

DAVID R. CRAIG
HARFORD COUNTY EXECUTIVE



DEPARTMENT OF PROCUREMENT
DEBORAH L. HENDERSON
DIRECTOR

LORRAINE COSTELLO
DIRECTOR OF ADMINISTRATION

JOSEPH S. PATTI, CPPO
DEPUTY DIRECTOR

HARFORD COUNTY GOVERNMENT

Addendum No. 3
Invitation for Bids

Bid No. 08-120
ADDITIONS AND RENOVATION TO THE
HARFORD COUNTY DETENTION CENTER

July 18, 2008

Ladies and Gentlemen:

The purpose of this addendum is to provide clarification (s) to all prospective bidders.

The Bid Opening Date is changed to **Tuesday, July 29, 2008**. All bids are due at 1:00 P.M. in the Department of Procurement, 220 S. Main Street, Bel Air, Maryland 21014.

QUESTION No. 14 Generator - Structural drawings do not clearly indicate what type of foundation pad this system requires. Electrical drawing E7.2 indicates the generator, but does not reference a foundation. Is it the intention to use detail 5 on S7.3? Please provide additional information.

ANSWER No. 14 The generator does require a pad. Provide as per detail 5 on S7.3.

QUESTION No. 15 Detail 2 on drawings E7.2 references a transformer pad. Note 1 refers back to S7.3 for pad details. This detail on drawing S7.3 and the elevation of the transformer pad on drawing E7.7 does not match. Please advise.

Note 3 on the same detail indicates that a sump pit is to be provided for a pad mounted generator per BGE specifications. Please advise if this is correct detail for the transformer pad.

ANSWER No. 15 Construct transformer pad as per BGE requirements and dimensions for Pad No 12-790 as in BGE sketch at Attachment 1. For more details, refer to the BGE Commercial and Industrial Customer Information Booklet, available on the internet at:

http://www.bge.com/vcmfiles/BGE/Files/New%20Business/Commercial_Booklet.pdf

Detail 2, Sheet E7.2, Note 3 incorrectly references the generator. It should reference the transformer. The sump is required.

QUESTION No. 57 There is no telecommunications/data riser on drawing, where and what is to be installed?

Preserving Harford's Past Promoting Harford's Future

MY DIRECT PHONE NUMBER (410) 638-3550

220 South Main Street, Bel Air, Maryland 21014 (410) 638-3000 • (410) 879-2000 • TTY (410) 638-3086 www.harfordcountymd.gov
This document is available in alternative format upon request.

ANSWER No. 57

See Sheet E3.1 to E3.12 for locations of phone/data drops and other special systems.

QUESTION No. 59

The following specification sections are listed in the Project Manual Table of Contents but have not been included in the manual:

Section 02840: Bollards and Crash Barriers

Section 15785: Air to Air Energy Recovery Equipment

Section 16000: Panelboard Schedules

Please provide these specification sections.

ANSWER No. 59

- See Bid Addendum No 1, Answer 3 for 02840.

- See Atch 2 to this Addendum for Specification 15785 - Air to Air Energy Recovery Equipment.

- Remove entry for 16000 - Panel Schedules from Table of Contents. The Panel Schedules are shown on the contract drawings on sheets E6.3 thru E6.9.

QUESTION No. 76

The mail line circuits: per the riser there are (3) breakers on the generator, and from looking over the spec on 16231-08 item 2.6A and 2.6B two different types are called out thermal-magnetic and electronic – trip type, can it be determined which is being used in this application?

ANSWER No. 76

Section 16231 – Packaged Engine Generator, Part 2.6 Generator Overcurrent and Fault Protection. Delete paragraph B regarding molded case, electronic trip circuit breaker.

QUESTION No. 104

There are no details for build-out of the telecommunications rooms and there are no rack elevations, i.e. ladder, racks, cabinets, wire managers, plywood backboards, termination blocks? Please provide or clarify.

ANSWER No. 104

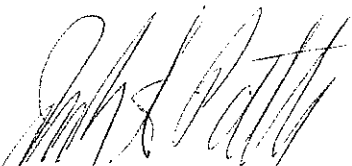
Provide all required accessories for a complete system installation as per drawings E3.1 to E3.12 and Specification 16715.

2 ATTACHMENTS

1. BGE 3-Phase Transformer Pad Dimension Detail
2. Specification 15785 - Air to Air Energy Recovery Equipment

Should you have additional questions regarding this project, please do not hesitate to contact me at 410-638-3550 or jspatti@harfordcountymd.gov.

Sincerely,

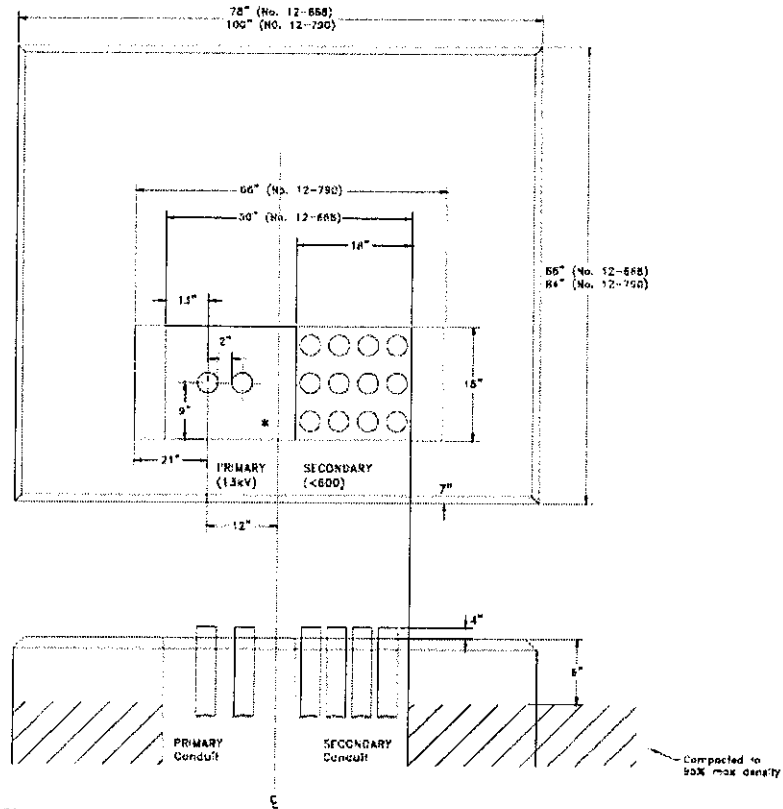


Joseph S. Patti, CPPO
Deputy Director

ATTACHMENT 1 – ADDENDUM 3

Detail from BGE Commercial and Industrial Customer Information Booklet

3-Phase Transformer Pad Dimension Detail



Notes:

- A. The number of secondary conduits shall not exceed 12 total.
 - B. Secondary conduit shall be centered symmetrically within 18" X 18" area.
 - C. Approximate weight of precast pad is 2200 pounds for 500 kVA & smaller transformers (No. 12-668) or 3900 pounds for 750 kVA & larger transformers (No. 12-790).
 - D. Customer to install Copper-Coated Rod as required, avoiding in-coming conduits
 - E. XX-XXX numbers refer to BGE Material Numbers
 - F. Pad # 12-790 has two knockouts that allow the 50" opening dimension to be increased to a minimum of 66".
- * Recommended ground rod location.

SECTION 15785 - AIR-TO-AIR ENERGY RECOVERY EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and Harford County's General Conditions apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Packaged energy recovery units.

1.3 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Design vibration isolation details, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated. Include rated capacities, furnished specialties, and accessories.
- B. Shop Drawings: For air-to-air energy recovery equipment. Include plans, elevations, sections, details, and attachments to other work.
 - 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Wiring Diagrams: For power, signal, and control wiring.
- C. Delegated-Design Submittal: For air-to-air energy recovery equipment indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.
 - 1. Detail fabrication and assembly of air-to-air energy recovery equipment.
 - 2. Vibration Isolation Base Details: Detail fabrication including anchorages and attachments to structure and to supported equipment. Include adjustable motor bases, rails, and frames for equipment mounting.
 - 3. Design Calculations: Calculate requirements for selecting vibration isolators and for designing vibration isolation bases.

- D. Coordination Drawings: Plans, elevations, and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from Installers of the items involved:
 - 1. Suspended ceiling components.
 - 2. Structural members to which equipment or suspension systems will be attached.
- E. Field quality-control reports.
- F. Operation and Maintenance Data: For air-to-air energy recovery equipment to include in maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. ARI Compliance: Capacity ratings for air-to-air energy recovery equipment shall comply with ARI 1060, "Rating Air-to-Air Energy Recovery Equipment."
- C. ASHRAE Compliance:
 - 1. Applicable requirements in ASHRAE 62.1-2004, Section 5 - "Systems and Equipment" and Section 7 - "Construction and Startup."
 - 2. Capacity ratings for air-to-air energy recovery equipment shall comply with ASHRAE 84, "Method of Testing Air-to-Air Heat Exchangers."
- D. NRCA Compliance: Roof curbs for roof-mounted equipment shall be constructed according to recommendations of NRCA.
- E. UL Compliance: Packaged heat recovery ventilators shall comply with requirements in UL 1812, "Ducted Heat Recovery Ventilators"; or UL 1815, "Nonducted Heat Recovery Ventilators."

1.6 COORDINATION

- A. Coordinate layout and installation of air-to-air energy recovery equipment and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire-suppression system, and partition assemblies.
- B. Coordinate sizes and locations of concrete bases with actual equipment provided.
- C. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.

1.7 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of air-to-air energy recovery equipment that fail in materials or workmanship within specified warranty period.
1. Warranty Period for Packaged Energy Recovery Units: Two years.

1.8 EXTRA MATERIALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Filters: One set(s) of each type of filter specified.
 2. Fan Belts: One set(s) of belts for each belt-driven fan in energy recovery units.
 3. Wheel Belts: One set(s) of belts for each heat wheel.

PART 2 - PRODUCTS

2.1 PACKAGED ENERGY RECOVERY UNITS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
1. Applied Air; a company of Mestek Technology Inc.
 2. Carnes.
 3. Des Champs Technologies.
 4. Greenheck Fan Corporation.
 5. Loren Cook Company.
 6. RenewAire LLC.
 7. SEMCO Incorporated.
 8. Venmar CES Inc.
- B. Housing: Manufacturer's standard construction with corrosion-protection coating and exterior finish, removable panels with neoprene gaskets for inspection and access to internal parts, minimum 1-inch- thick thermal insulation, knockouts for electrical and piping connections, exterior drain connection, and lifting lugs.
1. Airstream Surfaces: Surfaces in contact with the airstream shall comply with requirements in ASHRAE 62.1-2004.
 2. Inlet: Weatherproof hood, with damper for exhaust and supply.
 - a. Exhaust: Spring-return, two-position, motor-operated damper.
 - b. Supply: Spring-return, two-position, motor-operated damper.
 3. Roof Curb: Refer to Division 7 Section "Roof Accessories" for roof curbs and equipment supports.
- C. Heat Recovery Device: Heat wheel.

- D. Supply and Exhaust Fans: Forward-curved, centrifugal fan with spring isolators flexible duct connections.
1. Motor and Drive: Belt driven with adjustable sheaves, motor mounted on adjustable base.
 2. Comply with NEMA designation, temperature rating, service factor, enclosure type, and efficiency requirements for motors specified in Division 15 Section "Common Motor Requirements for HVAC Equipment."
 3. Motor Sizes: Minimum size as indicated. If not indicated, large enough so driven load will not require motor to operate in service factor range above 1.0.
 4. Controllers, Electrical Devices, and Wiring: Comply with requirements for electrical devices and connections specified in Division 16 Sections.
- E. Extended-Surface, Disposable Panel Filters:
1. Comply with NFPA 90A.
 2. Provide minimum arrestance according to ASHRAE 52.1, and a minimum efficiency reporting value (MERV) according to ASHRAE 52.2.
 3. Provide filter holding frames arranged for flat or angular orientation, with access doors on both sides of unit. Filters shall be removable from one side or lift out from access plenum.
 4. Factory-fabricated, dry, extended-surface type.
 5. Thickness: 2 inches.
 6. Arrestance (ASHRAE 52.1): 90.
 7. Merv (ASHRAE 52.2): 7.
 8. Media: Fibrous material formed into deep-V-shaped pleats and held by self-supporting wire grid.
 9. Media-Grid Frame: Nonflammable cardboard.
 10. Mounting Frames: Welded, galvanized steel with gaskets and fasteners, suitable for bolting together into built-up filter banks.
- F. Piping and Wiring: Fabricate units with space within housing for piping and electrical conduits. Wire motors and controls so only external connections are required during installation.
1. Indoor Enclosure: NEMA 250, Type 12 enclosure contains relays, starters, and terminal strip.
 2. Outdoor Enclosure: NEMA 250, Type 3R enclosure contains relays, starters, and terminal strip.
 3. Include nonfused disconnect switches.
- G. Accessories:
1. Roof Curb: Galvanized steel with gasketing, and factory-installed wood nailer; complying with NRCA standards; minimum height of 12 inches.
 2. Intake weather hood with 2-inch- thick filters.
 3. Louvered intake weather hood with 2-inch- thick filters in V-bank configuration.
 4. Exhaust weather hood with birdscreen.
 5. Low-Leakage, Isolation Dampers: Double-skin, airfoil-blade, galvanized-steel dampers with compressible jamb seals and extruded-vinyl blade edge seals, in opposed-blade arrangement with cadmium-plated steel operating rods rotating in

stainless-steel sleeve bearings mounted in a single galvanized-steel frame, with operating rods connected with a common linkage, and electric damper operator factory wired. Leakage rate shall not exceed 5 cfm/sq. ft. at 1-inch wg and 9 cfm/sq. ft. at 4-inch wg.

6. Duct flanges.
7. Drain pans for condensate removal complying with ASHRAE 62.1-2004.

2.2 CONTROLS

- A. Runs 24/7

2.3 CAPACITIES AND CHARACTERISTICS: See Schedule

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine casing insulation materials and filter media before air-to-air energy recovery equipment installation. Reject insulation materials and filter media that are wet, moisture damaged, or mold damaged.
- C. Examine roughing-in for electrical services to verify actual locations of connections before installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Roof Curb: Install on roof structure, level and secure, according to NRCA's "Low-Slope Membrane Roofing Construction Details Manual," Illustration "Raised Curb Detail for Rooftop Air Handling Units and Ducts." Install air-to-air energy recovery equipment on curbs and coordinate roof penetrations and flashing with roof construction specified in Division 7 Section "Roof Accessories." Secure air-to-air energy recovery equipment to upper curb rail, and secure curb base to roof framing or concrete base with anchor bolts.
- B. Unit Support: Install unit level on structural curbs. Coordinate wall penetrations and flashing with wall construction. Secure air-to-air energy recovery equipment to structural support with anchor bolts.
- C. Install wind restraints according to manufacturers' written instructions.
- D. Install units with clearances for service and maintenance.

- E. Install new filters at completion of equipment installation and before testing, adjusting, and balancing.
- F. Pipe drains from units and drain pans to roof; use ASTM D 1785, Schedule 40 PVC pipe and solvent-welded fittings, same size as condensate drain connection.
 - 1. Requirements for Low-Emitting Materials:
 - a. Use PVC solvent cement that has a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - b. Use adhesive primer that has a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

3.3 CONNECTIONS

- A. Comply with requirements for piping specified in Division 15 Section "Hydronic Piping." Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Comply with requirements for ductwork specified in Division 15 Section "Metal Ducts."
- C. Install piping adjacent to machine to allow service and maintenance.

3.4 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. Perform tests and inspections.
 - 1. Manufacturer's Field Service: Engage a factory-authorized service representative to inspect components, assemblies, and equipment installations, including connections, and to assist in testing.
- C. Tests and Inspections:
 - 1. Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.
 - 2. Adjust seals and purge.
 - 3. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - 4. Set initial temperature and humidity set points.
 - 5. Set field-adjustable switches and circuit-breaker trip ranges as indicated.
- D. Air-to-air energy recovery equipment will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.5 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain air-to-air energy recovery units.

END OF SECTION 15785