

PLUMBING SYMBOLS LIST AND ABBREVIATIONS

	COLD WATER PIPE (C.W.)
	HOT WATER PIPE (H.W.)
	HOT WATER RECIR. PIPE (H.W.R.)
	SANITARY PIPE (S.A.N.)
	SANITARY GREASE PIPE (S.A.N.G.)
	VENT PIPE (V.)
	NATURAL GAS PIPE (G.)
	CONDENSATE DRAIN PIPE (C.D.)
	EMERGENCY OVERFLOW DRAIN PIPING (E.O.F.)
	RAIN LEADER (R.L.)
	STORM WATER (S.W.)
	PIPE DOWN
	PIPE UP
	PIPE PASSINGS ABOVE WITH "T" CONNECTION TO PIPE DROP
	BALL VALVE
	BALL VALVE MEMORY STOP
	STRAINER
	BALANCING VALVE
	BACK FLOW PREVENTOR
	PRESSURE REDUCING VALVE
	GAS COCK
	UNION
	GAS/WATER METER
	TEST TEE
	CLEANOUT (FLOOR & WALL)
	PIPE CAP
	WALL HYDRANT
	HOSE BIBB
	DRAWING NOTE - NEW WORK
	CONNECT TO EXISTING
	CONDENSATE DRAIN
	CLEAN OUT
	COLD WATER
	DOWN
	DOMESTIC WATER HEATER
	EMERGENCY OVER FLOW
	FIRE PROTECTION PIPING
	GAS
	HOSE BIBB
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RECIRCULATING
	PLUMBING CONTRACTOR
	PUMPED CONDENSATE DRAIN PIPING
	RAIN LEADER
	AIR HANDLING UNIT
	SANITARY
	STORM WATER
	WITH
	WALL HYDRANT
	VENT PIPING

GENERAL NOTES:

- WHERE POSSIBLE, MAKE WATER CONNECTIONS TO FIXTURES ABOVE FLOOR.
- PROVIDE A MINIMUM OF 24 INCHES CLEARANCE FOR RODDING OF CLEANOUTS.
- ACCESS SHALL BE PROVIDED FOR ALL CONCEALED VALVES, CLEANOUTS ETC. LOCATED AT/IN CEILINGS/WALLS OR FLOORS.
- ALL VERTICAL SANITARY SEWER PIPING WHICH TURN 90 DEGREES AFTER PASSING THROUGH A FLOOR SHALL BE INSTALLED AS TIGHT AS POSSIBLE TO THE UNDERSIDE OF THE STRUCTURE. ALL VOID OPENINGS AROUND PIPE SHALL BE FIRE STOPPED AS REQUIRED AND APPROVED BY LOCAL CODES.
- COORDINATE ALL PIPING TO BE INSTALLED WITH OTHER TRADES, I.E. MECHANICAL AND ELECTRICAL TO ASSURE THAT ALL PIPING SYSTEMS ARE INSTALLED ABOVE FINISHED CEILING OR IN A CONCEALED SPACE. ALL CEILING HEIGHTS INDICATED ON ARCHITECTURAL AND/OR INTERIOR DESIGN DRAWINGS AND MINIMUM CLEARANCES REQUIRED BY LOCAL CODES SHALL BE MAINTAINED THROUGHOUT THE BUILDING.
- ALL CUTTINGS, DRILLINGS, AND PATCHING OF WALLS, FLOORS, AND/OR STRUCTURAL MEMBERS OF THE INSTALLATION OF THE PLUMBING SYSTEMS SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR. STRUCTURAL COMPONENTS SHALL NOT BE CUT, DRILLED, OR MODIFIED IN ANY WAY WITHOUT THE STRUCTURAL ENGINEER'S REVIEW AND PRIOR TO APPROVAL.
- SAW CUTTINGS OF SLAB SHALL BE PERMITTED TO A DEPTH OF 4" MAXIMUM. ADDITIONAL SLAB REMOVAL WILL REQUIRE X-RAY / OR ULTRASONIC. AN ALTERNATE REMOVAL PRACTICE SHALL BE EMPLOYED TO REMOVE REMAINING SLAB. PURPOSE OF THIS REQUIREMENT IS TO LOCATE/ IDENTIFY UNDER SLAB CONDUITS. COORDINATE ALL CUTTING LANDLORD.
- ALL PIPING SYSTEMS, VALVES, AND EQUIPMENT SHALL BE IDENTIFIED.
- COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MINIMUM CLEARANCE FROM ALL AIR INTAKES, MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
- PROVIDE PLASTIC LAMINATE OR EXISTING VALVE TAG COVER, VALVE, COCK, AND CONTROL DEVICE IN EXPOSED PIPING. PIPING INCLUDING MAIN WATER SHUT-OFF EXPOSED VALVE SHALL BE WITHIN FACTORY-FABRICATED EQUIPMENT UNITS. PLUMBING FIXTURE FAUCETS, CONVEYERS AND LAUNDRY, HUBS, BUBBLES, AND SHUT-OFF VALVES AT PLUMBING FIXTURES AND SIMILAR ROOMS IN CONNECTIONS OF END-USE FIXTURES AND EQUIPMENT.
- HOT WATER TEMPERATURE AT THE FAUCETS (NON-ADA FIXTURES) SHALL BE 110°F (± 5°F).
- ALL PIPE PENETRATIONS OF FIRE AND/OR SMOKE RATED ASSEMBLIES SHALL BE FIRE STOPPED AS REQUIRED TO MAINTAIN FIRE RATINGS. FIRE BARRIER PRODUCTS SHALL BE A MANUFACTURED BY 3M COMPANY, FS15 FRAPSPRING, TREMCO, HILTI, OR METACALK. AS RECOMMENDED BY MANUFACTURERS FOR PARTICULAR APPLICATIONS, OR EQUIVALENT SYSTEM AS APPROVED BY LOCAL CODE OFFICIALS.

PLUMBING SPECIFICATIONS

GENERAL DESCRIPTION:

- THE WORK OF EACH OF THE PLUMBING SECTIONS INCLUDES FURNISHING AND INSTALLING THE MATERIAL, EQUIPMENT, AND SYSTEMS COMPLETE AS SPECIFIED AND/OR INDICATED ON THE DRAWINGS. THE MECHANICAL INSTALLATIONS, WHEN FINISHED SHALL BE COMPLETE AND COORDINATED, READY FOR SATISFACTORY SERVICE OF THE BUILDING SHELL.
- ALL WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, SOUTH CAROLINA PLUMBING CODE, SOUTH CAROLINA FUEL GAS CODE, SOUTH CAROLINA ENERGY CODE, AND THE LOCAL JURISDICTION THAT GOVERNS THE PLUMBING TRADE.
- THE CONTRACTOR SHALL MAKE APPLICATIONS AND PAY ALL CHARGES FOR ALL NECESSARY PERMITS, LICENSES AND INSPECTIONS AS REQUIRED UNDER THE ABOVE CODES. UPON COMPLETION OF THE WORK, THE CUSTOMARY CERTIFICATIONS OF APPROVAL SHALL BE FURNISHED.
- NO MATERIAL OR EQUIPMENT SHALL BE USED IN THE WORK UNTIL APPROVED. BEFORE SUBMISSION OF THE SHOP DRAWINGS, AND NOT MORE THAN FIFTEEN (15) DAYS AFTER AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, A COMPLETE LIST OF MATERIALS AND EQUIPMENT WHICH HE INTENDS TO FURNISH, GIVING MANUFACTURER AND CATALOG NUMBERS.
- THE CONTRACTOR SHALL EXAMINE ALL DRAWINGS AND SPECIFICATIONS. FAILURE TO COMPLY WITH THIS REQUIREMENT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLYING WITH THE INTENT OF THE CONTRACT DOCUMENTS.
- THE DRAWINGS INDICATE THE GENERAL ARRANGEMENTS OF THE MECHANICAL INSTALLATIONS. DETAILS OF PROPOSED DEPARTURES DUE TO ACTUAL FIELD CONDITIONS OR OTHER CAUSES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. REWORKING OF COMPLETED ITEMS DUE TO IMPROPER FIELD COORDINATION SHALL BE AT THE CONTRACTOR'S EXPENSE.
- PROVIDE SUFFICIENT ACCESS AND CLEARANCE FOR ALL ITEMS OF EQUIPMENT REQUIRING SERVICING AND MAINTENANCE, SUCH AS VALVES, DRAINS, VENTS, ETC.
- THE ENTIRE NEW PLUMBING SYSTEM SHALL BE TESTED HYDROSTATICALLY BEFORE INSULATION COVERING IS APPLIED AND PROVED TIGHT UNDER THE FOLLOWING GAUGE PRESSURES:
SANITARY PIPING.....AS SPECIFIED BELOW
DOMESTIC WATER.....100 PSIG
- ALL SANITARY AND VENT PIPING SHALL BE TESTED BY THE CONTRACTOR. THE ENTIRE NEW DRAINAGE SYSTEM AND VENTING SYSTEM SHALL HAVE ALL NECESSARY OPENINGS PLUGGED AND FILLED WITH WATER TO THE LEVEL OF TEN (10) FEET ABOVE THE MAIN OR BEING TESTED. THE SYSTEM SHALL HOLD THIS WATER FOR THIRTY (30) MINUTES WITHOUT SHOWING A DROP GREATER THAN FOUR (4) INCHES.
- ALL PLUMBING INSTALLATIONS, INCLUDING ALL MATERIALS AND LABOR SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF OWNER ACCEPTANCE. THE ABOVE SHALL NOT IN ANY WAY VOID OR ADOPTIVE EQUIPMENT MANUFACTURER'S GUARANTEE OR WARRANTY. CERTIFICATE OF GUARANTEE SHALL BE DELIVERED TO THE OWNER.
- AFTER ROUGHING IN THE ENTIRE WATER MAIN THE ENTIRE POTABLE WATER SYSTEMS SHALL BE DISINFECTED PRIOR TO USE. THE METHOD TO BE FOLLOWED SHALL BE THAT PRESCRIBED BY THE LOCAL HEALTH AUTHORITY/CODE REQUIREMENTS.
- CONTRACTOR SHALL ALSO PROVIDE ONE (1) YEAR FREE SERVICE TO KEEP THE EQUIPMENT IN OPERATING CONDITION. THIS SERVICE SHALL BE PROVIDED PER THE FOLLOWING SCHEDULE AND RENDERED UPON REQUEST WHEN NOTIFIED OF ANY EQUIPMENT MALFUNCTION.
M. IN ADDITION TO THE FIRST YEAR WARRANTY PERIOD, THE CONTRACTOR SHALL PROVIDE, AT NO ADDITIONAL COST TO THE OWNER, A MINIMUM OF FOUR (4) SERVICE CALLS AND MAINTENANCE INSPECTIONS. A COMPLETE OUTLINE OF THE REQUIRED MAINTENANCE AND THE PROPOSED SCHEDULE SHALL BE INCLUDED IN THE "RECORD AND INFORMATION BOOKLET" FOR REVIEW AND ACCEPTANCE BY THE OWNER REPRESENTATIVE AND ENGINEER. THE INSPECTIONS ARE TO BE PERFORMED AT THREE (3) MONTH INTERVALS FOR A TOTAL OF FOUR (4) SERVICE CALLS AND INSPECTIONS DURING THE FIRST YEAR.

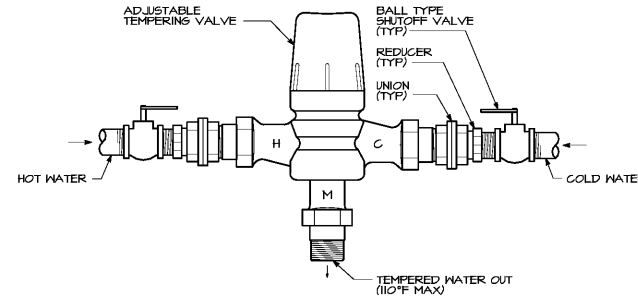
PIPING MATERIAL & METHODS:

- PROVIDE ALL LABOR AND MATERIALS NECESSARY TO FURNISH AND INSTALL ALL PIPING SYSTEMS ON THIS PROJECT, INCLUDING SANITARY, SANITARY VENT, DOMESTIC WATER AND NATURAL GAS SYSTEMS.
- PIPES AND VALVES SHALL BE AS FOLLOWS:

- SANITARY DRAINS BELOW GRADE
PIPE SOLID WALL SCHEDULE 40 PVC DWV PIPE.
FITTINGS STANDARD PVC FITTINGS.
JOINTS GLEED PVC FITTINGS.
- SANITARY WASTES AND VENTS PIPING ABOVE FLOOR INSIDE BUILDING.
PIPE CAST IRON NO-HUB SOIL PIPE.
FITTINGS PIPE CAST IRON NO-HUB SOIL PIPE FITTINGS.
JOINTS NO-HUB STAINLESS STEEL GASKETED FITTINGS
- DOMESTIC WATER PIPING.
PIPE ALL WATER LINES 0 HARD COPPER TYPE L.
FITTINGS SOLDER TYPE WROUGHT COPPER - LEAD FREE SOLDER.
BALL VALVES TWO PIECE BODY, ISO LB. CHROME PLATED BALL PORT BRONZE BODY AND STEM REINFORCED WITH BRASS RINGS, NIBCO 5-595-10.
UNIONS 125 LB. WROUGHT COPPER, GROUND JOINT SOLE END.
- NATURAL GAS PIPING.
PIPE SCHEDULE 40 BLACK STEEL PIPING ABOVE ROOF SHALL BE PAINTED WITH PIPE YELLOW RUST INHIBITING PAINT. VERTICAL PIPING ON EXTERIOR BUILDINGS SHALL BE PAINTED WITH AN ADJUSTABLE SURFACING PAINT TO MATCH EXISTING SURFACES.
FITTINGS LEAD FREE COPPER FITTINGS.
GAS COCK VALVES SHALL CONFORM TO GAS COCK ASH-814.935, OF MATERIAL TO MATCH PIPING. PROVIDE UNIONS AS NECESSARY.
COPPER PIPE SHALL BE REVERSE ANANCONDA, OR CHASE TYPES "I" HARD DRAIN WITH SOLDERED SOLDER FITTINGS.
CAST IRON PIPING SHALL BE SERVICE WEIGHT DRAINAGE PIPING AND SHALL CONFORM TO THE REQUIREMENTS OF THE C.I.S.P.I. EACH LENGTH OF PIPE AND EACH FITTING SHALL BE CLEARLY MARKED WITH THE MANUFACTURER'S INITIALS AND PIPE CLASSIFICATIONS.
- ALL HANGERS FOR COPPER PIPING SHALL BE COPPER GLAD, SPLIT RING SHIMMEL TYPE HANGERS WITH MACHINE THREADS AND THREADED COPPER GLAD CEILING FLANGE. CAST IRON AND STEEL PIPING SUPPORTS SHALL BE SIMILAR WITHOUT COPPER GLAD AND PRIME PAINT FINISH.
- PROVIDE DIELECTRIC COUPLINGS WHERE NON-FERROUS METAL PIPING IS JOINED TO FERROUS METAL PIPING. THE GASKET MATERIAL SHALL BE CAPABLE OF WITHSTANDING THE TEMPERATURES AND PRESSURES WITHIN THE PIPING SYSTEM IN WHICH INSTALLED. SUBMIT DIELECTRIC COUPLING AND GASKET MATERIAL FOR APPROVAL.
- PROVIDE 1-1/2" FIBERGLASS PIPE INSULATION ON ALL DOMESTIC WATER PIPING. PROVIDE TAP FAUCETS FOR PIPE FITTINGS. ENTIRE SYSTEM SHALL FORM VAPOR BARRIER. INSTALL PER MANUFACTURER RECOMMENDATIONS. INSULATION SHALL BE AS HFSR BY JOHNS MANVILLE MICRO-LOC.

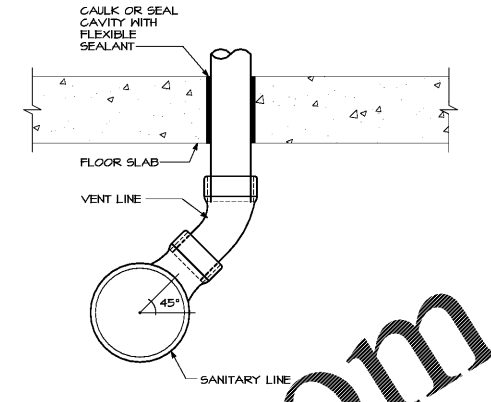
PLUMBING:

- THE WORK COVERED BY THIS SECTION OF THE SPECIFICATIONS CONSISTS OF FERTILE CONCRETE LAMINATE AND EQUIPMENT WITH A MATERIALS AND METHODS TO THE ROUGH-IN, FINAL SETTINGS AND CONNECTIONS TO ALL PLUMBING FIXTURES. THE CONTRACTOR SHALL CAREFULLY REVIEW THE CONDITIONS AT THE SITE AND ALL OF THE CONTRACT DRAWINGS TO DETERMINE THE EXTENT OF THE PLUMBING WORK REQUIRED.
- ALL PLUMBING FIXTURES SHALL BE COMPLETED IN EVERY DETAIL WITH ALL TRIMMINGS AND B. CONNECTIONS. ALL FIXTURES SHALL BE DESIGNED TO PREVENT THE BACKFLOW OF POLLUTED WATER OR WASTE INTO THE WATER SUPPLY SYSTEM. FIXTURES SHALL BE AS SHOWN ON SCHEDULE OR APPROVED EQUAL.



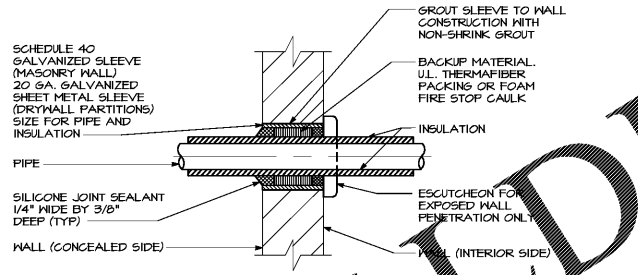
DETAIL - TEMPERING VALVE INSTALLATION

NO SCALE
NOTE:
1. VALVE SHALL BE DESIGNED TO PERFORM TO ASSE 1017 & 1070 INDUSTRY STANDARDS.



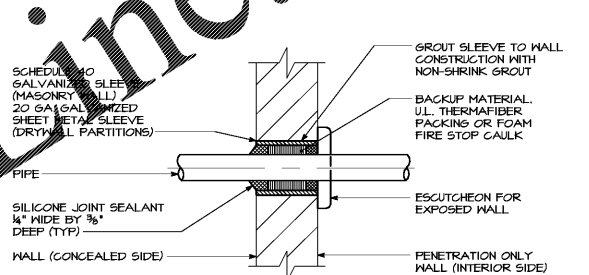
DETAIL - SANITARY VENT CONNECTION BELOW FLOOR

NO SCALE



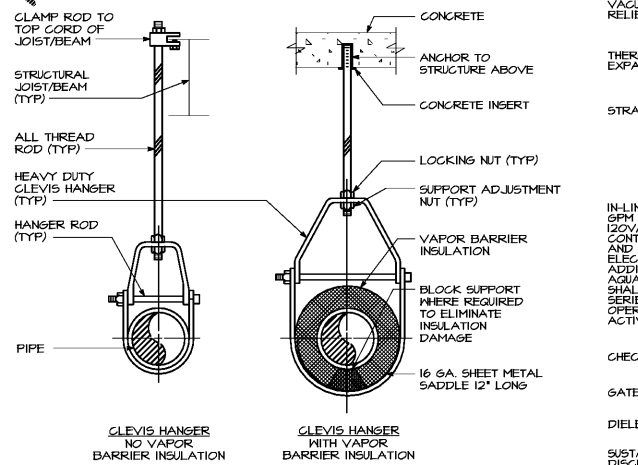
DETAIL - PIPE SLEEVE FOR INSULATED PIPE THRU WALL

NO SCALE
NOTES:
1. AT THE CONTRACTOR'S OPTION, A UL LISTED/APPROVED FIRE STOP PIPE SLEEVE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL.
2. FOR EXISTING POURED CONCRETE WALLS, CORE DRILL OR STAR DRILL OPENINGS THRU EXISTING WALL FOR PIPE SLEEVES AS DIRECTED.
3. GALVANIZED SLEEVE SHALL BE CAST INTO NEW CONCRETE WALL FORMS.



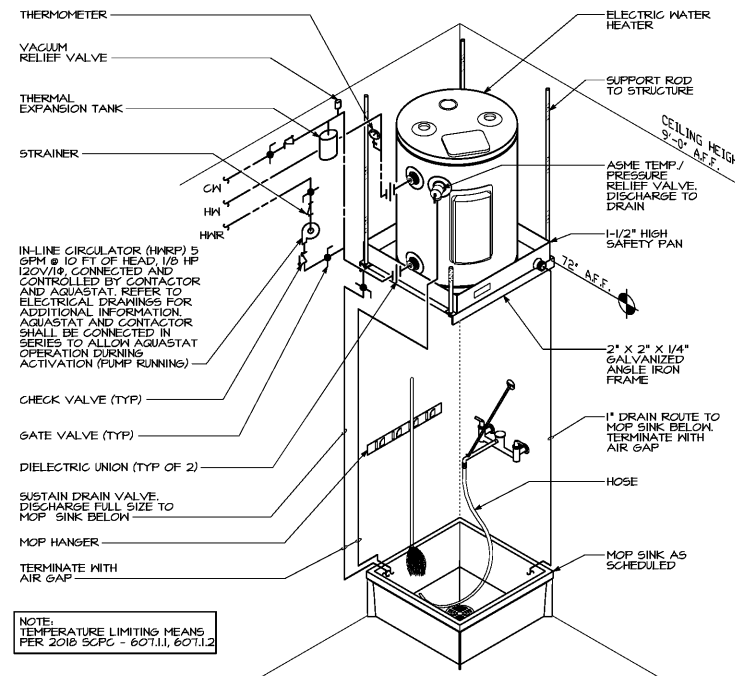
DETAIL - PIPE SLEEVE FOR BARE PIPE THRU WALL

NO SCALE
NOTES:
1. AT THE CONTRACTOR'S OPTION, A UL LISTED/APPROVED FIRE STOP PIPE SLEEVE ASSEMBLY MAY BE SUBMITTED FOR APPROVAL.
2. FOR EXISTING POURED CONCRETE WALLS, CORE DRILL OR STAR DRILL OPENINGS THRU EXISTING WALL FOR PIPE SLEEVES AS DIRECTED.
3. GALVANIZED SLEEVE SHALL BE CAST INTO NEW CONCRETE WALL FORMS.



DETAIL - PIPE SUPPORT

NO SCALE
NOTE:
1. ALL HANGERS FOR COPPER PIPING SHALL BE COPPER COATED.



DETAIL - ELECTRIC WATER HEATER PIPING DIAGRAM (BELOW CEILING)

NO SCALE
NOTES:
1. HOT WATER HEATER SHALL BE MOUNTED ABOVE MOP SINK ON PLATFORM SUSPENDED FROM STRUCTURE ABOVE, BY SUPPORT RODS.
2. EXTEND T&P RELIEF DRAIN TO MOP SINK AND TERMINATE WITH AIR GAP.
3. CIRCULATOR PUMP CONTROLLED BY ELECTRICAL CONTACTOR AND AQUASTAT SET POINT 105°F ADJ. MINIMUM 20°F BANDWIDTH.

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Plumbing Legend & Specifications

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