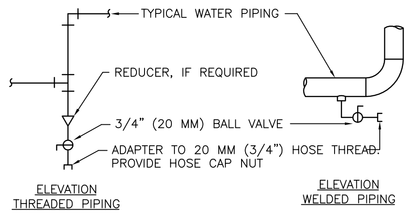
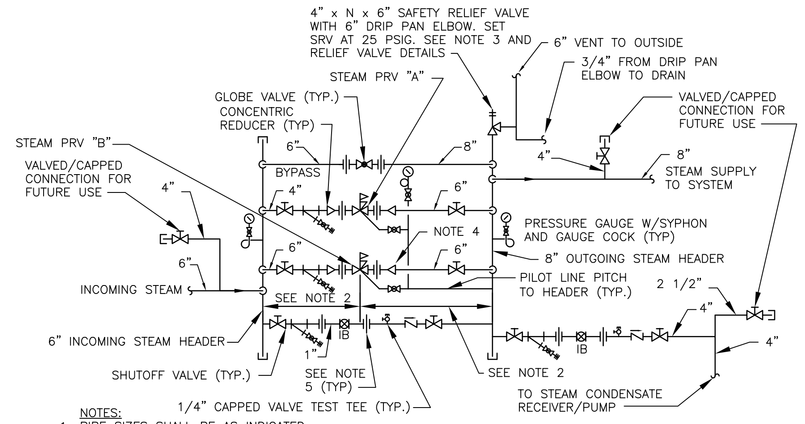


NOTES:
1. DRAIN ALL LOW POINTS AS INDICATED ABOVE.
2. WHERE SCALE POCKETS ARE SHOWN ON PIPE RISER DIAGRAMS AND/OR PLANS LOCATE DRAIN AT BOTTOM OF SCALE POCKET.

1 CHILLED AND HOT WATER PIPING DRAIN VALVE CONNECTIONS DETAIL

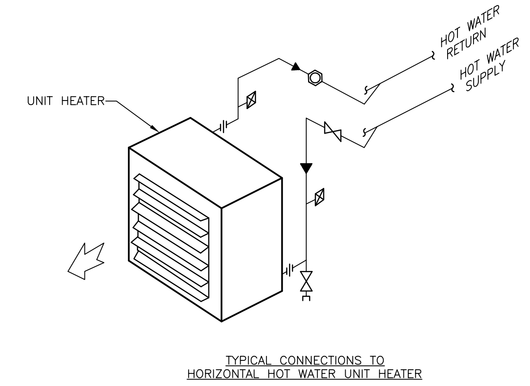
NTS



NOTES:
1. PIPE SIZES SHALL BE AS INDICATED.
2. PROVIDE 10 PIPE DIAMETERS TO UPSTREAM HEADER AND 20 PIPE DIAMETERS TO DOWNSTREAM HEADER. TYPICAL FOR ALL PRESSURE REDUCING VALVES.
3. PROVIDE MULTIPLE SAFETY RELIEF VALVES IF CAPACITY OF 4" VALVE IS EXCEEDED.
4. CONCENTRIC INCREASER OR NOISE SUPPRESSOR WHEN INDICATED (TYP).
5. PROVIDE FLANGES FOR PIPE SIZES 2-1/2" AND LARGER; UNIONS FOR PIPE SIZES 2" AND SMALLER.
6. SHUTOFF VALVES SHALL BE GATE VALVES
7. PRV "A": 1 1/2", 2723#/HR, 70-15 PSIG, MAX CV=18.8, CAPACITY=78%.
8. PRV "B": 2", 46353#/HR, 70-15 PSIG, MAX CV=32.0, CAPACITY=91%.

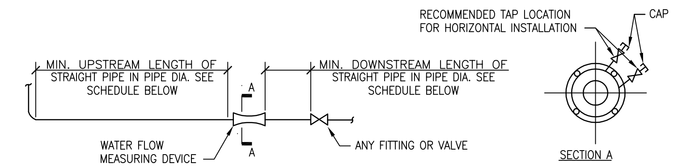
2 PRESSURE REDUCING STATION

NTS



3 CONNECTIONS TO HORIZONTAL HOT WATER UNIT HEATER DETAIL

NTS

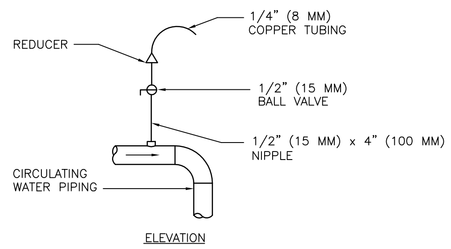


WATER FLOW MEASURING DEVICE INSTALLATION SCHEDULE			
TYPE	MIN. UPSTREAM LENGTH OF STRAIGHT PIPE IN PIPE DIA.		MIN. DOWNSTREAM LENGTH OF STRAIGHT PIPE IN PIPE DIAMETERS
	FOR SIDE TEE	FOR VALVE OR OTHER FITTING	
ORIFICE FLANGE OR FLOATING BALL WITH IMPACT TUBE.	20	10	5
VENTURI, AUTOMATIC BALANCING CONTROL VALVE, OR INSERTION VELOCITY AVERAGING AND MEASURING TUBE	10	5	2

NOTES:
1. DIMENSIONS SHOWN IN SCHEDULE ARE MINIMUM REQUIRED. IF MANUFACTURER OF FURNISHED WATER FLOW MEASURING DEVICE RECOMMENDS A GREATER DIMENSION, USE THOSE DIMENSIONS.
2. INSTALL THE WATER FLOW MEASURING DEVICE SO THE FLOW ARROW ON THE DEVICE IS IN THE SAME DIRECTION AS THE FLOW.
3. THE WATER FLOW MEASURING DEVICE MAY BE INSTALLED IN EITHER HORIZONTAL OR VERTICAL PIPE. UNITS REQUIRING REMOTE METERS SHALL HAVE THE METER CONNECTIONS LOCATED ON OR NEAR THE SIDE WHEN INSTALLED IN HORIZONTAL PIPE. SEE SECTION A. THE METER CONNECTIONS CAN BE INSTALLED IN ANY POSITION WHEN INSTALLED IN VERTICAL PIPE.

4 WATER FLOW MEASURING DEVICE INSTALLATION DETAIL AND INSTALLATION SCHEDULE

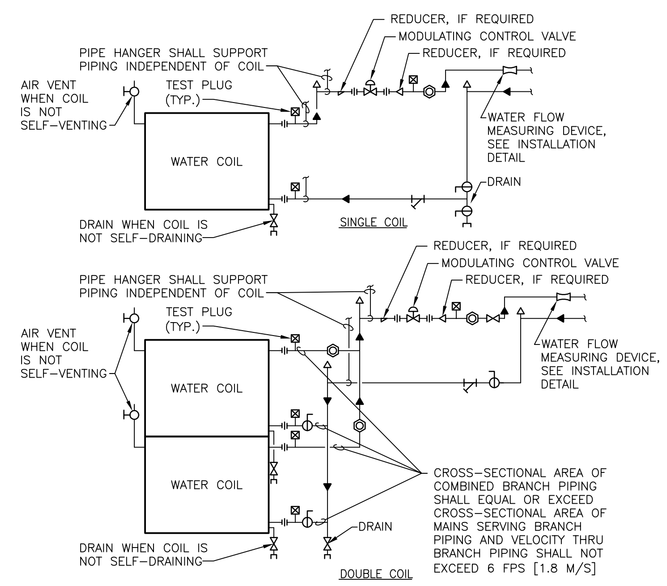
NTS



NOTES:
1. VENT ALL HIGH POINTS INDICATED ABOVE.
2. IF AUTOMATIC AIR VENTS ARE USED, PIPE DISCHARGE TO DRAIN

5 AIR VENT DETAIL

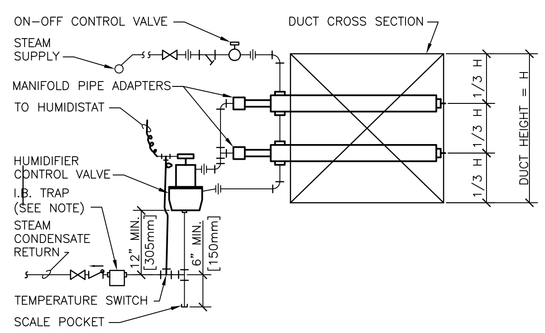
NTS



NOTES:
1. WHEN COIL IS INCLUDED IN CASING MOUNTED ON VIBRATION ISOLATORS THE FIRST 2 HANGERS FOR EACH PIPE SHALL BE SPRING & NEOPRENE TYPE. TYPE "H" FOR 4" [100mm]Ø PIPE & SMALLER. TYPE "H-P" FOR 5" [125mm]Ø PIPE & LARGER.
2. PIPING SHALL BE INSTALLED IN SUCH MANNER THAT IT WILL NOT BLOCK THE SWING OR USE OF ACCESS DOORS OR PANELS; NEITHER SHALL IT BLOCK THE SERVICING OF FILTERS, VALES, OR EQUIPMENT.
3. THE WATER FLOW MEASURING DEVICE MAY BE INSTALLED IN THE SUPPLY PIPING IF THE REQUIRED MINIMUM UPSTREAM AND DOWNSTREAM DIMENSIONS CANNOT BE OBTAINED IN THE RETURN PIPING.

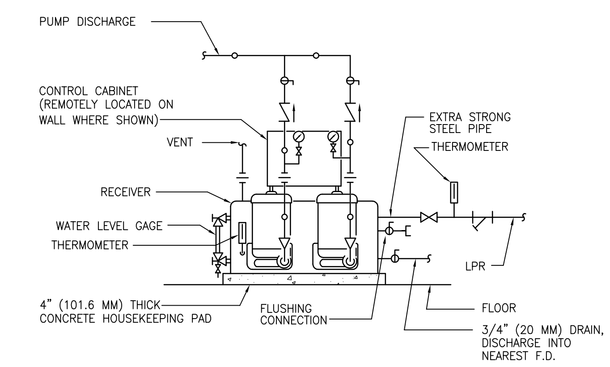
7 CONNECTIONS TO WATER COILS DETAIL

NTS



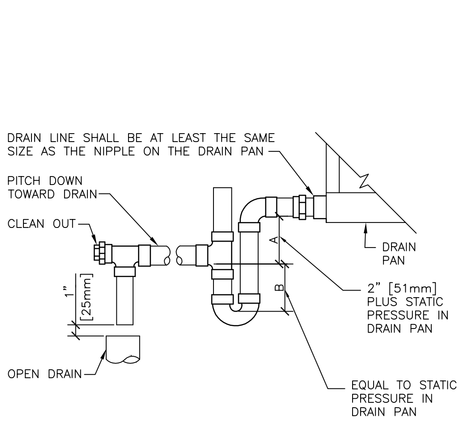
9 CONNECTIONS TO HORIZONTAL TYPE STEAM HUMIDIFIER WITH MULTIPLE DIFFUSERS DETAIL

NTS



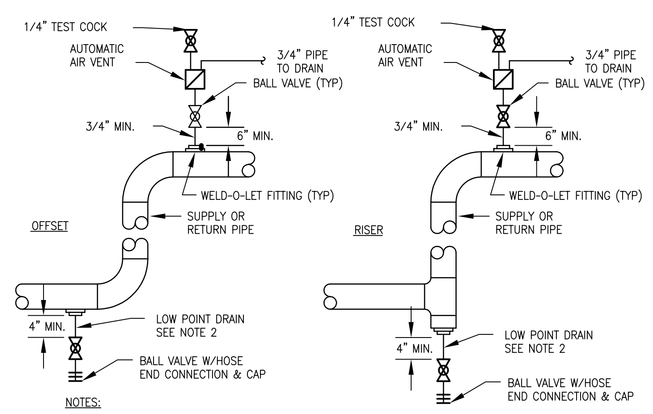
10 PIPING CONNECTIONS TO CONDENSATE PUMP AND FLASH TANK

NTS



6 AIR HANDLING UNIT DRAIN TRAP DETAIL

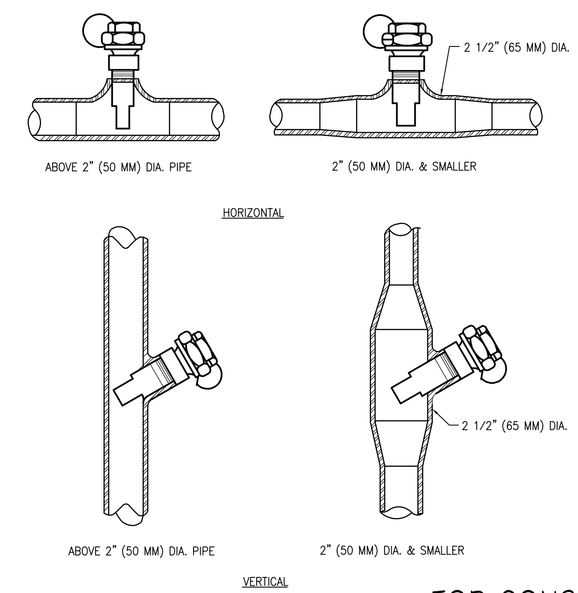
NTS



NOTES:
1. TYPICAL FOR ALL HIGH POINTS, LOW POINTS, AND OFFSETS.
2. LOW POINT DRAINS SHALL BE 3/4" FOR PIPE SIZES 1-1/2" AND SMALLER, 1" FOR PIPE SIZES 2" AND 2-1/2", 1-1/2" FOR PIPE SIZES 3" AND 4", AND 2" ON ALL PIPING 6 INCHES AND LARGER.

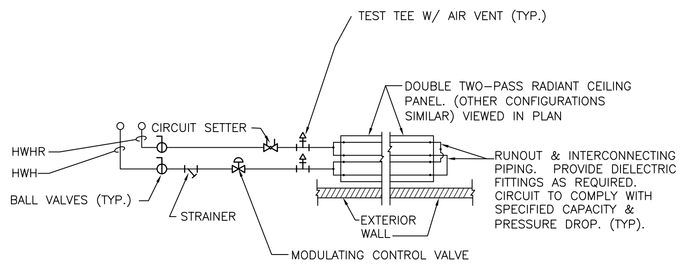
9 DRAIN AND VENT DETAIL

NTS



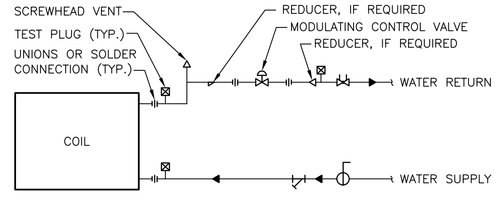
14 INSTALLATION OF THERMOMETER WELLS DETAIL

NTS



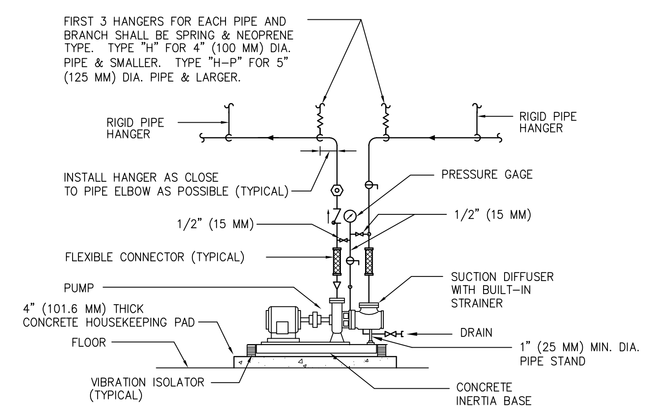
11 HOT WATER RADIANT CEILING PANEL PIPING DETAIL

NTS



12 TYPICAL COIL PIPING CONNECTIONS TO VAV BOX REHEAT COILS DETAIL

NTS



NOTE: SEE SPECIFICATION SECTION "PUMPS" FOR Y STRAINER OPTION

13 PIPING CONNECTIONS TO FLOOR MOUNTED SINGLE SUCTION WATER PUMPS

NTS

FOR CONSTRUCTION
FULLY SPRINKLERED

Revisions:	Date

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Drawing Title: **HVAC Piping Details**

Approved: Project Director

Project Title: **VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA RESEARCH OFFICE BLDG.**

Location: **VAPHS UNIVERSITY DRIVE**

Date: **08-18-10** | Checked: **JS** | Drawn: **RAN**

Project Number: **646CA2500R**

Building Number: **30**

Drawing Number: **MH7-102**

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Office of Facilities Management

Department of Veterans Affairs

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