



Solicitation Solicitation Amendment

1. Amendment Number		to Solicitation Number		Date
2a. Facility		2b. Project		
3a. Offeror Name and Address		3b. Issued By		
		3c. Contact		
4. The above numbered solicitation is amended as set forth in Block 5. Note: Offerors must acknowledge receipt of this amendment prior to the date and time specified in the solicitation by one of the following methods: a. By signing and returning one copy of the amendment; b. By acknowledging receipt of this amendment on each copy of the offer submitted; or c. By submitting a separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE SPECIFIED IN THE SOLICITATION PRIOR TO THE DATE AND TIME SPECIFIED FOR RECEIPT OF OFFERS MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment, you desire to change an offer already submitted, such change may be made by telegram or letter provided such telegram or letter makes reference to the solicitation and amendment numbers, and is received prior to the date and time specified. The date and time specified for receipt of offers is:				
5. Description of Amendment:				
6. Contractor Signature		Date Signed	U. S. Postal Service Signature	Date Signed
Name of person authorized to sign			Contracting Officer	

USPS Eaglecrest Bldg. HVAC Replacement

Addendum No. 2

July 21, 2009

MECHANICAL NARRATIVE:

1. Section 15732 – Packaged Rooftop Air Conditioning Units:
 - a. Par. 1.3: Modified description to include R-134a, R-410a, and R-407c (comprised of R-134a) refrigerant and a factory-mounted and wired VFD for space pressurization control.
 - b. Par. 2.1: Revised to include additional equipment vendors as permitted in Addendum No. 1.
 - c. Par 3.2: Provided clarification to ensure units are tied into existing Honeywell architecture.

2. Section 15736 – Split System Air Conditioning Units:
 - a. Par. 2.1: Revised to include additional equipment vendors.

3. Section 15900 – HVAC Instrumentation and Controls :
 - a. Par. 2.1: Acceptable manufacturers (including Honeywell) were added so as to maintain consistency with Item 2a above.
 - b. Par. 3.1: Clarified the intent of controls required for all new rooftop equipment. New units shall tie into existing BAS (building automation system) and Honeywell architecture. Additionally, new thermostats for the FBI / RMF split systems shall be installed where the existing thermostats are located.
 - c. Par. 3.2: Clarification provided regarding system performance.

SECTION 15732

PACKAGED ROOFTOP AIR CONDITIONING UNITS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Packaged Rooftop Air Conditioning Unit (RTU)
- B. Related Documents: The Contract Documents, as defined in Section 01110 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
- C. Related Sections:
 - 1. Section 15810 – Ductwork
 - 2. Section 15900 – HVAC Instrumentation and Controls

1.2 REFERENCES

- A. ARI 210 - Unitary Air Conditioning Equipment
- B. NFPA 70 - National Electrical Code
- C. NFPA 90A - Installation of Air Conditioning and Ventilation Systems.
- D. UL 465 - Central Cooling Air Conditioners

1.3 DEFINITIONS

- A. Roof Top Air Conditioning Unit (RTU): Single-packaged, self-contained, factory-assembled, pre-wired, outdoor unit consisting of cabinet and frame, evaporator fan, evaporator-coil, electric furnace, condenser coil, condenser fan, compressor(s), control interface for existing Honeywell system, filters, exhaust fan with a factory-mounted and wired VFD for space pressurization control, and either R-134a, R-410a, or R-407c (comprised of R-134a) for refrigerant.

1.4 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data: Provide product data for manufactured Units. Indicate performance capacities, energy-efficiency ratings and electrical characteristics.
 - 2. Shop Drawings: Provide shop drawings for manufactured Units. Indicate ductwork connections, filter size and quantity, condensate drain connection, and electrical rough-in connections with electrical characteristics and connection requirements.
 - 3. Assurance/Control Submittals:
 - a. Certificates: Manufacturer's certificate that Products meet or exceed specified requirements.
 - b. Qualification Documentation: Submit documentation of experience indicating compliance with specified qualification requirements.

- B. Section 01780 - Closeout Submittals: Procedures for closeout submittals.
 - 1. Project Record Documents: Accurately record the following:
 - a. Plan view of installed location of Units
 - b. Elevation or section view of installed Units.
 - 2. Warranty: Submit written minimum five (5) years warranty to include coverage for refrigeration compressors condenser, evaporator and controls with forms completed in United States Postal Service name and registered with manufacturer as specified in this Section.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing Products specified with minimum five (5) years documented experience.
 - 2. Installer: Company specializing in performing the Work of this Section with minimum five (5) years documented experience.
- B. Regulatory Requirements:
 - 1. Products Requiring Electrical Connection: Listed and classified by Underwriters' Laboratories, Inc., as suitable for the purpose specified and indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Section 01600 - Product Requirements: Transport, handle, store, and protect Products.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
 - 1. Carrier.
 - 2. Lennox.
 - 3. Trane.
 - 4. York.
- B. Section 01600 - Product Requirements: Product options and substitutions. Substitutions: Permitted providing equal quality and performance to the scheduled equipment.

2.2 MATERIALS

- A. Cabinet -
 - 1. Frame and Panels: Minimum 18 gauge galvanized steel structural frame members, minimum 20 gauge cabinet panels with baked enamel finish, easily removed access doors or panels with quick fasteners.
 - 2. Insulation: Minimum one half (1/2") inch (13 mm) thick acoustic duct liner with smooth, black neoprene air-side surface for lining cabinet interior. Edges exposed to conditioned air path shall be coated with black neoprene surface.
 - 3. Drain Pan: Galvanized steel with corrosion-resistant coating, insulated, high-slope for positive drainage per ASHRAE Standard 62-89. Drain pan shall extend under the complete coil section.

- B. Evaporator -
 - 1. Fans: V-Belt driven, with permanently lubricated bearings, double width, double inlet, forward curved centrifugal fan, statically and dynamically balanced, and resiliently mounted.
 - 2. V-Belt Drive: Cast iron or steel sheaves, dynamically balanced, bored to fit shafts and keyed. Variable and adjustable pitch motor sheave selected so required rpm is obtained with sheaves set at mid-position as recommended by manufacturer or minimum 1.5 times nameplate rating of the motor.
 - 3. Motors: Three phase with HP indicated on plans.
- C. Evaporator Coil -
 - 1. Direct expansion cooling coil shall be one half (1/2") inch outside diameter , 0.016" thick seamless copper tubes expanded into aluminum fins. Maximum coil face velocity shall not exceed five hundred (500) feet per minute.
 - 2. Refrigeration circuit with externally equalized thermal expansion valve, filter-drier, and charging valves.
- D. Heater -
 - 1. Electric-Resistance Zone Heaters: Helical nickel-chrome resistance wire coil heating elements with refractory ceramic support bushings, with automatic reset thermal cut-out, built-in magnetic contactors, manual reset thermal cut-out, airflow proving device, load fuses.
- E. Air Filters - Easily removed two (2") inch thick throw-away type with 25-30 percent ASHRAE Dust Spot Efficiency filter. Maximum filter face velocity shall not exceed five hundred (500) feet per minute.
- F. Condenser Fans - Direct-driven, with permanently lubricated bearings, thermal overload protection, weatherproofed, vertical discharge propeller type with fan guard, statically and dynamically balanced, resiliently mounted.
- G. Condenser Coil - Shall be one half (1/2") inch outside diameter, 0.016" thick seamless copper tubes expanded into aluminum fins with sub-cooling circuits, tested for leaks up to 425 psig. Suction and Liquid line service gauge ports and full charge of refrigerant. Provide refrigerant pressure switches to cycle condenser fans
- H. Compressor - Shall be hermetically sealed, 3600 rpm maximum, resiliently mounted with positive lubrication internal motor protection and crankcase heater. Reversing valve for heat-pump units.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Section 01700 - Execution Requirements: Verification of existing conditions before starting work.
- B. Verify that roof is ready to receive work and opening dimensions are as indicated on shop drawings.
- C. Verify that proper power supply is available.
- D. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.
- E. Report in writing to Contracting Officer prevailing conditions that will adversely affect satisfactory execution of the Work of this Section. Do not proceed with Work until unsatisfactory conditions have been corrected. By beginning Work, Contractor accepts conditions and assumes responsibility for correcting unsuitable conditions encountered at no additional cost to the United States Postal Service.

3.2 INSTALLATION

- A. Mount RTU(s) on existing roof mounting curb providing water-tight enclosure to protect ductwork and utility services. Modify existing curb as required to accommodate new RTU.
- B. Install RTU(s) level and in accordance with manufacturer's instructions.
- C. Install condensate drain pipes from Unit drain pan to existing drain line. Provide minimum 1/8 inch per foot slope on all horizontal pipes.
- D. The new units shall tie into existing Honeywell controls architecture, including exhaust fan provided for space pressurization.

END OF SECTION

SECTION 15736

SPLIT-SYSTEM AIR CONDITIONING UNITS

PART 4 - GENERAL

4.1 SUMMARY

- A. Section Includes:
 - 1. Air Handling/Furnace Unit.
 - 2. Condensing Unit.
 - 3. Refrigerant piping.
 - 4. Temperature Controls.
 - 5. Flue System
- B. Related Documents: The Contract Documents, as defined in Section 01110 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.

4.2 DEFINITIONS

- A. Air Handling/Furnace Unit: Packaged, self-contained, factory-assembled, pre-wired, indoor unit consisting of cabinet, evaporator fan, evaporator-coil, heater, controls and filters.
- B. Condensing Unit: Packaged, self-contained, factory-assembled, pre-wired outdoor unit consisting of cabinet, condenser coil, condenser fan, compressor and controls.

4.3 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Procedures for submittals.
 - a. Product Data: Provide for Air Handling Units and Condensing Units. Indicate performance capacities, energy-efficiency ratings, and electrical characteristics.
 - b. Shop Drawings: Provide for Air Handling Units and Condensing Units. Indicate refrigerant pipe connections, ductwork connections, filter size and quantity, condensate drain connection, thermostatic valves, temperature controls connections and electrical rough-in connections with electrical characteristics and connection requirements.
- B. Section 01780 - Closeout Submittals: Procedures for closeout submittals.
 - 1. Project Record Documents: Accurately record the following:
 - a. Plan view of installed location for Air Handling Units and Condensing Units.
 - 2. Special Warranty: Submit written special warranty with forms completed in United States Postal Service name and registered with manufacturer as specified in this Section.
 - 3. Extra Products: Submit extra products as specified in this Section.

4.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing Products specified with minimum five years documented experience.

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2. Installer: Company specializing in performing the Work of this Section with minimum five years documented experience.

4.5 WARRANTY

- A. Section 01780 - Closeout Submittals.
- B. Special Warranty:
 1. Split-system units including refrigeration compressors.
 2. Warranty Period: 5 years labor and materials on air conditioning unit compressors.

PART 5 - PRODUCTS

5.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
 1. Carrier.
 2. Lennox.
 3. Trane.
 4. York.
- B. Section 01600 - Product Requirements: Product options and substitutions. Substitutions: Permitted.

5.2 AIR HANDLING/FURNACE UNITS

- A. Unit Model: Indicated on Drawings.
- B. Cabinet:
 1. Frame and Panels: Minimum 22 gauge galvanized steel with baked enamel finish, easily removed access doors or panels with quick fasteners.
 2. Insulation: Minimum one half 1/2 inch thick acoustic duct liner with smooth, black neoprene air-side surface for lining cabinet interior.
 3. Drain Pan: Galvanized steel with corrosion-resistant coating, insulated, high-slope for positive drainage per ASHRAE Standard 62-89. Drain pan shall extend under the complete coil section.
- C. Evaporator Fan:
 1. Fans: Permanently lubricated bearings, forward curved centrifugal fan, statically and dynamically balanced, resiliently mounted. Minimum 3 -speed, direct drive or blower to provide required CFM with minimum external static pressure of 0.75 inches wg. Normally set at high speed for cooling and medium speed for heating.
 2. Motors: 1/50 hp 120 volts, single phase, 60 Hz.
- D. Evaporator Coil:
 1. Direct expansion cooling coil shall be 1/2 inch outside diameter , 0.016 inch thick seamless copper tubes expanded into aluminum fins. Maximum coil face velocity shall not exceed 500 feet per minute.
 2. Refrigeration circuit with externally equalized thermal expansion valve, filter-drier, and charging valves.
- E. Heater:

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1. Fuel Fired Furnace: Natural-gas, self-contained, package unit complete with burner and controls. Aluminized steel heat exchanger, AGA certified, minimum AFUE efficiency of 90 percent. Electronic spark pilot ignition shall be provided. Provide unit as an integral part of Air Handling Unit/Furnace.
- F. Air Filters: Easily removed 2 inch thick throw-away type with 25-30 percent ASHRAE Dust Spot Efficiency filter. Maximum filter face velocity shall not exceed 500 feet per minute.
- G. Controls: Factory wired, unit mounted terminal board and include 24 Volts control circuit transformer.

5.3 CONDENSING UNIT

- A. Unit Model: Indicated on Drawings.
- B. Cabinet: Minimum 14 gauge galvanized steel welded frame with minimum 16 gauge galvanized steel panels and access doors with weather resistant, phosphatized finish.
- C. Condenser Fans: Direct-driven, with permanently lubricated bearings, thermal overload protection, weatherproofed, vertical discharge propeller type with fan guard, statically and dynamically balanced, resiliently mounted.
- D. Condenser Coil: 3/8 inch outside diameter, 0.016 inch thick seamless copper tubes expanded into aluminum fins with sub-cooling circuits, tested for leaks up to 425 psig. Suction and Liquid line service gauge ports and full charge of refrigerant.
- E. Compressor: Hermetically sealed, 3600 rpm maximum, resiliently mounted with positive lubrication internal motor protection and crankcase heater. Minimum EER 10.
- F. Controls - Shall be factory wired and shall include contactors, high and low pressure cutouts, internal winding thermostat, 24 Volts control circuit transformer, non-cycling reset relay. Provide lockable disconnect switch at each new air handling unit/condensing unit.

5.4 REFRIGERANT PIPING

- A. Copper Tubing: ASTM B280, Type ACR hard drawn (Contractor to coordinate final selection with equipment manufacturer).
 1. Fittings: ASME B16.22 wrought copper.
 2. Joints: Braze, AWS A5.8 BCuP silver/phosphorus/copper alloy with melting range 1190 to 1480 degrees F (640 to 805 degrees C).

5.5 TEMPERATURE CONTROLS

- A. Per section 15900.

5.6 COMBUSTION PRODUCTS/COMBUSTION AIR INLET VENT

- A. Existing to be reconnected.

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PART 6 - EXECUTION

6.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install refrigerant lines from Air Handling Unit Coil to Condensing Unit in accordance with manufacturer's recommendations. Insulate new suction piping in accordance with manufacturer's recommendations.
- C. Install condensate drain pipes from Air Handling Unit drain pan to existing lines. Provide minimum 1/8 inch per foot slope on all horizontal pipes. As indicated on drawing, provide auxiliary drain pan with a water level detector or float switch. Drain pan shall have a minimum depth of 1-1/2 inches and shall not be less than 3 inches larger than unit or coil dimensions in width and length. Pan shall be constructed of not less than 24 gauge galvanized sheet steel.
- D. Connect units to electrical system. Provide fused disconnects. Connect to temperature control system. Test for proper operation. Where units are twinned, install controls to operate blowers together and stage burners and condensing units on demand.
- E. Connect air handling supply and return to ductwork using flexible connectors.
- F. Connect burner to fuel supply. Provide separate fuel isolation valve for each burner. Test fuel piping for leaks. Adjust burners to maximum operating efficiency per manufacturer's recommendations. Check oil and refrigerant charge and superheat. Add additional refrigerant and oil as required. Comply with ASHRAE std 15. Paint exposed gas supply piping yellow.

END OF SECTION

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SECTION 15900

HVAC INSTRUMENTATION AND CONTROLS

PART 7 - GENERAL

7.1 SUMMARY

- A. Section Includes:
 - 1. Packaged rooftop units.
 - 2. Air-cooler chillers and pumps.
 - 3. Split systems (FBI / RMF building).
- B. Related Documents: The Contract Documents, as defined in Section 01110 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.

7.2 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Procedures for submittals.
 - 1. Product Data: Provide description and engineering data for the control system component including wiring diagrams.
- B. Section 01780 - Close-out Submittals: Procedures for close-out submittals.
 - 1. Project Record Documents: Accurately record the following:
 - a. Actual locations of control thermostats (FBI / RMF building only).

7.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing Products specified with minimum 5 years documented experience.
 - 2. Installer: Company specializing in performing the Work of this Section with minimum 5 years documented experience.

PART 8 - PRODUCTS

8.1 MANUFACTURERS

- A. Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
 - 1. Carrier Corp., Miami, FL (305) 590-1000.
 - 2. Lennox, Dallas, TX (214) 497-5000.
 - 3. Trane Co., Lacrosse, WI (608) 787-2000.
 - 4. York, York, PA (717) 771-6225.
 - 5. Honeywell, Minneapolis, MN (800) 328-5111.
 - 6. White Rodgers, St. Louis, MO (314) 577-1300.
- B. Section 01600 - Product Requirements: Product options and substitutions. Substitutions: Permitted.

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8.2 ROOM THERMOSTATS (FBI / RMF BUILDING)

- A. Thermostats used with this equipment shall be low voltage digital electronic type.
- B. Description:
 - 1. Microprocessor based energy management type.
 - 2. Night set-back for both heating and cooling cycles with manual temporary override of night set-back.
 - 3. Choice of continuous or automatic fan operation during day cycle through switching sub-base.
 - 4. Battery back-up to retain program and time through minimum 24 hour power outage.
 - 5. Capability within thermostat of programming seven separate days with no special training, knowledge or equipment.
 - 6. Separate setpoints for heating and cooling temperatures and programs.
 - 7. LCD Display.
- C. Sub-bases for Heating and Cooling shall have "HEAT-AUTO-COOL" system and "ON-AUTO" fan switch.
- D. Provide heavy duty, locking, ventilated, hinged all-metal enclosure locking guards for the thermostat. Provide two keys.

PART 9 - EXECUTION

9.1 INSTALLATION:

- A. Packaged rooftop units:
 - 1. New rooftop units (including factory-mounted and wired VFD for exhaust fan) shall be tied into existing Honeywell architecture and shall utilize the existing building automation system (BAS) as their basis of control.
- B. Air-cooled chillers and pumps:
 - 1. New chillers and pumps shall be tied into existing Honeywell architecture and shall utilize the existing building automation system (BAS) as their basis of control.
- C. Split systems (FBI / RMF building):
 - 1. Remove existing thermostats and mount new thermostats at existing locations (FBI / RMF building only).
 - a. Provide new control wiring as required for proper operation. All control wires installed under this contract shall be color coded, numbered or otherwise labeled for easy identification. All control wiring exposed to potential damage shall be installed in conduit painted to match the mounting surface. All control wiring exposed in offices or other public spaces shall be installed in wire mold painted to match the mounting surface. All concealed control wiring shall be plenum rated. Provide and install batteries as required for proper operation. New installation shall be in accordance with manufacturer's recommendations.
 - b. Provide all necessary transformers, relays, contactors and other options as required for proper operation.

9.2 SYSTEM PERFORMANCE

- A. Packaged rooftop units and air-cooled chillers:

1. Packaged rooftop units and air-cooled chillers shall operate in order to maintain space temperature settings as programmed into the existing Honeywell architecture.
- B. Split systems (FBI / RMF building):
1. Thermostats including batteries, temperature controllers, relays, switches, and 24-volt wiring to be furnished and installed by the Contractor, unless furnished with the equipment.
 2. The temperature control system is to maintain space temperature settings, within plus or minus 1° F of space thermostat settings (as directed by Owner).

9.3 TEMPERATURE CONTROL SYSTEM OPERATION (GFU-1 & GFU-2, FBI / RMF Building)

- A. Temperature control for the split systems shall control the operation of the heating and air conditioning system as follows:
- B. Air handling fans shall run continuously in the "Occupied" position when the switching sub-base is in the "ON" position. Fans shall cycle as required to maintain setpoint when the switching sub-base is in the "Auto" position and during the "Unoccupied" cycle. Set blower speed at highest speed for cooling and next highest speed for heating.
- C. Upon completion of the job, the Contractor shall program initial setpoints as directed by Owner. Provide all necessary training to building personnel to include demonstration of all functions and programming capabilities of electronic thermostats. Provide Owner's manuals and installation manuals. Provide wiring schematic (control diagrams) showing wiring identification system. Contractor shall obtain a signed receipt that the Owner has received the instruction manuals and complete instruction on the operation of the system.

END OF SECTION

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