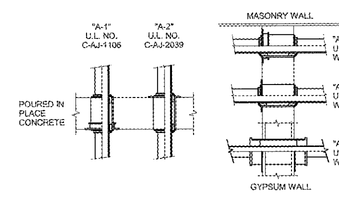
FIRESTOP PENETRATION DETAILS



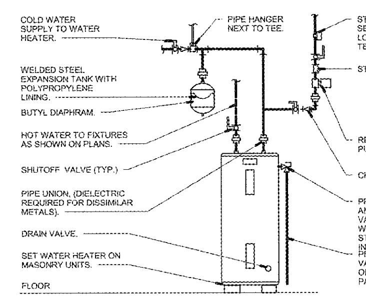
SLEEVES AND FIRESTOPPING: USE PROSET "FIRESTOP PENETRATORS" OR APPROVED EQUIVALENT. U.L. CLASSIFIED IN THE BUILDING MATERIALS DIRECTORY, TESTED BY ASTM E-814. USE FOR ALL APPLICABLE PIPE PENETRATIONS THRU FIRE RATED FLOORS, WALLS OR FLOOR/CEILING ASSEMBLIES IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

A. SYSTEM "A": PENETRATORS FOR WATER LINES, HEATING AND COOLING LINES, FIRE STANDPIPE AND SPRINKLER LINES, TEMPERATURE CONTROL, ACID WASTE GLASS PIPE AND ELECTRIC AND COMMUNICATION CONDUIT PENETRATING FLOORS AND WALLS.

1. CAST-IN-PLACE PENETRATORS FOR POURED-IN-PLACE CONCRETE ON STEEL OR WOOD FORMS IN FLOORS AND WALLS.
2. CORE HOLE COUPLING PENETRATORS FOR CORED HOLES THRU PRECAST OR EXISTNG CONCRETE IN FLOORS OR WALLS.
3. SPLIT WALL SLEEVE PENETRATORS FOR PIPES PASSING THRU GYPSUM WALLS OR FLOOR/CEILING ASSEMBILES.

NOT TO SCALE

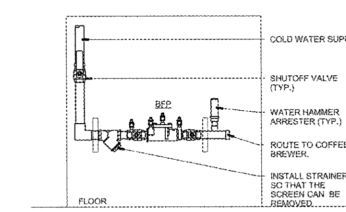
ELECTRIC WATER HEATER AND EXPANSION TANK



NOTES:
1.) REFER TO SCHEDULES AND SPECIFICATIONS FOR SIZE OF ELECTRIC WATER HEATER AND CIRCULATION PUMP.
2.) ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO FLOOR PLAN FOR PIPE SIZES.
3.) SET WATER HEATER THERMOSTAT AT 140°F.
4.) PROVIDE SEISMIC STRAP OR BRACING AND FLEXIBLE CONNECTORS TO WATER CONNECTIONS IF/AS REQUIRED BY LOCAL AUTHORITIES.

NOT TO SCALE

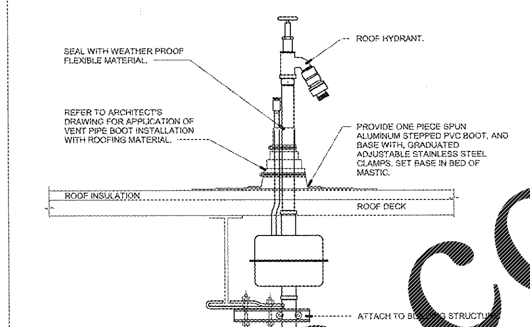
BACKFLOW PREVENTER INSTALLATION DETAIL - COFFEE MAKER



NOTE:
ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY AS REQUIRED TO SUIT CONDITIONS. INSTALL WITHIN CASEWORK BELOW COFFEE MAKER. VALVING SHALL BE SAME SIZE AS SERVICE PIPE REFER TO PLANS FOR SERVICE LINE SIZE. PROVIDE BACKFLOW PREVENTER (BFP) OF TYPE & MANUFACTURED APPROVED BY LOCAL AUTHORITIES AND DEPARTMENT OF NATURAL RESOURCES. INSTALL BACKFLOW PREVENTER IN HORIZONTAL UPRIGHT POSITION. PROVIDE ALL NECESSARY PLUMBING TO CONNECT FILTER SYSTEM ABOVE BFP. CLEAN STRAINER BEFORE TURNING BUILDING OVER TO OWNER. PROVIDE ANY REQUIRED CERTIFICATION OF TEST OF BACKFLOW PREVENTER TO LOCAL AUTHORITIES.

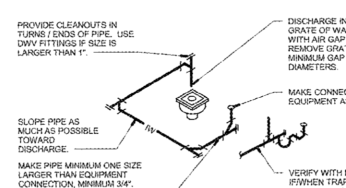
NOT TO SCALE

ROOF HYDRANT DETAIL



NOT TO SCALE

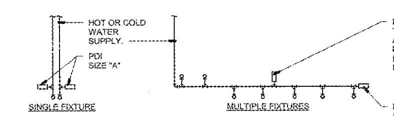
INDIRECT DRAIN DETAIL



NOTE:
ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WHEN INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

NOT TO SCALE

WATER HAMMER ARRESTERS DETAIL



SINGLE FIXTURE

PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1 1/4"	61-113
E	1 1/2"	114-154
F	2"	154-330

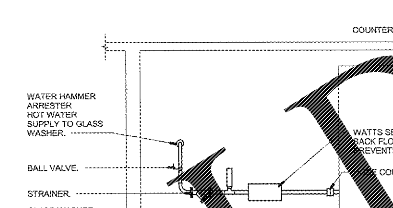
MULTIPLE FIXTURES

FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	--
TANK WATER CLOSET	5	--
URINAL	5	--
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2

NOTE:
PROVIDE WATER HAMMER ARRESTERS (WHA) BY SIOUX CHIEF, PRECISION PLUMBING PRODUCTS, WATTS OR APPROVED EQUIVALENT WITH PISTON AND 0-RING CONSTRUCTION, HAVING PDI #WH-201, ASSE #1010 AND ANSI #A112.26.1M CERTIFICATION. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR PER THE TABLES SHOWN ABOVE.
INSTALL IN AN ACCESSIBLE LOCATION (ABOVE LAY-IN IS ACCEPTABLE) AND PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS.

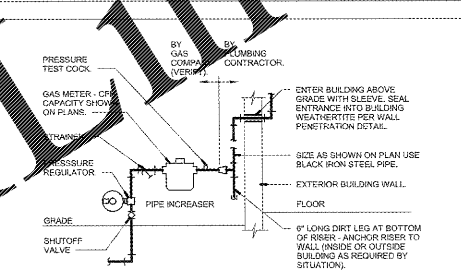
NOT TO SCALE

GLASS WASHER CONNECTION DETAIL



NOT TO SCALE

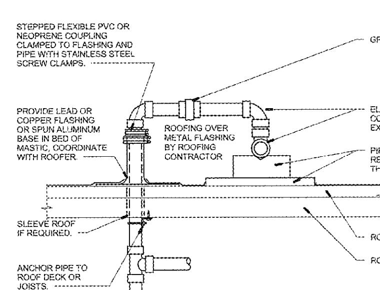
GAS SERVICE DETAIL



NOTE:
VERIFY REQUIREMENTS FOR METERING AND PIPING WITH GAS COMPANY. GAS COMPANY SHALL EXCAVATE, BACKFILL, AND REPAIR PAVING AND SOD FOR GAS SERVICE LINE INSTALLATION FROM MAIN TO BUILDING. PLUMBING CONTRACTOR TO PAY ALL GAS COMPANY FEES FOR THIS INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS PER SPECIFICATIONS. PAINT EXPOSED METAL GAS PIPE, FITTINGS AND ITEMS LIGHT GREEN.

NOT TO SCALE

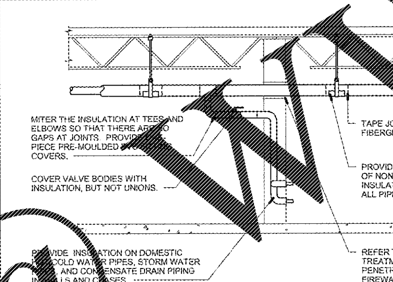
PIPE ROOF PENETRATION DETAIL



NOTE:
REFER TO PLANS FOR PIPE SIZE(S) AND LOCATION(S). USE WELDED OR SCREWED FITTINGS AS SPECIFIED FOR PIPE SIZE. LOCATE PENETRATION MINIMUM 18" FROM ADJACENT WALLS. PRIMER COAT AND PAINT EXTERIOR GAS PIPE YELLOW COLOR.

NOT TO SCALE

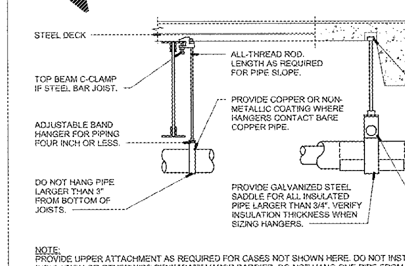
PIPE INSULATION DETAIL



NOTE:
PROVIDE FIBERGLASS INSULATION WITH ALL-SERVICE JACKET WITH VAPOR BARRIER ON ALL COLD/HOT WATER PIPING AND CONDENSATE DRAIN PIPE. REFER TO SPECIFICATIONS FOR FURTHER INFORMATION REGARDING INSULATION. INSTALL ALL ITEMS PER SPECIFICATIONS AND MANUFACTURE'S INSTRUCTIONS. MAINTAIN VAPOR BARRIER ON COLD PIPING BY MEANS OF SEALANT AND TAPE. FLAME-SPREAD AND SMOKE-DEVELOPED INDEXES SHALL NOT EXCEED 25/50. SEAL EXPOSED ENDS OF FIBERGLASS INSULATION WITH ADHESIVE MASTIC.

NOT TO SCALE

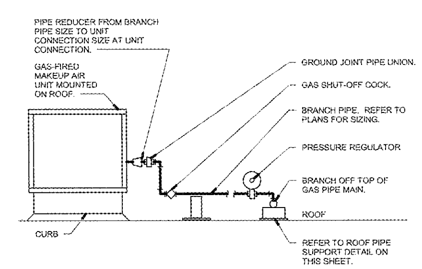
PIPE HANGERS DETAIL



NOTE:
PROVIDE UPPER ATTACHMENT AS REQUIRED FOR CASES NOT SHOWN HERE. DO NOT INSTALL HANGER INSIDE INSULATION OR OTHERWISE PENETRATE VAPOR BARRIER. DO NOT HANG ONE PIPE FROM ANOTHER EXCEPT IN CHASES. TRAPEZE HANGERS MAY BE USED FOR MULTIPLE PARALLEL PIPES.
HANGER SPACING FOR PIPE SIZE:
COPPER: 4"=12'; 3"=11'; 2 1/2"=10'; 2"=9'; 1 1/2"=8'; 1 1/4"=7'; 1"=6' ;3/4"=6'; 1/2"=5'.
CAST IRON: 10' AND ONE NEAR ALL JOINTS.
STEEL: 4"=14'; 3"=12'; 2-1/2"=11'; 2"=10' 1 1/2"=9'; 1"=7'; 3/4"=6'; 1/2"=5'.
LOCATE HANGERS AS CLOSE AS POSSIBLE TO TURNS AND TEES OF PIPE. PROVIDE SUPPLEMENTARY STEEL STRUTS BETWEEN JOISTS IF REQUIRED.
LOCATE HANGERS TO TAKE LOAD OFF OF EQUIPMENT CONNECTIONS. ANCHOR WATER PIPE AGAINST SWAYING DUE TO CHANGES IN WATER VELOCITY. PROVIDE SEISMIC BRACING IF/AS REQUIRED BY LOCAL AUTHORITIES. CHAINS OR PERFORATED STRAP IRON OR STEEL IS NOT ACCEPTABLE. REFER TO CODES AND SPECIFICATIONS FOR FURTHER INFORMATION.

NOT TO SCALE

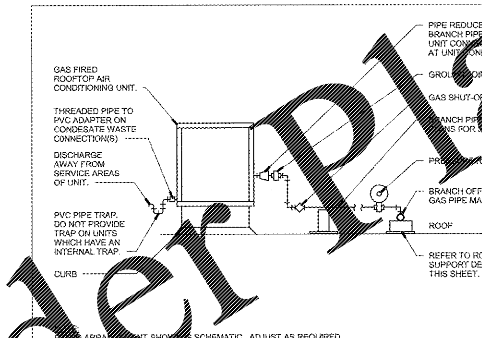
MAKEUP AIR UNIT CONNECTION DETAIL



NOTE:
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED.

NOT TO SCALE

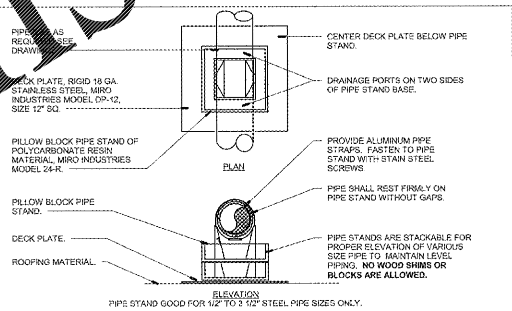
ROOFTOP UNIT CONNECTION DETAIL



NOTE:
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST AS REQUIRED.

NOT TO SCALE

ROOF BLOCKING PIPE SUPPORT DETAIL

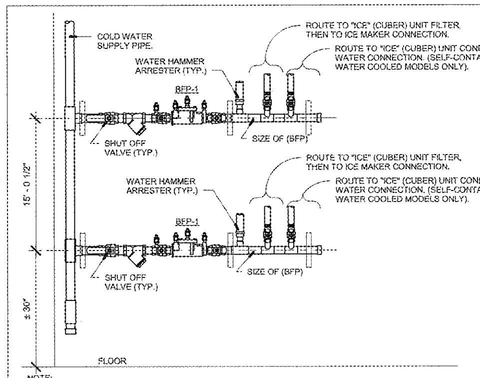


PIPE STAND GOOD FOR 1/2" TO 3 1/2" STEEL PIPE SIZES ONLY.

NOTE:
SUPPORT SPACING FOR PIPE SIZE: 1/2"=6'; 3/4"-1"=8'; 1 1/4"AND LARGER=10'; PLACE DECK PLATES ON ROOFING, SET PIPE STAND FREE ON DECK PLATES. STACK PIPE STAND WHERE REQUIRED TO ELEVATE PIPING. INSTALL GAS PIPE TO ALLOW FOR EXPANSION AND CONTRACTION. PRIMER COAT AND PAINT EXTERIOR GAS PIPE YELLOW COLOR.

NOT TO SCALE

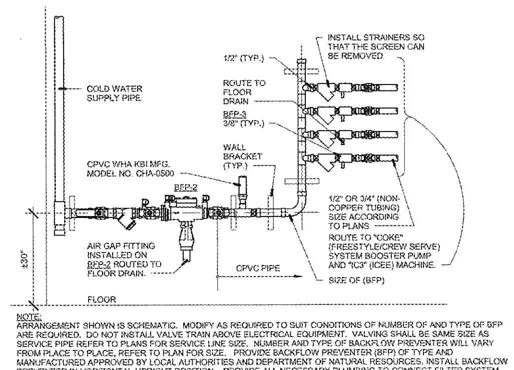
BACKFLOW PREVENTER INSTALLATION DETAIL - ICE UNITS



NOTE:
ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY AS REQUIRED TO SUIT CONDITIONS OF NUMBER OF AND TYPE OF BFP ARE REQUIRED. DO NOT INSTALL VALVE TRAIN ABOVE ELECTRICAL EQUIPMENT. VALVING SHALL BE SAME SIZE AS SERVICE PIPE REFER TO PLANS FOR SERVICE LINE SIZE. NUMBER AND TYPE OF BACKFLOW PREVENTER WILL VARY FROM PLACE TO PLACE, REFER TO PLAN FOR SIZE. PROVIDE BACKFLOW PREVENTER (BFP) OF TYPE AND MANUFACTURED APPROVED BY LOCAL AUTHORITIES AND DEPARTMENT OF NATURAL RESOURCES. INSTALL BACKFLOW PREVENTER IN HORIZONTAL UPRIGHT POSITION. PROVIDE ALL NECESSARY PLUMBING TO CONNECT FILTER SYSTEM ABOVE BFP. CLEAN STRAINER BEFORE TURNING BUILDING OVER TO OWNER. PROVIDE ANY REQUIRED CERTIFICATION OF TEST OF BACKFLOW PREVENTER TO LOCAL AUTHORITIES.

NOT TO SCALE

BACKFLOW PREVENTER INSTALLATION DETAIL - CARBONATED BEVERAGE UNITS



NOTE:
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NOT TO SCALE

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SHEET LEGEND

G000's	GENERAL INFORMATION & SCOPE OF WORK
N100's	EGRESS / ADA PLANS & DETAILS
A100's	FLOOR PLANS & CEILING PLANS
A200's	EXTERIOR & INTERIOR ELEVATIONS
A300's	BUILDING SECTIONS
A400's	ENLARGED PLANS
A500's	EXTERIOR & INTERIOR DETAILS
A600's	DOOR SCHEDULE, DOOR DETAILS, FINISH SCHEDULE, FINISH PLANS
Q100's	AUDITORIUM SIGHT LINE SECTIONS
Q120's	AUDITORIUM SEATING PLAN
S's	STRUCTURAL
M's	MECHANICAL
P's	PLUMBING
E's	ELECTRICAL
WF's	WAYFINDING DETAILS
FS's	CASEWORK & EQUIPMENT

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