Reviewed for Code Compliance
Inspections Division
Approved with Conditions
Date: 10/31/17

BENNETT ENGINEERING
MECHANICAL • ELECTRICAL

02SEP16

Archetype
48 Union Wharf
Portland ME 04101

Attn: Bill Hopkins

Subject: Hampton Inn, 1200 Brighton Avenue – Portland, ME

The mechanical and electrical systems for this project have been designed in accordance with the Maine Uniform Building and Energy Code (MUBEC), including the provisions of the IECC 2009.

Mechanical:

- Mechanical systems design criteria:
  - 87F DB / 74F WB Summer outdoor, -10F DB Winter outdoor
  - 75F Summer indoor, 72F Winter indoor
  - Heating/cooling load calculations per ASHRAE via Trace 700 software.
  - Ventilation per ASHRAE 62.1-2007 (MUBEC)
- Mechanical and service water heating system and equipment types, sizes and efficiencies:
  - PTAC-1 (non-heat pump): 7,000btuh, 11.7 EER (11 Req'd)
  - PTAC-2 (non-heat pump): 9,000btuh, 11.5 EER (10.6 Req'd)
  - MAU-1: 120,000btuh cooling, 11.5 EER (11.0 Req'd)
  - MAU-1: 350,000btuh heating, 80% combustion efficiency (80% Req'd)
  - GFWH-1, 2 & 3: 300,000btuh, 96% thermal efficiency (80% Req'd)
  - ACCU-1: 192,000btuh, 11.1 EER (10.6 Req'd)
  - ACCU-1: 192,000btuh heating, 3.32 COP (3.2 Req'd)
  - SCU-1: 18,000btuh, 15.3 SEER (13 Req'd)
  - SCU-2: 24,000btuh, 17 SEER (13 Req'd)
  - CU-1, 2 & 3: 48,000btuh cooling, 10.5 HSPF (7.7 Req'd)
  - CU-1, 2 & 3: 48,000btuh heating, 10.5 HSPF (7.7 Req'd)
- Economizer description:
  - MAU-1: Is a 100% outside air unit with discharge air temperature control. When OA is suitable for cooling (based on OA DB temperature), it is the first stage of cooling.
- Equipment and system controls (refer to specifications section 230900):
  - MAU: discharge air temperature control.
  - PTACs: programmable zone thermostats.
  - ACCU: packaged system controls, programmable zone thermostats.
  - SCU: packaged system controls, programmable zone thermostats.

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    - CUs: packaged system controls, programmable zone thermostats.
- Fan motor horsepower (HP) and controls:
    - MAU-1: 3HP, constant volume (ventilation), discharge air temperature control.
- Duct sealing: ductwork shall be sealed per specifications section 233000.
- Duct and pipe insulation and location: ductwork and piping shall be insulated per specifications section 230700.

Electrical:

- Refer to drawing E4.01 for lighting fixture schedule including wattages. All scheduled lighting is energy efficient LED light fixtures.
- Lighting is controlled through a variety of means, specific to the area. Motion sensors, occupancy sensors, timeclock controls and switching. Refer to lighting drawings E1.01-E1.04.

Let us know if you have any questions.

Steven A. Jonason, P.E.
Stephen P. Doel, P.E.
BENNETT ENGINEERING, INC.