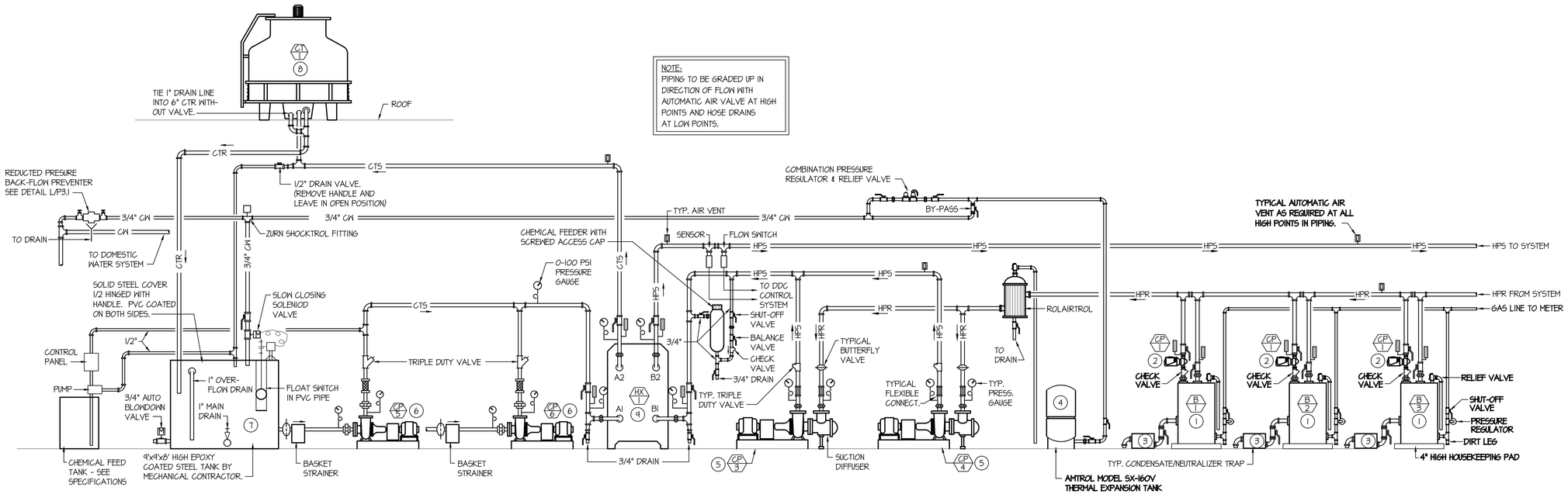
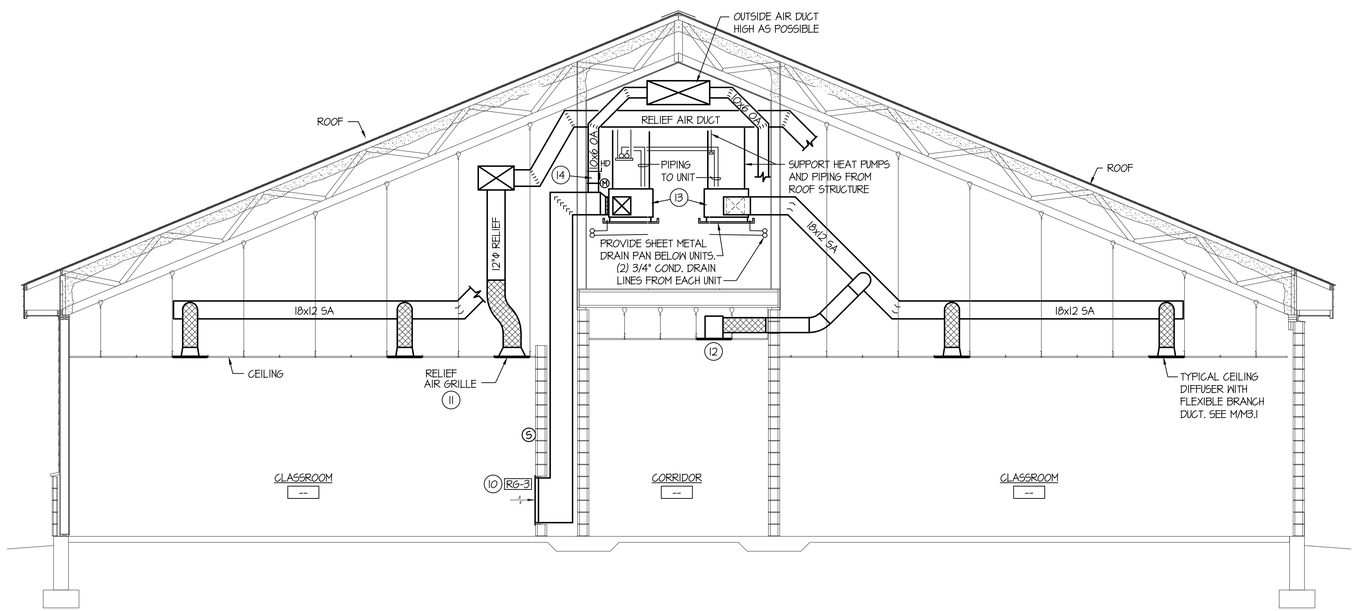


BOILER AND COOLING TOWER PIPING DIAGRAM

NO SCALE



TYPICAL MECHANICAL SECTION

SCALE: 1/4" = 1'-0"

A M2.2

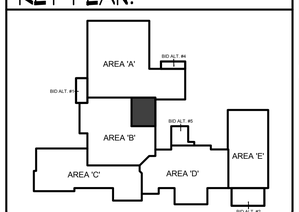
PLAN NOTES:

1. PROVIDE AND INSTALL SEPARATED COMBUSTION CONDENSING BOILERS AS SPECIFIED. MOUNT BOILERS IN UPPER MECHANICAL ROOM ON 4" HIGH HOUSEKEEPING PAD. PROVIDE AND INSTALL ALL FITTINGS, CONTROLS, AND VALVES REQUIRED TO CONNECT TO HEAT PUMP HEATING SYSTEMS AND TO BOILER CIRCULATING PUMP. RISE 6'-0 INTAKE VENT AND 6" EXHAUST VENT FROM EACH BOILER UP THRU ROOF WITH CONCENTRIC FITTING. REFER TO DETAIL 1/M3.3 FOR TYPICAL VENTS THRU ROOF.
2. PROVIDE AND INSTALL BOILER CIRCULATING PUMP AS SPECIFIED. INTERLOCK WITH CORRESPONDING BOILER OPERATION.
3. CONDENSATE TRAP TO BE FURNISHED AS PART OF BOILER SYSTEM. CONNECT TRAP TO CORRESPONDING BOILER AND RUN DRAIN LINE TO NEAREST FLOOR SINK.
4. PROVIDE AND INSTALL AMTROL MODEL SX-160V EXPANSION TANK AS SPECIFIED. MOUNT TANK AT FLOOR AND RUN DRAIN LINE TO NEAREST FLOOR SINK.
5. PROVIDE AND INSTALL HEAT PUMP LOOP CIRCULATING PUMPS AS SPECIFIED. MOUNT PUMPS ON INERTIA BASE WITH VIBRATION ISOLATORS ON EACH CORNER. REFER TO DETAIL F/M3.1 FOR TYPICAL BASE INSTALLATION. PUMP TO HAVE SUCTION DIFFUSER WITH VERTICAL SUCTION LINE CONNECTION.
6. PROVIDE AND INSTALL COOLING TOWER LOOP PUMPS AS SPECIFIED. MOUNT PUMPS ON INERTIA BASE WITH VIBRATION ISOLATORS ON EACH CORNER. REFER TO DETAIL F/M3.1 FOR TYPICAL BASE INSTALLATION. PUMPS TO HAVE HORIZONTAL SUCTION LINE CONNECTION WITH BASKET STRAINER.
7. PROVIDE 9'-0" SQUARE BY 8'-0" HIGH BY 1/4" THICK METAL COOLING TOWER SUMP COMPLETE WITH LID, ACCESS HATCH, AND ACCESS LADDER. REFER TO DETAIL L/M3.1 FOR TYPICAL CONSTRUCTION AND PIPING CONNECTIONS.
8. PROVIDE COOLING TOWER AS SPECIFIED. TOWER TO BE MOUNTED ON ROOF WITH GALVANIZED METAL SUPPORT TO MATCH FOOT PRINT OF TOWER PROVIDE. (REFER TO STRUCTURAL DRAWINGS.)
9. PROVIDE AND INSTALL PLATE TYPE HEAT EXCHANGER AS SPECIFIED. CONNECT TO 6" HEAT PUMP SUPPLY AND RETURN PIPING AND TO 6" COOLING TOWER SUPPLY AND RETURN PIPING AS RECOMMENDED BY MANUFACTURER. ALL PIPE CONNECTS TO HAVE SHUT-OFF VALVES. RUN DRAIN LINES TO NEAREST FLOOR SINK.

PLAN NOTES:

10. MOUNT RETURN GRILLE AT 6" ABOVE FLOOR. RISE 24x14 RETURN AIR DUCT UP IN CHASE. REFER TO MEZZANINE WALKWAY FOR CONTINUATION OF DUCT AND CONNECTION TO CORRESPONDING HEAT PUMP.
11. INSTALL RELIEF AIR GRILLE IN CEILING AS SPECIFIED. DROP 12"ø FLEXIBLE DUCT DOWN AND CONNECT TO CEILING MOUNTED GRILLE. PROVIDE BALANCING DAMPER IN ROUND DUCT AND BALANCE TO CFM AS INDICATED ON FLOOR PLANS.
12. ALL GRILLES IN CORRIDOR CEILINGS TO HAVE FIRE DAMPER AT GRILLE. CONNECT TO FIRE ALARM SYSTEM.
13. PROVIDE AND INSTALL WATER SOURCE HEAT PUMP AS SPECIFIED. MOUNT UNIT ABOVE MEZZANINE PLATFORM WITH 2" HIGH SHEET METAL DRAIN PAN. SUPPORT FROM ROOF STRUCTURE. PROVIDE DUCT TRANSITIONS AS REQUIRED TO CONNECT HEAT PUMP. DROP SUPPLY AND RETURN LINES DOWN AT EACH UNIT LOCATION AND CONNECT WITH 2-WAY AUTOMATIC CONTROL VALVE, SHUT-OFF VALVES AND HOSE KITS. REFER TO DETAIL A/M3.2 FOR TYPICAL PIPING CONNECTIONS.
14. DROP 10x6 OUTSIDE AIR DUCT DOWN AT EACH UNIT AND CONNECT TO RETURN AIR DUCT. PROVIDE MOTORIZED DAMPER, DUCT ACCESS DOOR, AND MANUAL BALANCING DAMPER IN EACH DUCT. REFER TO HEAT PUMP SCHEDULE FOR REQUIRED CFM TO EACH HEAT PUMP. REFER TO DETAIL B/M3.1 FOR TYPICAL DAMPER INSTALLATION.

KEY PLAN:



ORIGINAL DRAWING SIGNED BY: DWAYNE C. SUDWEEKS
DATE ORIGINAL SIGNED: Mar 05, 2020
ORIGINAL ON FILE AT ENGINEERED SYSTEMS ASSOCIATES
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PROJECT: SUGAR - SALEM SD #322 JUNIOR HIGH SCHOOL SUGAR CITY IDAHO

DRAWING TITLE: PIPING DIAGRAM & MECHANICAL SECTION

REVISION:		
#	DATE	COMMENT

DRAWN BY:	JOB NO:
M JENSEN	764
CHECKED BY:	DATE:
D SUDWEEKS	APR '20

PLOT DATE: Apr 06, 2020

DRAWING NO.
FILE: 19099-M2.2.dwg

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