

ADDENDUM NUMBER 1

Server Support Systems Improvements
Richmond Community Schools
Richmond, Indiana
October 17, 2017

Issued By: Don R. Miller, PE

This Addendum modifies the Bidding Documents for the project identified above as described herein. Bidder shall acknowledge their receipt of this Addendum in their Bid.

Make the following changes to the Project Manual:

1. Add attached Technical Specification Section 042000 Unit Masonry.

Make the following changes to the Drawings:

1. On Drawing M101, add the following to Keynote 30. Unit shall comply with ASHRAE 90.1-2007 and shall have minimum SEER rating of 13.0. Refrigerant may be R-407C.
2. On Drawing M101, add the following to Keynote 34. Roof curbs shall be internally reinforced with equipment supports capable of supporting equipment loads and shall have welded, sealed corner joints, stepped integral metal cant raised the thickness of roof insulation, and integrally formed deck-mounting flange at perimeter bottom. Curbs shall be galvanized steel with corrosion-protection coating, watertight gaskets, and factory-installed wood nailer complying with NRCA standards. Provide manufacturer's standard galvanized steel counterflashing. Fabricate curbs to minimum height of 12 inches above roof surface. Fabricate each roof curb to accommodate roof slope so that tops of curbs are level. Install on roof structure, level and secure, according to NRCA's Low-Slope Membrane Roofing Construction Details Manual and ARI Guideline B. Install equipment on curbs and secure to upper curb rail or spanning structural members and secure curb base to supplemental under-deck roof framing with bolts. Do not cut out decking or insulation under roof curb.

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 PERFORMANCE REQUIREMENTS

- A. Masonry work shall comply with requirements ACI 530.1/ASCE6/TMS 602.

1.2 SUBMITTALS

- A. Samples: Brick.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.4 PROJECT CONDITIONS

- A. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry to be left exposed or painted. Immediately remove grout, mortar, and soil that come in contact with such masonry.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.
- C. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
 - 1. Products: Subject to compliance with requirements, provide one of the products specified.
 - 2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 CONCRETE MASONRY UNITS (CMUs)

- A. Shapes: Provide shapes to match existing adjacent units.
- B. Concrete Masonry Units: ASTM C 90, Type I or II.
 - 1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 1900 psi (13.1 MPa).
 - 2. Weight Classification: Normal weight.
 - 3. Size (Width): Manufactured to dimensions 3/8 inch less than nominal dimensions.

2.3 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I. Provide natural color or white cement as required to produce mortar color indicated.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Portland Cement-Lime Mix: Packaged blend of portland cement complying with ASTM C 150, Type I or Type III, and hydrated lime complying with ASTM C 207, Type S.
- D. Masonry Cement: ASTM C 91.
 - 1. Products:
 - a. Capital Materials Corporation; Flamingo Color Masonry Cement.
 - b. Essroc, Italcementi Group; Brixment.
 - c. Holcim (US) Inc.; Rainbow Mortamix Custom Masonry Cement.
 - d. Lafarge North America Inc.; Lafarge Masonry Cement.
 - e. Lehigh Cement Company; Lehigh Masonry Cement.
 - f. National Cement Company, Inc.; Coosa Masonry Cement.
- E. Mortar Cement: ASTM C 1329.
 - 1. Products:
 - a. Lafarge North America Inc.; Lafarge Mortar Cement.
 - b. Spec Mix Mortar; Spec Mix
 - c. Cemex PCL
- F. Aggregate for Mortar: ASTM C 144.
 - 1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.

G. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

1. Products:

- a. Addiment Incorporated; Mortar Kick.
- b. Euclid Chemical Company (The); Accelguard 80.
- c. Grace Construction Products, a unit of W. R. Grace & Co. - Conn.; Morset.
- d. Sonneborn, Div. of ChemRex; Trimix-NCA.

H. Water: Potable.

2.4 TIES AND ANCHORS

A. Materials: Provide ties and anchors as specified below, unless otherwise indicated.

1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82; with ASTM A 153/A 153M, Class B-2 coating.
2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, hot-dip galvanized after fabrication to comply with ASTM A 153/A 153M.
3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.

B. Wire Ties, General: Unless otherwise indicated, size wire ties to extend at least halfway through veneer but with at least 5/8-inch (16-mm) cover on outside face. Outer ends of wires are bent 90 degrees and extend 2 inches (50 mm) parallel to face of veneer.

C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches (100 mm) wide.

1. Z-shaped ties with ends bent 90 degrees to provide hooks not less than 2 inches (50 mm) long may be used for masonry constructed from solid units or hollow units laid with cells horizontal.
2. Where wythes do not align or are of different materials, use adjustable ties with pintle-and-eye connections having a maximum adjustment of 1-1/4 inches (32 mm).
3. Wire: Fabricate from 3/16-inch- (4.8-mm-) diameter, hot-dip galvanized steel wire.

2.5 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

1. Manufacturers:

- a. Diedrich Technologies, Inc.
- b. EaCo Chem, Inc.
- c. ProSoCo, Inc.

2.6 MORTAR MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
 2. Limit cementitious materials in mortar to portland cement, mortar cement, and lime.
 3. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification and Property Specification. Provide the following types of mortar for applications stated unless another type is indicated.
1. For exterior, above-grade, load-bearing and non-load-bearing walls and parapet walls; and for other applications where another type is not indicated, use Type S with minimum compressive strength of 1800 psi in 28 days.
 2. For interior non-load-bearing partitions, Type O may be used instead of Type N with minimum compressive strength of 750 psi in 28 days.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures.
- C. Matching Existing Masonry: Match coursing, color, and texture of existing masonry.
- D. Comply with construction tolerances in ACI 530.1/ASCE 6/TMS 602 and with the following:
1. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2 inch (12 mm) maximum.
 2. For exposed bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm). Do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch (3 mm).
 3. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm). Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch (3 mm).
 4. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch (1.5 mm) except due to warpage of masonry units within tolerances specified for warpage of units.

3.2 LAYING MASONRY WALLS

- A. Bond Pattern for Exposed Masonry: Match existing and tooth new masonry into existing masonry.

3.3 MORTAR BEDDING AND JOINTING

- A. Lay hollow concrete masonry units as follows:
1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
 2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
 3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.

4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.
- B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness, unless otherwise indicated.

3.4 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 2. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
 3. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
 4. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
 5. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

3.5 MASONRY WASTE DISPOSAL

- A. Excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.

END OF SECTION 042000