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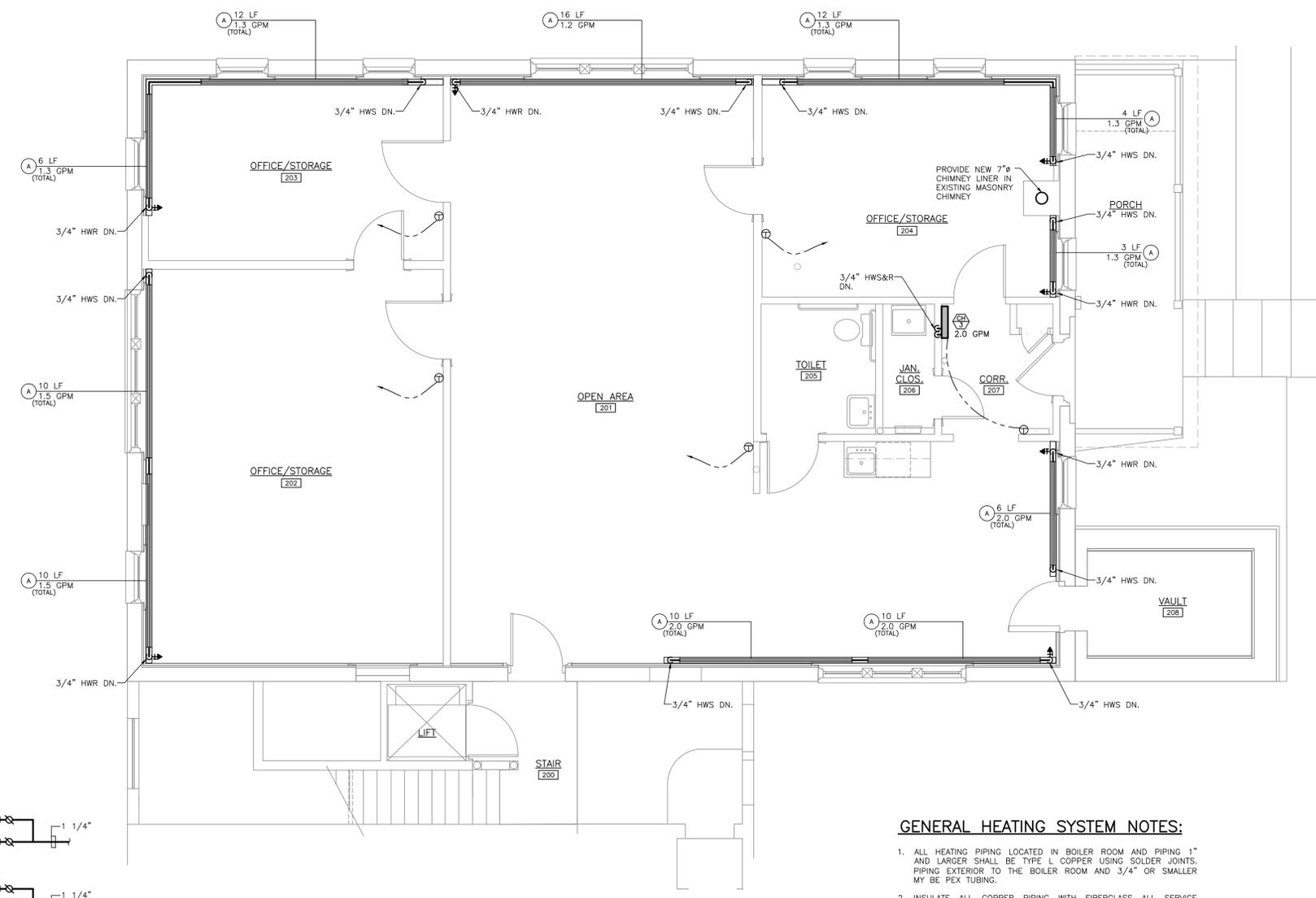
TOWN OF BRANDON  
2417 FRANKLIN STREET, BRANDON, VERMONT  
TOWN OFFICES REHABILITATION  
49 CENTER STREET, BRANDON, VERMONT  
MECHANICAL HEATING  
SECOND FLOOR PLAN

PROJ. NO: 15023  
DRAWN: DWD  
DATE: 8/3/2015

**M2**

**MECHANICAL LEGEND & ABBREVIATIONS**

- BALL VALVE
- CHECK VALVE
- BALANCING VALVE
- DRAIN VALVE WITH CAP & CHAIN AND HOSE THREAD
- BACKFLOW PREVENTER, SUBSCRIPTS: RPZ = REDUCED PRESSURE ZONE
- STRAINER WITH BLOWDOWN VALVE (CAP & CHAIN)
- 2-WAY CONTROL VALVE
- AIR VENT
- PRESSURE GAUGE WITH PETCOCK SHUTOFF
- PRESSURE RELIEF VALVE (P&T=PRESSURE AND TEMPERATURE)
- PRESSURE REDUCING VALVE
- NEW FIN TUBE RADIATION
- NEW PANEL RADIATOR
- PIPE RISER
- PIPE DROP
- BOTTOM PIPE CONNECTION
- PIPE UNION
- IN-LINE PUMP (TRIANGLE INDICATES FLOW DIRECTION)
- NEW DUCTWORK
- M.D. MOTORIZED DAMPER
- THERMOSTAT, SUBSCRIPTS: D/N = DAY/NIGHT, E = 120V ELECTRIC, # = ZONE, C = COOLING/HEATING
- AQUASTAT
- SECTION NUMBER, DRAWING NUMBER
- EXHAUST FAN
- LOUVER
- BOILER
- EXPANSION TANK
- DRAWING NOTE TAG
- FIN TUBE RADIATION AND PANEL RADIATOR TAG
- OIL FIOMATIC
- OIL SAFETY VALVE
- FOS FUEL OIL SUPPLY PIPING



**GENERAL HEATING SYSTEM NOTES:**

- ALL HEATING PIPING LOCATED IN BOILER ROOM AND PIPING 1" AND LARGER SHALL BE TYPE L COPPER USING SOLDER JOINTS. PIPING EXTERIOR TO THE BOILER ROOM AND 3/4" OR SMALLER MAY BE PEX TUBING.
- INSULATE ALL COPPER PIPING WITH FIBERGLASS ALL SERVICE JACKET. PEX PIPING TO BE INSULATED WITH ARMAFLEX INSULATION THICKNESS TO MEET THE 2015 CBES CODE.
- BALL VALVES SHALL BE MANUFACTURED BY APOLLO MILWAUKEE OR WATTS.
- AIR VENTS SHALL BE MANUAL COIN TYPE VENTS.
- FIRE STOP ALL PIPE PENETRATIONS OF WALLS FLOORS AND CEILINGS USING APPROVED LISTED FIRE STOPPING SEALANTS.
- THERMOSTATS SHALL BE LOW VOLTAGE PROGRAMMABLE THERMOSTATS. ZONE VALVES SHALL BE NORMALLY OPEN ERIE POP-TOP VALVES.
- CABINET HEATERS SHALL BE CONTROLLED BY A 120 VAC THERMOSTAT WHICH SHALL CYCLE THE FAN. PROVIDE AQUASTAT TO PREVENT THE FAN FROM RUNNING WHEN WATER IS BELOW 100 DEG. F.
- CHIMNEY LINER SHALL BE UL LISTED FOR OIL FIRED APPLIANCE AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LISTING. CONNECTOR TO THE BOILER SHALL BE CONSTRUCTED OF 22 GAUGE GALVANIZED STEEL.
- DUCTWORK FOR COMBUSTION AIR SHALL BE CONSTRUCTED PER SMACNA STANDARDS. PROVIDE LOUVER AND GREENHECK MODEL ICID THERMALLY INSULATED DAMPERS. DAMPERS IN BOTH DUCTS. DAMPER ACTUATORS SHALL BE 120 VAC BELIMO. COMBUSTION AIR DAMPER TO OPEN WHEN BURNER FIRES. PROVIDE 120 VAC COOLING THERMOSTAT TO OPEN VENTILATION DAMPER WHEN ROOM TEMPERATURE EXCEEDS 80 DEG. F. INSULATE ALL DUCTING WITH 1 1/2" FOIL FACED DUCT WRAP.
- OIL TANKS SHALL BE HIGHLAND TANK 275 GALLON DOUBLE WALLED UL-80 CONSTRUCTION. FILL AND VENT PIPING TO BE SCHEDULE 40 STEEL WITH THREADED MALLEABLE IRON FITTINGS. FUEL OIL SUPPLY LINE TO BURNER SHALL BE TYPE K COPPER WITH FLARED FITTINGS.
- PROVIDE SUBMITTAL FOR ALL MECHANICAL EQUIPMENT AND MATERIALS PRIOR TO ROUGH-IN.
- THE EQUIPMENT SPECIFIED IS DESIGNED TO ESTABLISH QUALITY CAPACITIES AND PERFORMANCE REQUIREMENTS. EQUIPMENT EQUIVALENT AND APPROVED BY THE ENGINEER WILL BE CONSIDERED FOR AN APPROVED EQUAL TO THE SPECIFIED PRODUCTS. SUBMIT SUBSTITUTIONS FOR APPROVAL PRIOR TO BIDDING.
- TEST ALL SYSTEMS AT 1.5 TIMES THE OPERATING PRESSURES FOR 4 HOURS WITH NO DROP IN PRESSURE.

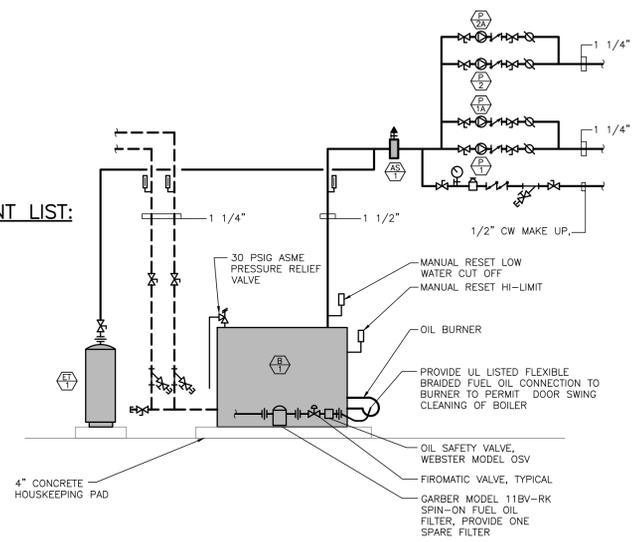
**MECHANICAL HEATING  
SECOND FLOOR PLAN**  
SCALE: 1/4"=1'-0"

**HEATING EQUIPMENT LIST**

- (A) RADIATION VULCAN MODEL LC-210 WITH 2 3/4"x2 3/4"x 60 FINS/FT SIZE 3/4" COPPER ALUMINUM ELEMENT RATED AT 695 BTUH/FT AT 170 DEG. F. AW.
- (B) PANEL RADIATOR RUNTAL MODEL R2F-3, 3 PANEL FINNED UNIT RATED AT 1261 BTUH PER LF AT 170 DEG. F. AW.
- (C) VULCAN MODEL W1-1090 SIZE 04, HIGH CAPACITY COIL, RATED AT 36.3 MBTUH, 3.0 GPM, 180 EWT. PROVIDE FAN SPEED SWITCH AND DISCONNECT.
- (D) BEACON MORRIS MODEL W120, RATED AT 12.0 MBTUH, 2.0 GPM, 180 EWT. PROVIDE FAN SPEED SWITCH AND DISCONNECT.

**BOILER ROOM EQUIPMENT LIST:**

- (S) SPIROVENT JUNIOR MODEL VJR-150
- (A) AMTROL MODEL SX-30V
- (B) BOILER: BURNHAM MODEL V8H5W RATED AT 198 MBH DOE, 1.65 GPH FIRING RATE.
- (F) MAGNA3 32-100F, 15.5 GPM AT 25 FT. HEAD, ARRANGE FOR AUTOMATIC LEAD LAG, 115 VOLT 1 PHASE.
- (F) MAGNA3 32-100F, 9.3 GPM AT 25 FT. HEAD, ARRANGE FOR AUTOMATIC LEAD LAG, 115 VOLT 1 PHASE.
- BOILER MAKE-UP WATER BACKFLOW PREVENTER WATTS NO. 009 RPZ, SIZE: 1/2"
- BOILER MAKE-UP WATER PRESSURE REDUCING VALVE WATTS NO. B1156F SET AT 25 PSIG, SIZE: 1/2".



**BOILER PIPING DIAGRAM**  
NOT TO SCALE