCORDANCE WITH THE ACCESSIBILITY CODE WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS.
U-1	URINAL	2	1-1/2	3/4	NA	AMERICAN STANDARD	6501.010	SLOAD	111-1.6	PROVIDE WITH HANGER PLATE CARRIER. MOUNT IN ACCORDANCE WITH THE ACCESSIBILITY CODE WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS.
LV-1	LAVATORY	2	1-1/2	1/2	1/2	AMERICAN STANDARD	0642	DELTA	523-HDF-DST	SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL DETAILS AND INFORMATION. MOUNT IN ACCORDANCE WITH THE ACCESSIBILITY CODE WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS.
LV-2	LAVATORY	2	1-1/2	1/2	1/2	AMERICAN STANDARD	0356	DELTA	523-HDF-DST	STOP VALVES, P-TRAP, SUPPLY COVER, GRID STRAINER, 1.0 GPM AERATOR.
MS-1	MOP SINK	3	2	3/4	3/4	FIAT	MSB2424	T&S BRASS	B-0655-BSTR	
KS-1	SINK	2	1-1/2	1/2	1/2	ELKAY	ELUH	ELKAY	LK406	STOP VALVES, P-TRAP, SUPPLY COVER, GRID STRAINER, 1.0 GPM AERATOR.
EWC-1	ELECTRTIC WATER COOLER	2	1-1/2	1/2	NA	ELKAY	EZSTL8LC	NA	NA	PROVIDE WATER COOLER COMPLETE WITH ANGLE SUPPLY LOOSE KEY STOP, P-TRAP, AND CARRIER.
FCO	FLOOR CLEAN OUT	4	NA	NA	NA	ZURN	ZB1400	NA	NA	
FD-1	FLOOR DRAIN	3" OR 4"	1-1/2" OR 2"	NA	NA	ZURN	ZB415-B	NA	NA	Z1000 DEEP SEAL TRAP
FD-2	FLOOR DRAIN	4	2	NA	NA	ZURN	ZB415-B	NA	NA	Z1000 DEEP SEAL TRAP, 4" FUNNEL
FS	FLOOR SINK	4	2	NA	NA	ZURN	FD2375-NH4	NA	NA	WITH DOME STRAINER AND HALF GRATE
HB-1	HOSE BIBB	NA	NA	1/2	NA	WOODFORD	26	NA	NA	
NFWH	NO FREEZE WALL HYDRANT	NA	NA	3/4	NA	WOODFORD	67	NA	NA	
WCO	WALL CLEAN OUT	4	NA	NA	NA	ZURN	ZURN Z446	NA	NA	

NOTES
1) ALL FINAL PLUMBING FIXTURE SUBMITTALS SHALL BE REVIEWED BY THE ARCHITECT AND OWNER PRIOR TO PURCHASING AND ORDERING
2) COORDINATE ALL FINAL PLUMBING FIXTURE SELECTIONS WITH MILL WORK SHOP DRAWINGS.

ELECTRIC WATER HEATER SCHEDULE

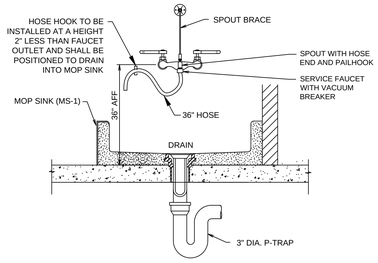
MARK	LOCATION	SYSTEM AND/OR SERVICE	TYPE	STORAGE CAPACITY	RECOVERY @ 100°F RISE	ELECTIRCAL INPUT			BASIS OF DESIGN (1)	NOTES
				GAL	GAL/HR	TOTAL kW	VOLT	PHASE		
WH-1	FIRST FLOOR JANITORS CLOSET	DOMESTIC HOT WATER	ELECTRIC TANK TYPE	50	37	9	208	3	AO SMITH DRE	

NOTES:
1) PROVIDE BASIS OF DESIGN OR EQUAL.

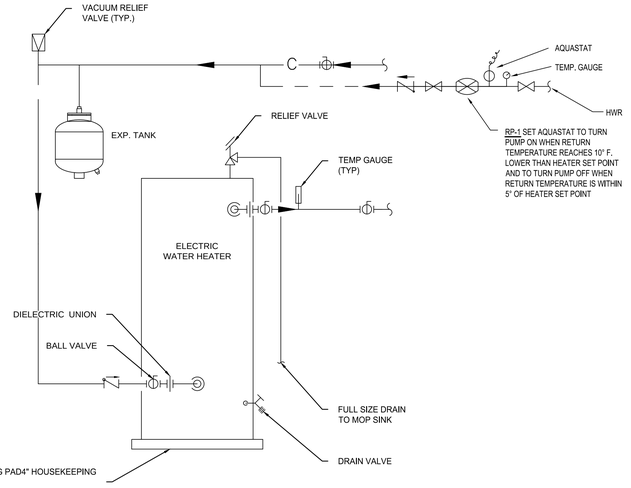
PLUMBING PUMP SCHEDULE

MARK	LOCATION	TYPE	CIRCULATING FLUID			ELECTRICAL MOTOR			BASIS OF DESIGN	REMARKS
			FLUID	FLOW	HEAD	NOMINAL POWER	PHASE	VOLT		
				GPM	FT	HP				
RP-1	FIRST FLOOR JANITORS CLOSET	INLINE	DOMESTIC HOT WATER	3.8	3	50 W	1	120	TACO 003	1

NOTES:
1) PROVIDE WITH TIMER.

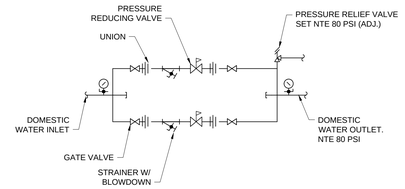


4 P07.01 MOP SINK DETAIL
SCALE: NTS



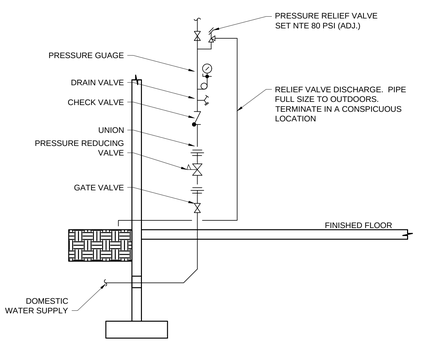
6 P07.01 FLOOR MOUNTED ELECTRIC WATER HEATER DETAIL
SCALE: NTS

NOTE:
1. GC TO PROVIDE SUPPORT FOR EXPANSION TANK.
2. PROVIDE VACUUM BREAKER ON BOTTOM INLET WATER HEATER.
3. PROVIDE HEAT TRAPS IN ACCORDANCE WITH THE LOCAL ENERGY CONSERVATION CODE.

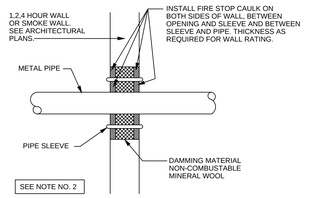


- 2½" WATER ENTRANCE, TWO (2) 1½" PRVs
- 3" WATER ENTRANCE, TWO (2) 2" PRVS
- 4" WATER ENTRANCE, THREE (3) 2" PRVS
- PRV 1 SET TO 50 PSI (ADJ.)
- PRV 2 SET TO 55 PSI (ADJ.)
- PRV 3 SET TO 60 PSI (ADJ.)

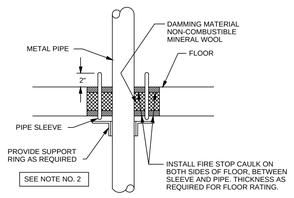
3 P07.01 PRESSURE REDUCING STATION DETAIL
SCALE: NTS



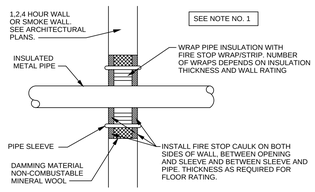
2 P07.01 WATER SERVICE DETAIL
SCALE: NTS



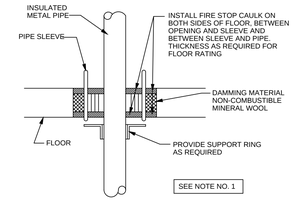
METAL PIPE PENETRATION-WALL
(U.L. SYSTEM NO. WL5024)



METAL PIPE PENETRATION-FLOOR
(U.L. SYSTEM NO. CAJ1043)



INSULATED METAL PIPE PENETRATION-WALL
(U.L. SYSTEM NO. WL5024)

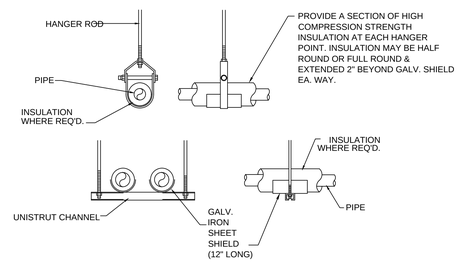


INSULATED METAL PIPE PENETRATION-FLOOR
(U.L. SYSTEM NO. CAJ10)

PIPE PENETRATIONS PLUMBING

1. ALL INSULATED METAL PIPING PENETRATING A ONE HOUR OR MORE RATED SLAB SHALL BE SEALED AROUND INSULATION ON BOTH SIDES OF WALL WITH AN APPROVED FIRE STOP WRAP/STRIP MATERIAL. NUMBER OF WRAPS AROUND INSULATION WITHIN WALL OPENING SHALL BE AS REQUIRED FOR THICKNESS OF INSULATION AND MFG. RECOMMENDATIONS. COVER EXPOSED SURFACE AND SEAMS WITH AN APPROVED FIRE STOP CAULK ON BOTH SIDES OF WALL.
2. ALL NON-INSULATED METAL PIPING PENETRATING A ONE HOUR WALL OR MORE RATED WALL OR FLOOR SHALL BE SEALED AROUND PIPE ON BOTH SIDES OF WALL WITH AN APPROVED FIRE STOP CAULK. THICKNESS SHALL BE AS RECOMMENDED BY MANUFACTURER FOR WALL RATING REQUIRED TO MAINTAIN U.L. CLASSIFICATION.
3. ACCEPTABLE MANUFACTURERS OF FIRE STOP MATERIALS ARE AS FOLLOWS:
   NELSON FLAMESEAL PUTTY
   CROUSE-HINDS CABLE BARRIER SYSTEM
   DOW CORNING FIRE STOP SEALANT/FOAM
   3M FIRE BARRIER
   T&B FLAMESAFE
   THERMAFIBER BRANDE SAFING
   ALL MATERIALS AND METHODS OF INSTALLATION SHALL BE U.L. APPROVED FOR THAT INSTALLATION. SHOP DRAWING SUBMITTALS OF MATERIALS AND METHOD OF INSTALLATION, INCLUDING DRAWINGS, SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW.
4. WHEN A PIPE PENETRATES A NON-RATED SMOKETIGHT PARTITION THE PLUMBING CONTRACTOR SHALL SEAL AROUND ALL PIPES WITH SEALANT MATERIAL TO MAKE IT SMOKETIGHT. SEE ARCHITECTURAL PLANS FOR LOCATION OF THESE PARTITIONS.
5. SEE ARCHITECTURAL PLANS FOR WALL TYPES.
6. ALL RATED WALL PENETRATIONS SHALL BE IN ACCORDANCE WITH UNDERWRITERS LABORATORIES PENETRATION FIRESTOP SYSTEM REQUIREMENTS. ALL MATERIALS USED IN PENETRATIONS FIRESTOP SLYSTEMS SHALL BE APPROVED BY UNDERWRITERS LABORATORIES AND SHALL BEAR U.L. LABEL.

5 P07.01 RATED PENETRATION DETAIL
SCALE: NTS



1 P07.01 PIPE HANGER DETAIL
SCALE: NTS

NOTES
1. ATTACH SUPPORTS FOR ALL PIPING SUSPENDED FROM THE STEEL STRUCTURE TO THE TOP CORD OF JOISTS OR BEAMS.
2. PROVIDE COPPER OR PLASTIC COATED HANGERS FOR NON-INSULATED COPPER PIPE.

ossa STUDIO
4539 HEDGEMORE DRIVE, SUITE 101
CHARLOTTE NC 28209
704.890.2053
WWW.OSSASTUDIO.COM

NORTH CAROLINA PROFESSIONAL SEAL 044505 ENGINEER CALVIN M JOHNSON
01/30/24

PROJECT TEAM

General Contractor
ECCLESIA CONSTRUCTION
www.ecclesiaconstruction.com
803.327.5670

ENGITECTURE
CONSULTING ENGINEERS
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NC License No. P-1625
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making church come alive
658 GRAHAM ROAD
SANFORD NC 27311

Client
3D COMMUNITY CHURCH

Project Number
23024.00

Description
DETAILS - PLUMBING

Scale

P07.01

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