NOTE TO DESIGNER: THIS DETAIL IS TO BE APPLIED TO ALL HYDRONIC HEATING OR COOLING SYSTEM DESIGNS. SLIGHT MODIFICATIONS MAY BE REQUIRED FOR INDIVIDUAL APPLICATIONS. EXAMPLES INCLUDE: CAMPUS CHILLED WATER BUILDING HEAT EXCHANGERS, CHILLER(S), BOILER(S), PRIMARY/SECONDARY PUMPING, WATER SOURCE OR GROUND SOURCE HEAT PUMPS, MULTIPLE STEAM HEAT EXCHANGERS, SYSTEMS CONTAINING GLYCOL.

NOTE TO DESIGNER: CHOOSE EITHER DIRECTLY CONNED DOMESTIC OR GLYCOL FEED SYSTEM AS MAKEUP AND DELETE THE OTHER.

PACKAGED GLYCOL MAKE-UP UNIT

HELIX HEAT EXCHANGER
WHERE PSU VALVE SPECIFICATION DICTATES THAT BUTTERFLY VALVES MUST BE USED BASED UPON PIPE SIZE, PROVIDE HIGH PERFORMANCE BUTTERFLY VALVES ONLY WHERE PIPING EXITS MECHANICAL ROOM. ALL OTHERS IN HOT WATER SYSTEM SHOULD BE STANDARD BUTTERFLY VALVES.

AIR CHARGING VALVE. DRY TANK FILL VALVE PRESSURE (PSIG) IS DETERMINED BY THE FOLLOWING EQUATION:

\[ P = \left(0.433 \times \text{VERTICAL DISTANCE IN FEET FROM VENT TO SYSTEM HIGHPOINT} \right) + 4 \]

PRESSURE GAUGE W/ ISOLATION COCKS

SIZE FOR 4 FOOT PER SECOND MAXIMUM VELOCITY AT DESIGN FLOW.

DRAIN VALVE (N.C.) WITH MALE HOSE THREAD END.

VICTAULIC/TA MODEL TA7MP PRESSURE INDEPENDENT BALANCE VALVE AND UNION. SIZE FOR REQUIRED SIDESTREAM BAG FILTER FLOW.

FOR SYSTEMS HAVING A TOTAL VOLUME GREATER THAN 500 GALLONS, INCREASE SIZE OF MAKE-UP SYSTEM COMPONENTS AS NEEDED TO ALLOW FOR A TOTAL SYSTEM FILL TIME OF UNDER 2 HOURS. DIRECT CONNECTIONS TO GLYCOL SYSTEMS ARE PROHIBITED.

COALESCING TYPE AIR ELIMINATOR. EXAMPLE OF SUCH A DEVICE IS THE SPIROTHERM SPIROVENT WHICH INCLUDES AN AUTOMATIC AIR VENT INCLUDED WITH UNIT. SELECT BASED UPON MANUFACTURER’S FLOW VELOCITY GUIDELINES.

PRESSURE REDUCING VALVE. PRV SETTING (PSIG) IS DETERMINED BY THE FOLLOWING EQUATION:

\[ P = \left(0.433 \times \text{VERTICAL DISTANCE IN FEET FROM PRV TO SYSTEM HIGHPOINT} \right) + 5 \]

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER WITH OPEN AIR GAP

PRESSURE GAUGE W/ NEEDLE VALVE

EXPANSION TANK (FIXED OR REPLACEABLE BLADDER TYPE)

COALESCING TYPE DIRT SEPARATOR. SPIROTHERM OR THRUSH ONLY.

COUPON RACK. GE PART #2032806. 304SS, 1"NPT, WITH 4 COUPON HOLDERS.

PSU OPP STANDARD DETAIL

TITLE: HYDRONIC PLANT PIPING SCHEMATIC #1
DETAIL #: 232113-D01
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SCALE: 1/4" = 1'-0"