

DESIGN REVIEW / DESIGN BUILD

Enclosed Vehicular Facilities Application

Equipment type:

Equipment designation: MAU-1 and EF-1

Barcode designation: 111111

Area served: Three-level enclosed garage

Equipment location: Mechanical room and on-grade

DESIGN REVIEW

[Y] [N]

- Verify adequate ventilation per state code. [Y] [N]
- Spot-check air quantity by dividing the cfm by square feet of area served for cfm/sq ft. [Y] [N]
- Create system flow diagram to assess static pressure sequence of operation and air pressure drops. [Y] [N]
- Spot-check fan total static pressure. [Y] [N]
- Confirm exhaust outlet to outside air intake louvers to avoid short-circuiting of air. [Y] [N]
- Review control drawings and specifications and confirm space temperature setpoints are specified. [Y] [N]
- Review control drawings and specifications and confirm space humidity setpoints are specified. [Y] [N]
- Review control drawings and specifications and confirm space CO₂ setpoints are specified. [Y] [N]
- Review control drawings and specifications and confirm space temperature high/low alarm limits are specified. [Y] [N]
- Review control drawings and specifications and confirm space humidity high/low alarm limits are specified. [Y] [N]
- Review control drawings and specifications and confirm space CO₂ high/low alarm limits are specified. [Y] [N]
- Review control drawings and specifications and confirm alarm sequences are specified. [Y] [N]
- Review control drawings and specifications to determine if unit will operate completely through the BAS/BMS system. [Y] [N]

ELECTRICAL INSPECTION/REQUIREMENTS

[Y] [N]

- What are the new electrical requirements for the new MAU? [Y] [N]
- Is there adequate electrical power for new electrical load? [Y] [N]
- Is there adequate electrical power coming in from the street? [Y] [N]
- Identify electrical scope of work required with MAU and EF. [Y] [N]
- Will emergency power be a requirement for MAU and EF? [Y] [N]
- Are electrical connections tight and secure? [Y] [N]
- Have the fuses and wire sizes been checked and verified? [Y] [N]
- Are there electrical code issues that should be address at this time? [Y] [N]

HVAC INSPECTION/REQUIREMENTS

[Y] [N]

- Has selection of MAU been approved and signed off by owner? [Y] [N]
- Can the MAU be installed with access for maintenance? [Y] [N]
- Can the MAU be installed without removing other HVAC, electrical, plumbing, communication, and/or fire protection distribution or equipment? [Y] [N]

- Has consideration been given to future expansion of system? [Y] [N]
- Has consideration be given to the manufacturer's recommended clearance around equipment for service? [Y] [N]

GENERAL CONDITIONS

CONSIDERATIONS/REQUIREMENTS

[Y] [N]

- What are the necessary installation permitting and operation permitting requirements? [Y] [N]
- Has insurance certificates been submitted to building owner? [Y] [N]
- Will record drawings be submitted electronically along with one paper copy? [Y] [N]
- Will there be an extended warranty on the equipment? [Y] [N]
- Will there be a service contract submitted for the new MAU? [Y] [N]
- Will MAU and exhaust fan O&M website be included along with electronic copy or O&M manual and two paper copies of manual? [Y] [N]

REFERENCE

- 2008 ASHRAE Handbook – HVAC Systems and Equipment; Chapter 1, "HVAC System Analysis & Selection"
- 2007 ASHRAE Handbook – Applications, Chapter 9, "Automobiles and Mass Transit"
- 2005 ASHRAE Handbook – Fundamentals, Chapter 35, "Duct Design"

DESIGN REVIEW AND TRICKS OF THE TRADE

- Create an airflow diagram indicating cfm, air changes, and space pressure.
- Confirm there is safe access to the equipment.
- Confirm there is the manufacturers' recommended clearance around equipment.
- Consider if routine maintenance can be achieved without shutting unit down.
- Attach equipment schedule and design criteria to checklist.
- Attach sequence of operation ATC/FPT document to unit.

NOTE

- Refer to equipment manufacturers' literature for additional data and requirements.
- Refer to building owner standards and guidelines for additional criteria. **ES**

If you have any comments, suggestions, or questions regarding this designer checklist, contact Amanda McKew at amckew@rdkengineers.com.

