

SPECIFICATION NOTES:

- GENERAL**
- WORK TO COMPLY WITH ALL NFPA, STATE, COUNTY, AND CITY LAWS, ORDINANCES, AND REGULATIONS AFFECTING THE INSTALLATION. IF NO LOCAL CODE, COMPLY WITH THE INTERNATIONAL BUILDING AND MECHANICAL CODES. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
 - CONTRACTOR SHALL VISIT THE SITE OF THE WORK PRIOR TO SUBMITTING BID TO EXAMINE CAREFULLY LOCAL CONDITIONS AND DIFFICULTIES TO BE ENCOUNTERED. ANY DISCREPANCY BETWEEN PLANS AND EXISTING CONDITIONS SHALL IMMEDIATELY BE CALLED TO THE ATTENTION OF THE ARCHITECT.
 - CONTRACTOR TO SUBMIT TO ENGINEER FOR REVIEW PRODUCT DATA ON ALL EQUIPMENT AND MATERIALS TO BE FURNISHED. SUBMIT A MINIMUM OF 6 COPIES WITH ALL SUBMITTAL DATA BOUND UNDER ONE COVER.
 - CONTRACTOR SHALL KEEP ACCURATE RECORDS OF INSTALLATIONS. AT THE END OF INSTALLATION, CONTRACTOR SHALL SUBMIT TWO SETS OF BLUE LINES MARKED WITH AS-BUILT CONDITIONS.
- PIPING INSULATION**
- HIGH PRESSURE AND MEDIUM PRESSURE STEAM AND CONDENSATE (ABOVE 60 PSIG):
GLASS FIBER PIPE INSULATION THICKNESS AS FOLLOWS:
A. RUNOUTS UP TO 2 INCH PIPE SIZE: 1-1/2 INCH THICK.
B. 1-1/4 INCH AND SMALLER PIPE SIZE: 2-1/2 INCH THICK.
C. 1 INCH TO 4 INCH PIPE SIZE: 3 INCHES THICK.
 - LOW PRESSURE STEAM AND CONDENSATE (15 PSIG AND BELOW)
GLASS FIBER PIPE INSULATION THICKNESS AS FOLLOWS:
A. RUNOUTS UP TO 2 INCH PIPE SIZE: 1 INCH THICK.
B. 1-1/4 INCH AND SMALLER PIPE SIZE: 1-1/2 INCH THICK.
C. 1-1/2 INCH TO 6 INCH PIPE SIZE: 2 INCHES THICK.
 - STEAM CONDENSATE PIPING: 2 INCH THICK FIBERGLASS PIPING INSULATION.
 - GLASS FIBER PIPE INSULATION: COMPLY ASTM C547, RIGID MOLDED, NON COMBUSTIBLE WITH K VALUE = 0.24 AT 75 DEGREES F PER ASTM C177. MAXIMUM SERVICE TEMPERATURE = 850 DEGREES F, MAXIMUM MOISTURE ABSORPTION = 0.2% BY VOLUME. JACKET SHALL BE WHITE KRAFT PAPER WITH GLASS FIBER YARN, BONDED TO ALUMINIZED FILM. MAXIMUM JACKET VAPOR TRANSMISSION = 0.02 PERM-INCHES PER ASTM E96.
 - INSTALLATION - GLASS FIBER PIPING INSULATION: CLOSE WITH SELF-SEALING LONGITUDINAL LAPS AND BUTT STRIPS WITH PRESSURE SENSITIVE ADHESIVE. SECURE LAPS AND BUTT STRIPS WITH OUTWARD CINCH EXPANDING STAPLES 4 INCHES ON CENTER AND SEAL WITH VAPOR BARRIER MASTIC. INSULATE FITTINGS AND JOINTS WITH MOLDED INSULATION OF LIKE MATERIAL AND THICKNESS AS ADJACENT PIPE. FINISH WITH GLASS CLOTH AND VAPOR BARRIER ADHESIVE OR PVC FITTING COVERS. DO NOT INSULATE EQUIPMENT CONNECTIONS OR VALVES, INSTEAD BEVEL AND SEAL ENDS OF INSULATION.
 - INSTALLATION - GENERAL: INSULATE ENTIRE SYSTEM INCLUDING FITTINGS, VALVES, UNIONS, FLANGES, STRAINERS, FLEXIBLE CONNECTIONS, PUMP BODIES AND EXPANSION JOINTS. FIT PIPE HANGERS OVER INSULATION. CONTINUE INSULATION THROUGH WALLS, SLEEVES, PIPE AND FINISH WITH GLASS MESH REINFORCED VAPOR BARRIER GEMAT.
- PIPING MATERIALS**
- STEAM PIPING: SCHEDULE 80, BLACK STEEL WITH WELDED FITTINGS AND THREADED OR WELDED JOINTS (150 LB. FITTINGS FOR LOW PRESSURE, 300 LB. FITTINGS FOR 20 PSI AND ABOVE).
 - STEAM CONDENSATE PIPING: SCHEDULE 80, BLACK STEEL WITH WELDED FITTINGS AND THREADED OR WELDED JOINTS.
- PIPING SPECIALTIES**
- BALL VALVES: BRONZE, TWO-PIECE BODY, CHROME PLATED BRASS BALL, TEFLON SEATS, STUFFING RING BOX, LEVER HANDLE. PROVIDE FOR EACH PIPING RUNOUT OF 2 INCHES OR LESS.
 - INSTALL ASME RATED PRESSURE RELIEF VALVES AS NOTED. RELIEF VALVES: WATTS, MCDONALD AND MILLER, OR EQUAL.
 - GATE VALVES
A. UP TO AND INCLUDING 2 INCHES:
BRONZE BODY, BRONZE TRIM, UNION BONNET, RISING STEM, HANDWHEEL, INSIDE SCREW WITH BACKSEATING STEM, SOLID WEDGE DISC, THREADED ENDS.
B. OVER 2 INCHES:
IRON BODY, BRONZE TRIM, UNION BONNET, RISING STEM, HANDWHEEL, OUTSIDE SCREW AND YOKE, SOLID WEDGE DISC WITH BRONZE SEAT RINGS, FLANGED ENDS.
 - GLOBE OR ANGLE VALVES
A. UP TO AND INCLUDING 2 INCHES:
BRONZE BODY, BRONZE TRIM, UNION BONNET, RISING STEM AND HANDWHEEL, INSIDE SCREW WITH BACKSEATING STEM, RENEWABLE PLUG DISC AND STAINLESS STEEL SEAT RING, THREADED ENDS.
B. OVER 2 INCHES:
IRON BODY, BRONZE TRIM, BOLTED BONNET, RISING STEM, HANDWHEEL, OUTSIDE SCREW AND YOKE, ROTATING PLUG-TYPE DISC WITH RENEWABLE SEAT RING AND DISC, FLANGED ENDS.
 - STRAINERS
A. Y-PATTERN STRAINERS:
B. BODY: ASTM A 126, CLASS B CAST IRON, WITH BOLTED COVER AND BOTTOM DRAIN CONNECTION.
C. END CONNECTIONS: THREADED ENDS FOR STRAINERS NPS 2 AND SMALLER, FLANGED ENDS FOR STRAINERS NPS 2-1/2 AND LARGER.
D. STRAINER SCREEN: STAINLESS-STEEL, MESH STRAINER, AND PERFORATED STAINLESS-STEEL BASKET WITH 50 PERCENT FREE AREA.
E. TAPPED BLOWOFF PLUG.
F. CWP RATING: 250-PSIG WORKING STEAM PRESSURE.
 - PRESSURE-REDUCING VALVES
A. BASIS-OF-DESIGN PRODUCT:
1. SPENCE ENGINEERING COMPANY, INC.
A. SIZE, CAPACITY, AND PRESSURE RATING: FACTORY SET FOR INLET AND OUTLET PRESSURES INDICATED.
B. DESCRIPTION: PILOT-ACTUATED, DIAPHRAGM TYPE, WITH ADJUSTABLE PRESSURE RANGE AND POSITIVE SHUTOFF.
C. BODY: CAST IRON.
D. END CONNECTIONS: THREADED CONNECTIONS FOR VALVES NPS 2 AND SMALLER AND FLANGED CONNECTIONS FOR VALVES NPS 2-1/2 AND LARGER.
E. TRIM: HARDENED STAINLESS STEEL.
F. HEAD AND SEAT: REPLACEABLE, MAIN HEAD STEM GUIDE FITTED WITH FLUSHING AND PRESSURE-ARRESTING DEVICE COVER OVER PILOT DIAPHRAGM.
 - FLOAT AND THERMOSTATIC TRAPS:
A. BODY AND BOLTED CAP: ASTM A 126, CAST IRON.
B. END CONNECTIONS: THREADED.
C. HEAD AND SEAT: STAINLESS STEEL.
D. VALVE RETAINER, LEVER, AND GUIDE PIN ASSEMBLY: STAINLESS STEEL.
E. BUCKET: BRASS OR STAINLESS STEEL.
F. AIR VENT: STAINLESS-STEEL THERMOSTATIC VENT.
G. PRESSURE RATING: 250 PSIG.
 - INVERTED BUCKET TRAPS:
A. BODY AND CAP: CAST IRON.
B. END CONNECTIONS: THREADED.
C. HEAD AND SEAT: STAINLESS STEEL.
D. VALVE RETAINER, LEVER, AND GUIDE PIN ASSEMBLY: STAINLESS STEEL.
E. BUCKET: BRASS OR STAINLESS STEEL.
F. AIR VENT: STAINLESS-STEEL THERMOSTATIC VENT.
G. PRESSURE RATING: 250 PSIG.
 - PIPE HANGERS AND SUPPORTS: HANGERS FOR PIPE SIZES TO 1 INCH: CARBON STEEL, ADJUSTABLE SWIVEL SPLIT RING. HANGERS FOR PIPE SIZES 2 TO 4 INCHES: CARBON STEEL, ADJUSTABLE CLEVIS. PIPE HANGERS AND SUPPORTS: PLACE HANGERS WITHIN 12 INCHES OF EACH HORIZONTAL ELBOW. USE HANGERS WITH 1-1/2 INCH MINIMUM VERTICAL ADJUSTMENT. DESIGN HANGERS FOR PIPE MOVEMENT WITHOUT DISENGAGEMENT OF SUPPORTED PIPE.
 - QUALITY ASSURANCE
A. INSTALLERS QUALIFICATIONS: FIRM EXPERIENCED IN INSTALLATION OF SYSTEMS SIMILAR IN SIZE AND COMPLEXITY TO THOSE REQUIRED FOR THIS PROJECT, PLUS THE FOLLOWING:
1. ACCEPTABLE TO, OR LICENSED BY, MANUFACTURER.
2. NOT LESS THAN 3 YEARS EXPERIENCE WITH SYSTEMS.
3. SUCCESSFULLY COMPLETED NO LESS THAN 5 COMPARABLE SCALE PROJECTS USING SYSTEMS SIMILAR TO THESE FOR THIS PROJECT.

HVAC PIPING LEGEND

SYMBOL	DESCRIPTION	
— HPS —	HIGH PRESSURE STEAM (60 PSIG AND ABOVE)	
— HPC —	HIGH PRESSURE STEAM CONDENSATE RETURN	
— MPS —	MEDIUM PRESSURE STEAM (16 PSIG TO 59 PSIG)	
— MPC —	MEDIUM PRESSURE STEAM CONDENSATE RETURN	
— LPS —	LOW PRESSURE STEAM (15 PSIG AND BELOW)	
— LPC —	LOW PRESSURE STEAM CONDENSATE RETURN	
— PR —	PUMPED CONDENSATE RETURN	
— CST —	CLEAN STEAM SUPPLY	
— V —	VENT	
—	BRANCH OFF TOP OF MAIN	
—	BRANCH OFF BOTTOM OF MAIN	
—	PIPE DOWN	
—	PIPE UP	
—	RISE OR DROP IN PIPE	
—	BRANCH OFF SIDE OF MAIN	
—	ECCENTRIC REDUCER, FLAT ON TOP FOR WATER FLAT ON BOTTOM FOR STEAM	
—	DIRECTION OF FLOW INDICATOR	
—	SLOPE DOWN IN DIRECTION OF ARROW, 1" IN 20 FT.	
—	BALL VALVE	
—	BUTTERFLY VALVE	
—	BUTTERFLY VALVE	
—	GATE VALVE	
—	GLOBE VALVE	
—	Y-STRAINER W/BLOW DOWN PIPES TO DRAIN	
—	CHECK VALVE	
—	BASKET STRAINER	
—	PRESSURE REDUCING STATION	
—	AUTOMATIC VALVE (PNEUMATIC)	
—	AUTOMATIC 3-WAY VALVE (PNEUMATIC)	
—	FLANGED UNION	
—	SCREWED UNION	
—	ASME PRESSURE RELIEF VALVE	
—	STEAM PRESSURE TRAP	
—	PRESSURE GAUGE WITH 1/4" WITH 4-1/2" CASE U.N.O. & GAUGE COCK	
—	MECH. ROOM FLOOR DRAIN (SEE PLBG)	
—	HD	HUB DRAIN (SEE PLUMBING)
—	EXISTING PIPE, EQUIPMENT, ETC. TO BE REMOVED	
—	EXISTING	
—	CONNECT TO EXISTING - VERIFY SIZE & LOCATION	

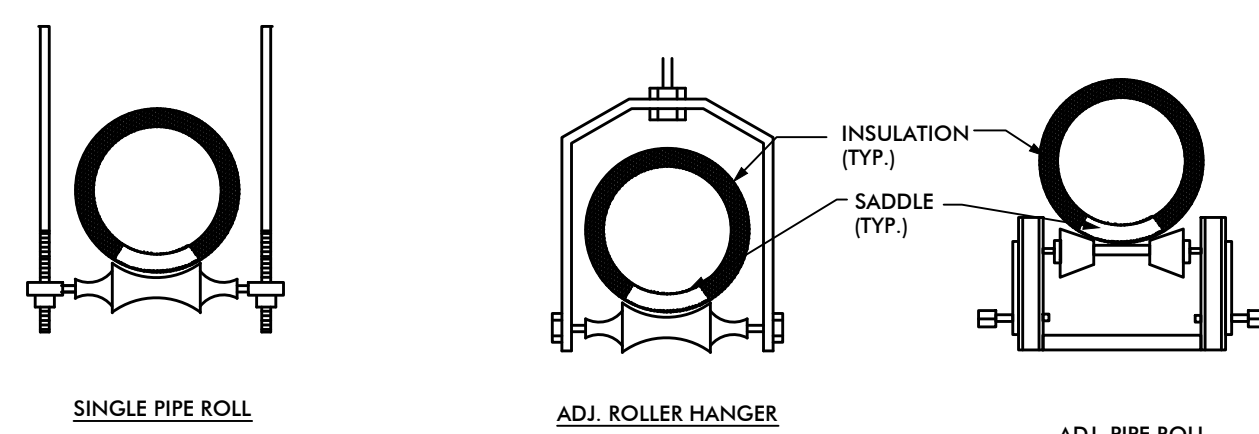
HVAC PIPING LEGEND NOTES:

- PIPE LINE SYMBOLS PRECEDED BY "E" INDICATE EXISTING LINES. (← ECH →)

STEAM PRESSURE REDUCING STATION VALVE SCHEDULE

MARK	INLET STEAM (PSI)	OUTLET STEAM (PSI)	CAPACITY (LBS/HR)	BASIS OF DESIGN
PRS-1	65	15	6200	ARMSTRONG

* RELIEF VALVE SET AT 30 PSIG.

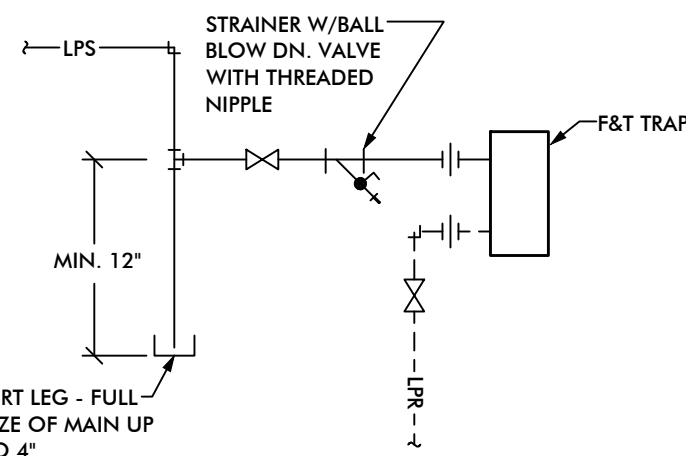


PIPE SIZE	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"
ROD DIA.	3/8"	3/8"	3/8"	3/8"	3/8"	1/2"	1/2"	5/8"	5/8"	3/4"	7/8"	7/8"	1"	1"	1 1/8"	1 1/4"	1 1/2"	1 3/4"	1 3/4"
MAXIMUM SPACING	6"	8"	8"	10"	10"	10"	12"	14"	14"	14"	16"	18"	20"	24"	26"	28"	30"	32"	

- LOCATE ADDITIONAL HANGERS AT VALVES AND AT CHANGES IN DIRECTION.
- LOCATE HANGERS AT SHORTER SPACING WHERE NOTED ON MECHANICAL OR STRUCTURAL PLANS.

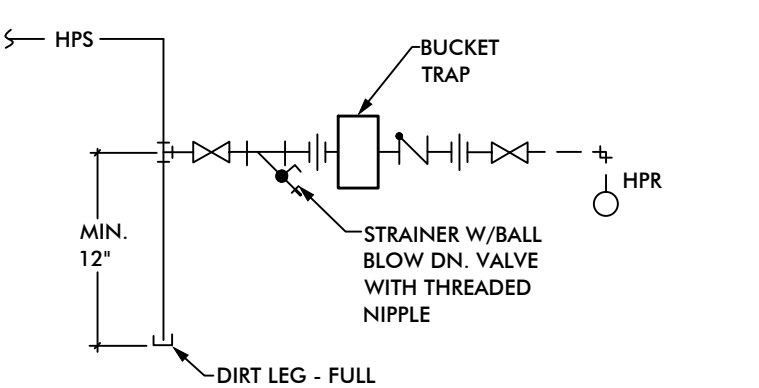
SINGLE PIPE ROLLER HANGER (STEAM SUPPLY AND RETURN LINES)

SCALE: NONE



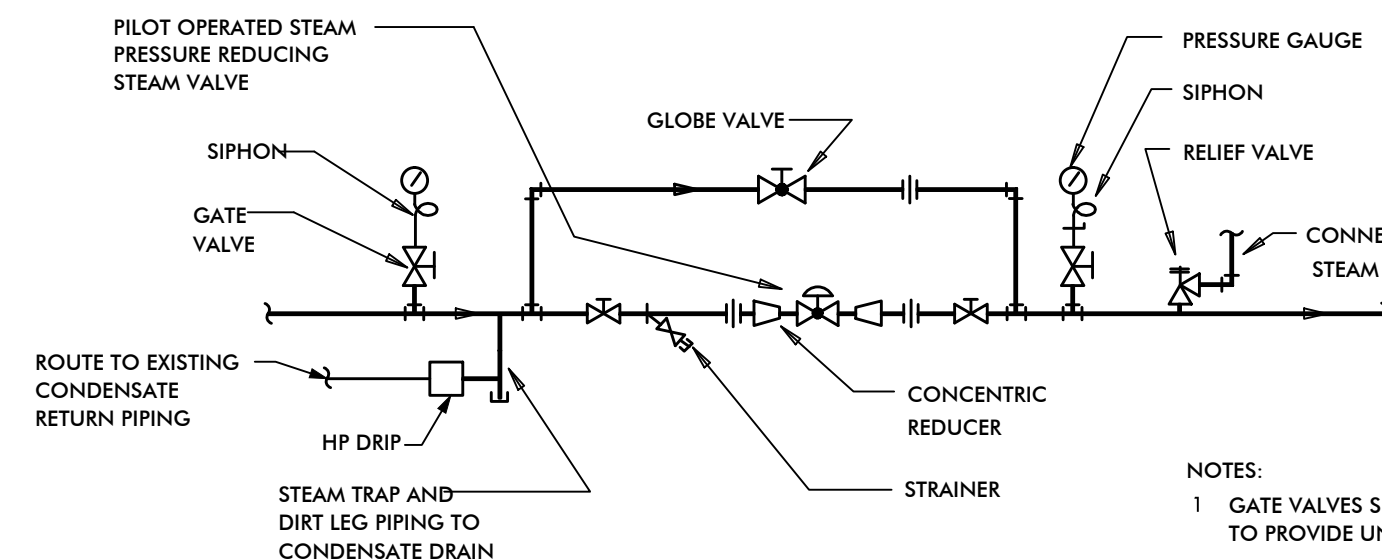
LOW PRESSURE STEAM DRIP DETAIL

SCALE: NONE



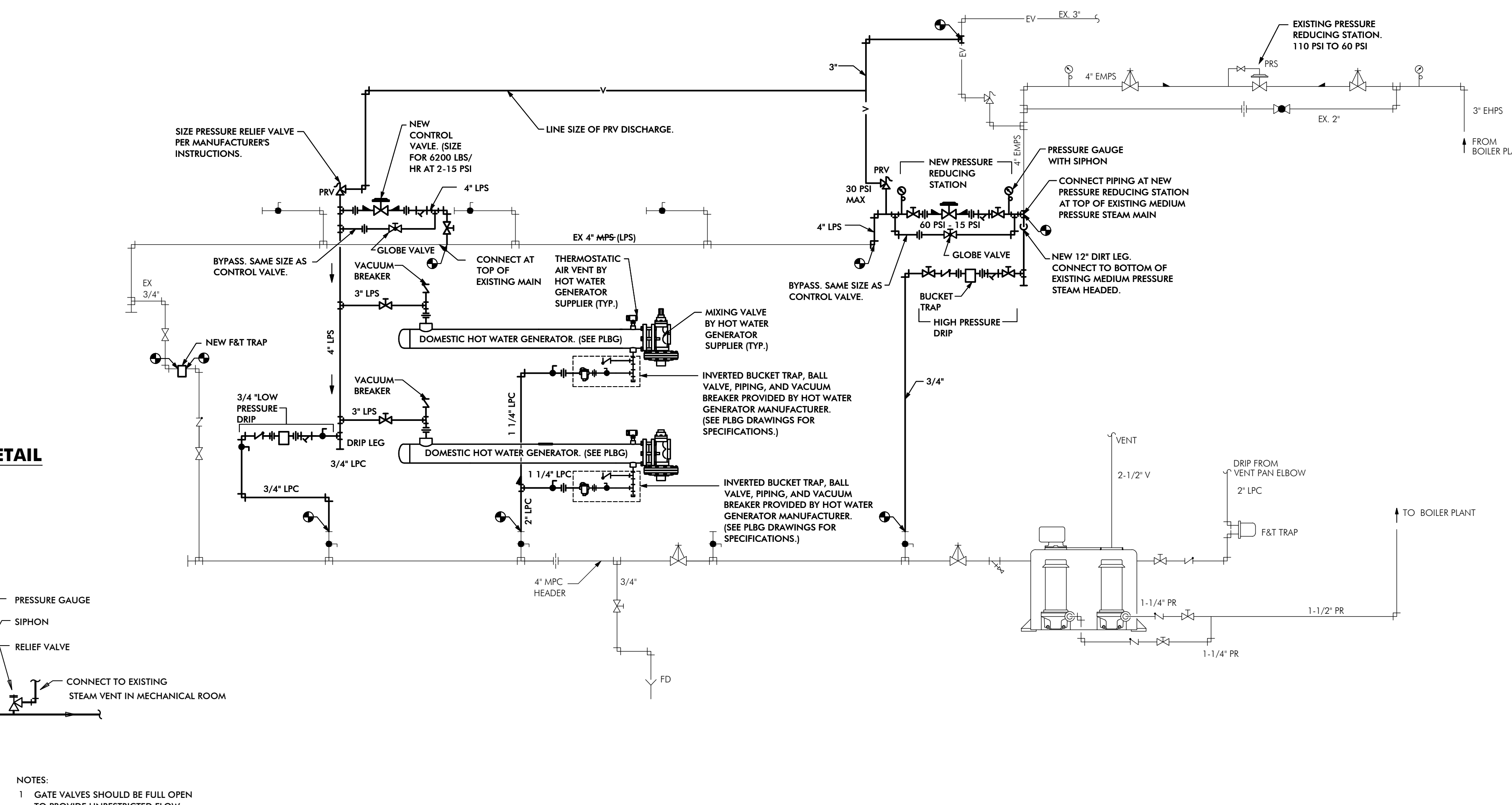
HIGH & MEDIUM PRESSURE STEAM DRIP DETAIL

SCALE: NONE



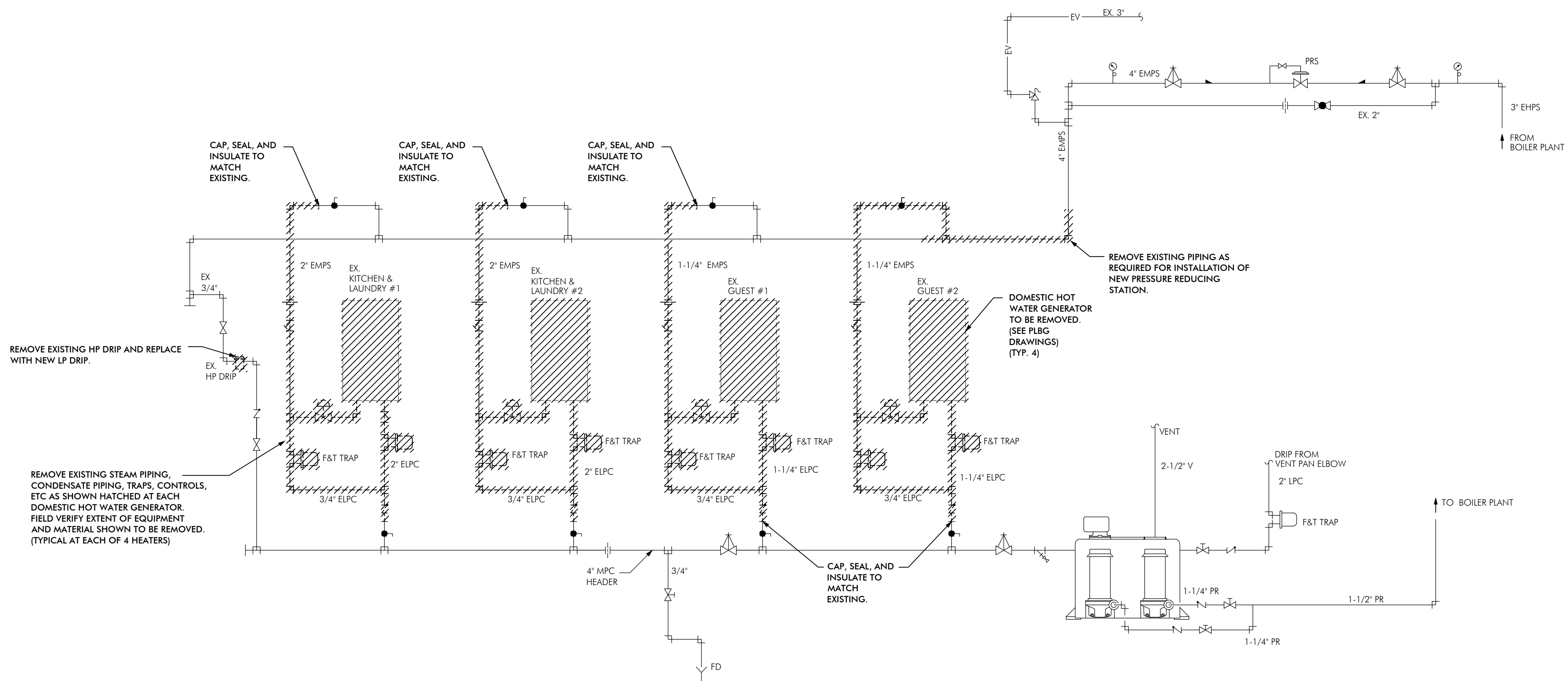
STEAM PRESSURE REDUCING STATION

SCALE: NONE



EXISTING ATRIUM MECH. ROOM PLAN DOMESTIC HOT WATER GENERATOR PIPING SCHEMATIC - NEW WORK

NOT TO SCALE



EXISTING ATRIUM MECH. ROOM PLAN DOMESTIC HOT WATER GENERATOR PIPING SCHEMATIC - DEMOLITION

NOT TO SCALE

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Professional Engineer
No. 15038
Professional
13065.1

**BJCC Sheraton
Laundry & Kitchen
Domestic Hot Water System Modifications**
Birmingham, Alabama

BID DOCUMENTS

JOB: 13065.1
DRAWN BY: DFC/BON
CHECKED BY: DEW
DATE: 03/14/2014

REVISIONS

NO.	DESCRIPTION

TITLE:
ATRium MECH. ROOM
PIPING SCHEMATICS,
SCHEDULES, LEGENDS,
AND DETAILS
SHEET:
M1.0