Scope of Work

Cherokee Hot Shot Office

HVAC Upgrade

DIVISION 1 – GENERAL REQUIREMENTS

01 10 00 - Summary

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DIVISION 23 – HEATING, VENTILATION, AND AIR-CONDITIONING

SECTION 01 10 00 - Summary

PART 1 – GENERAL

A. *Project Description:*
Work at the Cherokee Hot Shot Office includes addition of filter bank in return of both air handling units, relocation of thermostat, occupancy sensors in toilets, rewiring energy recovery ventilator (ERV) to make operational, programming new sequence of operation for ERV, and installation of LED indicator for ERV operation.

B. *Related Work:*
Contractor shall complete all required electrical, plumbing and construction work required to make a complete and operable system.

C. *Project Location:*
USDA Forest Service
Cherokee Hot Shot Office
132 Jake Hopson Road
Unicoi, TN 37692

SECTION 01 31 14 – Facility Services Coordination

PART 1 – GENERAL

A. *Work Hours:*
All work must be completed between the hours of 7:30 AM and 4:00 PM, Monday thru Friday excluding Holidays.

B. *Mechanical and Electrical Coordination:*
The interruption of mechanical and electrical services to other parts of the building shall be coordinated with the designated Forest Service Representative.

C. *Construction Schedule:*
A proposed schedule of work for the project construction shall be submitted to the COR for approval 5 days prior to starting construction. The work must be planned and executed to minimize conflict with the office daily activities.

D. *Storage of Materials:*
The Contractor may store materials and equipment at the work site at his own risk. All materials must be kept in an area designated by the COR and be neat and orderly.

SECTION 01 41 00 – Regulatory Requirements

PART 1 – GENERAL

A. All work under this contract shall comply with current applicable codes and regulations including but not limited to:
   1. National Electric Code
   2. International Building Code
   3. International Mechanical Code
   4. International Plumbing Code
   5. International Fuel Gas Code
   6. National Fire Protection Association
   7. Environmental Protection Agency
   8. Manufacturer's recommendations

   Whenever the specifications call for or describe materials or construction of better quality or larger size than are required by the above code and regulations, the provisions of these specifications shall take precedence.

B. All products shall bear the label of the required testing and certifications agencies (UL, AGA, AMCA, CTI, DSA, etc).

C. All portions of mechanical systems (equipment, piping, valves, ductwork, etc.) shall be rated for the intended service fluid, temperature and pressure.

D. All equipment and products requiring electrical connections shall be UL or ETL listed and approved for the specific application in which installed.

E. All gas-fired equipment shall also be AGA or CSA listed for the specific application.

F. Do not use any product or material made outside of the United States, Mexico, or Canada.

SECTION 01 70 00 – Execution and Closeout Requirements

PART 1 – GENERAL

A. *Cutting and Patching:*
Any damage to existing facilities resulting from the contractors' actions shall be repaired to original condition by the contractor. All penetrations thru walls shall be sleeved (if required), caulked, and sealed to form an air tight seal.

B. *Coordination:*
1. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities.
2. Coordinate space requirements, supports, and installation of mechanical, electrical, and plumbing work that are indicated. Place any required piping, ductwork, and conduit parallel with lines of building.

C. *Protection of Installed Work:*
1. Protect installed work from damage.
2. Protect walls, projections, jambs, sills, floors, stairs, and other surfaces from damage, dirt, and wear.

D. *System operation:*
1. Start the system and make any necessary adjustments. Verify that the system operates in all modes as designed.
2. The system shall be tested & balanced by a qualified agency/person with experience in balancing the systems specified hereunder. The operation of the HVAC system is expected to generate some noise; however, in no case shall rumbling, squealing, whistling, or intrusive hissing be accepted at the final inspection.
3. Instruct the designated Forest Service Representative in the proper operation and maintenance of the system.

E. *Cleanup:*
The site shall be left in a "broom clean" condition. All removed existing components shall either remain the property of the USFS and turned over to the maintenance personnel or removed off site. Verify with designated COR.

SECTION 01 78 00 – Closeout Submittals

PART 1 – GENERAL

A. *Operation and Maintenance Manuals:*
   1. Three (3) copies of O&M manuals shall be furnished; each bound in a loose ring notebook and shall include all instructions as furnished by the equipment manufacturer plus any system specific instructions, shop drawings, and spare parts lists. It shall also include the name, address and phone number(s) of the nearest qualified service technician.
   2. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and trouble shooting.

B. *Warranties:*
   Manufacturer's warranties and product registration shall be completed with the manufacturer as required by the contractor within 10 days after completion of the applicable item of work. Copies shall be submitted to the Contracting Officer.

C. *Submittal Requirements:*
   All submittals must be submitted within 7 days after Notice to Proceed. Items requiring submittals are:
   1. Manufacturer's Product data for HVAC components installed.
   2. Shop drawing of relocated return duct and new filter bank with size.

DIVISION 23 – Heating, Ventilation, and Air-Conditioning

PART 1 – GENERAL

A. This section covers the installation of the HVAC equipment as specified herein. It is the responsibility of the contractor to insure that the system installed will be adequately sized, tested, balanced, and fully operational upon completion of the work. All work shall be in accordance with the applicable codes and regulations as stated in Section 01060.

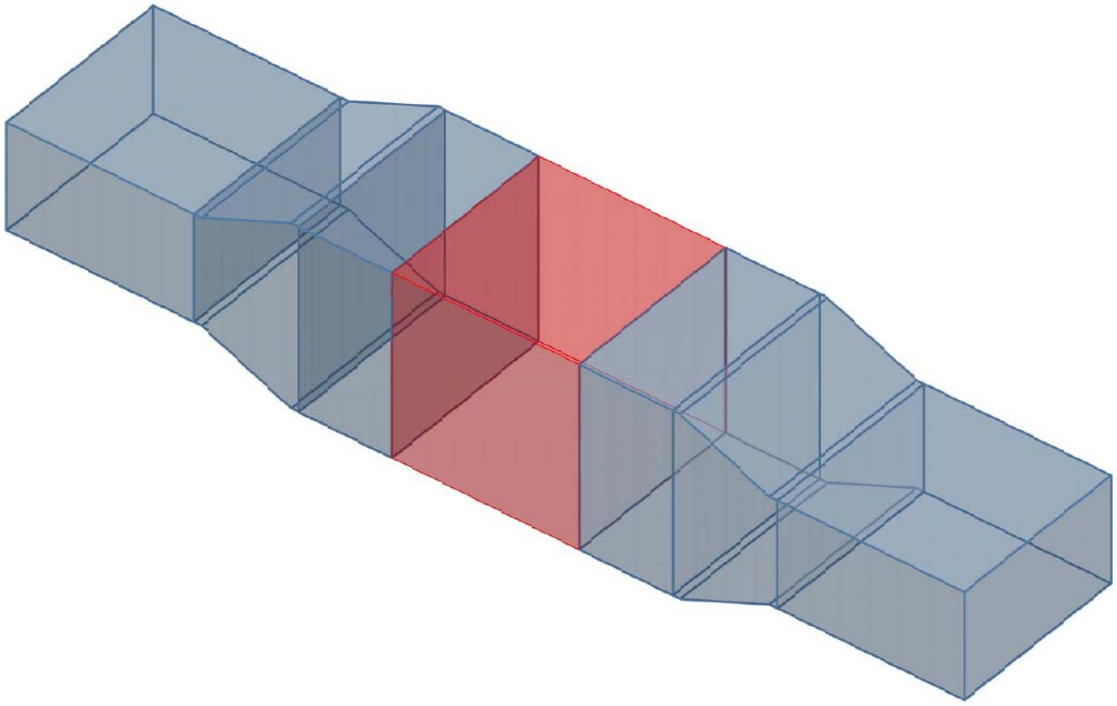
PART 2 – INSTALLATION

A. Perform necessary adjustments and rewiring to existing energy recovery ventilator (ERV) to run using the following sequence of operations:

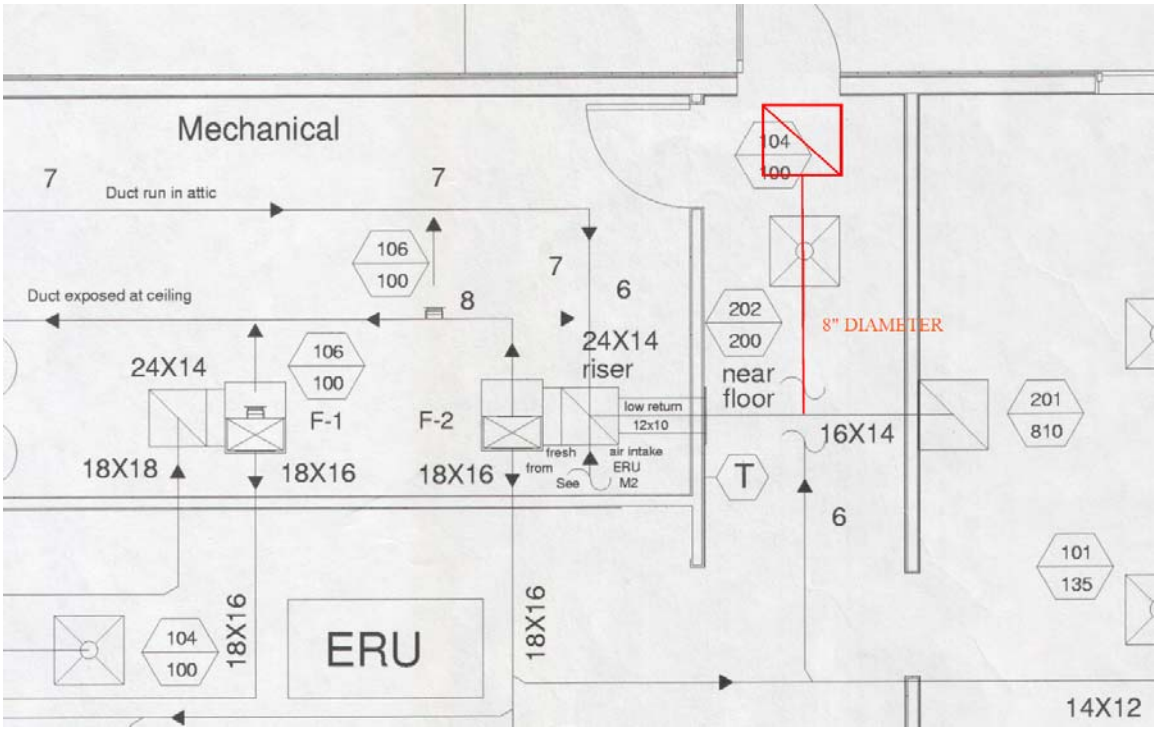
	Exhaust Fan	Exhaust Damper	Outside Air Fan	Outside Air Damper
No call for Fresh Air or Exhaust	OFF	CLOSE	OFF	CLOSE
Fresh Air Only	ON	OPEN	ON	OPEN
Fresh Air and Exhaust	ON	OPEN	ON	OPEN
Exhaust Only	OFF	CLOSE	OFF	CLOSE

   a. Supply Air Fan: Interlock to turn on/off with the air handling unit.
   b. Exhaust Air Fan: Interlock to turn on/off with the air handling unit.
   c. Disable ERV during unoccupied hours (7 PM – 6 AM).

B. Relocate thermostat to F-2 into Exercise Room on interior wall near entrance.
C. Install wall mounted occupancy sensor with dual-technology to activate lights in Men's and Women's restrooms with a 15 minute time delay.
D. Provide LED light mounted on wall in Mechanical room to signal when ERV fans are in operation. One LED for each supply and exhaust fan. Label LED. Coordinate location in Mechanical room with Forest Service COR.
E. Install new filter bank with MERV 8 filters in return ductwork similar to Attachment 1 for both F-1 and F-2. Relocate low sidewall return to unit F-2 as shown in Attachment 2.
F. Install new mineral-fiber insulation (R-8) on new ductwork and seal with water-based mastic.
G. Patch and seal all wall openings associated within scope. Caulk all wall penetrations with an approved 25 year silicone caulking.



Attachment 1: Return duct transition to new filter bank (red).



Attachment 2: Relocate low sidewall return into attic.